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Getting Inside the HRM – Performance Relationship[1]

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Abstract

This paper argues that employee attitudes and behaviour need to be explicitly incorporated into models of HRM and performance and into related empirical studies if we are to improve our understanding of the HRM – performance relationship. At the same time, employee concerns have been neglected in the stream of research on HRM and performance. A simple model is presented and two large-scale cross-sectional empirical studies conducted in Britain are reported. Both provide some support for the role of employee attitudes and behaviour, confirming their value as explanatory variables. However they also raise new methodological issues and these are also discussed.

Introduction: The Case for Getting Inside the HRM – Performance Relationship

Research on the relationship between human resource management (HRM) and performance, which burgeoned in the 1990s, has now begun to develop in a number of directions. One important and influential focus addresses strategic contingencies (Jackson and Schuler, 1995, Wright and Snell, 1998), seeking to link the fit between HR practices and aspects of the external environment and related business strategy to performance. Another, which builds on what has been termed the universalistic model (Delery and Doty, 1996) is more concerned to identify a set of HR practices which are common across organizations and which are consistently associated with superior performance.

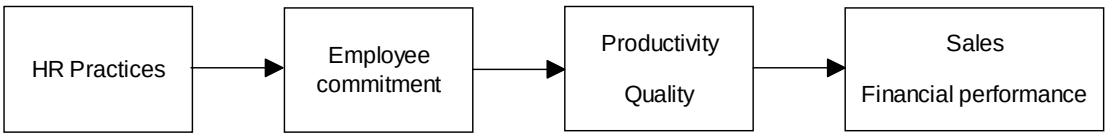
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A series of largely cross-sectional studies confirms a link between a set of what are sometimes termed "high performance" work practices and a range of performance outcomes including productivity, wastage and quality, labour turnover and financial performance (see, for example, Arthur, 1994, Delery and Doty, 1996, Huselid, 1995 and Ichniowski, Shaw and Prennushi, 1994). While these studies can be interpreted as providing some modest support for the strategic contingency model, they consistently lend stronger support to the universalistic model, despite quite considerable variation in the choice of measures of HR practices (Becker and Gerhart, 1996).

Although these studies are promising, they fail to explain how the link between HR practices and performance arises. In particular, they fail to explore the processes whereby HR practices may impact on employee attitudes and behaviour and the possible influence of such attitudes and behaviour on performance. This neglect exists despite various models of resource utilization. Some of these emphasise skill utilisation and flexibility, others focus on performance incentives. A number of writers offer the view that a core variable is employee commitment, implying that the focus should really be on "high commitment HR practices" (Lawler, 1992, Pfeffer, 1998, Wood and Albanese, 1995). The simple logic is that contemporary organizations require employees who are not only resourceful, as reflected in their skills and abilities, but are committed to using their resourcefulness for the benefit of the organization. HR practices should therefore enhance commitment and should be reflected in employee responses indicating high commitment and satisfaction. Whatever model is advocated, there are assumptions, rarely explored in the literature and research on HRM and performance, about the impact of HR practices on employees. The aim of this paper is therefore to begin to get inside the black box and understand more about the role of employees in the HRM – performance relationship.

A basis for understanding more fully the gaps in the link between HRM and performance has been provided by a relatively straightforward model which has been developed both in the USA (Becker, Huselid, Pickus and Spratt, 1997) and in the UK (Guest, 1987, 1997). It proposes that human resource practices exercise their positive impact by (i) ensuring and enhancing the competence of employees, (ii) by tapping their motivation and commitment and (iii) by designing work to encourage the fullest contribution from employees. Borrowing from elements of expectancy theory (Vroom, 1964, Lawler, 1971), the model implies that all three elements should be present to ensure positive employee attitudes and behaviour. Positive employee behaviour should in turn impact upon establishment level outcomes such as low absence, quit rates and wastage as well as high quality and productivity. These in turn should feed through into better sales and financial performance. A simplified version of this model is illustrated in Figure 1. What this type of model implies is that in exploring the HRM – performance link, we should begin to build in measures of employee commitment, employee quality and employee flexibility to improve our ability to explain the link and consequently focus policy and practice more effectively.

Figure 1: A Simple Model of HRM and Performance



A further reason for building employee attitudes and behaviour into the model is that despite initial attempts to build a stakeholder perspective into HRM (Beer et al, 1985; Kochan et al, 1986) there has been a sad neglect of employee concerns and employee-relevant outcomes in what should be an employee-centered area of management policy and practice.

One of the initial challenges in exploring a high commitment model of the relationship between HRM and performance is the poor track record of research exploring the relationship between commitment and performance (Meyer and Allen, 1997, although see Deery and Iverson, 1999, for an exception). However the research also shows that commitment is associated with a lower propensity to quit. Therefore, it is possible that as part of the model outlined above, high commitment has an important part to play, less as a motivational dimension in increasing performance and more as a means of ensuring that employees stay long enough to repay investment in training. The high performance will be a product of the demands placed on carefully selected and trained employees engaged in stretching jobs designed to make the fullest possible use of their skills and abilities.

The core argument in this paper is that we need to build the dimension of employee attitudes and behaviour more explicitly into the research on HRM and performance. The initial aim should be to demonstrate that by doing so we improve our understanding of the HRM – performance link. Future studies can then explore the role of employee attitudes and behaviour within a refined model. It must be acknowledged that by incorporating employee attitudes and behaviour, we are adding further complexity to what is already a topic with formidable methodological challenges including problems of sources of information, reliability of information and level of analysis. This paper discusses some of these issues in the context of two large cross-sectional studies conducted in the UK, one at establishment level and one at the corporate level. They serve to provide a relatively simple initial test of the elaborated model of HRM and performance and to highlight some of the methodological issues in large scale studies of these issues. Both studies are cross-sectional at this stage, though one will and the other may become longitudinal.

The Research Studies

The first study is the Workplace Employee Relations Survey (WERS) (Cully et al, 1999), a major nationally-funded survey in Britain which is the fourth in a sequence of such surveys over a twenty year period but the first that seriously addresses HRM. It is an establishment level survey conducted in a random sample of 2100 workplaces where information was obtained through interviews with the senior relevant specialist about HR practices and outcomes. This was complemented by attitudinal data obtained from some 28,000 randomly selected employees in these establishments.

Where they were present, information was also obtained from employee representatives. Full details of the sample, items and construction of variables can be obtained from Cully et al (1999) and Guest et al (2000a). For the present analysis, we restrict the sample to the private sector and to establishments employing at least 25 people. This gives a sample of 1278 establishments and approximately 18,000 employees. In this case it was possible to explore the relationship between HRM and performance within the model outlined above based on managers' accounts of HR practices and performance and employees' own accounts of their attitudes and experiences.

The WERS survey included 81 items seeking information about 17 areas of human resource practice ranging from selection and training to equal opportunities and job security guarantees. Unfortunately they were not asked in a consistent manner; some obtained dichotomous "yes/no" answers; others asked what percentage of the largest group of employees the practices affected. There is therefore no straightforward way of combining them. The extent of coverage was also very uneven with, for example, ten items on communication, six on selection and four on job design. Various attempts at factor analysis and cluster analysis were unsuccessful. We therefore resorted to a count of practices within each category such as selection and job design. Where percentages were obtained, a positive application was noted if the practice applied to more than 50 per cent (in practice the category was 40 – 60%) of the workforce. To provide some equalization across the practices, we selected one item from each of the seventeen main areas of HR practice; the item was considered to be a core representative item based on the existing literature and also had some sort of distribution of responses. There was a correlation of .90 between the core 17 items and the full set of 81 indicating that they are reasonably representative. We used a count on these 17 items in our main analysis.

The employee questionnaire was a compromise between the desire for breadth of coverage and severely restricted space. It contained a number of items covering aspects of organizational commitment, job satisfaction, flexibility, perceptions of influence and consultation as well as items on job security and pressure at work. Responses were provided on a variety of dimensions, though mainly on a five point scale from strongly agree to strongly disagree. Factor analysis revealed three relevant groups of items. Seven items were concerned with organizational commitment and job satisfaction; three were concerned with influence or autonomy; and five were concerned with consultation. For the present analysis, and in line with the interest in testing a high commitment model of HRM, we will focus only on the commitment/ satisfaction factor.

Performance was measured through self-reports from managers and included industrial relations outcomes such as labour turnover, absence, and industrial conflict as well as workplace performance indicators such as productivity level and productivity change, quality of goods and services and labour costs; and wider performance indicators such as sales and financial performance. For each general workplace performance indicator, respondents were asked to assess performance compared with other workplaces in the same industry. For the present, we will focus on the workplace performance indicators.

The second study is based at the corporate level and is one element in a research programme concerned with HRM, Workplace Reorganization and the Future of Work. The full study is based on a random sample of firms listed on the Dunn and Bradstreet data base and contains responses from 610 heads of the HR function and 507 CEOs. Within this, there are 237 organizations where there is data from both HR manager and CEO. In this study, information on HR practices was provided by the HR manager with a sub-set also reported by the CEO. Employee responses and performance outcomes were estimated by both managers together with ratings of the effectiveness of HR practices and the HR processes likely to be carried out by an HR department. In addition, financial and other performance indicators will be obtained from Dunn and Bradstreet in due course. Details of the survey and the descriptive results can be obtained from Guest et al (2000b).

In the Future of Work study, 48 items covered nine main areas of human resource practices, reflecting the dominant literature. Information was obtained using either dichotomous "yes/no" responses or an estimate of the per cent of the whole workforce affected by a practice. A high commitment model assumes that practices are widely applied across the workforce, so a cut-off of 90 per cent application was used to determine a positive response. It was set below 100 per cent to allow for variations among temporary and contract staff. Both factor analysis and cluster analysis failed to produce any meaningful results, so we were again forced to resort to a count of practices. To ensure that each of the nine areas were given an equal weighting we standardized scores and then completed the count.

Measures of employee attitudes and behaviour were based on management ratings. A factor analysis revealed two factors. The first contained eight items covering *employee commitment, quality and contribution* (level of motivation, identification with the goals and values of the organization, quality and competence of employees, extent to which employees come up with innovative ideas in relation to their work and level of output and results achieved by employees). The second contained three items covering *flexibility of employees* (flexibility to adjust to change in working environment, flexibility to move between jobs and flexibility to adjust employee levels to meet changing demands). All items were scored on a five-point scale from very low to very high.

Performance covered industrial relations items such as labour turnover, absence and industrial conflict. However in this analysis we concentrate on ratings of labour productivity, quality of goods and services, the quality of HR practices and financial performance. These were again based on estimates of performance compared with other organizations in the same industry and responses ranged from "a lot below average" through "about average" to "a lot better than average". In this context, it is worth noting that 63 per cent of CEOs say they benchmark financial performance and 44 per cent benchmark labour productivity, so there is some basis for their comparisons.

With the CEOs, we obtained ratings of business strategy using standard items. Factor analysis revealed two elements of strategy concerned respectively with a focus on quality and a focus on cost control.

The data from both studies were analysed using hierarchical regression, following steps to ensure a relatively normal distribution of the major variables.

The Results

The key results for the WERS sample are shown in Tables 1 and illustrated in Figure 2 in the Appendix. Table 2 shows the results for the 610 managers responsible for HR in the companies and is also illustrated in Figure 3 in the Appendix, while Table 3 shows the results using the more rigorous test for the matched group of 237 companies where the HR practices are based on responses from HR managers while all other responses are obtained from CEOs. This reduces the likelihood of response bias.

Full details of the descriptive results, including means and standard deviations, can be found in Guest et al, (2000a and 2000b) and will not be repeated here. They reveal generally low levels of adoption of the HR practices. In the WERS sample, 41 per cent had more than half of the 17-item list in place and in the Future of Work study, only 23 per cent had implemented more than half the practices from the list of 18 items identified as representative of all 48 HR items. In the WERS study, levels of commitment and satisfaction were moderately positive – between 60 and 70 per cent giving positive responses on most items. Performance outcomes were rated highly in both studies and reflect a positive response bias normally found in studies of this sort. However there was also a reasonable distribution of responses.

The results in Table 1, based on the WERS data, show some support for the model linking HR practices to performance through their impact on employees. HR practices have a positive association with employee commitment and satisfaction which in turn has a positive association with internal performance outcomes. However, in line with other research, there is also a direct link from HR practices to performance, suggesting that employee attitudes can have a mediating role.

Table 1: Results of the Hierarchical Regression in the WERS Study (Private Sector)

	High use of HRM	Employee Satisfaction & Commitment	Comparative Productivity	Comparative Financial Performance
Size of organization	.13***	-.10*	-.07	.03
Establishment size	-.01	-.11*	.08*	.11*
Manufacturing sector	-.19***	-.05	.04	.07
Construction sector	-.17***	-.16***	.00	.06
UK ownership	.03	.03	.07*	-.04
Change of ownership	.04	-.01	-.01	-.04
Single site establishment	.11**	-.13**	.02	.06
Time at location	-.01	.12***	.05	-.09*
High TU density	.16***	-.13**	.02	-.01
Greenfield site	.01	.04	.08*	.02
Sophisticated Personnel department	.21***	-.01	-.07	-.06
Line manager involvement	.20***	-.06	-.05	-.04
Union recognition	.03	-.02	.00	-.07
High use of HRM practices		.13**	.23***	.14**
Developed HR Strategy		.10**	-.01	-.05
Influence of consultation		-.04	-.09*	-.06
Level of consultation		.08*	.02	.00
Single union deal		.02	-.01	-.06
Other recognized employee reps		-.06	-.09**	.00
Negotiation with employees		-.04	.07	-.05
Increased employee involvement		.04	.11**	-.04
Consultative climate		.12***	.12**	.05
Job satisfaction/commitment			.28***	.01
Perceived employee influence			.00	-.04
Perceived consultation			-.16***	.04
Labour productivity				.40***
Increased productivity over time				.01
Labour costs				.02
Comparative quality				.19***
Employee turnover				-.02
Employee absence				-.02
Adjusted R-square	0.32	0.17	0.16	0.32
F	33.96***	8.71***	6.40***	8.43***

The results in Table 2, based on the responses of the 610 HR executives, show a stronger link through employee attitudes and behaviour to performance and again indicate that they may have a mediating role. However we should bear in mind that all the data were obtained from the same source. In other words, on the evidence presented so far, both studies lend *prima facie* support to the theory linking HR practices and performance through the impact of these practices on employees. Because the results at this stage are cross-sectional, we must be cautious about seeking to assert causal links.

Table 2: Results of the Hierarchical Regression in the FoW Study (610 HR managers)

	Employee Quality & Commitment	Labour Productivity	Financial Performance
Organization size	-.05	.02	-.02
Manufacturing sector	-.04	.01	-.06
High TU density	.02	.04	.06
HR Specialist	.08*	.06	.03
Single union deal	-.07	-.04	-.01
Partnership deal	-.04	.09*	-.02
Staff association	.00	-.01	-.02
High use of HRM practices	.43***	.01	.01
Employee quality/commitment		.21***	.00
Employee flexibility		.17***	-.04
Labour productivity			.40***
Quality of goods and services			.11**
Effectiveness of HR Practices			.13**
Employee turnover			.03
Employee absence			.02
Employee grievance			.06
Adjusted R-square	0.19	0.12	0.26
F	13.25***	6.70***	11.42***

When we conduct the more rigorous test on the Future of Work data on the 237 matched pairs, the pattern of results is less convincing. There is no relationship between the HR practices described by HR managers and the outcomes reported by the CEOs. However, as with the analysis using HR managers alone, there is a strong influence of the ratings of effectiveness of HR. Among CEOs this is associated with positive employee outcomes and in turn with assessments of corporate performance. Again this link exists where there is a single source of information. Nevertheless, the results do suggest that in line with common sense, we should pay more attention to the relatively neglected issue of the effectiveness of HR practices (though see, for example, Huselid, Jackson and Schuler, 1996, Tsui, 1990).

Table 3: Results of the Hierarchical Regression in the FoW Study (237 CEOs)

	Employee Quality & Commitment	Labour Productivity	Financial Performance

(Constant)			
Organization size	-.03	.00	.04
Manufacturing sector	-.08	.02	.01
High TU density	.02	-.01	.00
HR post	-.03	.08	-.03
Union deal	-.11	.05	.00
Foreign ownership	.06	.06	.07
Quality strategy	-.04	.12	.04
Cost strategy	-.04	.05	.01
Partnership deal	.02	-.01	.06
Staff association	.06	-.02	.08
HR integration	.02	.00	.04
HR strategy	-.03	.05	-.01
Effectiveness of HR Practices	.42***	-.06	.05
Effectiveness of HR Dept	.34***	.17	.00
High use of HRM practices	.00	-.03	.05
Employee quality/commitment		.29**	.07
Employee flexibility		.03	-.08
Labour productivity			.40***
Quality of goods and services			.14*
Effectiveness of HR Practices			-.06
Employee turnover			.00
Employee absence			.06
Employee grievance			.00
Adjusted R-square	0.43	0.13	0.19
F	10.59***	2.75***	2.98***

Discussion and Conclusions

These two large-scale studies have of necessity been reported at a relatively superficial level. However the results serve to support the case for further exploration of the role of employee attitudes and behaviour in understanding and explaining the HRM – performance link. There is now a need to develop and test a refined model. One possibility is to adopt the variant of expectancy theory outlined earlier. However there is also scope to develop models that focus less on affective than on exchange commitment, building on notions of performance management and the use of financial incentives, training and flexibility rather than the high commitment emphasis on employment security and employee well-being.

One important by-product of this line of research is that it confirms that employees respond positively to a high commitment HR strategy. This is important since, as noted earlier, in the pursuit of the HR – performance link the concerns of employees have been neglected. Evidence of the link between HR practices, as reported by managers, and employees' attitudes is further confirmed by surveys based on national samples of UK employees. These reveal that, based on employee accounts of HR practices, there is also a strong association between the presence of more high commitment practices and not only employee commitment and satisfaction but also feelings of fairness, trust and other elements associated with a positive psychological contract (Guest, 1999).

One of the unresolved issues is whether employee attitudes and behaviour have an independent or mediating effect on the HRM – performance link. The evidence from these two studies suggests that they may operate in a variety of ways. In the WERS study, they appear to have an independent effect, possibly reflecting the independent sources of information. For example, the beta weight for the HRM – labour productivity link is .216. When we add in employee responses, it rises to .236 and in addition the beta weight for employee satisfaction/commitment is .283. Similarly, for financial performance, the beta weight for the direct HRM – financial performance link is .238. When we add in satisfaction/commitment, this increases marginally to .241 while the beta weight for satisfaction/commitment is a significant .186. In the Future of Work study, there is no HRM – performance link among CEOs. With the 610 HR managers, the beta weight for the direct HRM – labour productivity link is .160. When we add in employee attitudes and behaviour, this falls to an insignificant .011 while the link from attitudes and behaviour to productivity is .214, suggesting a mediation effect. Similarly with financial performance, the direct HRM – financial performance link is .090 which just reaches significance. With employee attitudes and behavour, it falls to .019 while attitudes and behaviour have a beta of .136. Again, this suggests a mediation effect. In summary, we find rather different effects. These may be a function of the sources of information. In the WERS study, employees reported their own attitudes. In the Future of Work study, managers provided all the information. However, it is apparent that more research is needed to unpick these relationships.

These results may be seen as providing general support for the HRM – performance link and for the importance of including employee attitudes and behaviour within empirical tests of this link. At the same time they illustrate some of the methodological challenges that need to be confronted. Two which are particularly relevant to these studies concern the sources of information and their implications for reliability, and concerns about the level of analysis.

The information about HR practices, employee attitudes and behaviour and performance should ideally be collected from three different sources. In practice constraints of research resources and access mean that this is not always feasible. Independence should be the goal but it raises the question of how much confidence we can have in same source data, on, for example HR practices and performance outcomes.

While ideally there should be multiple sources of data that can be cross-checked, it is plausible to argue that not all sources will be equally informed about HR practices or performance outcomes. There are some issues, such as the quality of employees or their level of flexibility in their jobs which local managers may be in a strong position to describe. But employee commitment to the organization raises questions about whether it is the displayed commitment that a manager may be able to judge, or the reported commitment as expressed by the employee that matters more. The same questions arise with respect to financial performance data. One of the problems in explaining any differences in results is to agree about which results are the more valid. While financial performance indicators have an attractive objectivity, it is possible that they can be distorted by short-term factors and variations in financial accounting policy. Indeed Machin and Stewart (1997) have argued that subjective

data may be just as valid. We also know that different measures of organizational performance are not always highly inter-correlated (Meyer and Gupta, 1994).

It will be possible to explore some aspects of validity in the Future of Work study by comparing the results obtained using the subjective reports of performance with the objective information from Dunn and Bradstreet data bases. We can also assess levels of agreement between CEOs and HR directors on a number of items. Levels of agreement, based on the standard formula, vary quite considerably from a high level of positive agreement to a negative association. Other studies have reported results where the levels of agreement are also low (see, for example, Delery and Doty, 1996). However these data suggest we should be cautious in accepting estimates of performance from a single source and that more research is needed to determine the accuracy and consistency of reports.

The second issue concerns level of analysis. Some influential studies (Huselid, 1995) have obtained reports of HR practices from the corporate level for large organizations with, in some cases, multiple sites. We have, of course, repeated this process in this phase of the Future of Work study. It can be argued that the level of error in such accounts is likely to be high and if accounts of employee attitudes and behaviour are obtained from executives, the error will be even higher. On the other hand, collecting information at establishment level creates its own problems since it is difficult to link establishment level outcomes to corporate financial performance. The solution adopted in both studies was to obtain estimates of financial performance, perhaps using a benchmark of main competitors. Another, which has more merit, is to focus the research on single establishment organizations within a single sector (see for example in the UK, Patterson et al, 1997). This overcomes the level of analysis problems but raises issues of generalisability both to other sectors and to multi-establishment organizations. One way of beginning to address some of these challenges would be to determine the accuracy of the subjective estimates offered by managers at either establishment of corporate level by comparing them with more objective performance indicators as we shall be able to do in the Future of Work study.

Another aspect of the level of analysis which also needs to be considered when we focus on employee attitudes and behaviour concerns the validity of estimates of variables such as employee commitment or quality across an establishment or firm. Where employee attitudes are obtained, as in WERS, the appropriate procedure is to aggregate responses to the establishment level to ensure a consistent level of analysis (Deery and Iverson, 1999). By implication, this provides some justification for management estimates of cross-establishment or cross-firm commitment levels. However, it is useful to bear in mind the analysis of Lepak and Snell (1999) arguing for a more differentiated approach to the management of sub-sets of employees in the workplace.

The issues raised here bedevil research on HRM and performance, whether or not the data are longitudinal and whether or not employee attitudes and behaviour are incorporated into the model. There remains a need to improve both our theory and methods in this field. Meanwhile, despite the shortcomings, the results of most studies exploring the HRM – performance link remain stubbornly positive. The analysis presented here broadens the base of these data by reporting UK results based

on quite large, if problematic data sets to complement what to date has been predominantly US research, suggesting that the results generalise to a somewhat different cultural context. Furthermore, the results support two important conclusions. The first is that employees respond positively to high commitment HR practices and therefore from a workers' perspective, a perspective which as we noted earlier has too often been ignored, they are to be welcomed. Secondly, they confirm the link in the assumed causal chain from HR practices to performance through the attitudes and behaviour of employees. In doing so, they support the arguments of observers such as Lawler (1992), Pfeffer (1998) and Walton (1995) who have advocated a high commitment strategy and even allow for optimism concerning what Staw (1986) described as the continuing search for the happy, productive worker.

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APPENDIX

Figure 2: Results of the Hierarchical Regression in the WERS Study (Private Sector)

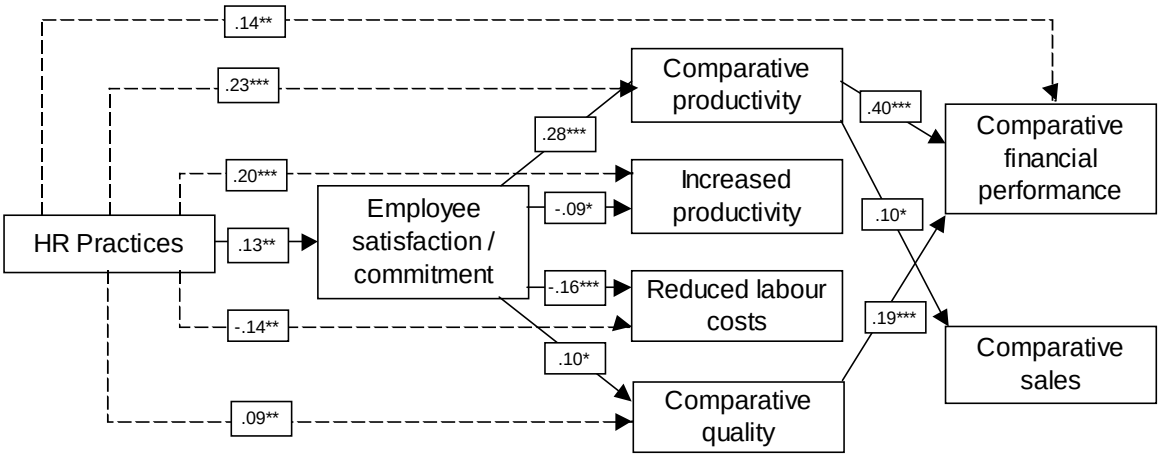


Figure 3: Results of the Hierarchical Regression in the FoW Study (610 HR managers)

