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Abstract

Purpose – According to the universalistic perspective, organizations from different sectors, across industries, and through different time periods should use a series of select human resource management practices (HRMP). The main purpose of this paper is to investigates whether there is any difference in the relationship between HRMPs and organizational performance across time (stable or not).

Design/methodology/approach – The data for this study are taken from two cross-sectional surveys. The firms included in this research were selected from a sample of organizations from the public and private sectors based on firms that were included in *Dun's Guide, Israel 1995/6* and *1999/2000*, the *Israeli Business Directory*. In 1996, questionnaires were completed by 102 of the 230 designated companies. In 2000, using an identical sampling methodology and a similar questionnaire, the result was 104 useable responses of the 275 firms.

Findings – In general, results for both periods of time indicated that several HRMP contribute to enhanced organizational performance. Firms exhibited higher organizational performance when they treated their employees as assets and invested in their abilities, enhanced their power in the decision making process and used them as the main source for new employment.

Originality/value – From the theoretical perspective we suggest that researchers and HR managers have to take into account the culture context in each country when they try to export successful HRMP from one country to another. A major practical contribution of this research is that it demonstrates the importance of training and employee participation *vis-à-vis* organizational performance.

Keywords Human resource management, Organizational performance, Israel

Paper type Research paper

Introduction

Recent evidence has shown human resource management practices (HRMP) to have a positive influence on organizational performance (Harel and Tzafrir, 1999; Wright *et al.*, 2003). Ramsay *et al.* (2000) demonstrated that the notion of HRMP impacting on organizational performance through a "high road" approach has become a key element in HR literature (Huselid, 1995; Pfeffer, 1994, 1998). This "high road" approach asserts that some HRMP are universalistic, i.e. appropriate and advantageous for all firms. Accordingly, organizations from different sectors, across industries, and through different time periods should use these HRMP (Bamberger and Meshoulam, 2000;

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Delery and Doty, 1996). Nevertheless, researchers have yet to examine in depth the provable influence of HRMP under these different conditions.

Unfortunately, researchers who assert the universality of certain HRMP are fail to agree what constitutes those practices (Delaney and Huselid, 1996; Harel and Tzafrir, 1999; Huang, 2001a, b; Huselid, 1995; Pfeffer, 1994). For example, Harel and Tzafrir used eight strategic HRMP: grievance procedure, incentive compensation, participation, promotion from within, recruitment, selection and training. Others used innovative work practices such as total quality management and quality circle (Osterman, 1994). Some saw employment security and employee ownership as best practices (Pfeffer, 1994), while others did not mention them (MacDuffie, 1995). The multiplicity of what constitutes universalistic HRMP represents a challenge to organizational scholars. Therefore, ours is an exploratory study to see which of the commonly specified best practices constitute, in fact, the minimum best practices.

Little empirical research has focused on the effect of different points in time on the relationship between so-called universalistic HR practices and organizational performance (Youndt *et al.*, 1996). Among the few studies that exist, there do not appear to have been any longitudinal ones that specifically explored universalistic HRMP using the same scales within the same populations (Godard and Delaney, 2000). Thus, in this paper, we argue that the universalistic approach adequately accounts for HRMP, explaining variations in organizational performance.

This article concentrates only on the universalistic perspective (i.e. for a brief discussion on contingent and configurational approaches, see Delery and Doty, 1996) in order to contribute to the HR literature in three main respects. First, it investigates whether there is any difference in the relationship between HRMPs and organizational performance across time (stable or not). Second, our study uses the same instruments for measuring HRMP at different points in time, thereby extending the power of our results, while limiting our ability to influence them. For example, various researchers have used different instruments for measuring the same practice by creating different questions or using different scales. Third, our research attempts to find out whether the positive correlation between HRMP and performance found in the US also appears in other countries.

Developing the research hypothesis

A decrease in the magnitude of traditional sources of competitive success has led to the increased significance of human resources as part of an organization's tangible and intangible resources having the potential for continuous organizational success (Barney, 1986, 1991, 1995; Von Glinow, 1993; Lado and Wilson, 1994). The new paradigm of human relations views management as the primary actor in the employment relationship and relates to HRMP as "good things" (Godard and Delaney, 2000). The universalistic perspective has been proposed as a key approach in human resource management literature, and as other perspectives, it plays a fundamental role in explaining different levels of organizational performance.

The universalistic perspective

The universalistic perspective asserts that there is a simple direct relationship between several HRMP and organizational performance (Delery and Doty, 1996). As a consequence, a universal human resource management practice would directly

influence organizational performance, independent of other external and internal organizational factors. For example, the impact of training on performance is not a factor of other HR policies and practices., this pattern of relationship, according to the universalistic perspective, is stable across different points in time. It is important to note that this approach "posit[s] that some HR practices are always better than others and that all organizations should adopt these best practices" (Delery and Doty, 1996, 803). For example, Juhl *et al.* (2000), using data from three different countries, found a universal structure independent of the cultural setting. Although there is a consensus that a wide range of HRMP has a positive impact on organizational performance, the different studies have not been able to agree on what exactly these practices are (Becker and Gerhart, 1996).

Several theoretical and empirical studies focused on the effects of HRMP on organizational performance and came to different conclusions. Some research found that there is no direct relationship between these HRMP and organizational performance (Guest, 2002). Therefore, the difficulty with the universalistic perspective does not end by simply designating the various universalistic practices.

Identifying the importance of several HRMP to organizational performance, Pfeffer (1994) proposed 16 universalistic HRMP. On the other hand, both Delery and Doty (1996), and a later Pfeffer study (1998) identified fewer "best practice" practices. For example, Delery and Doty (1996) used seven strategic HR practices. These practices were internal career opportunity, formal training system, appraisal measures, profit sharing, employment security, voice mechanisms, and job definition. Delaney and Huselid (1996), using a cross-sectional research design, adopted seven HRMP such as selection, training, incentive compensation, and internal labor market. In a similar vein, Harel and Tzafrir's (1999) study of Israeli firms identified eight universalistic HRMP; these were, among others, recruitment, selection, internal labor market, and participation. More recently, Geringer *et al.* (2002), in a project exploring international HRMP, focused on hiring, training and development, performance appraisal, pay, leadership, and communication.

Looking at the above short survey, it is obvious that there is no consensus regarding universal HRMP (Becker and Gerhart, 1996). A study by Boselie and Dietz (2003) revealed that training, participation, information sharing as well as compensation are frequently mentioned as part of HRMP. In a similar vein, Den Hartog and Verburg (2004) focused on selection, incentive pay, participation, training, etc. as HRMP. Also, Wright *et al.* (2005) based their analysis on selection, training, pay for performance, and participation. Using these studies, as well as others (Batt, 2002; Huselid, 1995; Delaney and Huselid, 1996), we were able to identify several practices (i.e. selection, training, participation, compensation, and internal labor market) that are generally used as a starting point and appear to affect firm performance under all circumstances. This list is not exhaustive but encompasses many of the relevant HRMP in earlier empirical and theoretical studies.

One of the most common practices that appears in the literature as a universal best practice is training. Pfeffer (1998) and Pfeffer and Veiga (1999) mentioned extensive training as one of seven practices of successful organizations. Harel and Tzafrir (1999) found that the single HR practice that most influences perceived organizational performance is training. Other studies have also viewed training activities as a potential universal best practice (Arthur, 1992; Delaney and Huselid, 1996; Huselid,

1995; MacDuffie, 1995; Youndt *et al.*, 1996). Hatch and Dyer's (2004) studies of 25 semiconductor manufacturing revealed that statistical process control training for equipment operators resulted in significantly fewer defects in the produced products. Delaney and Huselid (1996) found that training had a positive and significant effect on perceived organizational performance. Guerrero and Barraud-Didier's (2004) study of "High-involvement" practices follows this leads, as they found a significant link between training and organizational performance. Studying 568 Taiwanese companies, Huang (2001a, b) found that with better group effectiveness training, product and service quality as well as work motivation are higher than with inferior group effectiveness training. Therefore, we hypothesize that:

H1. Training and perceived organizational performance are related to each other and are not time-specific.

Another HRM practice that many researchers believe increases organizational performance and decreases employees' negative behavior is employee participation (Arthur, 1992; Batt *et al.*, 2002; Hodson, 2002; Kato and Morishima, 2002; Pfeffer, 1994). Batt's (2002) study of customer call centers found that employee participation in decision-making decreased the quitting rate. Hodson (2002) suggested that employee involvement reduces workplace conflict and improves work life experiences. Kato and Morishima (2002) found that employee involvement practices, after a long developmental period, led to a significant 8-9 percent increase in productivity. Li (2004) found that participatory management has a positive effect on productivity of state-owned enterprises in China. Karami *et al.* (2004) revealed the high positive relationship between HR managers' involvement in formulation of business strategy and its implementation in the electronic manufacturing industry. Concentrating on middle management involvement, Wooldridge and Floyd (1990) found that generating options is closely associated with qualitative organizational performance. In a similar vein, MacDuffie (1995) found a positive correlation between the number of suggestions made by employees and employee involvement. Taken into consideration all of the above, we hypothesize that:

H2. Employee participation and perceived organizational performance are related to each other and are not time-specific.

Traditionally, the most frequently used method for managing people has been by controlling their compensation. Pfeffer (1998) demonstrated how high compensation activities produce economic success. Thorley-Hill and Stevens (2001) examined 161 publicly traded firms from 1991 through 1998 and found that incentive compensation was tied to corporate performance. Welbourne and Andrews (1996) found that organizational-based rewards positively and significantly affect long-term firm survival. In addition, Delaney and Huselid (1996) found that incentive compensation is associated with both perceived high-quality organizational and market performance. In a similar vein, Singh (2004) found the importance of compensation to perceived organizational and market performance of 82 Indian firms. Studying group incentive compensation plans, Cooke (1994) observed the value added effect of a wage increase to be relatively high. Sanyal (2001) in a study of 37 US firms operating in China found that merit-based pay contributed to higher productivity levels. These research findings lead to the following research hypothesis:

H3. Compensation and perceived organizational performance are related to each other and are not time-specific.

Organizations, which strategically base their operations on enhancing employees' abilities, create and develop an internal labor market (ILM). An internal labor market implies an exchange process, whereby managers who trust their employees are more likely to promote them, and in return, they expect to gain increased performance (Pfeffer, 1994). Thus, organizations prefer to select current employees to fill open positions, rather than bringing in external candidates. Empirical data also supports a link between an ILM and organizational performance. Indeed, the opportunity for career development offered by an organization to its employees was found to correlate positively with organizational performance (Blackwell *et al.*, 1994). Gaertner and Nollen (1989) found that the actual promotion rate is related to psychological commitment. In a similar vein, Ngo and Tsang (1998) in a study of 772 business executives in Hong Kong found that firms' ILMs had a positive effect on affective commitment. Therefore, we hypothesize that:

H4. Internal labor market and perceived organizational performance are related to each other and are not time-specific.

The selection process determines the decisions as to which candidates will get employment offers. The aim of these practices is to improve the fit between employees and the organization, teams, and work requirements, and thus, to create a better work environment. In doing so, selection may be seen as an essential tool for organizational performance (Terpstra and Rozell, 1993; MacDuffie, 1995). For example, Delaney and Huselid (1996) observed that staffing selectivity has a positive impact on perceived market performance. Shipton *et al.* (2005) noted the role sophisticated HR practices such as selection have in predicting product innovation and in production technology innovation. Rowden (2002) conducted in-depth interviews with key managerial and non-managerial personnel and found that selective staffing is one of several HRMP that exist in successful small manufacturing companies. Hunter and Schmidt (1982), referring to a minority issue, concluded that an employment balance can be achieved through a selection procedure based on ability. This leads to the following research hypothesis:

H5. Selection and perceived organizational performance are related to each other and are not time-specific.

Our research hypotheses are rooted in the concept of a universalistic perspective, which argues that all the above HRMP are relevant to all organizational performance irregardless of contexts such as sector and time.

Method

This paper examines HRMP and their relationships with organizational level performance at different points in time. In order to test the research hypothesis, we compared the coefficients generated by a regression analysis of data collected in 1996 with those generated by an identical analysis of primary data collected in 2000. In order to ensure model comparability, we based both our 2000 sampling strategy and measures on those used in 1996. To deal with the issue of heterogeneity (Cappelli and

Neumark, 2001) as well as the need for the same basic population, both samples came from a list included in the *Dun's Guide, Israel 1995/6* and *1999/2000*, which is a compilation of the leading companies by sales and operating revenue in the industrial, service, and trade sectors in each year. Lepak and Snell (1999) and Baron and Kreps (1999) raised the issue of different kinds of HRMP for different employees. Taking this into consideration, our approach in both samples was to ask about "core" employees. We defined "core" employees as non-managerial employees who are central to the company's production of goods or services (Osterman, 2000).

Sample

The data for this study are taken from two cross-sectional surveys, one using 230 firms in 1996 and a second using 275 firms in 2000. The firms included in this research were selected from a sample of organizations from the public and private sectors – each employing 200 or more workers. This larger set was reduced by not including companies with less than 200 employees because they usually do not have a formal organizational unit dealing with human resources (Miner and Miner, 1985). The samples were based on firms that were included in *Dun's Guide, Israel 1995/6* and *1999/2000*, the *Israeli Business Directory*. *Dun's Guide* includes two lists of the leading companies in Israel by sales and operating revenue in industrial, service, and trade sectors. Wright *et al.* (2001) pointed out the problematic nature of cross-sectional samples. Nevertheless, using cross-sectional samples is inherent to the universalistic perspective. In both surveys participants were asked to describe human resource management practices employed during the preceding economic year (1995 and 1999, respectively). Thus, the analyses in this study deal with the practices, attitudes, and performance at the organizational level and were taken at the same times of the respective fiscal years (Wright *et al.*, 2001).

The questionnaires were given to the vice president for HRM or the human resource manager of the firms at the end of the respective fiscal year. In firms lacking these positions, the CEO or the most senior manager dealing with human resources in the organizations filled out the questionnaire. In both samples, two weeks after the questionnaires' distribution we sent reminders to the managers by emails and made phone calls in order to improve the response rate. In 1996, questionnaires were completed by 102 of the 230 designated companies, resulting in a response rate of 44 percent. In 2000, using an identical sampling methodology and a similar questionnaire, we surveyed 275 firms. The result was 104 useable responses, or an overall response rate of 38 percent. This response rate is similar to that obtained in previous studies in this field (Youndt *et al.*, 1996; Guest and Peccei, 1994).

Human resource managers were chosen as the main subject for three primary reasons. First and foremost, they have the greatest access to the data related to HRM activities. Second, we followed Starbuck and Mezias (1996) caution that perceptual error is smaller, partly, if a manager's functional area relates to the perceived variable (Huselid and Becker, 2000). Third, HR managers have the largest storehouse of knowledge about the overall activities of the organization at the macro level, as opposed to the narrow departmental level knowledge base. The concern exists that respondents who have direct responsibility for the implementation of human resources management activities will make a subjective evaluation. However, the results of previous studies indicated that the answers of senior human resources managers to

questions regarding descriptive data are not much different from those of senior line managers (Guest and Peccei, 1994). Moreover, in an attempt to minimize the respondents' subjectivity as much as possible (Becker and Gerhart, 1996), we introduced several precautions. First, many of the research questions dealt only with raw data (archival data) regarding human resources management activities. Second, as recommended by Huselid and Becker (2000) and Wright *et al.* (2001), we tried to frame the items very specifically in order to increase reliability.

Huselid and Becker (1996) mentioned that the "principle challenge inherent in this line of research is the problem of low survey response rates" (p. 410). In order to deal with this difficulty we took several steps. First, it is important to note that in both surveys no significant correlation was found between respondents' personal characteristics and the dependent variable – perception of performance. Second, as in the study by Terpstra and Rozell (1993), an analysis was made of the companies that responded to the questionnaire as compared to those that did not. The analysis did not reveal for either sample any significant difference between respondents and non-respondents regarding sector, number of employees, and percent of increase in sales/income (based on the data in *Dun's Guide 1995/6* and *1999/2000*, respectively). An additional logistic analysis was performed in order to determine if there were any differences between respondents and non-respondents, in which the dependent variable was whether the company returned the questionnaire (0 – did not return, 1– returned). The results of this analysis also did not reveal any significant difference between responding and non-responding companies in both samples. Additionally, industry distributions in the samples are similar in both years, with the electricity industry being somewhat overrepresented in 2000.

Table I shows the distribution in both samples of respondents' gender, age, length of service in the present position, and level of education.

Variables	Percentage Wave 1 – 1996	Wave 2 – 2000
Gender		
Female	43	51
Male	57	49
Age		
Younger than 35 years	17	24
35-44	22	25
45-54	49	39
55 +	12	12
Education		
Undergraduate	65	59
Graduate	35	41
Length of service in the present position		
0-2	30	36
3-4	18	29
5-10	44	29
10 +	8	6

Table I.
Background of respondents

Measurement

Dependent variable. Bamberger *et al.* (1989) argued that in cases where comparisons of cross-industry organizational performance are influenced by external economic factors, subjective evaluations may be even more appropriate than objective measures. Thus, to establish meaningful comparisons between organizations, the measure of perceived organizational performance focuses on comparing competitors in the same industry.

The dependent variables in this research, as in Delaney and Huselid (1996), measured the perception of an organization's performance in relation to its competitors. The first variable, organizational performance, consisted of seven questions in which the respondent was asked to evaluate the quality of her/his organization's performance as compared to that of competing organizations performing the same work in the past year ($\alpha = 0.76$ and $\alpha = 0.77$ for the first and second waves, respectively). This variable covered several aspects, such as the quality of the product/service, new product development, the ability to attract and retain essential employees, customer satisfaction, and so forth. These aspects are among the most important to organizational performance measures, in addition to traditional accounting performance (Eccles, 1995). The second dependent variable, market performance, relevant only to market organizations, was composed of four questions in which the respondent evaluated the economic performance of her/his organization compared to that of competitors over the past year ($\alpha = 0.77$ and $\alpha = 0.72$ for the first and second waves, respectively). This market performance variable focused on issues such as product price, sales increase, profitability, and so on. Each dependent variable was based on items that were ranked on a scale ranging from 1, "much worse than others," to 5, "much better than others." These two variables, organizational and market performance provide a broad perspective on the company's overall performance. A confirmatory factor analysis was performed on the 11 rating items, which measured the two forms of performance. The result supported a two-factor structure with a Normed-fit index (NFI) of 0.99; the root-mean-square error of approximation (RMSEA) was 0.04.

Independent variables. The following HRM practices were investigated: compensation, participation, ILM, training, and selective hiring.

To assess the practice of incentive compensation (Delaney and Huselid, 1996), i.e. the relationship between the job holders' income and his/her respective job performance, we used an instrument of four items ($\alpha = 0.90$ and $\alpha = 0.89$ for the first and second waves, respectively), as in Delaney and Huselid's study (1996). Questionnaire items referred to the impact level of individual performance evaluations on the salary levels of senior managers, managers, core staff employees and core production/service/planning employees. Responses ranged from 1, "not influential," to 5, "very influential."

To measure employee participation, we adapted the five-item scale ($\alpha = 0.82$ and $\alpha = 0.76$ for the first and second waves, respectively) originally developed by Lawler *et al.* (1992) and recently used by Harel and Tzafrir (1999). The items were used to ascertain the degree of influence that employee rank and file have on issues such as investment in new equipment, workflow, salary determination, and so forth. Responses ranged from 1, "not influential," to 5, "very influential." A confirmatory factor analysis was performed on the nine rating items that measured employee participation and

incentive compensation. The result supported a two-factor structure, with a Normed-fit index (NFI) of 0.98 and the root-mean-square error of approximation (RMSEA) was 0.05

As Pfeffer (1994) suggested, respondents were asked to indicate the number of employees in the organization who were promoted within the past year, relative to the number of positions filled by outside recruits. This measure is termed internal labor market. It indicates the importance that the organization attributes to its employees as a source of recruitment for managerial positions.

Training was measured in this study, as in Lawler *et al.* (1992), using a six-item instrument ($\alpha = 0.72$ and $\alpha = 0.78$ for the first and second waves, respectively). Respondents were asked to indicate the percentage of employees in the organization who received systematic and formal training in the past year in a variety of skills: leadership, business areas, quality, technical aspects of the job, etc.

Finally, selection was measured by an instrument composed of 12 items ($\alpha = 0.79$ and $\alpha = 0.73$ for the first and second waves, respectively), in which respondents were asked to evaluate the importance attributed by the company to selection tools and tests used in the hiring process (such as "How important is the manager's interview?"), on a scale of 1, "not important," to 5, "very important."

Control variables. It is clear that a wide range of factors influences organizational process. Unless these are controlled, the results may possibly be biased. As recommended by Wright *et al.* (2001), we used as many extraneous sources of error such as industry sector, organizational size, organizational age, and union membership as possible. Our study used a dummy variable to indicate whether the organization belonged to the public or private sector. Firm size and firm age were included as controls, because they may be related to high performance work practices (Delaney and Huselid, 1996) as well as to organizational performance (Guthrie, 2001). A natural logarithm was calculated using the number of employees in the organization and its years of existence (i.e. 1996 or 2001 minus the founding year), respectively. Union density was measured given the amount of evidence regarding the impact of unions and union density on organizational performance (Freeman and Medoff, 1984).

Table II illustrates the comparison of the 1996 and 2000 data, and the distribution of the organizations' sector, age, and size. The average organizational size in the 1996 and 2000 samples was 1202 employees and 621 employees, respectively. This size is quite different from that in the studies of Gerhart *et al.* (2000) and Huselid (1995). Our organizations are much smaller than those in their studies, and as a result, the vice presidents of HR here could more accurately describe their HRMP (Huselid and Becker,

Variables	Percentage Wave 1 – 1996	Wave 2 – 2000
Organizational size	1202 (1953)	621 (810)
Organizational age	31 (22)	23 (20)
Union membership	58% (42)	19% (34)
Sector		
Private	72	19
Public	30	85

Table II.
Characteristics of firms

2000). The difference in the number of employees between both waves may be ascribed to systematic reduction in the organizational workforce in the public and private sectors due to the Israeli economic depression. Nevertheless, in both samples, 70 percent of the firms employed 200 to 1000 employees.

Table II also shows for both cases the percentage of union membership and the organizations' distribution between the private and public sectors. Regarding the organizations' sectors, we note that the numbers of public sector firms dropped from 30 in 1996 to 19 in 2000. This decrease may explain some of the differences in union membership and organizational age between the two waves. The average percentage of union membership was 58 percent in 1996 and 19 percent in 2000. The difference in the percentage of union membership, beyond the reason mentioned above, is also due to two other simultaneous phenomena. First, union membership in Israel declined enormously beginning in late 1995 and continues to drop today (Harel *et al.*, 2000). Second, some of the unionized firms were omitted from *Dun's List* while other non-unionized firms, such as high-technology firms, were listed on the *Dun's Guide* of the leading companies in Israel in 2000. Finally, organizations in the first wave were older (31 years) than organizations in the second wave (23 years).

Results

Starbuck and Mezias (1996) questioned whether managers' perceptions might not be very realistic. They suggested that comparing the managers' assessments of objective and subjective data might clarify the issue (Guest, 2001). In order to deal with these issues, we calculated for both time periods the correlations between perceived organizational performance, financial performance, and employee behavior. Given that the results convey a strong correlation between managers' perceptions of organizational performance and "objective" measures of firm performance such as current ratio and return on assets, as well as employees' unapproved absenteeism (Tzafrir, 2005), we conclude that the managerial perceptions in our sample are realistic.

Analysis of the results of the first (1996) and second (2000) waves provides a clear picture of the relationship between each separate HRM practice and the perceptions of firm performance. By looking at two different time periods, using the same basic population, one can examine whether a given set of practices yields the same effect in both time periods. If the same set of effects is observed, this would support the universalistic perspective.

Table III presents correlation and descriptive statistics for all measures included in the research. The measure of perceived organizational performance is positively related to the measure of perceived market performance in both waves. The five measures of HRMP are all positively and significantly related to one another in both waves, with one exception: in 1996 the relationship between selection and incentive compensation was negative. Also, in the first wave firm age, sector, and union membership significantly related to both performance measures. However, in the second time period, these measures did not relate significantly to the measures of performance. Correlation between HRM variables and control variables, shown in Table III, indicate significant relationships in 1996 among firm age, sector, and union membership and HRM indicators. These patterns of relationships did not reappear in 2000 – with the exception of the relationship between union membership and employee participation as well as with selection.

Table III.
Means, standard deviations, and correlation for all variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
Mean			3.57	3.45	3.17	3.53	2.96	65%	3.39	6.38	30.5	0.31	58.5
sd			0.56	0.77	1.15	1.21	0.86	27.3	0.67	1.15	20.8	0.46	42.2
1. Perceived org. performance	3.90	0.56	–	0.66**	0.43**	0.47**	0.46**	0.39**	0.03	−0.12	−0.28**	0.27**	−0.22*
2. Perceived market performance	3.73	0.68	0.43**	–	0.39**	0.32**	0.48**	0.06	0.07	−0.05	−0.21***	0.24*	−0.24*
3. Incentive compensation	3.59	1.11	0.40**	0.37**	–	0.43**	0.35**	0.14	−0.22*	−0.12	−0.32**	0.61**	−0.43**
4. Employee participation	4.44	1.24	0.57**	0.39**	0.40**	–	0.38**	0.19***	0.07	−0.09	−0.28**	0.33**	−0.29**
5. Training	4.37	1.37	0.67**	0.47**	0.33**	0.58**	–	0.03	0.08	−0.04	−0.15	0.22*	−0.16
6. ILM	67%	31%	0.56**	0.30**	0.17	0.40**	0.49**	–	0.11	0.01	−0.04	−0.02	0.08
7. Selection	3.81	0.55	0.30**	0.28**	0.13	0.09	0.27**	0.14	–	0.22*	0.13	−0.30**	0.28**
8. Firm size	6.01	0.78	0.08	0.27*	0.09	0.10	0.19***	0.07	0.17***	–	0.51**	−0.21*	0.45**
9. Firm age	23.5	20.5	0.09	−0.04	−0.27**	−0.10	0.01	−0.10	0.15	0.01	–	−0.34**	0.55**
10. Sector	0.81	0.39	0.02	−0.06	−0.08	−0.08	−0.10	−0.05	−0.19***	−0.20*	0.07	–	0.48**
11. Union density	18.5	33.8	−0.03	−0.02	−0.17	−0.19***	0.10	−0.11	0.32**	0.38**	0.39**	−0.23*	–

Notes: $n_{1996} = 102$; $n_{2000} = 104$; correlations for wave one are shown above the main diagonal; correlations for wave two are shown below the main diagonal; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.10$

The results shown in Table III partially support the research hypotheses. In general, the measures of HRMP are positively and significantly related to the measures of perceived organizational and market performance in both waves. The power and direction of the relationships among research variables were almost the same in both waves, representing a similar pattern of relationships. Specifically, incentive compensation, employee participation, and training have the same pattern of association with perceived organizational and market performance in both waves (above 0.4 and 0.3, respectively). ILM correlates positively and significantly to perceived organizational performance in both waves. However, only in the second time period does ILM relate positively and significantly to perceived market performance. Again, only in the second time period (2000) is selection positively and significantly related to both performance measures.

To examine the joint contribution of the HRMP and the context measures to the justification of perceived organizational and market performance, we conducted regression analyses. Since our primary interest was the comparison of patterns of relationships between HRMP and firm performance, it was necessary to control for the independent effect of the control variables as well as to compare the two equations. Thus, we ran two regression models with control variables. Furthermore, in order to determine whether the coefficients generated in the analysis of the 1996 data were significantly different from those generated in the analysis of an identical model using 2000 data, a t test was used. We estimated t according to the formula:

$$t = b_1 - b_2/\sqrt{(\mathrm{SE}^2 + \mathrm{SE}^2)}.$$

As Bamberger *et al.* (1995) noted, a t test is deemed preferable to a Chow test because the latter yields only model-level equivalency results, whereas our research question demanded the assessment of a parameter-level equivalency. The results presented in Table IV indicate that researchers should consider several HRM practices as universalistic ones.

Results of the regression analysis indicate that organizational context and HRMP measured together explain a significant amount of the variance in perceived organizational and market performance in both waves. However, the results of the regression analysis of both waves do not tell a similar story. Considering the results shown in Table IV, one could argue that in 2000 HRMP contributed more than 95 percent to the explanation of the variance in organizational performance ($\Delta R^2 = 0.596$ divided by $0.618 = 96.4$ percent) and only 74 percent in 1996 ($\Delta R^2 = 0.381$ divided by $0.509 = 74.8$ percent). As Table IV shows, in both years HRMP can better explain organizational performance than market performance.

As predicted, the data seem to indicate a stable link between three out of five HRMP and organizational performance as well as between training and market performance. Specifically, in 2000, as in 1996, training remained positively related to organizational performance, and the relative strength of the coefficient values for the two years ($t_{\mathrm{diff}} = 1.55$) did not show any significant difference. That is, as in 1996, it appears that training still had a consistent impact on determining organizational performance in 2000. Thus, we have substantial support for *H1*. As predicted, ILM influenced organizational performance positively and significantly, and the coefficient values for the two years ($t_{\mathrm{diff}} = 0.13$) did not show any significant difference in their relative strength. Specifically, firms that rely more on internal promotion achieved higher

Table IV.
Results of regression analysis for perceived organizational performance and market performance

	Organizational performance							Market performance						
	1996			2000				1996			2000			
Variable	Model 1 β	Model 2 β	Coefficient (SE)	Model 1 β	Model 2 β	Coefficient (SE)	t	Model 1 β	Model 2 β	Coefficient (SE)	Model 1 β	Model 2 β	Coefficient (SE)	t
Firm Size	0.05	−0.05	−0.02447 (0.051)	0.11	−0.04	−0.02762 (0.050)	0.04	0.19	0.11	0.06469 (0.081)	0.27*	0.19*	0.151 (0.077)	−0.77
Firm Age	−0.22	−0.07	−0.001762 (0.003)	0.12	0.16*	0.004557 (0.002)	−1.75*	−0.14	−0.07	−0.002582 (0.005)	0.02	0.05	0.001457 (0.003)	−0.69
Sector	0.20	0.04	0.05088 (0.138)	0.01	0.10	0.139 (0.097)	−0.52	0.16	0.05	0.07863 (0.216)	−0.04	0.02	0.02440 (0.148)	0.21
Union Membership	−0.05	0.01	0.0001605 (0.002)	−0.11	−0.02	−0.000397 (0.001)	0.24	−0.22	−0.15	−0.002777 (0.003)	−0.14	−0.13	−0.002430 (0.002)	−0.10
Selection	No	−0.02	−0.014 (0.096)	No	0.14*	0.145 (0.072)	−1.32	No	0.10	0.140 (0.158)	No	0.15	0.169 (0.110)	−0.15
ILM	No	0.28**	0.005724 (0.002)	No	0.28**	0.005418 (0.001)	0.13	No	−0.11	−0.002997 (0.003)	No	0.05	0.001127 (0.002)	−1.14
Participation	No	0.19***	0.09006 (0.053)	No	0.21*	0.097673 (0.038)	−0.11	No	0.04	0.02541 (0.087)	No	0.06	0.03088 (0.058)	−0.05
Training	No	0.41**	0.257 (0.068)	No	0.32**	0.137 (0.037)	1.55	No	0.37**	0.307 (0.109)	No	0.24*	0.115 (0.056)	1.57
Compensation	No	0.11	0.05239 (0.059)	No	0.19*	0.09785 (0.037)	−0.065	No	0.16	0.111 (0.093)	No	0.18***	0.100 (0.057)	0.10
Constant	3.7**	2.2**	2.217 (0.442)	3.4**	1.5**	1.564 (0.409)	1.08	3.13**	1.64*	1.638 (0.690)	2.49**	1.10**	1.097 (0.627)	0.58
R^2	0.128	0.509		0.022	0.618			0.128	0.358		0.070	0.279		
ΔR^2	0.128	0.381		0.022	0.596			0.128	0.230		0.070	0.209		
F	2.5*	9.9**		0.55	29.3**			2.309***	4.15**		1.869	5.44**		

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.10$

organizational performance – *H4* is supported. *H2* assumes a stable positive relationship between employee participation and perceived organizational performance across time. Correspondingly, whereas the magnitude of the effect of employee participation was 0.19 in 1996, in 2000 it was 0.21. There was no significant difference in the relative strength of the coefficient values for the two years ($t_{diff} = -0.12$). Contrary to *H3* and *H5*, selection and incentive compensation, primary HRM indicators in 2000, are not significant as determinants of organizational performance in 1996. Nevertheless, there was no significant difference in the relative strength of the coefficient values for the two years ($t_{diff} = -1.33, -0.07$, respectively).

Whereas most of the HRMP affect organizational performance, different patterns emerged that explained market performance. As predicted, providing employees with training activities influences market performance positively and significantly. The magnitude of this effect was 0.37 in 1996, and 0.24 in 2000. Nevertheless, there was no significant difference in the relative strength of the coefficient values for the two years ($t_{diff} = 1.57$). While in 1996 market performance was not directly influenced by incentive compensation, by 2000 the relationship between job holders' income and respective job performance became more crucial. Still, there was no significant difference in the relative strength of the coefficient values for the two years ($t_{diff} = 0.10$). In opposition to the research hypotheses, selection, employee participation, and ILM fail to achieve significance as determinants of market performance in both years.

In summary, *H1* predicted that Training and perceived organizational performance are related to each other and are not time-specific. Table IV indicates that training continues to be an important factor in predicting organizational performance. Thus, these results provide support for *H1*. As posited in *H2*, employee participation is positively related to organizational performance. *H3* predicted that Compensation and perceived organizational performance are related to each other and are not time-specific. The measure of compensation is positive significantly related to perceived organizational performance in 2000, but non-significant for 1996. Thus, these results provide some support for *H3*. *H4* predicted that Internal Labor Market and perceived organizational performance are related to each other and are not time-specific. The positive, significant coefficient for the measure of ILM in both years provides support for *H4*. *H5* predicted that Selection and perceived organizational performance are related to each other and are not time-specific. The coefficient for this variable has significant effect on perceived organizational performance only in 2000 but not in 1996, so we find little support for our last hypothesis.

Discussion

How HRMP influence firm performance has been a central question in organizational literature throughout the last decade. The analyses of the universalistic perspective presented in this paper try to make clear the appropriateness of this perspective in explaining this question. In general, results for both periods of time indicated that several HRMP contribute to enhanced organizational performance. Firms exhibited higher organizational performance when they treated their employees as assets and invested in their abilities, enhanced their power in the decision making process and used them as the main source for new employment. These results are consistent with

the universalistic perspective (Pfeffer, 1994, 1998) and suggest that management should consider adopting some HRMP because they play key roles in organizational success and since they are always better than other narrow practices (Delery and Doty, 1996). Nonetheless, selection and incentive compensation, it must be observed, were positively but not significantly correlated to firm performance in both waves.

This study differs from previous work in that it combines similar HRMP measurement scales and also uses different points in time with an extensive sample that includes successful organizations from different sectors. Albeit Wright *et al.* (2001) pointed out the problematic nature of cross-sectional samples, using cross-sectional samples is inherent to a universalistic perspective. These authors also pointed out the risk in ignoring the issue of time in developing reliable HR practice measures. The results in both waves indicating similar patterns suggest that the influences of HRMP on firm performance are not sector or time specific. The results from the cross-sectional sample as well as from the two points in time suggest that HRMP contribute to higher organizational performance across time and sector. These findings substantiate the argument that employees who are given the necessary knowledge and skills, incentives, and opportunities to participate in the organization make more of an effort (Appelbaum *et al.*, 2000, Huselid, 1995). Nevertheless, the results did not confirm the number of HRMP that should be taken as best practices (Pfeffer, 1994; 1998).

One interesting empirical finding seen in the analyses is the strong and positive association between training and both organizational and market performance. This highlights the importance of training to organizational success. This strong relationship between training and performance is in line with prior research (Delaney and Huselid, 1996). Guerrero and Barraud-Didier (2004) found the importance of training to company success. Mak and Akhtar (2003) also examined this HRMP issue and found that training was related to quality and innovation. Chang and Chen (2002) found a positive and significant relationship between training and employee productivity. Barling *et al.* (2003) also noted the importance of training so that employees can perform their jobs more safely. One way to explain the importance of training to organizational performance is as an indirect relationship. A human capital perspective argues that training increases organizational performance by increasing the problem solving skills of employees (Osterman, 1995) as well as their innovation abilities (Vogus and Welbourne, 2003).

While the significance of training, employee participation and ILM were expected, the nonsignificance of selection and incentive compensation were unexpected. Perhaps, as Marchington and Grugulis (2000) and Purcell (1999) argued, the claim for universalism is too optimistic. Nevertheless, several studies concur with our results (Ahman and Schroeder, 2003; Gelade and Ivery, 2003; Mak and Akhtar, 2003). For example, Way (2002) in a sample of small businesses found that high performance work systems are related to lower workforce turnover and higher perceived productivity. In a similar line, Guest *et al.* (2003) in a study of 366 UK companies found that greater use of HRMP is related to lower labor turnover. There are several possible reasons for these seemingly contradictory findings. First, it is plausible that researchers have been carried away in their estimate of the number of HRMP that are universalistic (Pfeffer, 1994). Bamberger and Meshoulam (2000) argued that most HRMP may represent more a set of guiding principles than specific practices that impact organizational performance. If so, the existing debate on the universalistic

perspective must minimize the number of HRMP. The second possible reason may lie in the dynamics and the workforce composition of a particular industry. It is plausible that non-unionized firms in a particular industry affect the results (for the effect of unionization on HRMP, see: Cooke, 1994; Grant, 2001; Kovach, 1993). The third possible reason is that time and sector do matter and HRMP influence firm performance via the explanation of the contingency perspective. While we believe that the power of HRMP drives organizational performance, we cannot exclude the possibility of another explanation, such as the contingency theory or the configurational perspective (Delery and Doty, 1996). Concerning the different assumptions of the contingency and configurational approaches from the universalistic approach (Delery and Doty, 1996), one might say that selection and incentive compensation are important practices that obtain their power from being a part of the HR system and that need to be coherent within and consistent with other aspects of the organization.

Limitations and future research

Although this study makes several important contributions to the literature and has valuable implications for practice, it is not without limitations. Perhaps its first shortcoming is the decision to direct our questionnaires only to HR managers. The use of one respondent source is usually perceived as a limitation (Crampton and Wagner, 1994) when sensitive data is collected. For example, HR managers who indicate high firm performance may also indicate high levels of some HRMP, as a way of being consistent with their assessment of firm performance. However, as Starbuck and Mezias (1996) recommended, we used objective data as much as possible and compared subjective data with objective data. Also, using HR managers as a source of information is in line with another suggestion made by these researchers, namely, that "researchers can use 'objective' data that are more relevant to managers' perceptions" (p. 115). Huselid and Becker (2000) argued that in many cases the senior HR executives were the only ones qualified to provide HR data across a number of job positions. Finally, we conducted several confirmatory factor analyses in order to address the mono-method bias. Nevertheless, Wright *et al.* (2003) pointed out the importance of the employees as a source. Hence, we think there is a significant research opportunity in exploring the relationship between HRMP and firm performance by simultaneously gathering data from several sources.

The similar sample sizes (102 in 1996 and 104 in 2000) suggest that any comparability in findings across time could be affected by consistency among HRMP within the same firms and/or consistencies in the reports of HR managers in these firms. In short, it is not possible to separate out the degree to which the findings are the results of within-firm effects. However, excluding the HR managers who were in both samples ($n = 8$) and then conducting independent correlation analyses for the new samples (94 in 1996 and 96 in 2000) revealed similar patterns of relationships in both samples. Also, the similar results across samples could be a fact of measurement error. Nevertheless, consideration of measurement issues can help to minimize problems of multicollinearity. For that reason, we conducted pilot interviews' through discussions with eight academics and practitioners, in order to determine whether respondents could differentiate between specific practices, and whether they could answer the protocol questions without ambiguity. In addition, respondents were asked to fill out

the questionnaire and criticize it as well as evaluate each question to ensure that the question matched the practice it attempted to measure.

Our results should also be viewed in light of the data having been collected within a single national system with its unique national culture (Doney *et al.*, 1998). This may cast some doubt on the ability to generalize the study's conclusions. Most studies that examined the relationship between HRMP and organizational performance have been based on American data and have not examined whether the results generated also apply in other countries. Therefore, one of the contributions of this study to the HRM literature is to have examined data from another country using some validated measurements previously used in a US study (Delaney and Huselid, 1996). By doing so, the study's results can be generalized and thereby expand the HR literature to another organizational and cultural environment. The Israeli environment provides researchers and practitioners with a convenient laboratory for studying and analyzing advanced managerial practices in as much as it is a "*Madurada*" (microcosm) for the developed countries of Western Europe and North America (Harel and Tzafrir, 1999). The Israeli high tech market includes a large variety of firms; it is home to 1,800 R&D based technology companies that range from homegrown start-ups such as Mirabilis, to high-level subsidiaries of American technology giants; for example, Intel, IBM and Hewlett Packard (German, 2002).

The validity of the results may be hampered by the fact that the models rely on the assumption that HRMP impact on perceived organizational and market performance. The possibility of a reciprocal relationship between these variables cannot be excluded. Thus, one alternative explanation for our models is that the perceived organizational and market performances influence HRM practices. However, we believe that this is an unlikely explanation for the results, if one considers the different studies (Huselid, 1995). Future research should attempt to collect data with time lags between predictor and outcome measures, in order to enable longitudinal analysis. Another limitation perhaps lies in the relatively small set of the population of HR practices used in this study.

Conclusion and implication

Despite its limitations, the results of the current research have important implications for theory and practice. There is both a practical and theoretical need to better understand the cultural context when searching for universal HRMP. First and foremost, researchers and HR managers have to take into account the culture context in each country when they try to export successful HRM practice from one country to another. As our results demonstrated, not every HRMP act the same way in different cultures. The current study is an important step in introducing this managerial understanding. For example, the support found in the USA for the relationship between incentive compensation and firm performance (Delaney and Huselid, 1996) was not found in our sample. Thus, from the practical perspective managers have to integrate a unique and special compensation for different firms and different kinds of employees (Lepak and Snell, 1999) in each country. From the theoretical perspective researchers have to control for cultural aspects before adopting a universal (though culture based) HRM practice.

A major practical contribution of this research is that it demonstrates the importance of training and employee participation *vis-à-vis* organizational performance. Leveraging the ability and motivation of the employees through the enactment of decisions and procedures pays off. Specifically, in order to increase

organizational performance, the HR department should enhance the number of training activities as well as give employees the power to make decisions regarding their job. The current study supports the universal importance of such practices for prediction of organizational performance.

References

Ahman, S. and Schroeder, R.G. (2003), "The impact of human resource management practices on operational performance: recognizing country and industry differences", *Journal of Operations Management*, Vol. 21 No. 1, p. 19.

Appelbaum, E., Bailey, T., Berg, P. and Kalleberg, A.L. (2000), *Manufacturing Advantage: Why High-Performance Work System Pay Off*, Cornell University Press, New York, NY.

Arthur, J.B. (1992), "The link between business strategy and industrial relations systems in American steel minimills", *Industrial and Labor Relations Review*, Vol. 45, pp. 488-506.

Bamberger, P. and Meshoulam, I. (2000), *Human Resource Strategy: Formulation, Implementation, and Impact*, Sage Publication, Thousand Oaks, CA.

Bamberger, P., Admati-Dvir, M. and Harel, G. (1995), "Gender-based wage and promotion discrimination in Israeli high-technology firms: do unions make a difference?", *Academy of Management Journal*, Vol. 38 No. 6, pp. 1744-61.

Bamberger, P., Bachrach, S. and Dyer, L. (1989), "Human resources management and organizational effectiveness: high technology entrepreneurial startup firms in Israel", *Human Resource Management*, Vol. 28, pp. 349-66.

Barling, J., Iverson, R.D. and Kelloway, K. (2003), "High-quality work, job satisfaction, and occupational injuries", *Journal of Applied Psychology*, Vol. 88 No. 2, pp. 276-83.

Barney, J.B. (1986), "Organizational culture: Can it be a source of sustained competitive advantage?", *Academy of Management Review*, Vol. 11, pp. 802-35.

Barney, J.B. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17, pp. 99-120.

Barney, J.B. (1995), "Looking inside for competitive advantage", *Academy of Management Executive*, Vol. 49, pp. 49-61.

Baron, N.J. and Kreps, M.D. (1999), "Consistent human resource practices", *California Management Review*, Vol. 41 No. 3, pp. 29-53.

Batt, R. (2002), "Managing customer services: human resource practices, quit rates, and sales growth", *Academy of Management Journal*, Vol. 45 No. 3, pp. 587-97.

Batt, R., Colvin, A.J.S. and Keefe, J. (2002), "Employee voice, human resource practices, and quit rates: evidence from the telecommunication industry", *Industrial and Labor Relations Review*, Vol. 55 No. 4, pp. 573-94.

Becker, B. and Gerhart, B. (1996), "The impact of human resource management on organizational performance: progress and prospects", *Academy of Management Journal*, Vol. 39 No. 4, pp. 779-801.

Blackwell, W.D., Brickley, A.J. and Weisbach, S.M. (1994), "Accounting information and internal performance evaluation", *Journal of Accounting and Economics*, Vol. 17, pp. 331-58.

Boselie, P. and Dietz, G. (2003), "Commonalities and contradictions in research on human resource management and performance", paper presented at the Academy of Management Meeting in Seattle, August.

Cappelli, P. and Neumark, D. (2001), "Do 'high-performance' work practices improve establishment-level outcomes?", *Industrial and Labor Relations Review*, Vol. 54 No. 4, pp. 737-75.

Chang, P-L. and Chen, W-L. (2002), "The effect of human resource management practices on firm performance: empirical evidence from high-tech firms in Taiwan", *International Journal of Management*, Vol. 19 No. 4, pp. 622-31.

Cooke, W.N. (1994), "Employee participation programs, group-based incentives, and company performance: a union-nonunion comparison", *Industrial and Labor Relations Review*, Vol. 47 No. 4, pp. 594-609.

Crampton, S.M. and Wagner, J.A. III (1994), "Percept-percept inflation in microorganizational research: an investigation of prevalence and effect", *Journal of Applied Psychology*, Vol. 79 No. 1, pp. 67-76.

Den Hartog, D.N. and Verburg, R.M. (2004), "High performance work systems, organizational culture and firm effectiveness", *Human Resource Management Journal*, Vol. 14 No. 1, pp. 55-78.

Delaney, T.J. and Huselid, A.M. (1996), "The impact of human resource management practices on perceptions of organizational performance", *Academy of Management Journal*, Vol. 39 No. 4, pp. 949-69.

Delery, E.J. and Doty, H.D. (1996), "Modes of theorizing in strategic human resource management: tests of universalistic, contingency, and configurational performance predictions", *Academy of Management Journal*, Vol. 39 No. 4, pp. 802-35.

Doney, P.M., Cannon, J.P. and Mullen, M.R. (1998), "Understanding the influence of national culture on the development of trust", *Academy of Management Review*, Vol. 23 No. 3, pp. 601-20.

Dun & Bradstreet Information Services (1995/1996), *Dun's Guide Israel*, available at: http://dundb.co.il

Dun & Bradstreet Information Services (1999/2000), *Dun's Guide Israel*, available at: http://dundb.co.il

Eccles, G.R. (1995), "The performance measurement manifesto", in Holloway, J., Lewis, J. and Geoff, M. (Eds), *Performance Measurement and Evaluation*, Sage, London, pp. 5-14.

Freeman, B.R. and Medoff, L.J. (1984), *What Do Unions Do?*, Basic Books, New York, NY.

Gaertner, N.K. and Nollen, D.S. (1989), "Career experiences, perceptions of employment practices, and psychological commitment to the organization", *Human Relations*, Vol. 42 No. 11, pp. 975-91.

Gelade, G.A. and Ivery, M. (2003), "The impact of human resource management and work climate on organizational performance", *Personnel Psychology*, Vol. 56 No. 2, p. 383.

Gerhart, B., Wright, P.M. and MaMahan, G. (2000), "Measurement error in research on human resources and firm performance: how much error is there and how does it influence effect size estimates?", *Personnel Psychology*, Vol. 53, pp. 803-34.

Geringer, J.M., Frayne, C.A. and Milliman, J.F. (2002), "In search of "best practices" in international human resource management: research design and methodology", *Human Resource Management*, Vol. 41 No. 1, pp. 5-30.

German, K. (2002), "Israel: high tech haven", *Upside*, Vol. 14 No. 1, pp. 40-5.

Godard, J. and Delaney, T.J. (2000), "Reflections on the 'high performance' paradigm's implications for industrial relations as a field", *Industrial and Labor Relations Review*, Vol. 53 No. 3, pp. 482-502.

Grant, D. (2001), "A comparison of the cyclical behavior of union and nonunion wages in the United States", *The Journal of Human Resources*, Vol. 36 No. 1, p. 31.

Guerrero, S. and Barraud-Didier, V. (2004), "High-involvement practices and performance of French firms", *International Journal of Human Resource Management*, Vol. 15 No. 8, pp. 1408-23.

Guest, D. (2002), "Human resource management, corporate performance and employee wellbeing: building the worker into HRM", *The Journal of Industrial Relations*, Vol. 44 No. 3, pp. 335-58.

Guest, D. and Peccei, R. (1994), "The nature and causes of effective human resource management", *British Journal of Industrial Relations*, Vol. 32 No. 2, pp. 219-42.

Guest, D.E. (2001), "Human resource management: when research confronts theory", *International Journal of Human Resource Management*, Vol. 12 No. 7, pp. 1092-106.

Guest, D.E., Michie, J., Conway, N. and Sheehan, M. (2003), "Human resource management and corporate performance in the UK", *British Journal of Industrial Relations*, Vol. 41 No. 2, p. 291.

Guthrie, J.P. (2001), "High-involvement work practices, turnover, and productivity: evidence from New Zealand", *Academy of Management Journal*, Vol. 44 No. 1, pp. 180-90.

Harel, H.G. and Tzafrir, S.S. (1999), "The effect of human resource management practices on the perceptions of organizational and market performance of the firm", *Human Resource Management*, Vol. 38 No. 3, pp. 185-99.

Harel, H.G., Tzafrir, S.S. and Bamberger, P. (2000), "Institutional change and union membership: a longitudinal analysis of union membership determinants in Israel", *Industrial Relations*, Vol. 39 No. 3, pp. 460-85.

Hatch, N.W. and Dyer, J.H. (2004), "Human capital and learning as a source of sustainable competitive advantage", *Strategic Management Journal*, Vol. 25, pp. 1155-78.

Hodson, R. (2002), "Worker participation and teams: new evidence from analyzing organizational ethnographies", *Economic and Industrial Democracy*, Vol. 23 No. 4, pp. 491-528.

Huang, T-C. (2001a), "The relation of training practices and organizational performance in small and medium size enterprises", *Education and Training*, Vol. 43 Nos 8/9, pp. 437-44.

Huang, T-C. (2001b), "The effects of linkage between business and human resource management strategies", *Personnel Review*, Vol. 30 No. 2, pp. 132-51.

Hunter, E.J. and Schmidt, L.F. (1982), "Ability tests: economic benefits versus the issue of fairness", *Industrial Relations*, Vol. 21 No. 3, pp. 293-309.

Huselid, M.A. (1995), "The impact of human resource management practices on turnover, productivity, and corporate financial performance", *Academy of Management Journal*, Vol. 38 No. 3, pp. 635-72.

Huselid, M.A. and Becker, B.E. (1996), "Methodological issues in cross-sectional and panel estimates of the HR-firm performance link", *Industrial Relations*, Vol. 35, pp. 400-22.

Huselid, M.A. and Becker, B.E. (2000), "Comment on measurement error in research on human resources and firm performance: how much error is there and how does it influence effect size estimates?", *Personnel Psychology*, Vol. 53, pp. 835-54.

Juhl, J.H., Kristensen, K., Kanji, K.G. and Batley, W.T. (2000), "Quality management: a comparison of cultural differences", *Total Quality Management*, Vol. 11 No. 1, pp. 57-65.

Karami, A., Analoui, F. and Cusworth, J. (2004), "Strategic human resource management and resource-based approach: the evidence from the British manufacturing industry", *Management Research News*, Vol. 27 No. 6, pp. 50-68.

Kato, T. and Morishima, M. (2002), "The productivity effects of participatory employment practices: evidence from new Japanese panel data", *Industrial Relations*, Vol. 41 No. 4, pp. 487-520.

Kovach, K.A. (1993), "Correlates of employee satisfaction with pay and benefits: public/private and union/non-union comparison", *Journal of Collective Negotiations in the Public Sector*, Vol. 22 No. 3, pp. 253-7.

Lado, A.A. and Wilson, C.M. (1994), "Human resource systems and sustained competitive advantage: a competency-based perspective", *Academy of Management Review*, Vol. 19 No. 4, pp. 699-727.

Lawler, E.E. III, Mohrman, A.S. and Ledford, E.G. (1992), *Employee Involvement and Total Quality Management*, Jossey-Bass Publishers, San Francisco, CA.

Lepak, D.P. and Snell, S.A. (1999), "The human resource architecture: toward a theory of human capital allocation and development", *Academy of Management Review*, Vol. 24 No. 1, pp. 31-48.

Li, M. (2004), "Workers' participation in management and firm performance: evidence from large and medium-sized Chinese enterprises", *Review of Radical Political Economics*, Vol. 36 No. 3, p. 358.

MacDuffie, J.P. (1995), "Human resource bundles and manufacturing performance: organizational logic and flexible production systems in the world auto industry", *Industrial and Labor Relations Review*, Vol. 48, pp. 197-221.

Mak, S.K.M. and Akhtar, S. (2003), "Human resource management practices, strategic orientations, and company performance: a correlation study of publicly listed companies", *Journal of American Academy of Business*, Vol. 2 No. 2, pp. 510-5.

Marchington, M. and Grugulis, I. (2000), "Best practice human resource management: perfect opportunity or dangerous illusion?", *International Journal of Human Resource Management*, Vol. 11 No. 6, pp. 1104-24.

Miner, B.J. and Miner, M.G. (1985), *Personnel and Industrial Relations: A Managerial Approach*, 4th ed., Macmillan, New York, NY.

Ngo, H-Y. and Tsang, W-N.A. (1998), "Employment practices and organizational commitment: differential effects for men and women?", *The International Journal of Organizational Analysis*, Vol. 6 No. 3, pp. 251-66.

Osterman, P. (1994), "How common is workplace transformation and who adopts it?", *Industrial and Labor Relations Review*, Vol. 47, pp. 173-88.

Osterman, P. (1995), "Skill, training, and work organization in American establishments", *Industrial Relations*, Vol. 34, pp. 125-46.

Osterman, P. (2000), "Work reorganization in an era of restructuring: trends in diffusion and effects on employee welfare", *Industrial and Labor Relations Review*, Vol. 53 No. 2, pp. 179-96.

Pfeffer, J. (1994), *Competitive Advantage Through People: Unleashing the Power of the Work Force*, Harvard Business School Press, Boston, MA.

Pfeffer, J. (1998), "Seven practices of successful organizations", *California Management Review*, Vol. 40 No. 2, pp. 96-124.

Pfeffer, J. and Veiga, F.J. (1999), "Putting people first for organizational success", *Academy of Management Executive*, Vol. 13 No. 2, pp. 37-48.

Purcell, J. (1999), "Best practice and best fit: chimera or cul-de-sac", *Human Resource Management Journal*, Vol. 9 No. 3, pp. 26-41.

Ramsay, H., Scholarios, D. and Harley, B. (2000), "Employees and high performance work systems: testing inside the black box", *British Journal of Industrial Relations*, Vol. 38, pp. 501-31.

Rowden, W.R. (2002), "High performance and human resource characteristics of successful small manufacturing and processing companies", *Leadership & Organization Development Journal*, Vol. 23 No. 2, pp. 79-83.

Sanyal, N.R. (2001), "Employee benefits in American firms in China", *International Journal of Commerce & Management*, Vol. 11 No. 1, pp. 102-19.

Shipton, H., Fay, D., West, M., Patterson, M. and Birdi, K. (2005), "Managing people to promote innovation", *Creativity and Innovation Management*, Vol. 14 No. 2, pp. 118-28.

Singh, K. (2004), "Impact of HR practices on perceived firm performance in India", *Asia Pacific Journal of Human Resources*, Vol. 42 No. 3, p. 301.

Starbuck, W.H. and Mezias, J.M. (1996), "Opening Pandora's box: studying the accuracy of managers' perceptions", *Journal of Organizational Behavior*, Vol. 17, pp. 99-117.

Terpstra, D.E. and Rozell, E.J. (1993), "The relationship of staffing practices to organizational level measures of performance", *Personnel Psychology*, Vol. 46, pp. 27-48.

Thorley-Hill, N. and Stevens, K.T. (2001), "Structuring compensation to achieve better financial results", *Strategic Finance*, Vol. 82 No. 9, pp. 48-51.

Tzafrir, S.S. (2005), "The relationship between trust, HRM practices and firm performance", *Journal of Human Resource Management*, Vol. 16 No. 9, pp. 478-500.

Way, S.A. (2002), "High performance work systems and intermediate indicators of firm performance within the US small business sector", *Journal of Management*, Vol. 28 No. 6, p. 765.

Welbourne, T.M. and Andrews, A.O. (1996), "Predicting the performance of initial public offerings: should Human Resource Management be in the equation?", *Academy of Management Journal*, Vol. 39 No. 4, pp. 891-919.

Wooldridge, B. and Floyd, W.S. (1990), "The strategy process, middle management involvement, and organizational performance", *Strategic Management Journal*, Vol. 11 No. 3, pp. 231-41.

Wright, P.M., Gardner, T.M., Moynihan, L.M. and Allen, M.R. (2005), "The relationship between HR practices and firm performance: examining casual order", *Personnel Psychology*, Vol. 58 No. 2, pp. 409-46.

Wright, M.P., Gardner, M.T. and Moynihan, M.L. (2003), "The impact of HR practices on the performance of business units", *Human Resource Management Journal*, Vol. 13 No. 3, pp. 21-36.

Wright, M.P., Gardner, M.T., Moynihan, M.L., Park, J.H., Gerhart, B. and Delery, E.J. (2001), "Measurement error in research on human resources and firm performance: additional data and suggestions for future research", *Personnel Psychology*, Vol. 54 No. 4, pp. 875-901.

Vogus, T.J. and Welbourne, T.M. (2003), "Structuring for high reliability: HR practices and mindful processes in reliability-seeking organizations", *Journal of Organizational Behavior*, Vol. 24 No. 7, p. 877.

Von Glinow, M.A. (1993), "Diagnosing 'best practice' in human resource management practices", in Ferris, R.G. (Ed.), *Research in Personnel and Human Resource Management*, pp. 95-112, CT: JAI.

Youndt, M.A., Snell, A.S., Dean, W.J. Jr. and Lepak, P.D. (1996), "Human resource management, manufacturing strategy, and firm performance", *Academy of Management Journal*, Vol. 39 No. 4, pp. 836-66.

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2. Marina O Latukha. 2018. Talent development and a firm's performance. *Journal of General Management* **43**:2, 51-62. [Crossref]
3. Yeonu Lee. 2017. A Study on the Relationship between HRM Practices which is based on the Korean Culture and Employee Outcomes in the Korean Hotel Industry. *Culinary Science & Hospitality Research* **23**:8, 106-127. [Crossref]
4. TravlosAntonios K., Antonios K. Travlos, DimitropoulosPanagiotis, Panagiotis Dimitropoulos, PanagiotopoulosStylianos, Stylianos Panagiotopoulos. 2017. Foreign player migration and athletic success in Greek football. *Sport, Business and Management: An International Journal* **7**:3, 258-275. [Abstract] [Full Text] [PDF]
5. Juan Carlos Bou-Llusar, Inmaculada Beltrán-Martín, Vicente Roca-Puig, Ana Belén Escrig-Tena. 2016. Single- and Multiple-Informant Research Designs to Examine the Human Resource Management –Performance Relationship. *British Journal of Management* **27**:3, 646-668. [Crossref]
6. Hussein Nabil Ismail. 2016. Training and organizational commitment: exploring the moderating role of goal orientation in the Lebanese context. *Human Resource Development International* **19**:2, 152-177. [Crossref]
7. Khaled Aladwan, Ramudu Bhanugopan, Brian D'Netto. 2015. The effects of human resource management practices on employees' organisational commitment. *International Journal of Organizational Analysis* **23**:3, 472-492. [Abstract] [Full Text] [PDF]
8. Adeel Sabir Khan, Farooq Rasheed. 2015. Human resource management practices and project success, a moderating role of Islamic Work Ethics in Pakistani project-based organizations. *International Journal of Project Management* **33**:2, 435-445. [Crossref]
9. Khaled Aladwan, Ramudu Bhanugopan, Alan Fish. 2014. Human resource management practices among frontline employees in the Jordanian organizations. *International Journal of Commerce and Management* **24**:1, 6-24. [Abstract] [Full Text] [PDF]
10. Sorasak Tangthong, Jirasek Trimetsoontorn, Nutthawut Rojniruntikul. 2014. HRM Practices and Employee Retention in Thailand—A Literature Review. *International Journal of Trade, Economics and Finance* **5**:2, 162-166. [Crossref]
11. Yi-Fang Yang, Yahn-Shir Chen, Lee-Wen Yang. 2013. Gender gap, training and financial performance: evidence from public accounting industry. *The International Journal of Human Resource Management* **24**:19, 3697-3718. [Crossref]
12. Ramudu Bhanugopan, Khaled Aladwan, Alan Fish. 2013. A structural equation model for measuring human resource management practices in the Jordanian organisations. *International Journal of Organizational Analysis* **21**:4, 565-587. [Abstract] [Full Text] [PDF]
13. Marina O. Latukha, Andrei Yu. Panibratov. 2013. Is the Role of HRM Strategic in M&A Success? Exploring the Involvement of HRM in a due Diligence Process. *Journal of General Management* **39**:1, 27-54. [Crossref]
14. Isabel Barba Aragon, Raquel Sanz Valle. 2013. Does training managers pay off?. *The International Journal of Human Resource Management* **24**:8, 1671-1684. [Crossref]

15. Ahmed Doha, Ajay Das, Mark Pagell. 2013. The influence of product life cycle on the efficacy of purchasing practices. *International Journal of Operations & Production Management* **33**:4, 470-498. [Abstract] [Full Text] [PDF]
16. Kaifeng Jiang, David P. Lepak, Jia Hu, Judith C. Baer. 2012. How Does Human Resource Management Influence Organizational Outcomes? A Meta-analytic Investigation of Mediating Mechanisms. *Academy of Management Journal* **55**:6, 1264-1294. [Crossref]
17. María Dolores Vidal-Salazar, Eulogio Cordón-Pozo, Vera Ferrón-Vilchez. 2012. Human resource management and developing proactive environmental strategies: The influence of environmental training and organizational learning. *Human Resource Management* **51**:6, 905-934. [Crossref]
18. Nurul Absar, Balasundaram Nimalathasan, Monowar Mahmood. 2012. HRM-market performance relationship: evidence from Bangladeshi organizations. *South Asian Journal of Global Business Research* **1**:2, 238-255. [Abstract] [Full Text] [PDF]
19. Shruti Gupta, Asha Prasad. 2011. Productivity-based hybrid model: learning from the Indo-Japanese and Indian auto sector. *Journal of Advances in Management Research* **8**:1, 158-171. [Abstract] [Full Text] [PDF]
20. Abdelwahab Aït Razouk. 2011. High-performance work systems and performance of French small- and medium-sized enterprises: examining causal order. *The International Journal of Human Resource Management* **22**:2, 311-330. [Crossref]
21. Aaron Cohen, Yehuda Baruch. 2010. An agency theory perspective of the Israeli labor market segmentation: Past, present, and future. *Human Resource Management Review* **20**:3, 186-193. [Crossref]
22. M. Rosario Perello-Marin. 2010. Towards a methodology for identifying path dependence in the evolution of human resources practices. *WPOM-Working Papers on Operations Management* **1**:1, 56. [Crossref]
23. Juan A. Marin-Garcia, M. Rosario Perello-Marin, Julio J. Garcia-Sabater. 2010. Desarrollo de una metodología para identificar dependencia de camino en gestión de operaciones. *WPOM-Working Papers on Operations Management* **1**:1, 37. [Crossref]
24. Christian Scholz, Tanja Bollendorf, Hans B√∂hm. Introduction 1-30. [Crossref]
25. Nai-Wen Chi, Chih-Yun Wu, Carol Yeh-Yun Lin. 2008. Does training facilitate SME's performance?. *The International Journal of Human Resource Management* **19**:10, 1962-1975. [Crossref]
26. Phyllis Tharenou, Alan M. Saks, Celia Moore. 2007. A review and critique of research on training and organizational-level outcomes. *Human Resource Management Review* **17**:3, 251-273. [Crossref]
27. Adrian Furnham. 2007. Managerial psychology: state-of-the-art. *Journal of Managerial Psychology* **22**:6, 610-621. [Abstract] [Full Text] [PDF]
28. Kijpokin Kasemsap. Developing a Framework of Human Resource Management, Organizational Learning, Knowledge Management Capability, and Organizational Performance 371-402. [Crossref]
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