

STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMEs: AN EMPIRICAL STUDY OF ENTREPRENEURIAL PERFORMANCE

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How can human resource management (HRM) practices promote entrepreneurial performance in small and medium-sized enterprises (SMEs)? This article discusses the association between human capital management (HCM) and other contemporary HRM practices and the ability of SMEs to be entrepreneurial. In a study of 99 SMEs, HRM practices that promote employee discretionary behavior, knowledge sharing, and organizational learning are found to be positively associated with entrepreneurial performance. Two contingencies are also identified for this relationship. First, the use of strategic HCM practices enhances the observed positive association. Second, these relationships are strongest for SMEs operating in high-technology industries.

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Introduction

A firm's human capital is believed to be an important source of sustained competitive advantage (e.g., Barney, 1991). This is especially so for those firms operating in complex and dynamic competitive environments where the capability to rapidly acquire and assimilate new market and technological capabilities is the key to enduring advantage over competitors. The acquisition and transformation of new knowledge in organizations is an inherently human process (e.g., Nonaka, 1994), making it important to understand the contribution that human resource management (HRM) practices make to this aspect of firm performance.

Of all functional areas within the domain of HRM, human capital management (HCM) practices have received very little attention from researchers. One reason for this may be that HCM crosses typical HR functional boundaries, involving the assessment of the costs and/or benefits of HRM practices such as selection, compensation, or training. HCM typically refers to the measurement and analysis of human resource "metrics" such as cost per hire, turnover costs, the effectiveness of training interventions, and indicators of overall HRM-system effectiveness such as human capital return on investment (e.g., Becker, Huselid, & Ulrich, 2001; Cascio, 1999; Fitz-Enz, 2000). HCM practices may be characterized as either historical and expense-focused or strategic, future-oriented,

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Strategic HCM practices are defined as those focused on the assessment of effectiveness of existing HRM practices with a view to enhancing fit with organizational goals.

and investment-focused (e.g., Becker et al., 2001). This aspect of HRM serves as an important feedback mechanism for assessing the health and effectiveness of the wider HRM system (e.g., Kavanagh, Gueutal, & Tannenbaum, 1990).

In this study, I propose that strategic HCM represents an important tool for small and medium-sized enterprises (SMEs) seeking to leverage their human capital and enhance their entrepreneurial performance. Entrepreneurial performance refers to the ability to innovate, accept risk, and identify and exploit entrepreneurial opportunities. Strategic HCM practices are defined as those focused on the assessment of effectiveness of existing HRM practices with a view to enhancing fit with organizational goals. In contrast, nonstrategic or cost-focused HCM is oriented to financial accounting measures and limited to assessing direct expenditures associated with HRM such as compensation and benefits costs. There is an absence of research examining the association between a strategic approach to HCM and firm performance.

A second limitation observed within HRM research is the tendency to focus on larger, bureaucratic organizations at the expense of SMEs (e.g., Heneman, Tansky, & Camp, 2000). Although there have been some exceptions to this tendency (e.g., Chandler, Keller, & Lyon, 2000; Chandler & McEvoy, 2000), HRM research has largely ignored this very significant segment of the national economy. This is unfortunate, as according to the U.S. Small Business Association, firms with fewer than 500 employees account for 99 percent of all employers and 39 percent of the gross national product (cited in Williamson, Cable, & Aldrich, 2002). For smaller firms, resource constraints may mean that HRM activities are often less formal and may be limited in their scope and sophistication (Welbourne & Katz, 2002). However, this does not mean that effective HRM is any less significant to firm success (e.g., Welbourne & Cyr, 1999).

This study makes three contributions to the literature. First, I address the importance of HCM practices for organizational performance. Although aspects of HCM

have received attention from scholars in the past (Cascio & Ramos, 1986; Cascio & Sibley, 1979), little research has examined the association between HCM and firm-level outcomes. Second, this study contributes to our understanding of HRM in the context of SMEs, an important population of firms that have received only limited attention by HR researchers to date. It is important to determine the extent to which HRM can contribute to firm performance for this population of firms, as nearly one-half of all HRM professionals are employed by SMEs (Society for Human Resource Management, 2002a), and these firms are a key source of innovation and economic growth. Third, I focus on firms' entrepreneurial performance as an indicator of the effectiveness of their HRM systems. Entrepreneurial performance reflects the extent to which a firm is able to accept risk and be innovative or competitively aggressive (Lumpkin & Dess, 1996). This aspect of performance is very important to firm financial performance and survival, particularly for smaller firms operating in hypercompetitive high-technology environments (e.g., Zahra & Covin, 1995). Entrepreneurial performance involves innovation and risk-taking by the firm. The firm's HRM system can be expected to contribute significantly to such activity (e.g., Morris, 1998).

I propose that HCM represents a dynamic capability (Teece, Pisano, & Shuen, 1997), and therefore a strategic resource according to the resource-based view (e.g., Barney, 1991), that contributes to firm performance and sustainable competitive advantage for SMEs. I employ a systems-based model and invoke the resource-based view of the firm to suggest that a firm's choice of both HRM practices and HCM practices will influence its entrepreneurial performance as a result of system flexibility, internal consistency, and environmental fit. I briefly review these two perspectives in the next section. I then propose a set of hypotheses concerning the association among HCM practices, HRM system characteristics, and entrepreneurial performance in SMEs. Following this, I present the results of an empirical study designed to test these hypotheses.

Theoretical Perspectives—The Systems View of HRM and the Resource-Based View of the Firm

In research that examines the contributions made by HRM practices to firm performance, a popular theoretical perspective has emerged that characterizes individual HRM practices as a part of a system (e.g., Delery & Doty, 1996; Heneman & Tansky, 2002; Huselid, 1995). This view suggests that the attributes of the HRM system, such as internal consistency, external fit, and flexibility are important determinants of organizational effectiveness.

Internal consistency of practices is desirable so that they all focus employees on behaviors that are functional for the organization and none create conflicts or contradictions in terms of the motivation and control of employee behaviors. The benefit of internal consistency is the achievement of synergistic outcomes, since the power of the practices combined is actually greater than the sum of the parts. There has been some empirical support for the positive benefits of internally consistent HRM systems (e.g., Becker & Huselid, 1998).

External fit refers to the need for HRM practices to be congruent with a firm's business strategy. For example, firms pursuing a cost leadership strategy will seek to minimize their HRM costs while maintaining conformity with product or service standards. In contrast, firms pursuing an innovation-based strategy should choose HRM practices that promote learning, collaboration, experimentation, and risk-taking. These practices tend to be more expensive and are often less efficient, but they contribute to the establishment of a flexible, learning organization. While there has been some empirical support for the external congruence hypothesis (e.g., Jackson, Schuler, & Rivero, 1989), the evidence has not been as strong as for the internal consistency hypothesis (Delery & Doty, 1996).

Traditional models of strategic HRM tend to ignore the need for system flexibility (Wright & Snell, 1998). The behavioral perspective on strategic HRM, which underlies the internal consistency and external fit hypotheses, suggests that HR practices

are selected from a menu of choices based upon desired employee behaviors. This view assumes that it is possible to identify all of the skills and behaviors needed to support a chosen strategy. However, as soon as the environment changes from stable to dynamic, or as soon as we move from large, established organizations to smaller, growing firms, this assumption fails. The employee role behaviors required to perform in fast-changing environments are difficult to specify *ex ante* and the necessary behaviors are likely to change over time as the firm interacts with its environment (e.g., Kanter, 1983, 1985). Temporary congruence between practice, behavior, and strategy may be achieved as a result of careful monitoring, feedback, and program adaptation. However, when the organization or its environment is changing, periods of system equilibrium are likely to be temporary. Therefore, for growing firms or those facing dynamic and hostile environments, flexibility is an important characteristic for the HRM system. A corollary is that under conditions in which there is little or no environmental or organizational change, HRM system flexibility will represent an unnecessary added cost that should be avoided.

Flexibility refers to the capability of a system to adapt in response to changing environmental or organizational demands, which trigger the need for new HRM practices that promote desired employee behaviors. HRM system flexibility contributes to overall strategic flexibility—the ability to maintain high levels of sustained regeneration of products and processes (e.g., Hitt, Keats, & DeMarie, 1998; Sanchez, 1995). Therefore, HR system flexibility is expected to be related to entrepreneurial performance—the ability to enter new markets and create technologies that are exploited for entrepreneurial profit.

HR flexibility includes both functional flexibility (e.g., Friedrich, Kabst, Weber, & Rodehuth, 1998)—the range of jobs that individual employees are capable of performing (e.g., Cordery, 1989)—and HR system flexibility—the range of contexts to which HR practices can be usefully applied and the speed at which they can be changed (Wright & Snell, 1998). Empirical studies have found that HR flexibility is positively associated

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Through its enhancement of the HRM system's feedback mechanism, HCM can promote internal consistency, external congruence, and system flexibility

with R&D concentration and coordination and, consequently, a firm's strategic position (Zhou & Özsoyner, 1999).

An HR system that is internally consistent, externally congruent, and flexible is expected to contribute to sustained competitive advantage of the firm, as it represents a dynamic organizational capability (Teece et al., 1997) that facilitates the acquisition and transformation of a key strategic resource: human capital. According to the resource-based view of the firm, it is the extent to which a firm controls strategic resources—those resources that are scarce, valuable, inimitable, and nontradable—that determines their ability to obtain sustainable competitive advantage (Barney, 1991). Therefore, this study invokes both the systems perspective and the resource-based view and examines whether HCM contributes to entrepreneurial performance of SMEs. I next discuss the nature of HCM and its association with other HRM practices and the outcome of entrepreneurial performance.

HCM and Entrepreneurial Performance

The practice of measuring and valuing HRM practices and human capital assets has a long history, including utility analysis and human resource accounting (e.g., Boudreau, 1991; Brogden & Taylor, 1950; Flamholtz, Searfoss, & Coff, 1988; Roslender, 1997). More recently, strategic and balanced scorecard accounting techniques have been advocated as valid methods for both monitoring human capital inputs and valuing the return on human resource investments (Becker et al., 2001; Fitz-Enz, 2000; see Cascio, 1999).

Some critics have noted the difficulty of estimating the value of employee performance and the standard deviation of employee performance, both central elements in the costing process (Scarpello & Theeke, 1989). Others have argued against HCM on the grounds that what gets measured gets managed (Pfeffer, 1997) and, by focusing HR executives upon costs, HCM can create a disincentive to make long-term investments in HRM programs. Both of these arguments reflect the fact that HCM requires both careful research and discipline. However, the increasing power

of personal computers and human resource information systems (HRISs) has opened new avenues for analysis even for very small organizations. Typical criticisms appear to ignore empirical evidence that, when used as a part of a larger strategic model, HCM can contribute to HRM effectiveness by improving the speed and quality of decision making (e.g., Rucci, Kim, & Quinn, 1998). Through its enhancement of the HRM system's feedback mechanism, HCM can promote internal consistency, external congruence, and system flexibility. Therefore, according to the resource-based view of the firm, HCM holds the potential for contributing to competitive advantage.

HCM practices include a broad array of specific methods that vary in their time orientation—that is, the use of leading versus lagging indicators—and the extent to which they focus upon costs versus human resource investments (Cascio, 1999). For example, calculation of compensation and benefits expenditures addresses the cost of HRM but not outcomes such as employee productivity or satisfaction. In contrast, assessment of the yield rate from recruitment sources, the behavior changes resulting from training, or assessment of the utility of selection measures all address outcomes that result from HRM practices rather than purely their cost. These types of HCM are strategic in that the assessment of the benefits of HR practices aids selection from among alternatives by predicting their effect upon desirable outcomes such as employee behavior or attitudes. Recent surveys reveal that such strategically oriented HCM has become increasingly prevalent (e.g., Gates, 2002; Mercer Human Resource Consulting, 2003; Society for Human Resource Management, 2002b). A well-known example is the total performance model at Sears (Rucci et al., 1998) in which the management of Sears is able to quantify the return on investments in employee development and satisfaction in terms of bottom-line performance.

This distinction between historical, cost-focused HCM techniques, such as human resource accounting and future-oriented, strategic HCM techniques such as the balanced scorecard approach, parallels that observed between financial and strategic controls (Hitt,

Hoskisson, Johnson, & Moesel, 1996). Financial controls focus upon goals, targets, and performance quotas. Managers' success or failure depends upon how well these goals are achieved. A direct result of this is that financial controls are observed to promote a short-term orientation, risk aversion, and rigidity in decision making (Zahra, 1996). Such rigidity and risk aversion can be expected to inhibit entrepreneurial performance, which is especially important for the financial performance of smaller enterprises.

Strategic controls emphasize broader, open-ended goals, and require a greater understanding of the tasks, risks, and potential trade-offs among the choices managers must make. For example, a financial goal for HR may be the reduction of total labor costs. In contrast, a strategic goal may be the promotion of employee satisfaction with a view to enhancing customer satisfaction and, ultimately, firm performance. Strategic controls are especially important for firms operating in uncertain and dynamic markets or technological environments, as the entrepreneurial orientation needed to succeed demands greater environmental responsiveness and flexibility (Zahra, 1996). Empirical evidence supports the proposition that an emphasis upon strategic controls is associated with higher levels of entrepreneurship (Barringer & Bluedorn, 1999; Zahra, 1996).

I propose that the use of historical, cost-based HCM methods have a similar negative influence upon flexibility and risk taking in SMEs to that which is observed with the use of financial controls. Cost-focused HCM metrics focus exclusively upon the input side of the equation—for example, “how much did we spend last period on salaries, benefits, or bonuses?” Therefore, I refer to these as “financial HCM practices.” The incentive with such cost-based measures will be to demonstrate improved HR performance by reducing input costs. However, such cost-focused management is likely to have adverse and unintended results, such as cutting investments in the development of human capital (e.g., Pfeffer, 1997).

In contrast, the use of forward-facing, investment-oriented methods reflects recognition of the nature of strategic drivers of firm

success. These “strategic” HCM practices include some component of outcomes as well as inputs. For example, absenteeism costs are an outcome measure; similarly, yield rates from recruitment sources involve important outcomes. Another outcome-oriented metric is change in productivity as a function of training. The use of these strategic, investment-oriented HCM practices suggests a reflective approach to measuring the effectiveness of specific HR practices. A willingness to monitor HR system effectiveness, in turn, implies a willingness to adapt the system to changing conditions, thus promoting a more flexible, responsive HRM system. Therefore, I also expect that the influence of these strategic HCM practices upon entrepreneurial performance in SMEs will be positive, consistent with prior research on the use of strategic controls. This suggests the following hypotheses:

Hypothesis 1: The use of strategic human capital management practices will be positively associated with entrepreneurial performance in SMEs.

Hypothesis 2: The use of financial human capital management practices will be negatively associated with entrepreneurial performance in SMEs.

HCM and Flexibility of the HRM System

Scholars of corporate entrepreneurship have noted that HRM practices in entrepreneurial firms tend to differ from those in more conservative organizations (e.g., Kanter, 1985; Morris, 1998). Entrepreneurial firms tend to use broad and often vague job descriptions, deliberately allowing duties and responsibilities to overlap and therefore promoting communication and learning. HRM practices are also used to promote individual risk taking and experimentation, employee commitment, participation in decision making, and shared ownership (e.g., Block & MacMillan, 1993). Since the process of identifying and exploiting entrepreneurial opportunities is inherently uncertain and poorly defined, entrepreneurial firms build in slack resources and discretionary time, promote experimentation, and are tolerant of failure (Fry, 1987).

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Entrepreneurial performance depends upon behaviors that are difficult to specify in advance.

Traditional approaches to HRM tend to focus upon identifying the tasks, duties, and responsibilities associated with the current jobs of the organization, and then making implicit hypotheses concerning the human capital characteristics and behaviors needed to successfully perform these jobs. These are derived through formal job analyses, which result in clear, formal job descriptions. Employers are then expected to carefully recruit and select employees for these characteristics, monitor their performance, and pay them according to their ability to effectively perform their jobs. This approach is very much an efficiency-oriented model, based upon the premise of matching the abilities of the individual with the needs of the organization.

A second group of HRM practices seeks to promote the discretionary contributions of employees. These include incentive compensation (long- and short-run), employee empowerment, and participation programs. These practices explicitly recognize that it is not possible to specify all of the requirements of a job within a formal job description, nor is it possible to effectively monitor all of the contributions that employees may make to their organization. Furthermore, these "discretionary" HRM practices encourage the transfer of knowledge from the minds of individual employees to the rest of the organization, facilitating the organizational learning process. Therefore, while "traditional" HRM tends toward an efficiency orientation, discretionary HRM promotes a learning orientation.

Entrepreneurial performance depends upon behaviors that are difficult to specify in advance. Therefore, it is facilitated by the inherent flexibility of discretionary HRM practices, as well as the contribution that these practices make to organizational learning and the acquisition of market and technological capabilities. In contrast, traditional HRM practices do not contribute to flexibility and may even inhibit organizational learning and responsiveness. Therefore, I suggest the following hypothesis:

Hypothesis 3: The use of discretionary HRM practices will be positively associated with entrepreneurial performance in SMEs.

HCM and Internal Consistency of the HR System

The internal consistency hypothesis suggests that when individual HRM practices contribute to the achievement of the same overall objective, synergy results such that the overall contribution is actually greater than the sum of the parts. Strategic HCM practices are expected to enhance the value of investments in discretionary HRM practices by enhancing the speed and quality of decision making with respect to the selection and management of these practices. For example, where a firm chooses to focus on maintaining positive employee attitudes through investing in employee wellness, it will make better, faster decisions if it is able to monitor the costs of these investments and their returns in terms of reduced absenteeism and turnover. Therefore, for firms seeking to maximize their entrepreneurial performance, strategic HCM will contribute to internal consistency of the HRM system if that system is also focused upon this goal. This suggests the following hypothesis.

Hypothesis 4: The positive relationship between discretionary HRM practices and entrepreneurial performance will be stronger where SMEs also use strategic HCM practices.

HCM and External Congruence

The third important system characteristic is the external fit of HRM practices. While studies of external congruence have most frequently emphasized a firm's chosen strategy, the firm's competitive environment is also expected to be of significance for the choice of HRM practices. For SMEs operating in dynamic and hostile competitive environments, such as high-technology industries, HR systems that are more flexible and responsive to rapidly changing environmental demands will be of greater benefit to organizational performance. For firms in these environments, entrepreneurial performance has a significant positive influence upon financial performance (Zahra & Covin, 1995). Therefore, due to a better fit with environmental demands, I expect that

SMEs operating in high-technology industries will benefit most by also employing strategic HCM and discretionary HRM practices. This suggests the following hypotheses.

Hypothesis 5: The association between strategic HCM and entrepreneurial performance will be stronger for SMEs operating in high-technology industries.

Hypothesis 6: The association between discretionary HRM and entrepreneurial performance will be stronger for SMEs operating in high-technology industries.

Methods

Sample

In this study, consistent with the definitions issued by the U.S. Small Business Administration, SMEs are defined as firms with less than 500 employees. However, due to the expectation that formal HRM practices would be limited for firms with less than 100 employees, I eliminated these from the initial sample. A survey instrument was designed following a review of prior literature examining HRM and HCM practices. The initial survey was pilot-tested with a panel of practicing HR executives, and their feedback was obtained through a focus group meeting. The final survey was distributed to 2,200 public and private SMEs in the United States in 2003. These firms were identified from a list of all publicly traded firms in the United States with between 100 and 500 employees, generated by Standard & Poor's *Research Insight* database, and a private mailing list of a consulting firm specializing in human resource management issues.

Usable responses were received from 108 firms (5%). However, nine of these reported having more than 500 employees and were therefore eliminated from the sample. Thus, the size of the sample used in our analyses is 99 firms. While the response rate for this survey was low, even for a mail survey of small businesses (Dennis, 2003), this is a sufficiently large sample for a preliminary examination of the issues that are the focus of this study. Based upon prior research into the association between HRM practices and firm

performance, we can expect relatively low effect sizes—a recent meta-analysis suggests an average correlation of around .13 between the use of high-performance human resource management practices and firm performance (Combs, Hall, & Liu, 2003). Therefore, should statistically significant results be observed with a representative sample of 99 firms, and consequently relatively low statistical power, we can place some confidence in the inference that the observed relationships do exist in the wider population.

In an open-ended question, survey respondents represented themselves as directors of HRM (30%), vice presidents or senior vice presidents of HRM (22%), or HR managers (22%), and the remaining respondents reported being either HR generalists or specialist HR professionals. There were no significant differences between respondents and nonrespondents in terms of number of employees, assets, or their current ratio, which indicates the amount of slack resources available to the firm. Therefore, the sample used in the analysis is representative of the population being studied.

Measures

Dependent variable. Entrepreneurial performance is measured using Miller's (1983) instrument. This scale includes seven items with a five-point Likert-like "agreement" scale, and including items such as "This company shows a great deal of tolerance for high risk projects." This is probably the most widely used measure of entrepreneurial performance, and there is good evidence of both its reliability and validity (Miller, 1983). Scores on this scale were summed to create an overall index of entrepreneurial performance.

Independent variables. HRM practices were assessed using items adapted from previous studies by Huselid (1995) and Chandler and colleagues (Chandler et al., 2000; Chandler & McEvoy, 2000). The scale consists of a list of 25 HR practices, with a five-point Likert-like scale for respondents to rate their agreement. Items include such statements as "We have formal job descriptions." HCM practices were assessed using a list of 27 metrics, reflecting

... SMEs operating in high-technology industries will benefit most by also employing strategic HCM and discretionary HRM practices.

HR practices fall into two distinct factors.

both cost-focused and investment-focused items. Sample items from this list include "labor costs as a percentage of revenue," "fixed compensation costs," "yield rate from recruitment sources," and "revenues per employee." Respondents rated whether they "always," "occasionally," or "never" used these metrics.

Control variables. Since a number of firm and industry variables may influence entrepreneurial performance, I included several control variables in the analysis. The resources available to an organization are expected to be positively associated with innovation and risk-taking, therefore I control for both the firms' assets and their slack resources. Assets were included in the form of the log of total current assets. Slack resources were indicated using the current ratio of the firm. These data were obtained from Standard & Poor's *Research Insight* database. Since firm size is also expected to influence entrepreneurial performance, I included this variable as a control. Size was indicated by the number of full-time equivalent employees in the firm. This variable was self-reported by survey respondents and its validity assessed against secondary data in Standard & Poor's *Research Insight* database. Finally, I controlled for whether the firm operated in a high-technology industry, as it is expected that this will be positively related to the rate of innovation and entrepreneurship. Industry type was self-reported by respondents and validated against secondary data. Examples of high-technology industries in this study include aeronautical engineering, software, computer hardware, and biotechnology. Non-high-technology industries in this study include banking and finance, insurance services, utilities, and retail.

Preliminary analyses consisted of assessing the factor structure of the HR and HCM practices with exploratory factor analysis, and checking the reliability and validity of the measures through internal-consistency estimates and correlations with secondary data sources. The hypotheses were then tested using a set of moderated hierarchical regression models.

Results

The preliminary analyses reveal factor structures consistent with expectations.

Specifically, HR practices fall into two distinct factors. The first reflects what may be referred to as traditional HR practices, such as job analysis, job descriptions, and structured compensation systems. The second factor reflects HR practices that influence employee discretionary behavior such as employee empowerment, employee participation programs, and incentive pay. I label this factor discretionary HRM. The results of the factor analysis are reported in Table I. Two new variables, "traditional HRM" and "discretionary HRM," were created by summing the item scores for the items in each factor.

The human capital measures also were best described by two factors. The first factor included items such as cost per hire for selection tools, validity of selection tools, yield rates from recruitment sources, and cost of absenteeism. Since the reason for assessing these metrics is to evaluate the effectiveness of HRM practices and interventions I label this factor *strategic HCM* practices. The second focused upon compensation and benefits expenditures. The assessment of these metrics is typically for financial accounting reasons, and I label this factor *financial HCM*. The results of this factor analysis are reported in Table II. The items loading on each factor were summed to create two new variables labeled *strategic HCM* and *financial HCM*, respectively.

The internal consistency estimates of these four factors were all at acceptable levels: traditional HR practices (12 items) $\alpha = 0.84$; discretionary HR practices (9 items) $\alpha = 0.80$; strategic HCM practices (9 items) $\alpha = 0.86$; financial HCM practices (3 items) $\alpha = 0.80$. There was a significant correlation ($r = .65$, $p < .01$) between the self-reported number of employees and that reported in Standard & Poor's *Research Insight* database. While this correlation appears modest, it should be interpreted in light of the two-year time lag between the date of the secondary data and the date the survey was completed. During a two-year period, it is reasonable to expect many SMEs to experience significant growth in their employee base. As a result, this significant correlation offers evidence for the validity of the survey data. Table III

TABLE Factor Analysis of HRM Practices

Item	Factor 1	Factor 2
	Traditional HRM Practices	Discretionary HRM Practices
Formal job descriptions	.741	
Structured approach to deciding and describing job content	.716	
Task duties and responsibilities are clearly established	.701	
Actively try to identify the best recruitment sources	.651	
Pay levels are set with the help of formal salary surveys	.645	
Match employee capabilities with job requirements when making internal transfers	.606	
Take a structured approach to selecting the best employees	.595	
Formal performance appraisal process	.578	
Performance evaluations are used to determine base compensation and/or incentive compensation	.546	
Formal orientation program for new employees	.535	
A structured salary system	.531	
A policy of hiring from within wherever possible	.448	
Employee participation in decision making is encouraged and rewarded		.786
A clearly defined incentive (variable) pay system		.698
Employees are empowered to make decisions that improve product quality, reduce cost, or enhance customer service		.677
We organize socialization activities to enhance the sense of teamwork		.660
Incentive pay is based upon the achievement of clearly understood goals		.651
We have formal programs in place to encourage employee participation		.630
We measure employee attitudes and opinions on a regular basis (e.g., annually)		.584
We offer employees stock and/or profit sharing		.456
Performance evaluations rely on input from other people in addition to the immediate supervisor (e.g., coworkers)		.408
Eigenvalues	5.865	2.515
% of variance	27.929	11.977

TABLE Factor Analysis of HCM Practices

Item	Factor 1	Factor 2
	Strategic HRM Practices	Financial HRM Practices
<i>To what extent does your organization use the following measures?</i>		
Base rate of qualified applicants in the total applicant pool	.768	
Selection rate	.679	
Absenteeism costs	.666	
Cost per hire of employee selection tools	.663	
Employee hours lost to absenteeism for a given period	.654	
The change in outcomes (e.g., productivity, quality, employee attitudes, accidents, etc.) as a function of specific HR practices (e.g., training)	.649	
Validity of employee selection tools	.638	
Separation costs for the involuntary turnover of personnel	.543	
Yield rate from recruitment sources	.453	
Variable compensation costs		.856
Fixed compensation costs		.849
Benefits costs		.569
Eigenvalues	4.424	2.074
% of variance	36.867	17.281

shows the means, standard deviations, and correlations for the variables in this analysis.

Hypotheses 1 through 4 were tested using hierarchical regression analysis. In the first model, the control variables were entered. In the second model, the four independent variables, traditional HRM, discretionary HRM, strategic HCM, and financial HCM, were added. In the third model the interaction between discretionary HRM and strategic HCM was entered. The results of this analysis are summarized in Table IV.

In Model 1, only organizational slack is significant and then only marginally so ($p < .10$). However, this model overall is not significant with respect to entrepreneurial performance of SMEs. The second model is significant overall (adjusted $R^2 = .190$; $p < .05$), and the addition of the HRM and HCM variables contribute significantly to the prediction of entrepreneurial performance of SMEs (change in $R^2 = .242$; $p < .05$). In this model, only discretionary HRM is significant and positively associated with entrepreneurial performance in SMEs, giving support to Hypothesis 3. However, Model 2 provides no support for Hypothesis

1 or 2, which predicted that strategic HCM would be positively associated and financial HCM would be negatively associated with entrepreneurial performance in SMEs.

In the third model, the interaction term is added. This model is also significant overall (adjusted $R^2 = .304$; $p < .05$) and the addition of the interaction contributes significantly to the variance explained in entrepreneurial performance of SMEs (change in $R^2 = .110$; $p < .01$). In this third model, all of the control variables are significant ($p < .1$ or $p < .05$). Both strategic HCM ($p < .05$) and discretionary HRM ($p < .001$) are positively and significantly associated with entrepreneurial performance, giving support to Hypothesis 1 and Hypothesis 3, respectively. There is no support for Hypothesis 2, which predicts that financial HCM practices will be negatively associated with entrepreneurial performance in SMEs. Hypothesis 4 predicted a significant interaction between the use of discretionary HRM and strategic HCM practices. This interaction variable is significant in the final model ($p < .01$). However, the coefficient is in the reverse direction to that suggested in Hypothesis 4.

TABLE II Means, Standard Deviations, and Correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Entrepreneurship	23.713	4.801											
2. Log assets	4.661	1.470	.055										
3. Slack	4.759	5.632	.245	.249									
4. Number of employees (FTE)	208.654	102.230	.132	.315**	.072								
5. High-technology industry	0.432	0.498	.017	-.217	.371**	-.197							
6. Traditional HRM	46.474	7.384	.222*	.257*	.136	.096	-.079						
7. Discretionary HRM	30.042	6.824	.430***	.183	.050	-.173	.105	.390***					
8. Strategic HCM	13.798	4.112	.133	-.018	-.135	.017	-.154	.331**	.124				
9. Financial HCM	7.064	1.658	-.013	.130	-.144	-.087	-.007	.069	.108	.178			
10. Interaction between discretionary HRM and strategic HCM	421.829	171.111	.288*	.105	-.080	-.055	-.123	.498**	.649**	.810**	.179		
11. Interaction between strategic HCM and high-technology industry	4.861	6.681	.097	-.229	.360**	-.295**	.951**	-.122	.078	.019	-.015	.011	
12. Interaction between discretionary HRM and high-technology industry	13.085	15.757	.129	-.170	.332*	-.192	.970**	-.001	.239*	-.133	.021	-.039	.932**

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

Hypotheses 5 and 6 were also tested using moderated hierarchical regression analysis. In this analysis, control variables were entered in the first model, independent variables were then entered in Model 2, and then the interactions between strategic HCM and high-technology industries, and between discretionary HRM and high-technology industries, were entered in Models 3a and 3b, respectively. The results of this analysis are summarized in Table V.

Model 1 introduced the control variables alone, and of these only slack was sig-

nificant and positively associated with entrepreneurial performance. Overall however, this model was not significant. Model 2 introduced the two independent variables, discretionary HRM and strategic HCM. As in the previous analysis, discretionary HRM was positively and significantly associated with entrepreneurial performance ($p < .001$). This model is significant (adjusted $R^2 = .209$; $p < .001$) and contributes significantly to the variance explained in entrepreneurial performance (change in $R^2 = .200$; $p < .001$).

TABLE IV Hierarchical Regression Analysis of Entrepreneurial Performance on HRM and HCM Practices and Their Interaction

Variables	Model 1	Model 2	Model 3
Log assets	-0.070	-0.220	-0.253 [†]
Slack	0.284 [†]	0.330 [*]	0.354 [*]
Number of employees (FTE)	0.117	0.239	0.267 [*]
High-technology industry	-0.080	-0.148	-0.284 [†]
Traditional HRM		-0.031	0.041
Discretionary HRM		0.510 ^{**}	1.544 ^{***}
Strategic HCM		0.091	1.423 ^{**}
Financial HCM		0.014	0.001
Interaction between discretionary HRM and strategic HCM			-1.853 ^{**}
Adjusted R^2	.002	.190	.304
F-Value	.975	2.434 [*]	3.382 ^{**}
Change in R^2		.242	.110
F-Value for change in R^2		3.662 [*]	7.756 ^{**}

Note: [†] = $p < .10$; ^{*} = $p < .05$; ^{**} = $p < .01$; ^{***} = $p < .001$

TABLE V Hierarchical Regression Analysis with Respect to the Contingency of High-Technology Industry

Variables	Model 1	Model 2	Model 3a	Model 3b
Log assets	-0.14	-0.120	-0.120	-0.125
Slack	0.171 [*]	0.179 [*]	0.162 [*]	0.193 [*]
Number of employees (FTE)	0.115	0.209 ^{**}	0.257 ^{**}	0.189 [*]
High-technology industry	0.008	-0.032	-.416 [*]	-0.913 ^{**}
Discretionary HRM		0.449 ^{***}	0.473 ^{***}	0.320 ^{***}
Strategic HCM		0.077	0.011	0.080
Interaction between strategic HCM and high-technology industry			0.435 ^{**}	
Interaction between discretionary HRM and high-technology industry				0.922 ^{**}
Adjusted R^2	.015	.209	.240	.250
F-Value	1.510	7.016 ^{***}	7.175 ^{***}	7.514 ^{***}
Change in R^2		.200	.035	.045
F-Value for change in R^2		17.287 ^{***}	6.396 [*]	8.194 ^{**}

Note: ^{*} = $p < .05$; ^{**} = $p < .01$; ^{***} = $p < .001$

... it is important to understand the extent to which HRM influences performance in SMEs, as these firms are a significant source for radical innovation and economic growth.

Hypothesis 5 is tested in Model 3a with the addition of the interaction between strategic HCM and high-technology industry. The model is significant (adjusted $R^2 = .240$; $p < .001$) and the addition of this interaction variable contributes significantly to the explanation of variance in entrepreneurial performance of SMEs (change in $R^2 = .035$; $p < .05$). The coefficient for the interaction between strategic HCM and high-technology industry is positive and significant ($p < .01$), indicating support for Hypothesis 5.

Model 3b introduces the interaction between discretionary HRM and high-technology industry. This model is significant overall (adjusted $R^2 = .250$; $p < .001$) and the addition of this interaction term again contributes significantly to the variance explained in entrepreneurial performance (change in $R^2 = .045$; $p < .01$). The interaction between discretionary HRM and high-technology industry is positive and significantly ($p < .01$) associated with entrepreneurial performance in SMEs, providing support for Hypothesis 6.

Discussion and Conclusions

The purpose of this study was to determine the contribution of HCM practices and HRM more generally to the entrepreneurial performance of SMEs. Prior HRM research has tended to ignore this population of firms. However, it is important to understand the extent to which HRM influences performance in SMEs, as these firms are a significant source for radical innovation and economic growth. Furthermore, entrepreneurial performance, the extent to which firms pursue innovation and accept risk and uncertainty, is an important driver of market and financial performance (Zahra & Covin, 1995). Therefore, this study attempts to fill three important gaps in current knowledge.

According to the systems-based perspective on HRM, three characteristics of the HR system have a significant influence on firm performance: internal consistency, external congruence, and system flexibility. This study examines the contribution that HCM practices make to firm performance by hypothesizing that firms that take a strategic approach to monitoring the effectiveness of HRM practices enhance these important system characteris-

tics. Therefore, HCM represents an important dynamic capability that offers a source of sustainable competitive advantage for SMEs. This capability improves the effectiveness of the HRM system and its products by enhancing internal consistency among practices, external fit with strategy and the organization's environmental demands, and flexibility of the system to respond to organizational and environmental dynamism.

The results of this study suggest three important conclusions. First, HRM practices can be understood in two broad categories, traditional HR practices and discretionary HRM, each of which has a different impact upon entrepreneurship in SMEs. The traditional model of HRM tends to focus upon clearly defining jobs in terms of their tasks, duties, and responsibilities; carefully structuring equitable rewards for those jobs; and monitoring individual performance. However, creativity, innovation, and risk-taking are at the heart of entrepreneurial performance. Furthermore, the employee skills and behaviors required for sustained innovation are hard to specify in advance. Therefore, traditional HRM practices may be insufficient to promote entrepreneurial performance. A second category of HRM practices is designed to promote the discretionary performance of employees by offering incentives and mechanisms for exchanging knowledge and encouraging organizational learning. This study provides evidence that these discretionary HRM practices are positively associated with entrepreneurial performance in SMEs. Therefore, the results of this study suggest that investments in employee participation programs and the creation of incentives for extra-role behavior are an important success factor for SMEs seeking to promote innovation and entrepreneurship.

The second conclusion is that HCM can also be understood in terms of two dimensions—future-oriented, strategic HCM and historical, cost-focused, financial HCM. Strategic HCM allows a firm to assess the effectiveness of its HR investments and this contributes to the effectiveness of the HR system. However, the results do not support the proposition that HCM alone is sufficient to enhance entrepreneurial performance. I had hypothesized that HCM would promote entrepreneurial performance by improving

the flexibility and responsiveness of the HR system to changing environmental, strategic, and competitive demands. Furthermore, the results presented here suggest that when combined with the use of discretionary HRM practices, HCM is negatively related to entrepreneurship in SMEs. The rationale for expecting a positive interaction effect is that in order to maximize the benefit of investments in discretionary HRM practices it is necessary to monitor their effectiveness and make adjustments as necessary. Thus there is expected to be an internal consistency between

strategic HCM and discretionary HRM that promotes entrepreneurial performance in SMEs. Given that industry context was found to be a significant moderator of the association between HCM practices and firm entrepreneurial performance, it is possible that the reversal of the expected association may be associated with this other important moderating factor, which is considered next.

The third conclusion of this study is that the value of both strategic HCM and discretionary HR practices for promoting entrepreneurial performance varies in relation to the

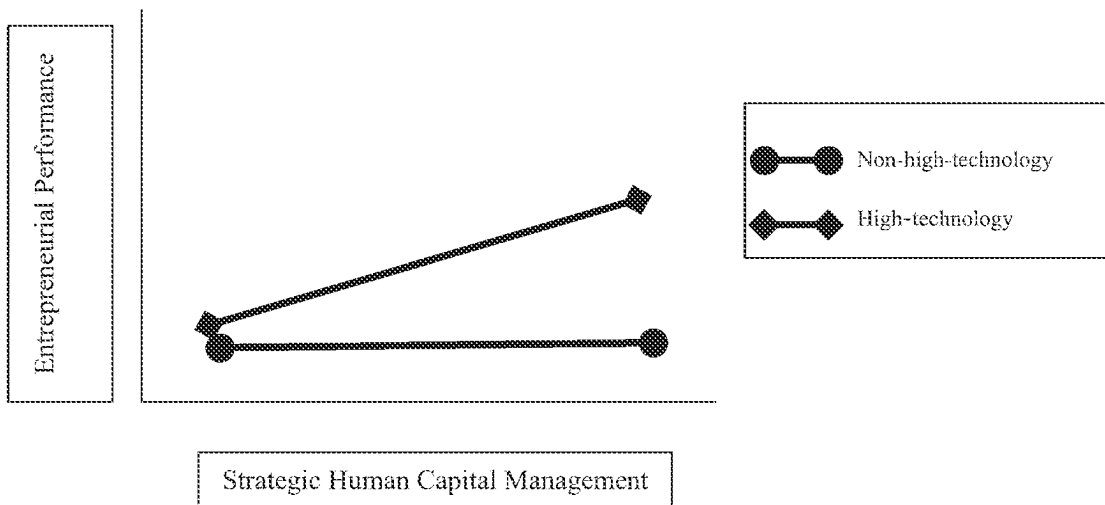


Figure 1a. Interaction Plot for HCM Practices by Industry Type.

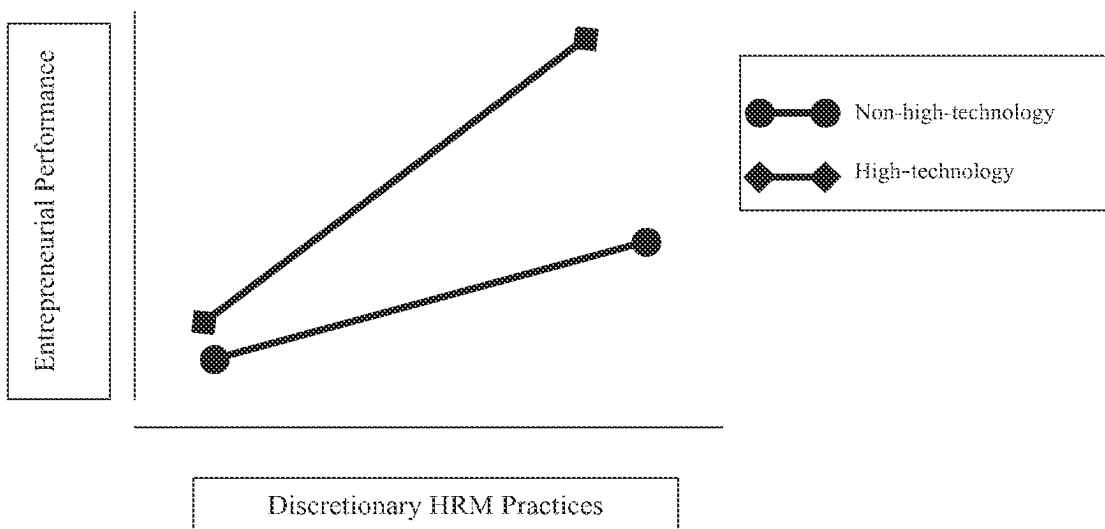


Figure 1b. Interaction Plot for Discretionary HCM Practices by Industry Type.

environment in which these firms operate. This is illustrated in Figures 1a and 1b.

For firms operating in high-technology industries, which are complex, dynamic, and hostile environments, there is a greater need for flexibility and responsiveness in order to maintain entrepreneurial performance. Therefore, firms in high-technology industries benefit more from investments in discretionary HRM practices, which encourage employee flexibility and innovation. SMEs in high-technology industries also obtain greater benefit from engaging in strategic HCM practices, which promote HRM system flexibility and responsiveness. Thus, I find evidence for external congruence between HR practices and the firm's environment with respect to promoting entrepreneurial performance in SMEs. As illustrated in Figures 1a and 1b, the relationship between both strategic HCM practices and discretionary HRM practices and entrepreneurial performance is significantly stronger in high-technology environments than it is for firms operating in non-high-technology environments.

Implications for Practice

The results of this study highlight several important issues for the practice of HRM in emerging firms. Firms seeking to enhance their ability to engage in innovation and venturing activities should consider making investments in the use of discretionary HRM practices such as employee participation and empowerment, incentives, and investments in socialization and orientation activities. These activities promote employee discretionary contributions. That is, they encourage the kind of voluntary, helping, and cooperative behavior that supports the development of social capital and thereby encourages knowledge creation and exchange. In this way, HRM is able to promote organizational learning and risk-taking, which lie at the heart of an entrepreneurial culture.

A second important implication of this research is that SMEs have an opportunity to further leverage the HRIS technology that is widespread even in these smaller firms. By engaging in relatively straightforward analysis of data already held in most HRISs, emerging high-technology firms are able to enhance

the fit and flexibility of their HR systems. This will enhance the fit between their HRM practices and strategy, which, in turn, can be expected to promote sustained competitive advantage and financial performance. In this study, those high-technology firms that engaged in strategic HCM practices were found to have higher levels of entrepreneurial performance. The corollary implication is that strategic HCM may be of less significance for non-high-technology firms operating in mature, stable environments.

Third, for SMEs operating in high-technology industries, where the rate of change is greatest, the flexibility and responsiveness of the organization driven by high levels of employee discretion will also have the greatest impact upon entrepreneurial performance. Given that entrepreneurial performance is predictive of financial performance in high-technology industries, we can expect that high technology SMEs using discretionary HRM practices will outperform their competitors.

Limitations

Several limitations to this study must be noted with respect to our interpretation of these results. First, although I have focused on SMEs, our criteria for firm selection eliminated the smallest of these companies. The rationale for not including firms with less than 100 employees was that I did not expect these firms to have very well-developed HR systems. While this may be true, the conclusions of this study should be interpreted with respect to SMEs with between 100 and 500 employees. A second limitation may arise as a result of the use of a mail survey to gather most of the data for this study. I have attempted to mitigate the problem of single-source bias by using secondary data to supplement the primary data.

The small sample size used in this study should also be acknowledged. While every effort has been made to ensure that the sample is representative in terms of the organizational characteristics of respondents versus nonrespondents, the results should still be interpreted in the context of a preliminary investigation. It is possible that the small sample size has resulted in restriction of range in the variables of interest, limiting the size of

... firms in high-technology industries benefit more from investments in discretionary HRM practices...

the observed regression coefficients. However, the results of the analyses were statistically significant despite the fact that the small sample size limits the statistical power of the study. Therefore, this suggests that further examination of these issues is warranted. Furthermore, although the response rate was limited to just 5% of the original sample, our analysis of nonrespondents indicates they are similar to respondents in terms of size and resources. A final limitation is the rudimentary approach to assessing HCM practices. At present there does not appear to be a standardized measure of these practices. However, by employing a panel of expert practitioners to screen items prior to the distribution of the survey, I was able to clarify the wording of these items, and include those with which practitioners could be expected to be familiar.

Conclusion

This study offers further support for both the systems perspective on strategic HRM and the resource-based view of the firm. The evidence from this study suggests that HCM practices play a significant role in the integration of the HR system with the objectives of the firm. SMEs seeking to promote entrepreneurship should consider making investments in HR practices that encourage employee participa-

tion in decision making, knowledge sharing, and organizational learning. Furthermore, firms operating in fast-changing environments will obtain the greatest benefit from investments in discretionary HRM practices and strategic HCM. Simply focusing upon management of HR costs has little influence upon entrepreneurship. Similarly, investments in traditional HR practices do not promote this aspect of firm performance. This represents a significant challenge for high-technology SMEs, which are frequently competing with resource constraints. However, this is also an opportunity in that those firms that succeed in developing effective HCM capabilities are also developing a potential for sustained competitive advantage.

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References

- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99-120.
- Barringer, B. R., & Bluedorn, A. C. (1999). The relationship between corporate entrepreneurship and strategic management. *Strategic Management Journal*, 20, 421-444.
- Becker, B. E., & Huselid, M. A. (1998). High performance work systems and firm performance: A synthesis of research and managerial implications. In G. Ferris (Ed.), *Research in personnel and human resource management* (Vol.16, pp. 53-101). Greenwich, CT: JAI Press.
- Becker, B. E., Huselid, M. A., & Ulrich, D. (2001). The HR scorecard: Linking people strategy

- and performance. Boston: Harvard Business School Press.
- Block, Z., & MacMillan, I. (1993). *Corporate venturing*. Cambridge, MA: Harvard Business School Press.
- Boudreau, J. W. (1991). Utility analysis for decisions in human resource management. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 2, 2nd ed., pp. 621-745). Palo Alto, CA: Consulting Psychologists Press.
- Brogden, H. E., & Taylor, E. K. (1950). The dollar criterion—Applying the cost accounting concept to criterion construction. *Personnel Psychology*, 3, 133-154.
- Cascio, W. F. (1999). *Costing human resources: The financial impact of behavior in organizations* (4th ed.). Cincinnati, OH: South-Western College Publishing.
- Cascio, W. F., & Ramos, R. A. (1986). Development and application of a new method for assessing job performance in behavioral/economic terms. *Journal of Applied Psychology*, 71, 20-28.
- Cascio, W. F., & Sibley, V. (1979). Utility of the assessment center as a selection device. *Journal of Applied Psychology*, 64, 107-118.
- Chandler, G. N., Keller, C., & Lyon, D. W. (2000). Unraveling the determinants and consequences of an innovation supportive organizational culture. *Entrepreneurship Theory and Practice*, 25(1), 59-76.
- Chandler, G. N., & McEvoy, G. M. (2000). Human resource management, TQM and firm performance in small and medium-sized enterprises. *Entrepreneurship Theory and Practice*, 25(1), 43-57.
- Combs, J. G., Hall, A. T., & Liu, Y. (2003). High performance work practices and organizational performance: A meta-analysis. Working Paper, Florida State University.
- Cordery, J. (1989). Multi-skilling: A discussion of proposed benefits of new approaches to labor flexibility within enterprises. *Personnel Review*, 18(3), 13-22.
- Delery, J. E., & Doty, D. H. (1996). Modes of theorizing in strategic human resource management: Test of universalistic, contingency and configurational performance patterns. *Academy of Management Journal*, 39, 802-825.
- Dennis, W. J. (2003). Raising response rates in mail surveys of small business owners: Results of an experiment. *Journal of Small Business Management*, 41, 278-295.
- Fitz-Enz, J. (2000). *The ROI of human capital*. New York: NY: AMACOM.
- Flamholtz, E. G., Searfoss, D. G., & Coff, B. (1988). Developing human resource accounting as a decision support system. *Accounting Horizons*, 2, 1-9.
- Friedrich, A., Kabst, R., Weber, W., & Rodehuth, M. (1998). Functional flexibility: Merely reacting or acting strategically? *Employee Relations*, 20(5), 504.
- Fry, A. (1987). The post-it note: An intrapreneurial success. *SAM Advanced Management Journal*, 52(3), 4-9.
- Gates, S. (2002). *Value at work: The risks and opportunities of human capital measurement and reporting*. New York: The Conference Board Inc.
- Heneman, R. L., & Tansky, J. W. (2002). Human resource management models for entrepreneurial opportunity: Existing knowledge and new directions. In J. A. Katz & T. M. Welbourne (Eds.), *Managing people in entrepreneurial organizations: Learning from the merger of entrepreneurship and human resource management* (pp. 55-81). Greenwich, CT: JAI Press.
- Heneman, R. L., Tansky, J. W., & Camp, S. M. (2000). Human resource management practices in small and medium sized enterprises: Unanswered questions and future research perspectives. *Entrepreneurship Theory and Practice*, 25(1), 11-26.
- Hitt, M. A., Hoskisson, R. E., Johnson, B. A., & Moesel, D. D. (1996). The market for corporate control and firm innovation. *Academy of Management Journal*, 39, 1084-1119.
- Hitt, M. A., Keats, B. W., & DeMarie, S. M. (1998). Navigating in the new competitive landscape: Building strategic flexibility and competitive advantage in the 21st century. *Academy of Management Executive*, 12(4), 22-42.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38, 635-672.
- Jackson, S. E., Schuler, R. S., & Rivero, J. C. (1989). Organizational characteristics as predictors of personnel practices. *Personnel Psychology*, 42, 727-786.

- Kanter, R. M. (1983). *The change masters: Innovation and entrepreneurship in the American corporation*. New York: Simon & Schuster.
- Kanter, R. M. (1985). Supporting innovation and venture development in established companies. *Journal of Business Venturing*, 1, 47–61.
- Kavanagh, M. J., Gueutal, H. G., & Tannenbaum, S. L. (1990). *Human resource information systems: Development & application*. Boston: PWS-Kent.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21, 135–173.
- Mercer Human Resource Consulting. (2003). *Human capital management: The CFO's perspective*. New York: CFO Research Services/Mercer Human Resource Consulting.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29, 770–792.
- Morris, M. H. (1998). *Entrepreneurial intensity*. Westport, CT: Quorum.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5, 14–37.
- Pfeffer, J. (1997). Pitfalls on the road to measurement: The dangerous liaison of human resources with the ideas of accounting and finance. *Human Resource Management*, 36, 357–365.
- Roslender, R. (1997). Accounting for the worth of employees: Is the discipline finally ready to respond to the challenge? *Journal of Human Resource Costing and Accounting*, 2(1), 9–26.
- Rucci, A. J., Kim, S. P., & Quinn, R. T. (1998, January/February). The employee-customer profit chain at Sears. *Harvard Business Review*, 76, 82–97.
- Sanchez, R. (1995). Strategic flexibility in product competition. *Strategic Management Journal*, 16, 135–159.
- Scarpello, V., & Theeke, H. A. (1989). Human resource accounting: A measured critique. *Journal of Accounting Literature*, 8, 265–280.
- Society for Human Resource Management (2002). *Human resource strategies, stages of development and organization size survey*. Washington, DC: Author.
- Society for Human Resource Management (2002). *SHRM/EMA staffing metrics study*. Washington, DC: Author.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18, 509–533.
- Welbourne, T. M., & Cyr, L. A. (1999). The human resource executive effect in initial public offering firms. *Academy of Management Journal*, 42, 616–629.
- Welbourne, T. M., & Katz, J. A. (2002). Introduction: Human resource management in entrepreneurial settings: Towards a relational approach. In J. A. Katz & T. M. Welbourne (Eds.), *Managing people in entrepreneurial organizations: Learning from the merger of entrepreneurship and human resource management* (pp. ix–xvii). Greenwich, CT: JAI Press.
- Williamson, I. O., Cable, D. M., & Aldrich, H. E. (2002). Smaller but not necessarily weaker: How small businesses can overcome barriers to recruitment. In J. A. Katz & T. M. Welbourne (Eds.), *Managing people in entrepreneurial organizations: Learning from the merger of entrepreneurship and human resource management* (pp. 83–106). Greenwich, CT: JAI Press.
- Wright, P. M., & Snell, S. A. (1998). Toward a unifying framework for exploring fit and flexibility in strategic human resource management. *Academy of Management Review*, 23, 756–772.
- Zahra, S. A. (1993). Environment, corporate entrepreneurship, and financial performance: A taxonomic approach. *Journal of Business Venturing*, 8, 319–340.
- Zahra, S. A. (1996). Governance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities. *Academy of Management Journal*, 39, 1713–1735.
- Zhou, S., & Özsoy, A. (1999). Global product R&D and the firm's strategic position. *Journal of International Marketing*, 7(1), 57–76.