



Cornell University  
ILR School

Cornell University ILR School  
**DigitalCommons@ILR**

---

CAHRS Working Paper Series

Center for Advanced Human Resource Studies  
(CAHRS)

---

3-30-2000

# Theoretical and Empirical Challenges in Studying: The HR Practice - Firm Performance Relationship

Patrick M. Wright  
*Cornell University*

Timothy M. Gardner  
*Cornell University*

Follow this and additional works at: <http://digitalcommons.ilr.cornell.edu/cahrswp>

 Part of the [Human Resources Management Commons](#)

---

This Article is brought to you for free and open access by the Center for Advanced Human Resource Studies (CAHRS) at DigitalCommons@ILR. It has been accepted for inclusion in CAHRS Working Paper Series by an authorized administrator of DigitalCommons@ILR. For more information, please contact [hlmdigital@cornell.edu](mailto:hlmdigital@cornell.edu).

---

# Theoretical and Empirical Challenges in Studying: The HR Practice - Firm Performance Relationship

## **Abstract**

Over the past 10 years a plethora of research has been conducted seeking to establish a relationship between human resource (HR) practices and firm performance. While this research has demonstrated promising results, a significant number of problems exist. This paper seeks to identify the theoretical and empirical challenges facing researchers who wish to further establish the impact of HR practices on firm performance. We conclude with some recommendations for future research in this area that might more accurately assess this relationship in ways that will be useful for both researchers and practitioners.

## **Keywords**

job, research, HR, practice, firm, performance, relationship, challenge

## **Disciplines**

Human Resources Management

## **Comments**

### **Suggested Citation**

Wright, P. M. & Gardner, T. M. (2000). *Theoretical and empirical challenges in studying: The HR practice - firm performance relationship* (CAHRS Working Paper #00-04). Ithaca, NY: Cornell University, School of Industrial and Labor Relations, Center for Advanced Human Resource Studies.  
<http://digitalcommons.ilr.cornell.edu/cahrswp/83>

WORKING PAPER SERIES

# Theoretical and Empirical Challenges in Studying: The HR Practice – Firm Performance Relationship

Patrick M. Wright  
Timothy M. Gardner

Working Paper 00 – 04



## **Theoretical and Empirical Challenges in Studying The HR Practice – Firm Performance Relationship**

**Patrick M. Wright**

Cornell University  
School of Industrial and Labor Relations  
393 Ives Hall  
Ithaca, NY 14853-3901

**Timothy M. Gardner**

Cornell University  
School of Industrial and Labor Relations  
393 Ives Hall  
Cornell University  
Ithaca, NY 14853-3901

Paper to be Presented at the special workshop:  
“Strategic Human Resource Management”

European Institute for Advanced Studies in Management  
INSEAD  
Fontainebleau, France  
March 30, 2000

Working Paper 00-04

<http://www.ilr.cornell.edu/cahrs>

**This paper has not undergone formal review or approval of the faculty of the ILR School.  
It is intended to make results of Center research available to others interested in  
preliminary form to encourage discussion and suggestions.**

## **Abstract**

Over the past 10 years a plethora of research has been conducted seeking to establish a relationship between human resource (HR) practices and firm performance. While this research has demonstrated promising results, a significant number of problems exist. This paper seeks to identify the theoretical and empirical challenges facing researchers who wish to further establish the impact of HR practices on firm performance. We conclude with some recommendations for future research in this area that might more accurately assess this relationship in ways that will be useful for both researchers and practitioners.

The increasingly competitive global economy pushes firms to exploit all of their available resources as a means of achieving competitive advantage. One resource recently recognized as providing a source of competitive advantage is the human resources of the firm, and this recognition has resulted in an expansion of the field of Strategic Human Resource Management (SHRM). Wright and McMahan defined SHRM as "the pattern of planned human resource deployments and activities intended to enable an organization to achieve its goals," (1992: 298). Because firm performance stands out as one major organizational goal, much of the recent SHRM research has been directed at understanding the relationship between Human Resource (HR) practices and firm performance.

Considerable research has observed relationships between HR practices and various operationalizations of firm performance (Rogers & Wright, 1998). Dyer and Reeves (1995) reviewed four studies and found evidence for a relationship between HR and firm performance. Becker & Gerhart's (1996) review of the 7 studies appearing in the special issue of Academy of Management Journal on HR practices and firm performance revealed considerable evidence for this relationship. In addition, Paauwe and Richardson (1997) identified 9 studies containing 22 empirically established relationships between HR and performance.

While evidence mounts that HR practices are at least weakly related to firm performance, significant theoretical and empirical challenges exist with regard to furthering our understanding this relationship. Theoretically, no consensus exists regarding the ways in which HR might impact firm outcomes. Empirically, scarce attention has been paid to exploring the processes through which this impact takes place. Dyer and Reeves (1995) called for work to be done to understand the precise linkages through which HR practices would impact financial performance. McMahan, Virick, and Wright (1999) criticized the lack of good theoretical or empirical work specifying the processes or mediating variables that form the linkage between HR practices and firm performance.

The purpose of this paper is to identify some of the major theoretical and empirical challenges that Strategic HRM researchers face in expanding our knowledge of the HR – firm performance relationship, and to provide at least some future directions for addressing these challenges. We will first address the theoretical challenges and then address the empirical challenges. We will conclude with some specific recommendations for future Strategic HRM research.

## **Theoretical Challenges in Examining the Relationship Between Human Resources Practices and Firm Performance**

Almost a decade ago, Wright and McMahan (1992) reviewed the theoretical perspectives that had been applied to the field of Strategic HRM. At that time these theoretical perspectives dealt primarily with applications of existing organizational (e.g., Cybernetic Systems, Resource Dependence, Institutional) or economic (e.g., Agency/Transaction Cost, Resource-based View) theories to Strategic HRM. McMahan et al (1999) updated this review to include some additional theoretical perspectives such as Population Ecology, Strategic Reference Points, Foucauldian, and Human Capital theories.

While these theoretical applications have some value in clarifying some of the determinants and consequences of HR practices, they have limited value for aiding in the understanding how of HR practices impact firm performance. Rather, most of these theoretical perspectives provide extremely macro-level frameworks for explaining why certain HR practices might exist. Consequently, they do not provide a precise framework for defining the specific mechanisms through which HR practices influence firm performance.

In essence, this issue of 'specific mechanisms' could be thought of as defining what's going on in the "black box" between HR practices and firm performance. One of the major challenges facing researchers lies in explicating and assessing the precise mechanisms through which HR practices influence firm performance. Facing this challenge will provide both better theoretical understanding among HR researchers and more valid predictive information for practitioners seeking to leverage their firm's human assets as a source of competitive advantage.

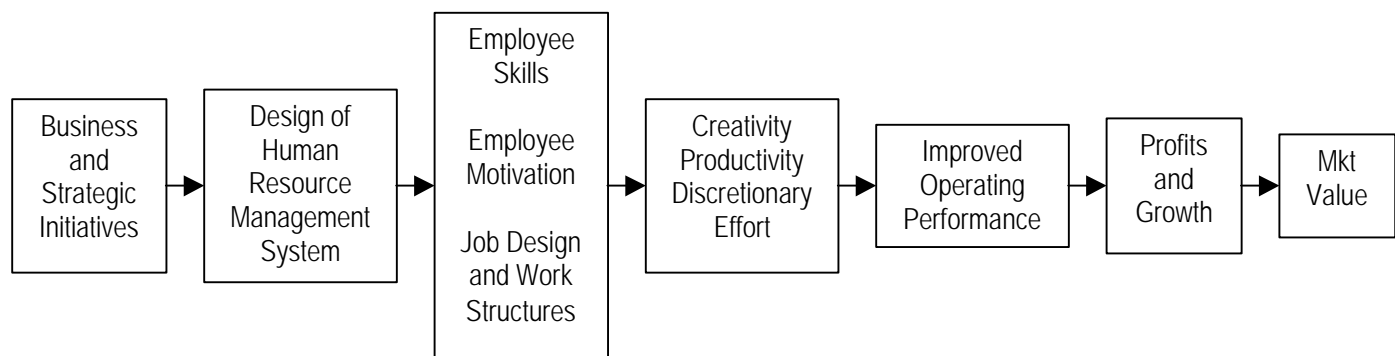
In the following section we address this "black box" issue and its associated challenges. The challenges consist of determining how many separate boxes need to be defined, and how many variables should be in each box.

### **How many boxes should be in the Black Box?**

To examine the impact of HR practices on firm outcomes, the common research design assesses a firm's HR practices and then statistically relates these practices to some financial outcome such as profitability or shareholder wealth. One of the first issues that must be settled in the effort to understand how HR practices impact performance is to theorize the means through which this relationship occurs, in essence, specifying the intervening variables between the measure of HR practices and the measure of firm performance. Virtually all authors have implicitly or explicitly treated the black box as a linear causal process consisting of one or more smaller boxes. For example, Becker and Huselid (1998) suggested one causal model. In this

model, the HRM system impacts employee behaviors, which leads to strategy implementation, which consequently determines operating performance, leading to overall firm performance. Wright and Snell (1998) offer a similar model that adds employee skills between the HR practices and employee behaviors. Numerous similar models have been proposed by others (e.g., Truss & Gratton, 1994, Wright, McMahan, & McWilliams, 1994). Probably the most specific to date was offered by Becker, Huselid, Pickus, and Spratt (1997) who proposed the model depicted in Figure 1. The similarity among all of these models is that they all have their basis in a linear causal process.

Figure 1. Model of the HR - Firm Performance Relationship from Becker, Huselid, Pickus, & Spratt (1997)



When hypothesizing a linear causal model, one of the challenges is deciding on the appropriate number of mediating variables between the primary independent and dependent variables. The earliest models simply proposed that a fit between HR practices and firm strategy resulted in a generic outcome titled “firm performance.” Becker and Huselid (1998) increased the complexity of the model by including employee behavior, strategy implementation, and operational performance as mediating variables. Becker, et al’s (1997) model added two layers of complexity with the inclusion of employee skills, employee motivation and breaking employee behaviors into productivity, creativity, and discretionary effort. Wright and Snell (1998) distinguished between intended and actual HR practices, as well as intended and actually employee skills and behaviors. One could theorize even more specific linear causal models by including more and more “boxes” between HR practices and firm outcomes. The previously described models fail to include absenteeism, turnover or attitudes. The potential for additional complexity is virtually infinite.



In essence, the question of how many boxes need to be included before the model is complete has yet to be settled. It seems that consensus exists that any theoretical or empirical effort should at least specify some mediating variable(s) should be specified, but not how many.

### **What should be in each Box?**

In addition to the number of boxes laid out in a causal order, one must also choose a level of specificity within each box. For example, Becker et al.'s (1997) addition of a "operating performance" box has great value, but if one is to explore this relationship empirically, on which aspect(s) of operational performance should one focus? Numerous measures of operational performance exist such as customer satisfaction, customer retention, sales revenues, quality defects, scrap, productivity, downtime, labor costs, etc.

This leads to a multiplicative effect in determining the process of the model. If one wants to develop a specific theoretical model to unlock the "black box," in a system which might contain 5 main boxes with up to 10 sub-boxes in each, the task requires specification of the relationships among each of the sub-boxes. This creates a serious problem for understanding the phenomena as the complexity becomes virtually unmanageable.

Thus, a second challenge facing Strategic HRM researchers is to define the right level of variable specificity in the theoretical models for how HR practices impact firm performance. Again, no consensus exists regarding the right set of variables to include in our conceptual models. Researchers only seem to agree that some mediating variables must be specified, and that the more specific these variables are, the better.

### **What's the causal direction?**

One particularly problematic question in the HR – firm performance relationship is pinpointing the causal direction. To date, all of the theoretical (c.f. Figure 1) and empirical examinations of this relationship within the Strategic HRM literature has assumed that the outcomes of firm performance are in some way influenced by HR practices. However, two alternative hypotheses must be considered in future research in order to determine the exact causal direction.

First, the "reverse causation" hypothesis would posit that as firms become more profitable, they invest in HR practices. These investments could stem from the belief that the practices will further increase performance, from the belief that HR practices reduce the risk of performance declines, or they could stem from a simple wealth distribution process. In the first case, no requirement exists that the HR practices do, in fact, impact firm performance; only that decision-makers hold such a belief. In the second case, HR practices may be implemented to prevent declines in performance due to employee lawsuits, unionization, and employee health

and safety issues, and other risks associated being an employer. In the third case, it may simply be that employees' share of increasing wealth is redistributed to them through increased pay, training, participation opportunities, etc. This could either be through benevolent management, or through a process of bargaining. However, in all these cases the "true" causal model is that profits lead to HR practices, rather than the opposite. Thus, cross sectional studies may accurately measure more progressive HR practices among higher performing firms, but researchers might be drawing the wrong conclusions regarding the causal direction.

There exists a second possible explanation for the observed relationship between HR practices and firm performance. The "implicit theory" hypothesis suggests that the observed relationship between measures of HR practices and firm performance stems not from any true relationship, but rather from the implicit theories of organizational survey respondents. Under this hypothesis, a relationship can be observed between HR practices and performance, but this observed relationship reflects the implicit performance theory of respondents rather than any true relationship between the variables.

Implicit performance theories have been researched in a variety of different areas, including organization/environment relations (e.g., McCabe & Dutton, 1993), strategy (Golden, 1992), corporate reputation (Brown & Perry, 1994), leadership (e.g. Eden & Leviatan, 1975), and group effectiveness (e.g. Martell & Guzzo, 1991). Consistently this research has demonstrated that research subjects' implicit theories of relationships between variables of interest bias their responses to survey items. Thus findings of a relationship between HR practices and firm performance might be due to subject bias and not empirically true relationships.

How might such a theory work? Assume that an HR executive decides to fill out a survey having very little true knowledge of the HR practices that exist within the firm (likely due to the large size and complexity of the firm). S/he might think about what s/he does know, i.e., how well the firm is performing, and infer the practices that must exist given this level of performance based on the implicit theory. In fact, Gardner, Wright, & Gerhart (1999) found support for implicit theories within the HR – firm performance relationship albeit not in a field setting. These researchers presented line executives, HR executives, MBA's, and HR Master's students with scenarios of high and low performing firms, and then had them estimate the use of HR practices that existed in each firm. All four groups estimated significantly greater usage of progressive HR practices in high as opposed to low performing firms. Thus, evidence exists that implicit theories might exist, and that they might account for at least some of the observed relationship between HR practices and firm performance.

## **Conclusion**

The point of this discussion is not to suggest that past thinking and research is fatally flawed due to a lack or incorrect specification of mediating variables. Nor is the point to assert that HR has no impact on firm performance. Rather, it is to demonstrate a lack of consensus regarding the specific nature of the challenges before the field. Certainly past efforts have contributed to the knowledge base, and are worthy of attention. The past efforts undoubtedly form the foundation for future research, but if we are to move the field forward, we must move beyond what already exists to forge more complete theories of how HR impacts firm performance.

In the future, we advocate further delineation of and empirical research on processes and mechanisms through which HR practices can aid in value creation for firms. We think that at a minimum, if profitability is the major dependent variable, such models must include at least some variables regarding operational performance (labor costs, customer satisfaction, quality, etc.), and some variables regarding the impact of HR practices on employees (skills, attitudes, behaviors, absenteeism, turnover, etc). Such theorizing might also provide a deeper understanding of the causal direction of these relationships.

However, caution must be exercised in attempting to meet the challenge of unlocking the black box. As previously noted, no matter what the number of intervening variables posited in a theoretical framework, one can always find something that might be hypothesized to mediate between two of the intervening variables. Thus, while it is fair to say that future theory and research should propose and investigate more intervening variables, it would be unfair to criticize any one study as being inadequate because it did not recognize all of the intervening variables. This quest may resemble that of chasing the pot of gold at the end of the rainbow...we continue to move toward it, but are never able to actually capture it. In the next section we address some of the empirical challenges we face as we seek to capture the pot of gold.

### **Empirical Challenges in Examining the Relationship Between Human Resources Practices and Firm Performance**

The demonstration of at least a weak relationship between HR practices and firm performance has provided ammunition for HR practitioners to justify their activities as having an impact on the bottom line and has encouraged academic researchers to explore this relationship at a variety of levels and in a variety of settings. While this research has certainly proven promising, a critical look reveals a number of challenges facing researchers if our field

hopes to move forward. These challenges focus primarily on levels of analysis, measurement, and statistical issues. We address each of these below.

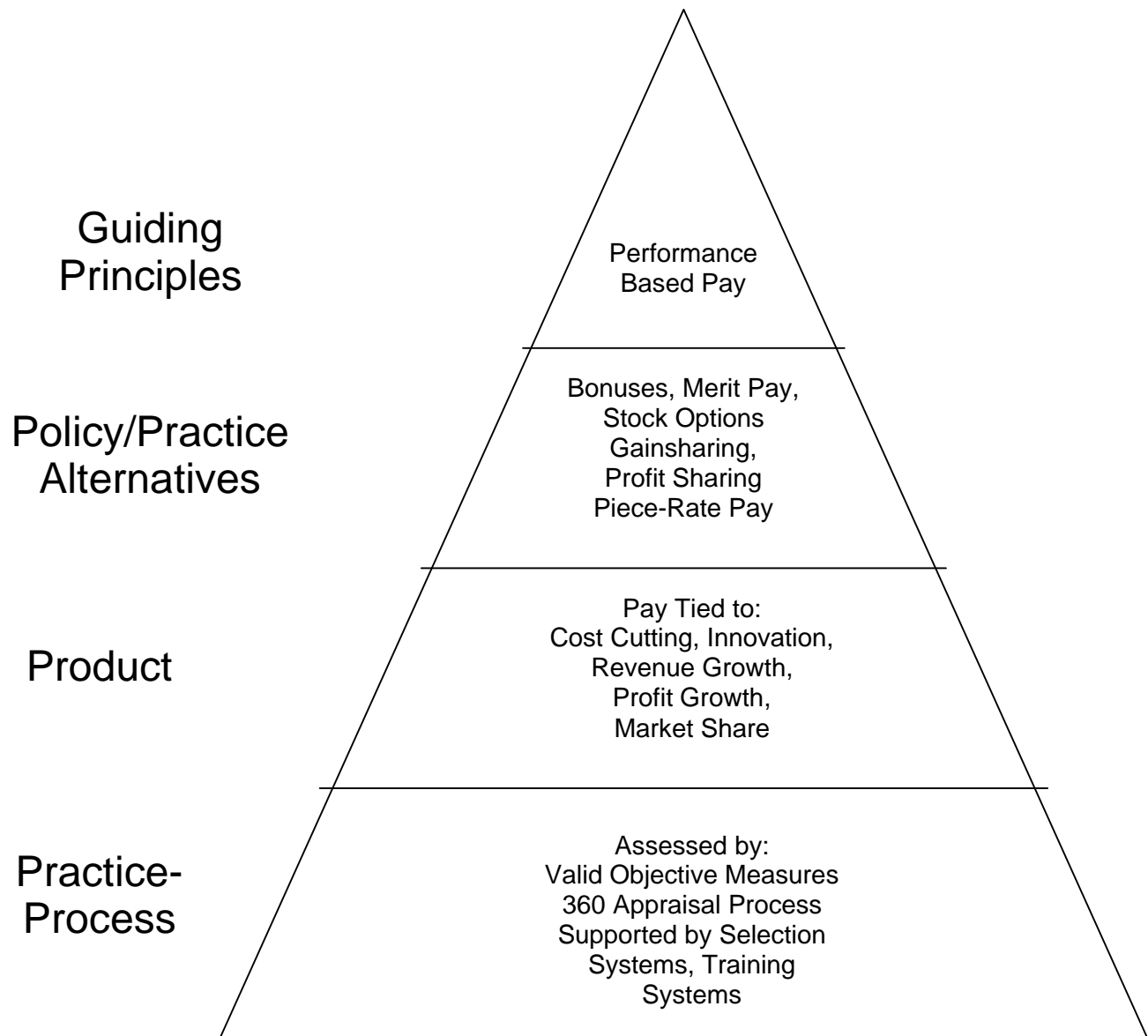
### **Is Strategy Relevant?**

Before turning to these issues directly, we must first address a basic question regarding the distinction between Strategic HRM and research examining the relationship between HR practices and firm performance. The basic assumption driving Strategic HRM research for many years was based on the necessity of achieving “fit” between a firm’s strategy and HR as a means of generating maximum organizational performance (Dyer, 1985; Wright & McMahan, 1992). In essence, this basic model has its roots in contingency theory, suggesting that a synergistic effect results from fitting two variables together far beyond that which would result from the summative effect of the two variables.

However, recent debates have arisen regarding the necessity of the strategy construct in Strategic HRM (Delery & Doty, 1996). Wright and Sherman (1999) noted that very little empirical research has supported the efficacy of the concept of “fit” between strategy and HR. Pfeffer (1994, 1998), comparing the paucity of research demonstrating the effectiveness of fitting HR to strategy to the plethora of research demonstrating that certain HR practices are consistently associated with firm performance, argues that it is these “best practices” that impact performance, not their fit with strategy. Such an approach has been referred to as a “universalistic” approach (Delery & Doty, 1996).

Wright and Sherman (1999) reviewed the research on fit between strategy and HR, and noted that a number of theoretical and empirical problems exist that might explain the failure to support the basic model. They argued that research that overcomes those limitations might find better support for the intuitively appealing and practically assumed relationships among these variables. Wright (1998), building upon the architectural approach of Becker and Gerhart (1996), proposed that HR practices could be classified into four levels including guiding principles, policy alternatives (different practices), products (competencies or behaviors the practice promotes), and practice-process (the effectiveness of execution of the practices). This framework is illustrated in Figure 2. He noted that while some practices (e.g., performance based pay, rigorous selection, etc.) might be universally effective, the efficacy of fit comes more at the product level (i.e., pay promoting the right kind of performance or selection system selecting the right kinds of people, given a particularly strategy). Becker and Huselid (1999) support this idea, arguing that fit between HR and strategy might best be achieved at the level of competencies required for a strategy.

**Figure 3. Architectural Approach to HRM**  
Adapted from Wright, 1999



For the purposes of this paper, we consider strategy to be a legitimate, but unnecessary variable in examining the relationship between HR practices and firm performance. We recognize the potential for HR practices to impact firm performance independent of the strategy construct. However, we also note that infusing the strategy construct into research on the focal relationship can aid in both understanding the determinants of HR practices, and also how an alignment of these practices with the strategy can provide a significant incremental effect on performance.

### **Levels of Analysis Issues in the HR – Firm Performance Relationship**

One particularly difficult challenge in the current research stems from the variance in levels of analysis at which the HR – firm performance relationship has been studied. This literature has examined the relationship at the level of the plant, business unit, and corporation. Rogers and Wright (1998) reviewed 29 empirical studies containing 80 distinct observations of an empirically tested link between HRM and organizational performance. They found reports of only 5 effect sizes observed at the level of the business unit, with the remaining 75 being at the corporate (56) or plant (19) level.

Clearly most (in fact over 2/3<sup>rd</sup>s) of this research has explored the corporate level of analysis, while virtually ignoring the business unit. This of course begs the question as to which level provides the most appropriate test of the relationship. We explore this issue below.

Plant level studies (e.g., MacDuffie, 1995, Youndt, Snell, Dean, & Lepak, 1996) provide the advantage of measuring HR practices quite specifically and probably most accurately. Because these studies often focus only on one large job group in one location, the risk of variance in HR practices within the focal unit is minimized. Additionally, because of the close physical proximity, one could also assume that the respondent has at least somewhat accurate and first-hand experience with the practices, thus increasing the validity of the measures. Finally, these studies have the potential of providing the most proximal measures of performance whether they be employee (absenteeism, turnover), organizational (productivity, quality) or financial (profitability) outcomes. The major drawback of such a level stems from the fact that it often precludes assessing fit with business strategy; rather the focus is on production strategy.

Business level studies are the optimal setting for assessing the linkage between HR practices and business strategy. Assessments at this level should result in the most accurate measures of business strategy, and relatively proximal measures of performance (e.g., market share, profitability, etc.). However, studying this phenomena at the business unit level creates some problems. Because businesses often have multiple locations and multiple jobs, precise

assessments of HR practices become problematic. Finding a single respondent able to accurately describe HR practices across 10-20 different jobs (even if divided by exempt and non-exempt) and 5 or more locations seems near impossible. One can, at best, hope for rough assessments.

Finally, studying the phenomena at the corporate level provides a tremendous advantage in the assessment of financial performance because of the publicly available databases which provide such information. One can readily access a publicly traded corporation's financial information to assess performance such as gross rate of return on assets to compute Tobin's Q (Huselid, 1995). This explains why the bulk of Strategic HRM research relating to firm performance has been conducted at this level. However, to consider the disadvantages of such research, take the assessment problems noted above with regard to business level studies (responding accurately about HR practices across multiple jobs and locations) and multiply them by the number of businesses existing within the corporation. In addition, because variance exists in business strategies across businesses within some corporations, the assessment of strategy becomes problematic. Finally, because these studies cross industries, it becomes difficult to partial out all of the industry effects.

Thus, this examination points out that no right or wrong level of analysis exists for studying the HR practice – firm performance relationship. Each level provides answers to unique questions, and each has a set of relative advantages and disadvantages. This suggests that researchers need to be quite deliberate in their choice of level of analysis, given a particular research question; or deliberate in their choice of a research question, given a level of analysis.

### **Measurement Issues in the HR – Firm Performance Relationship**

Only recently has research begun to focus on measurement issues in this body of research. A number of recent reviews have noted some of the problems in measuring key constructs within this literature, and empirical research is beginning to appear that may have implications for measurement in future research. These measurement issues focus on the assessment of 2 major variables: HR practices and firm performance.

**HR Practices.** The accurate assessment of the relationship between HR practices and performance requires reliable and valid assessment of HR practices. Recent research points to problems in this area.

First, with regard to reliability, virtually all of the focus in this literature has been on internal consistency estimates. Huselid (1995) provided moderate internal consistency estimates as evidence of the reliability of his HR Practice scales, as did others (Delery & Doty, 1996; Youndt et al, 1996). In most cases, the studies had single respondents, thus,

assessments of interrater reliability were impossible. In the few instances where multiple respondents completed measures, Snell and his colleagues (Dean & Snell, 1991; Snell & Dean, 1992; Youndt et al., 1996) reported the  $r_{wg}$  statistic. However, Gerhart, Wright, McMahan & Snell (in press) recently used a multiple respondent design to examine sources of variance in the measurement of HR practices and found frighteningly low levels of overall reliability of HR practice measures. They noted that the  $r_{wg}$  statistic is inappropriate because it only assesses “agreement” within one firm, rather than “reliability” across firms. They found that with their data, a scale constructed to maximize overall reliability at best provided an estimate of .20.

Regarding validity, a number of issues arise. First, numerous authors have posed the question as to which HR practices should be included in the scale (e.g., Delery, 1998, Wright & Sherman, 1999). For example, is the use of job analysis a progressive or bureaucratic practice? No consensus currently exists for what constitute the core of HR practices that should be assessed in this vein of research.

Second, no agreement exists for the level of specificity of HR practice measures. Specificity refers to the level of description of each practice. For example, with regard to compensation, one could assess the presence/absence of pay for performance (i.e., at the principal level). However, pay for performance could include profit sharing, gain sharing, merit pay, bonuses, stock options, commissions, piece-rate pay, and a variety of other techniques (or policy alternatives) for tying pay to performance. One could also go so deep as to explore the variety of performance aspects to which pay could be tied such as profits, stock price growth, revenue growth, new products, cost reductions, etc (i.e., the products). Finally, one could focus on the effectiveness of execution (practice-process) of the HR practices. Again, no consensus currently exists regarding the level of specificity at which HR practice measures should be operationalized.

Finally, scholars disagree about the proper scale of measurement. Much of the research in this area has attempted to objectify the measurement by asking respondents to indicate in some form the presence/absence of practices. Thus, scales such as Huselid's (1995) which ask respondents to indicate the percentage of employees covered by a practice are not asked to evaluate the effectiveness of the practice, but only indicate its presence within a percentage of the workforce. On the other hand, some measures have a more subjective tone through asking respondents to indicate “the extent to which” practices exist on a Likert-type scale. For example, Snell (1992) assessed HRM controls using Likert-type responses to items such as “We have gone to great lengths to establish the best staffing procedure possible,” and Snell and



Dean (1992) and Youndt et al. (1996) used items such as “How much effort is given to measuring employee performance (1 = Very Little; 7 = Great Deal).”

While objective measures might normally be preferred, as respondents are less and less able to accurately indicate (again, due to organization size and complexity) the presence of practices, they might be better able to indicate more subjective impressions shared by those in the firm. In other words, a SVP of HR at a corporate headquarters for a large firm, might not know the exact percentage of managers who receive formal performance appraisals, but s/he might know that performance appraisals are strongly (or weakly) emphasized in the organization. In fact, while Gerhart et al. (in press) found almost no interrater reliability for measures of HR practices, they found reasonable interrater reliability on subjective measures of the effectiveness of the HR function. It may be that HR executives/practitioners focus attention (and internal discussion) more on the goals and effectiveness of their HR practices than they do on the coverage of those practices.

This is not to call for replacing objective scales with subjective ones, but only to suggest that there may be a point of diminishing returns to objective scales such that at some point, measures aimed at eliciting subjective impressions provide more accurate data than those aimed at objective reporting. This is certainly an area for future research to examine.

**Performance.** In addition to the issues with measuring HR practices, researchers face a number of challenges in the measurement of firm performance. These challenges revolve around the relatively limited number of different performance measures that have been used in this research, and the tendency not to assess multiple performance measures in any single study.

First, regarding the variety of performance measures used in this field of research, Rogers and Wright (1998) reviewed 29 empirical studies containing 80 distinct observations of an empirically tested link between HRM and organizational performance. They categorized the performance measures into human resource (turnover being the only employee measure they found), organizational (e.g., productivity, quality, customer satisfaction) financial accounting (e.g., return on assets) and financial market (e.g., stock price or Tobin's Q). They found that only 3 effect sizes were reported relating HR to human resource outcomes, 34 relating to organizational, 24 to accounting, and 19 to financial market outcomes. While the relative emphasis on organizational, accounting and market measures aids in convincing line executives of the value of HR, the dearth of studies on employee outcomes is disappointing for two reasons.

First, employee outcomes are those most proximal to the actual practices, and thus, more data supporting the impact of these practices on multiple employee outcomes (such as absenteeism, skills, motivation, employee attitudes, etc.) would, by itself, be interesting. For example, Wright, McCormick, Sherman, and McMahan (1999) found that Appraisal and training practices were related to workforce skills and that training and compensation practices were related to workforce motivation as assessed by line executives in petrochemical refineries. Second, because all of our theoretical rationales for how HR impacts performance posit that the impact comes through these employee outcomes, the dearth of research in this area shows an inability to test theory.

The second issue is that very few studies have measured firm outcomes in more than one performance category, and thus researchers are unable to examine the interrelationships among the outcomes. One noteworthy exception has been Huselid's (1995) study which examined one employee outcome (turnover), one financial outcome (Gross Rate of Return), and one financial market outcome (Tobin's Q). He found that at least some of the effect of HR practices on firm performance was mediated by the reduction of employee turnover.

The reasons for this failure to measure mediating variables are not surprising, and tend to boil down to lack of theoretical development and access to data. First, as outlined earlier in the paper, there is a lack of consensus of the role and specificity of mediating variables in theoretical models. Second, across-industry studies such as Huselid's (1995) make comparability of measures such as customer satisfaction, quality, and productivity quite difficult. Third, within-industry studies such as Arthur (1992) or MacDuffie (1995) may discourage competing firms from sharing certain kinds of data. In addition, within industry-studies also are fraught with comparability issues (e.g., different measures of customer satisfaction or employee satisfaction).

### **Conclusions and Recommendations**

The recent research examining the relationship between HR practices and firm performance provides some promising results. The results seem to indicate that firms can benefit financially from the development and implementation of progressive or high performance HR practices. However, before placing irrevocable faith in these conclusions, one must note that some problems exist in this research. The research provides enough justification to continue advocating both the increasing prevalence of these practices in organizations, and an increasing amount of research on this relationship. We have highlighted some of the problems with the past research, and in this final section we wish to lay out some suggestions for future researchers who wish to examine this relationship.

### **Increasing focus on Within Industry Studies**

Certainly Huselid's (1995) work using publicly traded corporations across industries has provided the empirical foundation upon which much of the future research will rely. He has been able to consistently access data on HR practices and firm performance among sufficiently large samples of firms, and this data has proven very valuable (Huselid & Becker, 1996).

While not calling for a ban on such research (continued research in this area will benefit the field), we certainly think that a next generation of HR research might benefit from an increasing use of within-industry studies. As previously noted, across-industry studies do not provide the opportunity to tease out the idiosyncratic strategies and bases for competition that exist within certain industries. Additionally, they make it difficult to find more granular measures of performance such as customer satisfaction, market share, or other important performance metrics that would aid in increasing our understanding of how HR practices impact firm performance. Within industry studies would enable researchers to identify the key competitive metrics that participants within the industry consider important, and to assess the unique strategies (both business and HR strategies) that firms engage in as a means of increasing their performance on those metrics.

### **Increasing Business and Plant Level Studies**

Again, Huselid's (1995) significant research at the corporate level of analysis has provided a tremendous foundation from which this field can grow. It also is certainly the only legitimate multi-level study following the impact of HR practices through to the ultimate goal of shareholder wealth. However, again, we would call for a decrease in emphasis on the corporate level of analysis and an increase in studies of the business unit or plant level.

Corporate level studies provide the important advantage of looking at shareholder wealth as a criterion. However, they do not provide a suitable level for examining the fit between HR practices and strategy (as business level studies do) nor for precise measurement of the relationship between HR practices and employee outcomes (as plant level studies can). Thus, the recommendation to move toward more business level and plant level studies stems from the relative dearth of studies at that level, as well as the dearth of studies demonstrating the impact of HR practices on employee outcomes (Rogers & Wright, 1998).

### **More Reliable Measures of HR Practices**

Gerhart et al.'s (in press) results finding little true variance in measures of HR practices should certainly give pause to future researchers. While their sample contained larger than usual firms (40,000 plus employees), the results undoubtedly call into question the reliability with which HR practices have been measured in past research. As previously noted, as

organizations grow in complexity (more jobs, more locations, more divisions) and size (more employees, broader geographic/global presence), the information processing requirements become unmanageable for a single respondent trying to accurately report HR practices across an organization. This is an issue that is only recently becoming apparent in this literature.

Developing more reliable measures may entail a number of and combination of alternative approaches. First, one could decrease the complexity through focusing on practices with regard to one job (or set of very similar jobs, e.g., top 10% of executives), with regard to one business (as opposed to across businesses within an organization) or with regard to one site. One would expect that single respondents would be most able to accurately report HR practices for a single job at a single site, assuming that respondent was positioned to do so (e.g., the HR manager for that plant). As one adds levels of complexity (jobs, sites, businesses, etc.), it becomes increasingly improbable that reliable, valid measures of HR practices will be gained.

Second, assessing HR practices from multiple respondents should increase the reliability and validity of HR practice measures. Gerhart et al. (in press) noted that reliability of HR measures in their sample could have been increased to adequate levels by adding 5-10 more raters per organization. This number seems unreasonable, but the results certainly point to the need to include multiple raters. However, the addition of raters alone will not solve reliability problems if the raters are not in the position of knowing what HR practices exist. One difficult, but unique avenue for future research would be to have the employees in the organization report the HR practices that exist. Since they are the focal unit the practices aim at, their assessment might provide the best (most accurate) assessment of the HR practices as they truly exist within the firm.

Finally, developing more specific measures of HR practices should increase reliability and validity as well as increase our theoretical understanding. As noted before, HR practices could be assessed at the level of principle, policy alternative, product, and/or practice-process. Assessing practices at the level of principle (e.g., pay for performance, rigorous selection, extensive training, etc.) should support a universalistic or best practice approach, but will likely never adequately support a link between HR and strategy. One would expect that as our measures of HR practices become more precise, we will be better able to capture this interaction between strategy and HR in impacting firm performance.

### **Consider Qualitative Research**

There are several reasons systematic qualitative research could add to our understanding of the HR practice – firm performance relationship. As Wright and McMahan

(1992) suggest in their definition, SHRM is the planned HR deployments and activities intended to achieve organizational outcomes. Paper-and-pencil surveys can only reveal a portion of the activities managers use to acquire and deploy human resources. Qualitative research will likely surface activities and strategic contingencies researchers are not yet aware of. Second, qualitative research is particularly effective at uncovering the differences between stated policies and implementation of those policies. Thirdly, longitudinal research will be necessary to untangle the issue of direction of causality in the observed association between HR practices and firm performance. Qualitative research can help researchers generate a theoretical foundation and empirical strategies for documenting these relationships (Lee, 1999).

In fact, Wright, McMahan, Snell, and Gerhart (1998) conducted in depth case studies of 12 different organizations to explore the strategic contingencies facing these firms and to identify how HR was playing a role in competitive advantage. More recently, Brian Becker and Mark Huselid guest edited a special issue of Human Resource Management where they presented 5 case studies of firms exploring how strategic human resource management was being operationalized in each (Vol 38, No. 4, 1999). Studies such as these should aid in providing a “context” to the more quantitative research approaches.

### **Summary**

The field of Strategic HRM is still in its infancy, with its founding arguably traced to as recently as 1981 (Wright, 1998). Significant progress has been made since then, with a number of seminal articles that have demonstrated support for the relationship between HR practices and firm performance. These articles illustrated some profound truths, but, in retrospect, we may not yet know what these truths are.

This paper has attempted to provide a critique of past research on the relationship between HR practices and firm performance, and to provide some recommendations for how future research in this area can move the field forward. This critique points to weaknesses in past research, but does so without malice. It is not intended to point fingers to past mistakes, but rather to point in the direction of future research which can continue the knowledge discovery process with regard to how HR can impact firm performance.

## References

- Arthur, J. 1992. The link between business strategy and industrial relations systems in American steel minimills. Industrial and Labor Relations Review, 45: 488-506.
- Becker, B., & Gerhart, B. 1996. The impact of human resource management on organizational performance: Progress and prospects. Academy of Management Journal, 39: 779-801.
- Becker, B. E., & Huselid, M. A. 1998. High performance work systems and firm performance: A synthesis of research and managerial implications. In G. R. Ferris (Ed.), Research in Personnel and Human Resource Management, Vol. 16 (pp. 53-101). Greenwich, CT: JAI Press.
- Becker, B. E., Huselid, M. A., Pickus, P. S., & Spratt, M. F. 1997. HR as a source of shareholder value: Research and recommendations. Human Resource Management, 36(1), 39-47.
- Brown, B., & Perry, S. 1994. Removing the financial performance halo from Fortune's "Most Admired companies. Academy of Management Journal, 37(5), 1347-1359.
- Dean, J. W., & Snell, S. A. 1991. Integrated manufacturing and job design: Moderating effects of organizational inertia. Academy of Management Journal, 34, 776-804.
- Delery, J. E. 1998. Issues of fit in strategic human resource management: Implications for research. Human Resource Management Review, 8, 289-309.
- Delery, J., & Doty, H., 1996. Models of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. Academy of Management Journal, 39: 802-835.
- Dyer, L. 1985. Strategic human resources management and planning. In G. R. Ferris (Ed.), Research in Personnel and Human Resource Management (pp. 1-30). Greenwich, CT: JAI Press. Dyer's standard strategy paper
- Dyer, L., & Reeves, T. (1995). Human resource strategies and firm performance: What do we know and where do we need to go? Paper presented at the 10<sup>th</sup> World Congress of the International Industrial Relations Association, Washington, DC, May 31-June 4.
- Eden, D., & Leviatan, U. 1975. Implicit leadership theory as a determinant of the factor structure underlying supervisory behavior scales. Journal of Applied Psychology, 60(6), 736-741.
- Gerhart, B., Wright, P. M., McMahan, G. C., & Snell, S. A. Forthcoming. Measurement error in research in human resource decisions and firm performance: How much error is there and how does it influence effect size estimates? Personnel Psychology.
- Gardner, T. M., Wright, P. M., & Gerhart, B. 1999. The HR-Firm performance Relationship: Can it be in the mind of the beholder? Working Paper, Center for Advanced Human Resource Studies. Ithaca, NY.
- Golden, B. R. 1992. The past is the past - or is it? The use of retrospective accounts as indicators of past strategy. Academy of Management Journal, 35(4), 848-860.

- Huselid, M. 1995. Human resource management practices and firm performance. Academy of Management Journal, 38: 635-672.
- Huselid, M. A., & Becker, B. E. 1996. Methodological issues in cross-sectional and panel estimates of the human resource-firm performance link. Industrial Relations, 35(3), 400-422.
- Lee, T. W. 1999. Using Qualitative Methods in Organizational Research. Thousand Oaks, CA: Sage Publications.
- McCabe, D. L., & Dutton, J. E. 1993. Making sense of the environment: The role of perceived effectiveness. Human Relations, 46(5), 623-643.
- MacDuffie, J. 1995. Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. Industrial and Labor Relations Review, 48, 197-221.
- Martell, R. F., & Guzzo, R. A. 1991. The dynamics of implicit theories of group performance: When and how do they operate? Organizational Behavior and Human Decision Process, 50, 51-74.
- McMahan, G., Virick, M., & Wright, P. 1999. Alternative Theoretical Perspectives for strategic human resource management: Progress, problems, and prospects. In P. Wright, L. Dyer, J. Boudreau, and G. Milkovich (eds), Research in Personnel and Human Resources Management (Supplement), Greenwich, CT: JAI Press.
- Paauwe, J., & Richardson, R. 1997. Introduction to the special issue: Strategic human resource management and performance. International Journal of Human Resource Management, 8: 257-262.
- Pfeffer, J. 1994. Competitive Advantage Through People: Unleashing the Power of the Workforce. Boston: Harvard Business School Press.
- Pfeffer, J. 1998. The Human Equation. Boston, MA: Harvard Business School Press.
- Rogers, E. W., & Wright, P. M. 1998. Measuring organizational performance in strategic human resource management: Problems, prospects, and performance information markets. Human Resource Management Review, 8, 311-331.
- Snell, S. 1992. Control theory in strategic human resource management: The mediating effect of administrative information. Academy of Management Journal, 35: 292-327.
- Snell, S. & Dean, J. 1992. Integrated manufacturing and human resource management: a human capital perspective. Academy of Management Journal, 35: 467-504.
- Truss, C., & Gratton, L. 1994. Strategic human resource management: A conceptual approach. The International Journal of Human Resource Management, 5(3), 662-686.
- Wright, P.M. (1998). HR – Strategy Fit: Does it really matter? Human Resource Planning, 21: (4) 56-57.

- Wright, P. M., & McMahan, G. C. 1992. Alternative theoretical perspectives for strategic human resource management. Journal of Management, 18: 295-320.
- Wright, P. M., McMahan, G. C., Snell, S. A., & Gerhart, B. 1998. Strategic HRM: Building Human Capital and Organizational Capability. Technical Report.
- Wright, P. M., & Sherman, S. 1999. The failure to find fit in strategic human resource management: Theoretical and empirical considerations. In P. Wright, L. Dyer, J. Boudreau, and G. Milkovich (eds), Research in Personnel and Human Resources Management (Supplement), Greenwich, CT: JAI Press.
- Wright, P., McMahan, G., & McWilliams, A. 1994. Human resources as a source of sustained competitive advantage: A resource-based view. International Journal of Human Resource Management, 5: 299-324.
- Wright, P.M., McCormick, B., Sherman, W.S., & McMahan, G.C. (1999). The role of human resource practices in petro-chemical refinery performance. International Journal of Human Resource Management, 10: 551-571.
- Wright, P. M., & Snell, S. A. 1998. Toward a unifying framework for exploring fit and flexibility in strategic human resource management. Academy of Management Review, 23(4), 756-772.
- Youndt, M., Snell, S., Dean, J., & Lepak, D. 1996. Human resource management, manufacturing strategy, and firm performance. Academy of Management Journal, 39: 836-866.