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# High-involvement practices and performance of French firms

*Sylvie Guerrero and Valérie Barraud-Didier*

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**Abstract** This article deals with the relationship between human resource practices (HRPs) and firm performances in France. It focuses on four specific HRPs that are able to involve employees: empowerment, compensation, communication and training. Each HRP taken in isolation is supposed to be positively related to performances because it is a source of motivation and commitment for employees. But there also exists a synergy between these practices: when they are combined into a bundle and are implemented all together, they should lead to better firm performances. A survey carried out among 180 human resource managers of large French companies leads to validation of most of our hypotheses. Contrary to previous research, we do not find a significant link between compensation and firm performance. The other HRPs are all indirectly related to financial performances, with social performance playing a mediating role. When they are combined into a bundle, HRPs have a stronger impact on performance than when they are studied individually. The article concludes with the importance of developing a strategic human resource policy and of implementing coherent and complementary high-involvement practices to increase firm performance.

**Keywords** High involvement; performance; HR practices; bundle.

Managers' primary concern has always been with running their companies efficiently. This quest for excellence entails the creation of structures and management systems that favour the initiative and creativity of human resources. Following Pfeffer's work (1994, 1998), several authors presented a set of human resource practices (HRPs) that bring a competitive advantage to a company and generate benefits because they are complementary. For this, they were named high-performance practices (Bessant and Caffyn, 1997; Delaney and Huselid, 1996; Huselid, 1995) or strategic HRPs (Hiltrop, 1999; Huselid *et al.*, 1997) and considered by some scholars to be universal and directly related to financial performances.

This field of research, mostly supported in the USA, has been widely developed for ten years, but not without criticism. Previous research considered different inconsistent sets of HRPs related to performance, despite the list of seven practices by Pfeffer (1998). In order to clarify the types of practices that would raise performances, some authors refer to a specific bundle called 'high involvement'. They focus on Lawler's work (1986) to provide a theoretical framework that describes how HRP can lead to higher company performance. However, it does not explain the process that leads from HRP to performance. Conceptual frameworks have been addressed to fill this theoretical

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vacuum. Guest (1997, 2001) suggested an integrative model showing that HRP may be related to financial performance through a causal chain, including: employee commitment and satisfaction; social and organizational performance (productivity and labour costs); and, finally, financial performance. Boselie *et al.* (2001) designed a similar model based on research done on high involvement in the Netherlands.

Most empirical results on high involvement practices have been obtained in Anglo-Saxon countries but there is still a lack of research in other countries. Fey *et al.* (2000) in Russia and Bernard and Rodgers in Singapore (2000) replicated these studies and validated hypotheses that helped us to better understand how HRP can be a source of competitive advantage in these countries. France has not been often studied in the past, although its traditional management style differs from those usually practised by Anglo-Saxons. Early comparative studies on the effectiveness of high involvement practices confirm the interest of additional research. Lorenz (1992); Wilkens and Pawlowski (1997) demonstrated that high-involvement practices are less effective in French automobile factories than in Britain, Japan and Germany. They concluded through case studies that teamwork and group decision making are hardly seen in French organizations. Despite the delayering of hierarchical levels, French factories remain among the most hierarchical in Europe: information starts from the top and works its way down; communication is limited, which creates barriers between traditional authoritarian first line managers and their employees (d'Iribarne, 1996: 7). Thus, we question the relationship between high involvement practices and performances in French companies.

This paper contributes to the understanding of the link between HRP and company performance. It focuses on Lawler's (1986) and Guest's (2001) work to define a list of practices and their relation to performance. The first section clarifies the concept of high involvement and related HRP, which provides a precise theoretical framework for understanding the link between high involvement and company results. It underlines the pertinence of the bundle concept, by demonstrating the importance of using a coherent system and the necessity to classify performance measures according to their nature. The second section presents an empirical study from 180 French companies. It aims to test the relationship between HR management and financial performance, social and organizational performance playing a mediating role between both variables. We use structural equations to validate the overall model of the HR-performance link.

## **Theory and research on high-involvement practices**

### *High-involvement practices and firm performance*

**Definition** Lawler (1986) used the term 'high involvement' to describe management systems based on commitment and involvement, as opposed to the old bureaucratic and hierarchical model based on control. Control management relies on strict rules and procedures to increase efficiency and reduce direct labour costs (Arthur, 1994). In contrast, commitment systems aim to increase effectiveness and productivity and rely on conditions that encourage employees to identify with the goals of the organization and work hard to accomplish those goals (Wood and De Menezes, 1998; Whitener, 2001). The underlying hypothesis is that each employee will increase their involvement in the company if they are given the opportunity to control and understand their work. Thus high involvement consists of gathering intelligence, ideas and the motivation of all workers. It also bears the idea that employees' efforts are oriented towards the firm's objectives and that they are transformed into actors who are willing and able to support the company. This approach has been criticized as a manipulative management to

increase control, stress and efforts for the good of the company performance but not for the employees (Pil and MacDuffie, 1996; Marchington and Grugulis, 2000). However, a huge number of results tend to confirm the interest of high involvement. Recently, Gelade and Ivery (2003) and Kinnie *et al.* (2000) demonstrated the positive impact of commitment-based management on employees' behaviour, assessed by turnover rate and work climate

**High-involvement practices** Scholars share the same conception of high involvement. However, they use a wide range of practices to identify ways to develop it. Previously, scholars included four types of HR practices (Lawler, 1986; Leana and Florkowski, 1992), relative to information, training, remuneration and empowerment. The relevance of this list was validated in 1,000 American companies a few years later (Lawler *et al.*, 1992). Other empirical research has led to other bundles of high involvement practices. Arthur (1994), in a study of 54 steel companies, identifies six types of practices: training, empowerment, high wages, performance based compensation, collective participation in decisions and skill development. Wood and de Menezes (1998) add recruitment, appraisal systems and job security to the practices previously studied. Information, empowerment, training and compensation seem to be included in all research. In contrast, the other themes covered are variable. If we want to develop a cumulative field of research on high involvement, it seems important to centre on practices that are a *sine qua non* for all scholars and have been included in a majority of research. Information, skill development, compensation and empowerment appear together as a core practice for high involvement.

**Contribution of the concept of bundle to high involvement research** A key point in high involvement is that individual practices cannot be implemented effectively in isolation. It is the use of HRP in a coherent package that is important. Lawler (1986) asserts that this synergy is comparable to a multiplicative model so that, if one practice has been neglected, high involvement will not exist. Most scholars grasp this idea through the notion of 'bundle', which originated in the theory of organization. Burns and Stalker's work (1961) suggests that organizational success is contingent on the way structure, technology and HR adjust to each other. It captures the idea that HRPs form a synergy when they are closely linked and present internal coherence. This complementarity has a better impact on performance owing to the interlocking effect and mutual reinforcement of different practices (MacDuffie, 1995). Thus, a company willing to involve employees will have to offer simultaneously more compensation, knowledge, power and information (Guest, 2001; Marchington and Grugulis, 2000).

**From high-involvement practices to company performance** How can the implementation of high-involvement practices lead to better performance? What process or causal network can be identified to explain the link with performance? According to Lawler (1986), high involvement practices are supposed to be effective because they act as a synergy and have a multiplicative effect. But Lawler does not specify how the combined effect of the four HRPs can be a source of a competitive advantage. Guest (1997) has been one of the first scholars to present an explanatory model of the high involvement process. He suggests that the commitment and flexibility provided by highly involving actions lead to behaviour changes among employees. Because employees show high levels of motivation, co operation and citizenship, they adopt better-performing behaviours, leading to lower absenteeism and turnover rates, to better productivity and quality scores. Guest associates these behaviours with social

results (turnover, conflicts, absenteeism) and organizational results (productivity, quality of goods and services, customer complaints). Consequently, these types of performance are supposed to affect financial performance. Guest's model has gained successful attention. A first group of scholars included a behavioural dimension in the study of high involvement. They conducted employees' surveys to test the relationship between the implementation of practices and individual attitudes and behaviours. Guest (1999) and Whitener (2001) demonstrated that the use of high involvement practices is related to better scores on trust and satisfaction and to less pressure. Truss (2001), who worked at Hewlett Packard, and Kinnie *et al.* (2000), who worked at two call centres, reached the same conclusion after their research. They linked the use of innovative HRP to lower turnover and absenteeism rates. A second group of scholars tested the link between HR and financial performance. They administered surveys to HR directors and HR managers, and compared the answers with the firm's results. Unfortunately, a direct relationship has been tested in most studies without separating social and organizational results from the financial ones. When this was done, authors validated the intermediate role of HR outcomes (Chang and Chen, 2002; Fey *et al.*, 2000; Gelade and Ivery, 2003).

To sum up, the literature review identifies four core practices that increase employees' commitment level, based on information, empowerment, compensation and skill development. These practices are a source of a competitive advantage when they are used simultaneously in a coherent HR policy. The process explaining the link with company performances is usually studied in two complementary approaches. One group of scholars focuses on the relation between HR practices and employees' perceptions and behaviours: a second group centres on the last part of Guest's model and tests hypotheses relative to the link between HRP, HR results and company performances.

### *Research hypotheses*

Our research takes in account the four core practices we identified, and tries to measure the bundle concept. It also deals with the second part of Guest's model. We want to test the effect of HRP on two types of performance: social and organizational results e.g. HR outcomes or intermediate performance and financial results. We build a set of hypotheses for high involvement in France, first about each isolated HRP, then about their synergy when grouped in a bundle.

**Empowerment** Empowerment practices centre on the sharing of power and on employee autonomy. They are aimed at decentralizing decision-making and encompass a set of methods based on task enrichment (enlargement of responsibilities, encouragement of initiative, job rotation) and on work organization (project groups, parallel teams as quality circles, self-managed teams). Empowerment is a source of high involvement in that it enables all employees to take part in decisions that affect procedures and work methods. Decentralized organization of work and participation in decision-making have been found to be positively related to financial performance and productivity (Chang and Chen, 2002; Pfeffer, 1994). In an effort to summarize 68 articles on this topic, Cotton *et al.* (1988) showed that participation in decision-making, informal participation and employee ownership lead to improvement in the company's financial performance. Empowerment practices should generate better social and organizational performance in France as well. The French organization is profoundly hierarchical and based on social classes: the 'cadres' (managers and professionals), the 'maîtrise' (first line supervisors) and the others (levels below). This system is deeply embedded in the French culture and there is no evidence of change in spite of delayering (d'Iribarne, 1996-7).

French employees are conditioned to distance themselves from the hierarchy. Managers and supervisors who break the ice and empower employees would generate better social and organizational results.

*Hypothesis 1a:* Empowerment practices are positively related to firm performance.

*Hypothesis 1b:* Empowerment practices are positively related to organizational and social performance.

*Hypothesis 1c:* Organizational and social performance mediates the relationship between empowerment and financial performance.

**Compensation** High-involvement compensation practices recognize group efforts and support them as part of the organization's objectives. Basic pay, except if it is higher than the average pay on the labour market, is not supposed to be highly involving. On the other hand, compensation based on collective rewards, either monetary (profit sharing, stock ownership, gain sharing, teamwork bonus) or non-monetary (fringe benefits and social benefits) is usually considered as highly involving. Individual performance-based compensation may also be included. In the UK and in the USA, scholars found encouraging results on the relationship between compensation and employee performance, productivity and financial performance (Delaney and Huselid, 1996). In other countries, a strong correlation was also found in Russia (Fey *et al.*, 2000), in Hong Kong (Ngo *et al.*, 1998) and in Taiwan (Chang and Chen, 2002). Kruse (1992) and Harel and Tzafrir (1999), however, did not observe a significant link.

In France, salary grids with a legal minimum must be respected and the conditions for salary increases are directly connected to organizational tenure. This may explain why d'Arcimoles (1997) did not validate a significant relationship between compensation and firm performance. But, in addition to this, a set of laws was voted to foster collective remuneration based on company performance. Firms have been encouraged to develop gain-sharing since 1959 and in 1967 profit sharing became mandatory in organizations with fifty or more employees. Since 1984, the use of stock options and stock ownership has been supported by an attractive fiscal system. We expect that companies implementing all these compensation practices should have greater performance.

*Hypothesis 2a:* Compensation practices are positively related to firm performance.

*Hypothesis 2b:* Compensation practices are positively related to organizational and social performance.

*Hypothesis 2c:* Organizational and social performance mediate the relationship between compensation and financial performance.

**Communication** Communication practices are related to the content of information (strategy, objectives, salary determination criteria) and information management: from the top down (internal newsletter, meetings with personnel) or from the bottom up (suggestion box, opinion surveys). They are assumed to be highly involving so that employees feel that the company takes their concerns into account. The link with performance has nonetheless yielded contradictory results. Some studies show a positive association between these two variables (Delaney and Huselid, 1996), whereas others do not (Harel and Tzafrir, 1999). We believe that we should find a significant link in France.

since sharing information is considered as a major challenge in firms with little communication between the different groups of employees.

*Hypothesis 3a:* Communication practices are positively related to firm performance.

*Hypothesis 3b:* Communication practices are positively related to organizational and social performance.

*Hypothesis 3c:* Organizational and social performance mediate the relationship between communication and financial performance.

**Training and skill development** These practices contribute to the development of collective competencies and organizational learning. They encompass recruitment to acquire new skills, training to develop them and new organization of work for better dispatching (career plans, coaching, internal mobility). The impact of these types of practices on performance has produced the most compelling results. The research of Harel and Tzafir (1999) shows a positive significant link between training expenses and organizational performance. Knoke and Kalleberg (1994) demonstrated a significant link with financial performance. In addition, a positive relation was found with career opportunities (Blackwell *et al.*, 1994; Delery and Doty, 1996). In non Anglo Saxon countries, similar results have been found by Fey *et al.* (2000); Ngo *et al.* (1998) and Chang and Chen (2002). In France, d'Arcimoles (1997) reached the same conclusion.

*Hypothesis 4a:* Training and skill development practices are positively related to firm performance.

*Hypothesis 4b:* Training and skill development practices are positively related to organizational and social performance.

*Hypothesis 4c:* Organizational and social performance mediate the relationship between training and skill development, and financial performance.

**Bundle** Current research testing the link between HRP and performance tends to advocate the simultaneous impact of practices. Bae and Lawler (2000) found a significant positive relationship between bundles of high commitment practices and financial performances (ROIC). Arthur (1994) obtained a significant negative link with scrap rates and turnover. Other studies allow confirmation of these results. Empirical works have shown a direct link with social performance (Gelade and Ivery, 2003; Richard and Johnson, 2001), productivity (Guthrie, 2001; Huselid *et al.*, 1997; Ichniowski and Shaw, 1999; MacDuffie, 1995), the quality of services and products (Huselid *et al.*, 1997) and financial performances (Huselid, 1995; Wood and de Menezes, 1998). Regrettably, these studies did not test if bundles have a stronger impact on performances than each isolated practice. The explained variance scores remain generally low, even after the integration of control variables in the multiple regression equation. Most of the studies yielded  $R^2$  below 10 per cent, with the exception of Huselid, who explained more than 70 per cent of the variance of financial performance.

Two researchers have dealt with the effect of a bundle, in comparison with isolated HRP. Ichniowski *et al.* (1993) showed that bundles have stronger effects on productivity than HRP applied in isolation. Delaney and Huselid (1996) found a significant link with organizational performance, but training practices led to better results. To test the interest



of the bundle concept, further research needs to be done to clarify the effect of grouped HRP, in comparison to each practice taken in isolation.

*Hypothesis 5a:* The bundling of HRPs has a significant impact on firm performance, superior to that of each practice taken in isolation.

*Hypothesis 5b:* The bundling of HRPs is positively related to organizational and social performance.

*Hypothesis 5c:* Organizational and social performance mediate the relationship between the bundling of HRPs and financial performance.

## Empirical study

### Methods

The empirical study was supported by the French National Association of HR Managers and Directors and was conducted among French organizations in two steps. The first step was aimed at measuring the use of high involvement practices as well as social and organizational performance. A questionnaire was sent to 1,530 HR directors working in large companies in France, regardless of their national ownership. With follow-up by telephone, 182 managers replied and 180 questionnaires were usable (equal to a return rate of 12 per cent). We studied the non-respondents' characteristics and found no significant statistical difference from companies that were included in the overall sample. The companies of the final sample originated within the industrial sector (57 per cent) and the services sector (42 per cent). Of the industrial sector, the vast majority were production companies (56 per cent) and only 1 per cent were manufacturing companies. Of the services sector, 15 per cent were production and distribution companies; 3 per cent operated in construction and 13 per cent in wholesale and retail; 3 per cent were hotels and restaurants; 16 per cent specialized in transportation and telecommunications, 22 per cent in financial activities, 8 per cent in real estate and 12 per cent in education and health. Lastly, 8 per cent were public administrations. Three-quarters of the companies surveyed had more than 500 employees, which is consistent of the average size of the 1,530 organizations contacted.

The second step consisted of collecting information on the financial performance of the 180 organizations that were included in the first survey. The data about financial performances were collected the same year (time T0) and also one year later (time T1). The financial ratio has been calculated thanks to the accounting data of each organization, given by financial directors or through databases (Figure 1).

Thus, our research was conducted over a one-year period, financial performance being assessed in the same year and one year after the completion of the questionnaires. This method enables the establishment of causal relationships between HRPs and firm performance, contrary to cross-sectional studies that measure all variables at the same time.



**Figure 1** Research method

### Measurement of variables

**High-involvement practices** The questionnaire includes thirty-eight items constructed from Lawler's (1986) work and covers the four dimensions of high involvement practices identified above. For each item, human resource directors were asked to evaluate the degree of use of practices on a 5 point Likert scale, from 1 – being used very little or not at all (affecting 0–19 per cent of personnel) – to 5 – being used extensively (affecting 80–100 per cent of personnel). Thus, instead of using traditional agreement scales, we measured each practice according to the degree of use in the company. In a measure of this nature, firms may vary in scores according to the number of high-involvement practices used and according to the extent of employees affected. This type of measure has been used very often in past studies, which facilitates the discussion of results.

Twelve factors were obtained after the factor analysis. We grouped them into four dimensions that appeared to be consistent with the literature.

- 1 Empowerment practices were measured based on a three-factor scale: *work content* (CONT, 5 items,  $\alpha = 0.83$ ), *work time* (two items,  $r = 0.33$ ,  $p < .01$ ) and *teamwork* (two items,  $r = 0.38$ ,  $p < .01$ ).
- 2 Compensation practices comprised three factors: *collective performance based compensation* (three items,  $\alpha = 0.68$ ), *stock ownership* (two items,  $r = 0.37$ ,  $p < .01$ ) and *fringe benefits* (two items,  $r = 0.18$ ,  $p < .01$ ).
- 3 Communication practices included five factors. The three first were about *general information concerning the organization* (six items,  $\alpha = 0.81$ ), *information related to compensation* (three items,  $\alpha = 0.74$ ) and *employees' means of expression* (two items,  $r = 0.18$ ,  $p < .01$ ). The two remaining factors are aimed at developing employees' organizational identification: *employee marketing* (four items,  $\alpha = 0.70$ ) and *employee attachment* (two items,  $r = 0.54$ ,  $p < .01$ ).
- 4 Training and skill development practices formed a single factor (five items,  $\alpha = 0.74$ ).

**Bundle of HRPs** Several measures of bundles were used in previous research. In some cases, factor analysis has been the empirical means of justifying a combination of HRPs. But not all variables, especially dichotomous ones, are well suited for this analysis, and scholars prefer to use other statistical analysis to assess bundles (Guest, 2001). Interactive and additive measures have also been conducted (Wood and de Menezes, 1998), but they stipulate that each practice has an equal importance on performance and do not fit the theoretical approach of bundles. Wood (1996) conducted a more relevant analysis through the use of a latent variable, and this method has been presented as promissory for the future (Guest, 2001). We adopted a similar measure and performed an analysis by means of structural equations. This method allows the comparison of two models intended to study the individual impact of practices and the impact of combined practices. Two series of analysis were conducted. We first studied the effect of each isolated dimension of high involvement. Each of the four practices was related to social and organizational performance, then to financial indicators. The second model aimed at testing the impact of combined high-involvement dimensions. Again the model tested included social and organizational performance as a mediating variable and financial performance as a final variable.

**Social and organizational performance** Social and organizational performance was measured by means of two items each, on a 5 point Likert scale: *work climate*, *employee attendance*, *quality of products and services* and *employee productivity*. These four

indicators are similar to those used most frequently in studies of the link between HRP and performance (Arthur, 1994; Delaney and Huselid, 1996; Ichniowski *et al.*, 1993; MacDuffie, 1995). Our measure is perceptual since HR managers provided their opinion on organizational performance. In addition, it originates from comparison with competing businesses in the same sector of activity. Such a measure presents limits due to the presence of a unique respondent and to the subjectivity of the HR directors' answers. However, Delaney and Huselid (1996) observed from several studies strong correlations between perceptual and objective measures of performance, leading to the conclusion of a satisfying validity of perceptual measures. In order to test the quality of these four indicators, we used the Kolmogorov-Smirnov test. The results of this test confirm the normality of each of the four indicators at a threshold of 1 per cent.

**Financial performance** The financial performance was an objective measure calculated from balance results. We measured economic profitability, which is the most common ratio used in French research about HRP and performance (d'Arcimoles, 1997). According to the French accounting norms,

$$\text{Economic profitability} = ((\text{Earnings before interest}) \\ \times (\text{long term assets} + \text{cash flow} \times 100))$$

Economic profitability was measured and calculated twice: at the same period the questionnaire was administered and also one year later. The interest of this measure is that it allows appreciation of the longitudinal impact of high-involvement practices.

**Control variables** The activity sector and the size of the company were retained as control variables. The activity sector was taken into account by measuring the social and organizational performance relative to the companies of the same sector. We asked the HR directors to evaluate the four indicators in comparison to their competitors. For the financial performance, we calculated the profitability ratio relative to the average profitability of a given sector. Thus, the final value (V) was:

$$V = \text{economic profitability of the firm} - \text{mean of the sector}$$

With regard to company size, analysis of correlations with organizational performance indicators did not show a correlation, most likely due to the similar size of the organizations. We therefore did not insert the size variable in the follow up analysis.

#### *Explanatory analysis*

The correlation matrix (Table 1) shows that there is no significant correlation between high-involvement actions and financial performance. This enables us to conclude that the direct relationship with financial performance is not confirmed, and should be mediated by social and organizational results. Indeed, economic profitability is significantly correlated with social and organizational results, with a slightly stronger effect at T1.

Empowerment, communication and, to a lesser extent, training practices are strongly correlated with indicators of social performances. On the contrary, the link with remuneration practices is quite insignificant. Only performance based compensation is related to work climate ( $r = .114, p < .10$ ) and the quality of products and services ( $r = .114, p < .10$ ). Remuneration based on profit sharing and benefits is normalized by the French law and should lead to fewer discrepancies among company practices.

**Table 1** Means, standard deviations and correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Work content	2.65	0.90	1.00																	
2 Work time	1.58	0.83	.21*	1.00																
3 Teamwork	2.67	1.00	.41**	.14*	1.00															
4 Per. -based compensation	3.52	1.33	.13*	.02	.16**	1.00														
5 Stock ownership	1.71	1.08	-.15*	.18**	.11 <sup>†</sup>	.27**	1.00													
6 Fringe benefits	1.69	0.78	-.25**	.10	-.04	.01	.14*	1.00												
7 Employee marketing	1.77	0.78	-.35**	.17**	.30**	.14*	.09	.28**	1.00											
8 Attachment	3.23	1.19	-.48**	.02	.47**	.11 <sup>†</sup>	.06	.28**	.36**	1.00										
9 General information	3.54	0.96	-.36**	.06	.36**	.20**	.13*	.18**	.33**	.43**	1.00									
10 Information about compensation	2.86	1.31	-.38**	.17*	.33**	.14*	.15*	.28**	.29**	.40**	.54**	1.00								
11 Means of expression	1.92	0.91	-.18**	.02	.34**	.08	.10 <sup>†</sup>	.01	.12 <sup>†</sup>	.19**	.23**	.13*	1.00							
12 Training climate	2.55	0.94	.49**	.19**	.41**	.20**	.13*	.30**	.47**	.37**	.44**	.47**	.20**	1.00						
13 Work climate	3.54	0.94	.05	-.02	.07	.11 <sup>†</sup>	.08	.06	.09	.17*	.22*	.10 <sup>†</sup>	.16*	.12*	1.00					
14 Attendance	3.76	1.21	-.10 <sup>†</sup>	-.05	.11 <sup>†</sup>	.08	-.03	.01	-.01	.13*	.19*	.05	.12 <sup>†</sup>	.11 <sup>†</sup>	.208*	1.00				
15 Productivity	3.47	1.20	.07	.11*	.11 <sup>†</sup>	.02	.03	-.02	-.05	.12 <sup>†</sup>	.05	.13*	.14*	-.02	.142*	.06	1.00			
16 Product and services quality	3.51	1.03	.13*	.06	-.09	.11 <sup>†</sup>	.02	.08	.16*	.03	-.01	-.02	.19*	.10 <sup>†</sup>	.08	.16*	.25**	1.00		
17 Profitability (T0)	-2.30	193.76	-.103	-.03	-.057	-.076	.03	.00	.05	-.11	-.04	.04	-.02	-.04	-.01	-.08	-.03	.13*	1.00	
18 Profitability (T1)	2.34	80.33	-.07	-.01	-.077	.043	-.04	-.08	-.02	-.03	.03	-.07	-.01	-.04	-.03	-.19*	-.08	.20**	.17**	1.00

Notes

<sup>†</sup>  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

This could explain our results and the significant correlation with the only indicator that is not taken into account by the law: performance-based compensation.

**Impact of practices taken individually** To test hypotheses H1 to H4 and compare the impact of bundles of practices in relation to practices taken individually (hypothesis H5), we have performed an analysis by means of structural equations. Each HRP was entered as an input variable. Work climate, attendance, quality, productivity were grouped in a latent variable called 'social and organ. performance'. Economic profitability at T0 and T1 formed the output of the model and was called 'financial performance'.

Table 2 presents the results of the causal analysis about the relationship between each isolated high involvement practice and firm performance. The results show a significant relationship between empowerment practices and organizational performances. The value of C.R. (2.066) confirms that this relationship is statistically significant at a threshold of  $p < .05$ , social and organizational performances playing a mediating role. Hypothesis H1 is thus validated, the implementation of empowerment practices explaining 13.3 per cent of performance scores. In contrast, the correlation scores indicate no significant relationship between compensation and company performance, which does not allow validation of hypothesis H2. Analysis by means of structural equations has yielded better results concerning communication practices. The link with organizational performance is significant (C.R. = 2.262,  $p < .05$ ) and the  $R^2$  is close to 10 per cent. Hypothesis H3 is consequently validated. Lastly, Table 2 proves that there is a significant relation between training actions and organizational performance (C.R. = 1.702,  $p < .10$ ), confirming hypothesis H4. For all practices related to performances, the indices of fit are satisfying and abide by the quality criteria of a good model (Table 2). The GFI and AGFI scores are greater than 0.9; the RMR scores are close to 0.05; the CFI and IFI scores exceed 0.80 (Pedhazur and Pedhazur-Schmelkin, 1991). Moreover, social and organizational variables play a systematic mediating role, confirming the reliance of Guest's model.

**Table 2** Relationship between each isolated HRP and performance (model 1)

Variables	Estim	C.R.	$R^2$	$\chi^2/ddl$	GFI	RMR
H1 Empowerment → social and organ. performance	0.283	2.066**	0.133	0.845	0.983	0.044
Social and organ. performance → financial performance	6.220	1.809*	0.052			
H2 Compensation → social and organ. performance	0.335	0.627	0.000	1.194	0.977	0.062
Social and organ. performance → financial performance	0.715	0.142	0.000			
H3 Communication → social and organ. performance	0.109	2.262**	0.097	1.861	0.980	0.063
Social and organ. performance → financial performance	6.485	1.731*	0.051			
H4 Training → social and organ. performance	0.094	1.702*	0.046	1.603	0.982	0.054
Social and organ. performance → financial performance	6.364	1.675*	0.047			

*Notes*

\* $p < .10$ ; \*\* $p < .05$ .

**Table 3** Relationship between the HR bundle and performance (model 2)

Variables	Estim	C.R.	R <sup>2</sup>	$\chi^2/ddl$	GFI	RMR
H5 Bundle of practices → social and organ. performance	0.241	2.328**	0.141	1.552	0.927	0.064
Social and organ. performance → financial performance	6.591	1.800*	0.053			

*Notes*

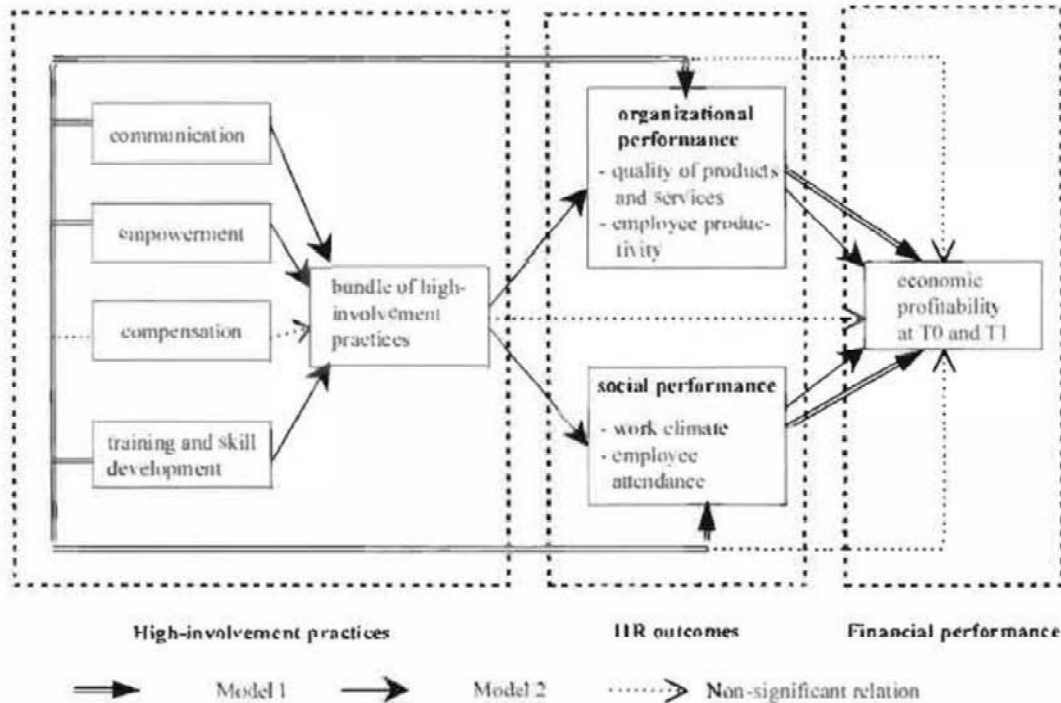
\* $p < 10$  \*\* $p < 05$

**Impact of high-involvement bundles** Our final objective was to verify hypothesis H5 related to the link between HRPs combined within a bundle and company performance. We tested a second model, including an additional latent variable called ‘bundle of practices’ that groups the four HRPs together. The results show that this bundle is significantly and positively related to social and organizational performance. Table 3 shows the results enabling to validate hypothesis H5. The value of C.R. is 2.328 and the R<sup>2</sup> percentage is 14.1 per cent. We can conclude that there is a combinatory effect of high-involvement practices that surpasses that of each practice considered separately. The C.R. and R<sup>2</sup> scores are both higher than those obtained during the testing of hypotheses H1 to H4, even if the differences observed remain modest.

Figure 2 summarizes our results and highlights the causal chain that we validated in this study. It helps visualize the two models we tested and the hypotheses we validated.

*Discussion*

**High-involvement practices** Our study used a theoretical field based on high involvement to elaborate a list of HRPs. It leads to the conclusion that, in France,



**Figure 2** Test of the research model

communication and empowerment practices are more related to performance scores. From a theoretical standpoint, these results are consistent with the definition that we have provided for high involvement: improvement of effort and involvement, and thus enhancement of organizational performance through more active participation of all employees. From an empirical standpoint, our results are consistent with those obtained in prior research (Cotton *et al.*, 1988; Chang and Chen, 2002). The results about training practices indicate that skill development and career management are also important for involving employees in the company success. This is in line with prior research but to a lesser extent. Several empirical studies reached the conclusion that training practices have had the strongest impact on performance, with  $R^2$  scores greater than 10 per cent (d'Arcimoles, 1997 in France; Delaney and Huselid, 1996 in the USA). While our research enables us to validate hypotheses H1, H3 and H4, it contradicts the well-established postulate that compensation is a source of commitment. In the context of the French culture, intrinsic rewards have a greater impact on company performance. Work enrichment practices, group work, culture reinforcement and skills development should be implemented to increase employee involvement, and subsequently to bolster company performance. In contrast, extrinsic rewards have no impact on organizational results. Therefore, hypothesis H2 is not validated.

**Bundles of HRP** Regarding the concept of bundle, the results of our research confirm its relevance. Combined high involvement practices explain a greater percentage of the variance of organizational performance ( $R^2 = 0.141$ ) than practices implemented in isolation ( $R^2 = 0.046$  to  $0.133$ ). However, the additional explanatory power is limited, which leads us to consider that H5 has been only partially validated. This finding is, however, a major contribution of our work in two respects. First, we used an original methodology based on structural equations and not on cluster analysis and additive measures as in previous research. Second, this is one of the rare comparative studies of the isolated and joint impacts of HRPs. The results obtained confirmed the value of using a structured high-involvement policy to improve organizational performance.

**Company performance** We tested part of Guest's and Boselie *et al.*'s (2001) models. For this, we set out an indirect relation between high involvement and financial performance, with social and organizational outcomes playing an intermediate role. Previous studies that considered the specific role of social results found that they moderate the relationship (Chang and Chen, 2002; Fey *et al.*, 2000; Gelade and Ivery, 2003) or mediate it (Arthur, 1994; Huselid, 1995; Guthrie, 2001). The correlation matrix we obtained clearly shows that social and organizational variables play a mediating role since we did not find significant correlations between HRP and financial results. The following analysis confirmed this result and therefore validated theoretical frameworks about the high involvement process.

### **Conclusion on high-involvement practices in France**

The objective of this article was to demonstrate the impact of high involvement management on the companies' overall performance. It provides evidence to validate the theory that some HRPs can contribute to the improvement of organizational results. For this, we focused on four core practices and tried to replicate previous research in the French context. A study conducted among 180 firms showed that empowerment is the practice most related to performance, whereas compensation has no effect on performance. Communication and training are also a source of better organizational

results. This underlines the value of creating challenging and enriched activities to manage high involvement. The ability to incorporate open communication and power sharing in order to change managers' style of leadership should help companies improve their HRM and consequently performances. Finally, our work illustrates the interest of the bundle concept: when high-involvement practices are combined through a latent variable, they have a stronger impact on performance than when they are studied in isolation. This result stresses the importance of developing a high involvement global policy for employees, since there is a synergy between each of the four practices.

Despite these encouraging results, our research presents several limitations. We measured HRP and social and organizational performance with perceptual Likert-scales filled in by a single respondent. Objective measures were used only for financial performances. Several authors have criticized this methodology, since the data rely on the opinion of HR directors and do not take in account the employees' viewpoint (Gerhart *et al.*, 2000). Objective measures of turnover, absenteeism and increases in productivity would have improved our research. Unfortunately, we were unable to collect this information, which is the strongest limit of our work. Another limit is the lack of data collected after the questionnaire administration. We measured financial results one year later, which enables us to consider the causal relationship between intermediate variables and financial performances. But the longitudinal dimension of our method remains limited. Further research should include a measure of performance taken two years before and after the completion of the questionnaire. Such a method would increase knowledge about the HR-performance link.

However, our work raises perspectives for a future research agenda. It questions the weight that we should give to each HR practice in order to explain performance. Whereas compensation policy seems of prime importance in most countries (UK, USA, Asiatic countries, Russia), empowerment and communication are more emphasized in France. What is the part played by each practice in involving employees? The use of a latent variable does not enable us to answer this question. Comparative studies in various countries could help improve our knowledge on this topic. Finally, we assessed one part of the causal process that explains how HR can lead to higher results. We did not collect data about the perception by employees of feeling highly involved. Future research should test Guest's overall model to verify if our list of HRPs is relevant to explaining employees' involvement, satisfaction and consequently firm results.

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