

**CENTRE for ECONOMIC
P E R F O R M A N C E**

CEP Discussion Paper No 630

April 2004

**The Impact of an Innovative Human Resource Function
on Firm Performance: The Moderating Role
of Financing Strategy**

**Neal Knight-Turvey, Andrew Neal,
Michael A. West and Jeremy Dawson**

Abstract

The current study examined the impact of the human resource function and financing strategy on the financial performance of 104 UK manufacturing firms. Hypotheses are drawn from a resource-based perspective on human resource management and a financial theory perspective on capital structure. Results show that an innovative HR function is significantly related to economic performance. However, the relationship between an innovative HR function and economic performance was moderated by the firm's financing strategy. Firms obtained higher returns from an innovative HR function when pursuing a low leveraging (debt) financing strategy, a finding consistent with modern finance theory notions that firm-specific strategic assets provide greatest value when financed primarily through equity as opposed to debt.

Keywords: human resource function, manufacturing, firm performance, asset characteristics
JEL Classifications: M11; M12; J5; J24, J51, J71

This paper was produced as part of the Centre's Labour Markets Programme. The Centre for Economic Performance is financed by the Economic and Social Research Council.

Acknowledgements

Part of this research was made possible through a University of Queensland Graduate School Research Travel grant awarded to the first author.

Neal Knight-Turvey is a Lecturer for the School of Management, Queensland University of Technology, Australia. Email: n.knight-turvey@qut.edu.au Andrew Neal is a Senior Lecturer at the School of Psychology, University of Queensland, Australia. Michael A. West is a member of the Centre for Economic Performance, London School of Economics and Professor of Organizational Psychology and Director of Research at Aston Business School. Jeremy Dawson is a Statistician for the Organisation Studies Group, Aston University.

Published by
Centre for Economic Performance
London School of Economics and Political Science
Houghton Street
London WC2A 2AE

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior permission in writing of the publisher nor be issued to the public or circulated in any form other than that in which it is published.

Requests for permission to reproduce any article or part of the Working Paper should be sent to the editor at the above address.

© N. Knight-Turvey, A. Neal, M. A. West and J. Dawson, submitted 2004

ISBN 0 7530 1756 3

Introduction

As with other functional activities (e.g. finance, marketing, operations, etc.), new economic realities have put pressure on the human resource function to demonstrate how it can add value to the firm's bottom line. Yet early conceptualisations often questioned the function's relevance to organisational effectiveness, mainly for the fact HR was seen to hold a primarily a reactive, administrative role (Drucker, 1954; Lundy, 1994; Legge, 1978). Moreover, a typically a theoretical approach to HRM has made it difficult in the past to articulate how the HR function could actually influence strategic level objectives (Boxhall, 1996; Wright and McMahan, 1992). Over the last few years, however, the human resource function has gained significant legitimacy. This has been aided by a substantial body of evidence linking innovative approaches to human resource management with various indicators of organisational success, and by theoretical developments based on the resource-based view of the firm (Barney, 1991). These developments have helped shift attention squarely on the importance of people in achieving competitive advantage.

According to the resource-based view of the firm, an organisation is able to derive competitive advantage from assets that are valuable and unique to the firm, difficult for competitors to imitate, and are not readily substitutable by other non-competitive assets (Barney, 1991; Wernefelt, 1984). One such firm-specific asset is the human resources that the organisation possesses (Wright, Dunford and Snell, 2001; Wright, McMahan and McWilliams, 1994). Human resources are argued to provide the organisational capabilities necessary to meet and exceed environmental demands, and achieve competitive advantage over rival organisations. Moreover, as many of the traditional sources of competitive advantage, such as physical, technical or financial resources, become far more accessible to competitors in today's business environment (Becker, Huselid, Pickus, and Spratt, 1997; Ulrich, 1997), many argue that the effective management of human resources will prove to be one of the most important sources of organisational success in the future (e.g. Ferris, Hochwarter, Buckley, Harrell-Cook, and Frink, 1999; Pfeffer, 1994; Snell, Youndt, and Wright, 1996; Wright and McMahan, 1992; Ulrich, 1998).

Application of the resource-based view to HRM has led to a burgeoning literature investigating the impact a firm's human resources and its management has on organisational success (e.g. Arthur, 1994; Huselid, 1995; MacDuffie, 1995; Youndt, Snell, Dean and Lepak, 1996). Yet despite the popularity in applying the resource-based view to the theoretical and

empirical research base of SHRM, there has been little attention paid to possible ramifications of adopting this view. One question that has recently been raised concerns the costs associated with investing in firm specific assets (Kochhar, 1997; Vicente-Lorente, 2001). For instance, whilst the RBV specifies that firms that invest in firm-specific assets are able to enhance the sustainability of above normal returns (Grant, 1991), this view typically ignores the financial implications of investing in such assets (Montgomery, 1995; Vicente-Lorente, 2001). Firm specific assets, for example, are by their very imperfectly mobile or tradable nature, riskier investments and hence, more expensive to finance (Kochhar, 1997; Vicente-Lorente, 2001).

Thus, specialised assets create both an opportunity and a problem (Mocnik, 2001). On the one hand, firm-specific assets provide an organisation with a source of sustained competitive advantage. On the other, firm specific assets adversely affect the firm's ability to borrow because firm specific assets are less redeployable and therefore cannot be readily used as collateral for borrowing (Kochhar, 1997; Mocnik, 2001). The paradoxical nature of firm specific assets like human resources has, in turn, implications for a firm's choice of financing (debt versus equity).

According to recent arguments from modern finance theory, the choice of debt financing versus equity financing is dependent on the specificity of firm assets (Kochhar, 1997). Theorists from a transaction cost economics perspective argue that specialised assets should be financed with equity, rather than with debt (Williamson, 1988; Balakrishnan and Fox, 1993). Furthermore, a mismatch between the firm specificity of the asset and the type of financing used is likely to result in performance detriments to the firm (Kochhar, 1997; Simerly and Li, 2000). If this were the case, then there would be clear implications for the financing strategy used to invest in human resource management.

The purpose of this study was, therefore, to offer an inter-disciplinary theoretical rationale and empirical assessment of the argument that investment in the human resource function must be suitably aligned with the financing policy of the firm for the organisation to realise the full benefits of their HR function. Hypotheses based upon recent research from SHRM and corporate finance were tested on a sample of UK manufacturing companies. To the best of our knowledge, this study represents the first to attempt to examine the joint effects of SHRM activities and the firm's financing choices. By doing so we begin to address growing calls for empirical research that attempts to combine elements of strategic management with economics (e.g. Bromily, 1990; Lockett and Thompson, 2000).

The Human Resource Function

Historically the HR function has been charged more with administrative and everyday operational activities than with leveraging human assets towards superior business results (Lawler and Mohrman, 2003; Legge, 1995; Ulrich, 1994; 1996). The role of early personnel departments typically centred on operational activities such as compensation, benefits, staffing, appraisal, and record keeping (Miles and Snow, 1984; Schuler, 1990; Ulrich, 1994), as well as compliance activities such as maintaining employment law and industrial relations policy obligations (Legge, 1995). Moreover, such activities were often perceived to occur in a reactionary, disjointed fashion – detached from strategic management and hence unable to deliver a unique contribution to organisational success (Becker, Huselid, and Ulrich, 2001; Buyens and De Vos, 2001; Legge, 1995).

However, an ever changing and highly competitive business environment is altering the perceived value of the HR function (Brockbank, 1999). Globalised markets, technological advancements, rapidly changing product markets and increased attention to customer satisfaction are all features of the current business environment that combine to make human resource management more important to economic success than perhaps ever before (Jackson, Hitt and DeNisi, 2003; Schuler, 1990; Ulrich, 1997). The HR function has been urged to respond to these changing business conditions by engaging in distinctly more innovative and value-adding activities than it has done in the past (Beatty and Schneier; 1997; Connor and Ulrich, 1996; Brockbank, 1999).

From a resource-based perspective, the HR function adds value to the organisation when it engages in activities that permit the organisation to obtain enduring competitive advantage from its human resources. As competitive advantage is gained from those resources that are valuable, rare, difficult to copy, and non-substitutable (Barney, 1991), the HR function should ideally work towards harnessing firm specific capabilities that yield superior economic benefits not readily duplicated by competitor actions (Snell and Dean, 1992). Potential ‘value-adding’ HR activities are many and varied, but have been argued to include a more proactive and interventionist approach to management (Sisson and Storey, 2000), more planned than ad hoc or reactionary activities, as well as activities focused on improving the design and delivery of HR essentials, especially before problems occur (Brockbank, 1999).

In effect, an HR department increases its potential to create competitive advantage as it moves from being an essentially administrative and operational focused function to one that is proactive and innovative in its activities. Whilst operational, or day-to-day HR activities like selection, training and pay are essential to an organisation's everyday functioning, these activities are less likely to contribute to the firm's bottom line (Beer, 1997). Instead, institutional theory would posit that traditional HRM activities will have been adopted by most organisations in order to gain legitimacy and acceptance in the eyes of various stakeholders (government regulators, professional bodies, investors, customers, and employees (Huselid, Jackson and Schuler, 1997). Traditional HRM activities, therefore, are likely to provide an organisation with neither rare nor inimitable resources.

Thus, the firm must instead make the appropriate human resource investments and innovations to get the most of the firm's human resource pool and that create a specialised asset that is hard to imitate. Here we argue that one such investment in HR is to possess a progressive HR function that utilises non-traditional value-adding HR activities, activities that are less likely to have been adopted by competing organisations (Huselid et al., 1997). Along this line of argument, Huselid et al (1997) found in a sample of 293 for-profit US organisations that innovative HRM activities had a significant impact on firm performance whereas technical, or traditional and operational HRM activities did not. The above arguments and empirical evidence therefore suggest the following hypothesis:

Hypothesis 1: Firm performance will be higher for organisations using an innovative HR function than for those organisations using either a traditional or operational HR function.

Contingency Perspective: the Moderating Effects of Financing Strategy

The resource-based view of the firm assumes that the possession of firm specific assets will, by definition, lead to superior firm performance (Barney, 1991; Wernerfelt, 1984). However, scholars have recently argued that the resource-based theory should adopt a contingency perspective in assessing the performance benefits of specialised resources (Aragón-Correa and Sharma, 2003; Barney, 2001; Miller and Shamsie, 1996). Contingency theory posits that the relationship between a given independent variable and the dependent variable will be different for different levels of a critical contingency variable (Delery and Doty, 1996). In

other words, in order to be effective, a given approach to HRM must be consistent with other aspects of the organisation or the business environment. To date, an organisation's business or competitive strategy has been the primary contingency factor considered within the SHRM literature (Delery and Doty, 1996). In this study we go beyond previous research to argue that a firm's financing strategy will also be a contingent variable able to influence the relationship between investments in HRM and firm performance.

The financing strategy of a firm refers to the appropriate mix of debt and equity (capital structure) the firm uses to finance its assets and business activities. An appropriate capital structure is essential in maximising returns to organisational stakeholders. The prevailing argument, originally developed by Modigliani and Miller (1963), is that an optimal capital structure exists which balances the risk of bankruptcy with the tax benefits associated with the use of debt (Simerly and Li, 2000). Managers who are able to deploy an optimal mix of debt and equity are more able to maximise net returns to the firm compared to those managers who utilise equity financing alone.

According to transaction cost economising, the specificity of the assets to be financed will play a major part in determining an optimal financing mix for an organisation (Kochhar, 1997). Specificity refers to the redeployability of the assets – the more redeployable the asset, the less specific it is to a given organisation (Simerly and Li, 2000). Debt financing is considered a more appropriate instrument for financing redeployable, or non-firm specific assets such as buildings, plant and equipment, as the value contained within these types of assets can be readily evaluated by lenders and recovered should the firm enter bankruptcy or liquidation. In contrast, equity financing is considered more appropriate for firm specific assets. Firm specific assets are typically intangible assets (R&D, advertising, highly specialised human knowledge) tailored to a firm's strategy and technology and are less redeployable to other uses, either because the secondary market for such assets may not value them as much, or they simply have no other use in another firm (Balakrishnan and Fox, 1993; Mocnik, 2001; Williamson, 1991). Consequently, firm specific assets usually cannot be used as collateral for borrowing (Mocnik, 2001). Moreover, if lenders do choose to finance firm specific assets, the costs will be higher as lenders will want to be compensated for the greater risk exposure with higher interest rate charges (Kochhar and Hitt, 1998; Williamson, 1988).

In support of these arguments, Balakrishnan and Fox (1993) found that the R&D intensity of the firm – a measure of intangible and firm specific knowledge – was negatively related to the leverage of the firm. The negative relationship between leverage and R&D has also been reported by Baysinger and Hoskisson (1989) and Mocnik (2001). In addition,

Titman and Wessels (1988) found that firm leverage was negatively related to product uniqueness and the degree to which the product required specialised service, further measures of firm specificity. These studies suggest that financial decisions and financial resources have important strategic implications. Due to the increased costs associated with financing firm specific assets with debt, organisations pursuing a debt based financing strategy are expected to be less likely to invest in firm-specific assets like their human resource function. Accordingly we propose the following hypothesis:

Hypothesis 2: A firm's leverage will be negatively related to its investment in an innovative HR function.

According to modern finance theory, the capital structure chosen to finance firm assets will also have implications for firm performance. Kochhar (1997), for example, argues that the costs associated with different financing choices (e.g. debt versus equity) will impact on the returns an organisation can acquire from a given resource. He notes that, as the resource-based view suggests, firms can potentially obtain greater value from firm-specific assets than from redeployable assets. However, the costs associated with either debt or equity financing will be different under different levels of asset specificity and, consequently, will influence the returns that can be realised from firm specific assets. As noted above, performance gains normally accrued to organisations investing in high specificity assets such as R&D, advertising, and human knowledge will be dampened to the extent that they are financed through debt, a more expensive financing tool for such assets. Instead, maximum returns from firm specific assets will be obtained when such assets are financed through the cheaper equity financing option. In sum, the maximisation of returns from firm assets requires a suitable capital structure decision. Any mismatch between capital structure and asset specificity can negatively impact firm performance. Accordingly, we propose that the influence of the HR function on firm performance will be moderated by the capital structure of the firm.

Hypothesis 3: The HR function and capital structure interact in the prediction of firm performance. Specifically, an innovative HR function (an intangible, firm specific asset) is more strongly related to firm performance under equity financing arrangements.

Method

Sample

Our sample consists of 106 business firms operating in 63 different four-digit SIC codes from the UK manufacturing sector. These 106 firms were extracted from a larger multi-sector database of UK for-profit organisations constructed to examine the effects of HRM on firm performance. We chose to restrict our analyses to the manufacturing sector in order to limit any between-industry effects on firm performance. Responding firms ranged in size from 36 to 32,300 employees (mean = 1542) and were geographically dispersed throughout the United Kingdom.

Measures

HR function classification and measurement

We assessed the nature of an organisation's HR function with 18 dichotomous survey items that required the respondent to answer 'Yes' or 'No' to indicate which activities the HR function was specifically accountable for within the company. Following previous theoretical (e.g. Storey, 1992; Guest, 1997) and empirical work (e.g. Huselid, et al., 1997), the items adopted for the survey were considered to fall somewhere along a 'traditional' to 'innovative' HR function continuum. These included traditional administrative HR function activities like record maintenance and payroll administration, through to more innovative HR function activities like promoting employee innovation and re-designing work processes. Initial exploratory principal components analyses with varimax rotation on both the matrix of correlations and the matrix of tetrachoric correlations revealed five factors with eigenvalues greater than one. However, these factors involved cross-loadings for several of the individual items. Cleaner loadings were obtained when the number of factors was set to three, a decision based upon the minimal drops in eigenvalues beyond the third factor.

Next, we combined the HR activities into three aggregate indexes reflecting (1) a traditional HR function, (2) an operational HR function, and (3) an innovative HR function. The aggregation of multiple HR activities into an index has been argued to be the most

appropriate means of combining what are essentially non-equivalent ways of achieving equivalent outcomes (Delery, 1998; Wright and Boswell, 2002). For instance, two firms can use a number of different types of training practices to reach the same employee development objective. Such an additive approach suggests that firms can meet stated objectives by either increasing the number of practices they employ within a particular HR system, or by using the practices within that system in a more widespread or comprehensive manner (Youndt, et al, 1997). In addition, unlike a multiplicative approach to creating a HR system, the absence of a given HR practice from the system does not automatically reduce the index value to zero but instead reduces its overall strength (Youndt, et al, 1997).

The index for the traditional HR function included the following activities: maintaining personnel records, payroll administration, and administration of company benefits. The index for the operational HR function included: recruitment of new staff, induction of new staff, training of new staff, management of development programs, counselling of individual employees, and monitoring the use of HR policies. The index for the innovative HR function included: promoting employee innovation, designing and redesigning work processes; developing communications, implementing feedback initiatives, and providing information to management.

Capital structure

The capital structure of the firm was measured using the log of the firm's debt-to-equity ratio. "Debt" is all short term and long term obligations (bank borrowings, notes, lease obligations, and so forth) and "equity" is the market value of common stock (issued capital and all reserves). The higher the debt-to-equity ratio, the greater the extent the firm relies on a debt financing strategy to fund its business activities. Financial data were gathered using the FAME Database.

Organisational performance

Since we were interested in the ability of the firm to generate returns from the financial capital it employs, we used Return on Capital Employed (ROCE) as our indicator of firm performance. ROCE is an accounting based measure calculated as profit before interest and tax divided by the difference between total assets and current liabilities. The resulting ratio is multiplied by 100 to provide a percentage indicator of the efficiency with which capital is

being employed to produce revenue. Items from both the Profit and Loss account and Balance sheet used to calculate ROCE are adjusted when the accounting period is not 12 months. In order to reduce the effects associated with yearly variations in financial performance, the specific measure used in the analysis was the average of ROCE for the year simultaneous to data collection (1999) and the year following data collection (2000).

Control variables

Control variables included level of unionisation, firm size, firm age and market share, and were collected for the year in which the HR function data were collected (1999). The number of employees and the percentage of a firm's employees belonging to a recognised trade union were reported by survey respondents. Firm age was assessed as the year of data collection, 1999, minus the year of incorporation. Market share was assessed as the firm's turnover in the year 1999 divided by the turnover in its four-digit SIC industry. Industry turnover was taken from the Monthly Digest of Statistics (London). Due to skewness, a logarithmic transformation was applied to the firm age and market share variables.

Data analysis

The data were analysed using hierarchical regression analysis. In the first step, the control variables were entered. At the second step, leverage was entered to capture the firm's financing strategy and the three HR function types were entered to test the hypothesis that an innovative HR function was related to firm performance above and beyond control variables. Step 3 tested the interaction effect proposed in Hypothesis 2 between capital structure and type of HR function. To reduce multicollinearity effects and make the interaction term more directly interpretable, the capital structure and HR function variables were centred at their means (Cohen and Cohen, 1983).

Results

Table 1 shows means, standard deviations and zero-order correlations for all measures. The correlations among the three HR function types were positive and statistically significant ($p < .01$), yet sufficiently low to indicate that different constructs had been assessed. As expected, there was a significant positive correlation between an innovative HR function and ROCE (r

= 0.26, $p < .01$). In addition, and as predicted by Hypothesis 2, a firm's level of debt financing (leverage) was negatively related to the presence of an innovative HR function, albeit marginally ($r = -0.18$, $p < .09$).

Hypothesis 1 predicts that there will be a positive relationship between an innovative HR function and firm performance. As predicted, the innovative HR function was significantly associated with ROCE ($b = .33$, $p < .05$) after controlling for organisational size, age, unionisation and market share. In contrast, both the administrative and technical HR functions were not associated with economic performance.

Hypothesis 3 states that the relationship between an innovative HR function and performance is contingent on an organisation's capital structure. This contingency prediction can be evaluated by determining whether an innovative HR-capital structure interaction term significantly increases the amount of explained variance in economic performance above and beyond control and main effect terms. In Model 3, the inclusion of the interaction terms between type of HR function and capital structure accounts for an additional 17 percent of the variance in ROCE ($F = 5.88$, $p < .01$). As shown in Table 3, there was a negative interaction between an innovative HR function and leverage ($b = -1.14$, $p < .05$), and a positive interaction between an administrative HR function and leverage ($b = 1.15$, $p < .05$). Thus, as predicted, an innovative HR function was associated with higher levels of ROCE when they had a low debt (i.e. equity) financing strategy. This result supports transaction cost economics arguments that the value potential located within firm specific assets are more likely to be realised when such assets are financed using equity as opposed to debt.

In order to visualise the form of the innovative HR-performance interaction, we plotted levels of ROCE at the mean as well as at high and low levels of leverage (+1.0 and -1.0 standard deviations from the mean; Stone and Hollenbeck, 1989). As shown in Figure 1, we found that the relationship between an innovative HR function and firm performance was highest under low leverage conditions. Moreover, performance was weakest when an organisation employed a strong innovative HR function (e.g. a HR function that employed more of the innovative HR activities than a weaker innovative HR function) under high leverage conditions. Plotting the unexpected interaction between an administrative HR function and capital structure reveals further support for the transaction cost arguments. Here, a highly *non-firm* specific asset – one that will not constitute a valuable loss to the firm should it face bankruptcy – is more strongly related to firm performance under debt financing arrangements.

Discussion

This study presents one of the first attempts to empirically examine the relationship between a firm's use of an innovative HR function, its financing strategy, and economic performance. The results support the argument that firms adopting a more progressive or innovative approach to human resource management experience a performance advantage compared to firms that maintain their use of more traditional approaches to HRM. This finding is consistent with previous research findings (e.g. Arthur, 1994; Delery and Doty, 1996; Huselid, et al, 1997; MacDuffie, 1995), providing further evidence of the generality of the progressive HRM-firm performance linkage.

The direct effect found for the innovative HR function's impact on firm performance is consistent with the resource-based view and institutional theory. From a resource-based perspective we argued that an innovative HR function would be better placed to harness the potential of the firm's human capital pool as opposed to more traditional HR functions. In effect, an innovative HR function becomes an intangible and firm-specific asset not readily duplicated by competitors. More traditional HR functions, on the other hand, are more likely to be institutionalised and thus less able to confer competitive advantage to any individual firm. In line with this argument, we found only a modest correlation between the innovative and administrative HR functions ($r = .37$), a result similar to that reported in Huselid, et al's (1997) examination of what they termed technical and strategic HR functions.

Beyond direct effects, we also found evidence to suggest that the adoption of an innovative HR function should not necessarily be seen as best practice as such a function is not always associated with superior financial returns. The results presented in this study indicate a contingent relationship between the HR function and the firm's financing strategy. Firms obtained superior returns from an innovative HR function only under equity financing conditions. When financed with debt, the innovative HR function did not contribute significantly to economic performance. This finding supports contingency theorists views that innovative approaches to HRM do not, as many would suggest, always lead to superior performance.

Instead, as is becoming increasingly recognised, the resource-based view must consider the context within which various kinds of resources will best influence performance (Barney, 2001; Miller and Shamsie, 1996; Richard and Johnson, 2001). Miller and Shamsie (1996), for example, reported that coordinative and team skills in Hollywood film studios

were firm specific assets that influenced firm performance only in uncertain (versus certain) environments. Similarly, Richard and Johnson (2001) found that the relationship between strategic HRM effectiveness and return on equity was stronger among banks with higher capital intensity (a ratio of bank branches to total assets). Likewise, in the present study, we find support for modern finance theory arguments that suggest the financing strategy of the firm and the specificity of assets must be appropriately aligned for the organisation to realise increased gains from those assets.

Finally, our study also provides evidence that a firm's capital structure may be associated with an organisation's ability to invest in human resource management. In our manufacturing sample, firm's financing their business activities more with debt than with equity were less likely to adopt an innovative HR function. These findings are consistent with previous findings regarding the link between financing strategy and research and development expenditure, and between financing strategy and product development (e.g. Balakrishnan and Fox, 1993; Titman and Wessels, 1988). The results support the transaction cost economics argument that asset specificity has implications for the most appropriate form of financing. As debt is a more expensive financing strategy for firm specific assets we would therefore expect firm's following a greater leveraging strategy to avoid investing in a specialised asset like an innovative HR function.

This finding may help explain why many organisations have been slow to adopt innovative approaches to human resource management in the past, despite evidence pointing to the performance gains that can be achieved by doing so. Firms with high debt costs will by necessity make tradeoffs in the types of resources they invest in (Hitt and Smart, 1994). Managers must decide what expenditures and investments to forego to pay debt costs, and recognising the poor reputation routinely afforded to the HR function, we perhaps should not be too surprised to find a negative relationship between debt financing and investments in HRM. It is interesting to note that much of the recent research investigating the adoption of progressive approaches to HRM has come after a period of heavy corporate usage of leverage (Hitt and Smart, 1994). The increased diffusion of innovative HRM across firms may not solely be due to an increasing recognition that such an approach to human resource management can improve organisational performance. It may be also the case that firms are more able to make such investments as they move away from the debt financing so popularly espoused during the 1980s and instead adopt equity financing arrangements.

Implications

Given that the HR function is often faced with the challenge of justifying its position within the organisation, particularly under ever increasing competitive pressures, it is perhaps timely to investigate how the HR function can add economic value. The results of this study suggest that the HR function can add to the firm bottom line. However, it is unlikely to do this by relying on traditional administrative or operational HR activities. Instead, the function must adopt methods that permit it to develop and exploit the firm's stock of human resources to develop competitive advantage. The activities utilised by the innovative HR function in this study emphasised employee innovation and communication within the organisation. Given that the ability of organisations to exploit the innovative potential of their employees is considered integral to their competitiveness (Amabile, 1988; Wolfe, 1994), and that both upward and downward communication of information are in turn considered essential to realising such potential (Damanpour, 1991; Ross, 1974), then we provide evidence of at least three potential value-adding activities that can be pursued by a progressive HR function.

The results of this study also have implications for the resource-based view's argument that the possession of firm specific assets will, by definition, lead to superior firm performance. Typically ignored by HR theorists is the fact that asset characteristics that add value to the firm are the same characteristics that impose costs and restrictions upon the firm (Vicente-Lorente, 2001). So whilst path-dependent processes, causal ambiguity, social complexity and long-run terms of maturation are all features of strategic resources argued to endow a firm with above normal returns over competitors, it is important to recognise that it is these very attributes that simultaneously limits the extent to which such resources will be valued on an open market. For instance, it would simply not possible to import a successful service culture from one organisation to another and hope to gain immediate returns.

Consequently, the activities of the organisation's finance function will likely have implications for the activities of the HR function, and vice versa. A firm engaged heavily in debt financing may firstly be unwilling to invest in firm specific assets such as a progressive HR function. Moreover, a firm may not enjoy the same performance benefits from firm specific assets if those assets are not aligned with the appropriate capital structure. Given that the results of this study suggest this may well be the case, there is added impetus for the argument that for HR function to be value-adding, it must be integrated with other organisational functions, such as marketing, production, R&D, and, of course, finance (Budhwar, 2000; Cook and Ferris, 1986).

Limitations

The results of this study should be interpreted in light of its limitations. Firstly, our measure of the human resource function may not be sufficient to capture the full range of activities engaged in by any given HR department. Whilst we did assess what we believed represented a range of HR activities ranging from the traditional through to the innovative, there is undoubtedly room to expand on the list of activities we explored. This will no doubt prove a difficult task considering the ever changing nature of the HR function in western economies (Caldwell, 2003). Secondly, our measure of the human resource function asked respondents to indicate which of several management activities the function was responsible by checking a yes or no dichotomous response scale. Consequently, we are unable to detect to what extent the function assumes responsibility for a given management practice, nor the quality to which a given HR function performs its responsibilities.

Conclusions

In conclusion, this research has a number of implications, for both strategic human resource management as well as for managerial practice. It has been suggested that firms may be able to obtain superior economic results by investing in an innovative HR function. However, such investments are not necessarily 'best practice' suitable for all organisations. Instead, consideration must be afforded to the current financing strategy of the firm for the organisation to realise the full benefits of their HR function.

Table 1. Descriptive statistics and correlations.

Variable	Mean	SD	1	2	3	4	5	6	7	8
1 Firm size	3.28	1.35								
2 Unionisation	2.89	1.58	.28							
3 Firm age	1.34	.44	.27	.20						
4 Market share	-1.25	.87	.40	.11	.16					
5 Administrative HR function	.67	.30	.17	.12	-.02	-.06				
6 Operational HR function	.81	.28	.29	.24	.02	.01	.56			
7 Innovative HR function	.61	.30	.27	.13	.10	-.03	.37	.61		
8 Capital structure	1.84	.67	-.01	-.03	.07	-.06	-.13	-.05	-.18	
9 ROCE	-34.10	334.13	-.06	.14	-.03	.13	-.07	.13	.26	-.17

Note: Correlations greater than .17 are significant at $p < .10$; correlations greater than .20 are significant at $p < .05$;

correlations greater than .26 are significant at $p < .01$; all two-tailed tests

Table 2. Moderated regression results.

	Performance (ROCE)		
	Model 1	Model 2	Model 3
Step 1:			
Firm size	-. 17	-. 25	-. 25*
Firm age	-. 05	-. 06	-. 07
Percentage unionised	. 17	. 15	. 08
Market share			
Step 2:			
Debt-to-equity leverage		-. 11	-1. 00***
Administrative HR function		-. 22	-1. 44**
Technical HR function		. 08	-. 73
Innovative HR function		. 33*	1. 27**
Step 3.			
Administrative HR X leverage			1. 15*
Operational HR X leverage			1. 09
Innovative HR X leverage			-1. 14*
R ²	. 06	. 20	. 37
ΔR ²	. 06	. 14	. 17
FΔ	1. 56	2. 95*	5. 88**
F	1. 16	2. 11*	3. 47**

* p < . 05, ** p < . 01, *** p < . 001

Figure 1. Innovative HR Function and Leverage Interaction

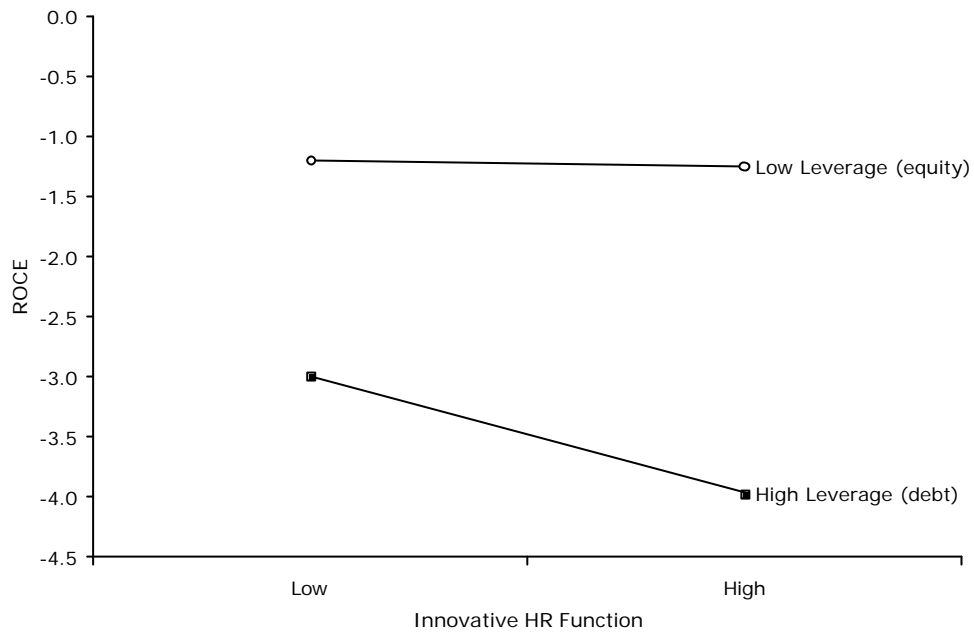
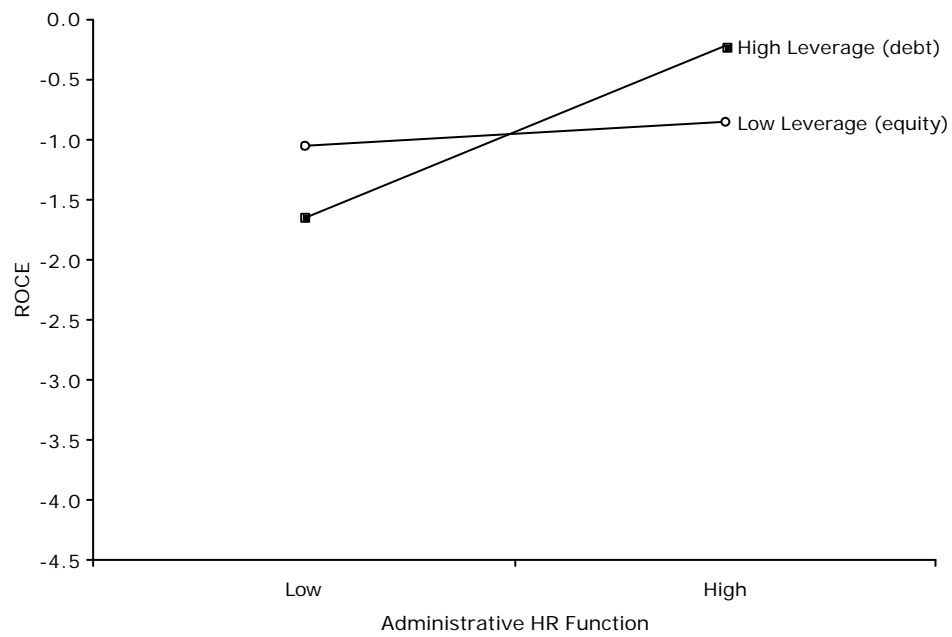


Figure 2. Administrative HR Function and Leverage Interaction



References

- Amabile, T. M. (1988), 'A Model of Creativity and Innovation in Organisations', in B. M. Staw and L. L. Cummins (Eds.), *Research in Organisational Behaviour*, (Vol 10, pp. 123-167), Greenwich, CT: JAI Press.
- Aragón-Correa, J. A. and Sharma, S. (2003), 'A Contingent Resource-Based View of Proactive Corporate Environmental Strategy', *Academy of Management Review*, 28, 71-86.
- Arthur, J. (1994), 'Effects of Human Resource Systems on Manufacturing Performance and Turnover', *Academy of Management Journal*, 37, pp. 670-687.
- Balakrishnan, S. and Fox, I. (1993), 'Asset Specificity, Firm Heterogeneity and Capital Structure', *Strategic Management Journal*, 14, pp. 3-16.
- Barney, J. (1991), 'Firm Resources and Sustained Competitive Advantage', *Journal of Management*, 17, pp. 99-120.
- Barney, J. (2001), 'Is Resource-Based 'View' A Useful Perspective For Strategic Management Research? Yes', *Academy of Management Review*, 26, pp. 41-56.
- Baysinger, B. and Hoskisson, R. E. (1989), 'Diversification Strategy and R&D Intensity in Multiproduct Firms', *Academy of Management Journal*, 32, pp. 310-332.
- Becker, B. E., Huselid, M. A., Pickus, P. S. and Spratt, M. F. (1997), 'HR as a Source of Shareholder Value: Research and Recommendations', *Human Resource Management*, 36, pp. 34-47.
- Beatty, R. W. and Schneier, C. E. (1997), 'New HR Roles to Impact Organisational Performance: From 'Partners' to 'Players'', *Human Resource Management*, 36, pp. 29-37.
- Becker, B. E., Huselid, M. A. and Ulrich, D. (2001), *The HR Scorecard: Linking People, Strategy, and Performance*, Boston: Harvard Business School Press.
- Beer, M. (1997), 'The transformation of the human resource function: Resolving the tension between a traditional administrative and a new strategic role. *Human Resource Management*, 36, pp. 49-56.
- Brockbank, W. (1999), 'If HR Were Really Strategically Proactive: Present and Future Directions in HR's Contribution to Competitive Advantage', *Human Resource Management*, 38, pp. 337-352.
- Bromily, P. (1990), 'On the Use of Finance Theory in Strategic Management', *Advances in Strategic Management*, Volume 6, pp. 71-98.
- Budhwar, P. W. (2000), 'Strategic Integration And Development Of Human Resource Management In The UK Manufacturing Sector', *British Journal of Management*, 11, pp. 285-302.

- Buyens, D. and De Vos, A. (2001), 'Perceptions of the Value of the HR Function', Human Resource Management Journal, 11, 3, pp. 70-89.
- Caldwell, R. (2003), 'The Changing Roles Of Personnel Managers: Old Ambiguities, New Uncertainties', Journal of Management Studies, 40, pp. 983-1004.
- Cohen, J. and Cohen, P. (1983), *Applied Multiple Regression/Correlation Analysis For The Behaviour Sciences* (2nd ed.), Hillsdale, NJ: Lawrence Erlbaum Associates.
- Conner, J. and Ulrich, D. (1996), 'Human Resource Roles: Creating Value, Not Rhetoric', Human Resource Planning, 19, pp. 38-49.
- Cook, D. S. and Ferris, G. R. (1986), 'Strategic Human Resource Management And Firm Effectiveness In Industries Experiencing Decline', Human Resource Management, 17, pp. 121-154.
- Damanpour, F. (1991), 'Organisational innovation: A Meta-Analysis Of Effects Of Determinants And Moderators', Academy of Management Journal, 34, pp. 555-590.
- Delery, J. E. (1998), 'Issues Of Fit In Strategic Human Resource Management: Implications For Research', Human Resource Management Review, 8, pp. 289-309.
- Delery, J. E. and Doty, D. H. (1996), 'Theoretical Frameworks In Strategic Human Resource Management: Universalistic, Contingency And Configurational Perspectives', Academy of Management Journal, 39, pp. 802-835.
- DeVellis, R. F. (1991), *Scale Development*, Newbury Park, CA: Sage.
- Drucker, P. F. (1954), *The Practice of Management*, New York: Harper & Row.
- Ferris, G. R., Hochwarter, W. A., Buckley, M. R., Harrell-Cook, G. and Frink, D. D. (1999), 'Human Resource Management: Some New Directions', Journal of Management, 25, pp. 385-415.
- Grant, R. M. (1991), 'The Resource-Based Theory Of Competitive Advantage: Implications For Strategy Formulation', California Management Review, Spring, pp. 114-135.
- Hamel, G. and Prahalad, C. K. (1994), *Competing for the Future*, Boston: HBS Press.
- Hitt, M. A. and Smart, D. L. (1994), 'Debt: A Disciplining Force For Managers Or A Debilitating Force For Organisations?', Journal of Management Inquiry, 3, pp. 144-157.
- Jackson, S., Hitt, M. and DeNisi, A. (eds) (2003), *Managing Knowledge for Sustained Competitive Advantage: Designing Strategies for Effective Human Resource Management*, San Francisco: Jossey-Bass.
- Kochhar, R. (1997), 'Strategic Assets, Capital Structure and Firm Performance', Journal of Financial and Strategic Decisions, 10, pp. 23-36.

- Kochhar, R. and Hitt, M. A. (1998), 'Linking Corporate Strategy To Capital Structure: Diversification Strategy, Type And Source Of Financing', Strategic Management Journal, 19, pp. 601-610.
- Lawler, E. E. and Morhman, S. A. (2003), *Creating a Strategic Human Resources Organisation: An Assessment of Trends and New Directions*, Stanford: Stanford University Press.
- Legge, K. (1995), *Human Resource Management: Rhetoric and Reality*, Houndmills: Macmillan Press.
- Legge, K. (1978), *Power, Innovation and Problem Solving in Personnel Management*, London: McGraw-Hill.
- Lawler, E. E. and Mohrman, S. A. (2003), 'HR as a Strategic Partner: What Does It Take To Make It Happen?', Human Resource Planning, 26, pp. 15-30.
- Lockett, A. and Thompson, S. (2001), 'The Resource-Based View and Economics', Journal of Management, 27, pp. 723-754.
- Lundy, O. (1994), 'From Personnel Management To Strategic Human Resource Management', The International Journal of Human Resource Management, 5, pp. 687-720.
- MacDuffie, J. P. (1995), 'Human Resource Bundles And Manufacturing Performance: Organisational Logic And Flexible Production Systems In The World Auto Industry', Industrial and Labor Relations Review, 48, pp. 197-221.
- Miles, R. E. and Snow, C. C. (1984), 'Designing Strategic Human Resource Systems', Organisational Dynamics, 31, pp. 36-52.
- Miller, D. and Shamsie, J. (1996), 'The Resource Based View Of The Firm In Two Environments: The Hollywood Film Studios From 1936-1965', Academy of Management Journal, 39, pp. 519-543.
- Mocnik, D. (2001), 'Asset Specificity And A Firm's Borrowing Ability: An Empirical Analysis Of Manufacturing Firms', Journal of Economic Behaviour and Organisation, 45, pp. 69-81.
- Modigliani, F. and Miller, M. (1963), 'Corporate Income Taxes And The Cost Of Capital', American Economic Review, 53, pp. 433-443.
- Montgomery, C. A. (1995), 'Of Diamonds And Rust: A New Look At Resources', in Montgomery, C. A. (ed), *Resource-Based And Evolutionary Theories Of The Firm: Towards A Synthesis*, Boston: Kluber. pp. 251-268.
- Monks, K. (1993), 'Personnel or Human Resource Management: Some Irish Evidence', Research in Personnel And Human Resource Management, Supplement, 3, pp. 115-131.
- Pfeffer, J. (1994), *Competitive Advantage through People*, Boston: Harvard Business Press.

- Richard, O. C. and Johnson, N. B. (2001), 'Strategic Human Resource Management Effectiveness And Firm Performance', International Journal of Human Resource Management, 12, pp. 299-310.
- Ross, P. F. (1974), 'Innovation Adoption by Organisations', Personnel Psychology, 27, pp. 21-47.
- Schuler, R. S. (1990), 'Repositioning the Human Resource Function: Transformation Or Demise', Academy of Management Executive, 4, pp. 49-60.
- Simerly, R. L. and Li, M. (2000), 'Environmental Dynamism, Capital Structure and Performance: A Theoretical Integration And An Empirical Test', Strategic Management Journal, 21, pp. 31-49.
- Sisson, K. and Storey, J. (2000), *The Realities of Human Resource Management: Managing the Employment Relationship*, Buckingham: Open University Press.
- Snell, S. A. and Dean, J. W. (1992), 'Integrated Manufacturing And Human Resource Management: A Human Capital Perspective', Academy of Management Journal, 35, pp. 467-504.
- Stone, E. F. and Hollenbeck, J. R. (1989), 'Clarifying Some Controversial Issues Surrounding Statistical Procedures For Detecting Moderator Variables: Empirical Evidence And Related Matters', Journal of Applied Psychology, 74, pp. 3-10.
- Storey, J. (Ed.) (1989), *New Perspectives on Human Resource Management*, London: Routledge.
- Storey, J. (Ed.) (1995), *Human Resource Management: A Critical Text*, London: Routledge.
- Titman, S. and Wessels, R. (1988), 'The Determinants of Capital Structure Choice', Journal of Finance, 43, pp. 1-19.
- Tsui, A. S., Pearce, J. L., Porter, W. and Tripoli, M. (1997), 'Alternative Approaches To The Employee-Organisation Relationship: Does Investment In Employees Pay Off?', Academy of Management Journal, 40, pp. 1089-1121.
- Ulrich, D. (1994), 'Human Resources: From Rhetoric To Reality', Strategic Partners for High Performance, Work in America Institute Publication, pp. 45-61.
- Ulrich, D. (1998), 'A New Mandate For Human Resources', Harvard Business Review, 76, pp. 124-134.
- Ulrich, D. (1997), *Human Resource Champions: The Next Agenda for Adding Value and Delivering Results*, Boston: Harvard Business School Press.
- Vicente-Lorente, J. D. (2001), 'Specificity and Opacity As Resource-Based Determinants Of Capital Structure: Evidence For Spanish Manufacturing Firms', Strategic Management Journal, 22, pp. 157-177.
- Wernefelt, B. (1984), 'A Resource-Based View of the Firm', Strategic Management Journal, 5, pp. 171-180.

- Williamson, O. E. (1991), 'Comparative Economic Organisation: An Analysis Of Discrete Structural Alternatives', Administrative Science Quarterly, 36, pp. 269-296.
- Williamson, O. E. (1988), 'Corporate Finance And Corporate Governance', Journal of Finance, 43, pp. 567-592.
- Wolfe, R. A. (1994), 'Organisational Innovation: Review, Critique And Suggested Research Directions', Journal of Management Studies, 31, pp. 405-431.
- Wright, P. M. and Boswell, W. R. (2002), 'Disegrating HRM: A Review And Synthesis Of Micro And Macro Human Resource Management Research', Journal of Management, 28, pp. 247-276.
- Wright, P. M., Dunford, B. B. and Snell, S. A. (2001), 'Human Resources And The Resource Based View Of The Firm', Journal of Management, 27, pp. 701-721.
- Wright, P. M., McMahan, G. C. and McWilliams, A. (1994), 'Human Resources And Sustained Competitive Advantage: A Resource-Based Perspective', International Journal of Human Resource Management, 5, pp. 301-326.
- Wright, P. M. and McMahan, G. C. (1992), 'Theoretical Perspectives For Strategic Human Resource Management', Journal of Management, 18, pp. 295-320.
- Youndt, , M. A., Snell, S. A., Dean, J. W. and Lepak, D. P. (1996), 'Human Resource Management, Manufacturing Strategy, And Firm Performance', Academy of Management Journal, 39, pp. 836-866.

CENTRE FOR ECONOMIC PERFORMANCE
Recent Discussion Papers

- | | | |
|-----|--|---|
| 629 | Nicholas Oulton | A Statistical Framework for the Analysis of Productivity and Sustainable Development |
| 628 | Vasileios Gkionakis | Short Job Tenures and Firing Taxes in the Search Theory of Unemployment |
| 627 | L. Rachel Ngai
Christopher A. Pissarides | Balanced Growth With Structural Change |
| 626 | Malcolm Patterson
Peter Warr
Michael West | Organizational Climate and Company Productivity: the Role of Employee Affect and Employee Level |
| 625 | John Schmitt
Jonathan Wadsworth | Is There An Impact of Household Computer Ownership on Children's Educational Attainment in Britain? |
| 624 | Andrew Neal
Michael A. West
Malcolm G. Patterson | Do Organisational Climate and Strategic Orientation Moderate the Relationship Between Human Resource Management Practices and Productivity? |
| 623 | Michele Pellizzari | Do Friends and Relatives Really Help in Getting a Good Job? |
| 622 | Steven McIntosh | The Returns to Apprenticeship Training |
| 621 | Steven McIntosh | The Impact of Vocational Qualifications on the Labour Market Outcomes of Low-Achieving School-Leavers |
| 620 | David Marsden | The 'Network Economy' and Models of the Employment Contract: Psychological, Economic and Legal |
| 619 | Alan Manning | Instrumental Variables for Binary Treatments with Heterogeneous Treatment Effects: A Simple Exposition |
| 618 | Mari Kangasniemi
L. Alan Winters
Simon Commander | Is the Medical Brain Drain Beneficial? Evidence from Overseas Doctors in the UK |

617	Vicente Cunat Maria Guadalupe	Executive Compensation and Product Market Competition
616	James Harrigan Anthony J. Venables	Timelines, Trade and Agglomeration
615	Howard Gospel Paul Willman	Comparatively Open: Statutory Information Disclosure for Consultation and Bargaining in Germany, France and the UK
614	Andrew B. Bernard Stephen Redding Peter K. Schott Helen Simpson	Relative Wage Variation and Industry Location
613	David Marsden	Unions and Procedural Justice: An Alternative to the Common Rule
612	David G. Blanchflower Alex Bryson	The Union Wage Premium in the US and the UK
611	Stephen Gibbons Stephen Machin	Valuing Rail Access Using Transport Innovation
610	Johannes Hörner L.Rachel Ngai Claudia Olivetti	Public Enterprises and Labor Market Performance
609	Nikolaus Wolf	Endowments, Market Potential, and Industrial Location: Evidence from Interwar Poland (1918-1939)
608	Ellen E. Meade David Stasavage	Publicity of Debate and the Incentive to Dissent: Evidence from the US Federal Reserve
607	Ghazala Azmat Maia Güell Alan Manning	Gender Gaps in Unemployment Rates in OECD Countries
606	Henry G. Overman L. Alan Winters	The Geography of UK International Trade

The Centre for Economic Performance Publications Unit
Tel 020 7955 7673 Fax 020 7955 7595 Email info@cep.lse.ac.uk
Web site <http://cep.lse.ac.uk>