The Human Capital Dimensions of Sustainable Investment:

What Investment Analysts Need to Know

Thomas Kochan, Eileen Appelbaum, Carrie Leana, and Jody Hoffer Gittell

February 2013

Working paper prepared for the Sustainable Investment Research Initiative Sustainability & Finance Symposium, June 7, 2013.

Center for Economic and Policy Research
1611 Connecticut Avenue, NW, Suite 400
Washington, D.C. 20009
202-293-5380
www.cepr.net

Contents

About the Authors

Thomas Kochan is the George Maverick Bunker Professor of Management, a Professor of Work and Employment Research and Engineering Systems, and the Co-Director of the MIT Sloan Institute for Work and Employment Research at Massachusetts Institute for Technology's Sloan School of Management. Eileen Appelbaum is a Senior Economist at the Center for Economic and Policy Research in Washington, DC, and was formerly Distinguished Professor in the School of Management and Labor Relations at Rutgers University. Carrie R. Leana is the George Love Professor of Organizations and Management, and Director of the Center for Health and Care Work at the University of Pittsburgh's Katz Business School. Jody Hoffer Gittell is a Professor of Management and Executive Director of the Relational Coordination Research Collaborative at Brandeis University's Heller School for Social Policy and Management.

Abstract

This paper identifies a number of questions that need to be answered if the growing interest in building investment portfolios of firms that follow socially and environmentally sustainable practices is to be successful in transforming the financial institutions and analysts from a liability to an asset in expanding the number of sustainable firms in the economy. Evidence from three decades of research on "high performance workplace practices" is reviewed that identifies what is required for firms to align human capital and financial strategies. A longer term research and education agenda is presented for answering the remaining open questions.

Introduction

The growing interest in sustainable investment strategies is a welcome development for those seeking to encourage organizations to adopt and maintain strategies and practices capable of creating and sustaining long term value for shareholders, investors, and employees. Expanding the number of firms that are led and managed in this way is essential for building a *sustainable economy*, i.e., one in which firms operating in the U.S.(or other countries) are capable of being competitive and generating sufficient high quality jobs to close the jobs deficit and improve living standards.

To date, however, financial markets and their agents have largely been indifferent or even antagonistic to this goal. The pressures for short term financial performance by publicly traded companies exerted by investment professionals, and the imperative to maximize shareholder value of portfolio companies owned by private equity funds during a period of just a few years has contributed to what many refer to as the rise of "financial capitalism." Putting shareholder interests above all other considerations in strategic decision making holds down the quality of jobs and externalizes the economic and environmental costs associated with a low wage economy to the larger society.[1] Moreover, until recently, few investment professionals have developed an understanding or even an interest in learning about ways firms can prosper while also addressing employee and/or environmental needs and interests, or the long-run costs to companies from ignoring these concerns. That may now be changing as we observe growth in the number of investment advisors and organizations seeking to build and market sustainability portfolios and the number of sustainability indices aimed at channeling investments in firms that proclaim to follow environmental or social sustainability practices.

This conference offers an opportunity to support this development by discussing whether and how financial markets can be turned into a *positive* driving force in promoting sustainable firms and a sustainable economy. It provides a forum to discuss the evidence that shareholders can do as well or better over the long run by investing in firms that adopt and maintain strategies and practices that produce long term shareholder value and good wages, jobs, and other employment outcomes that support high and rising living standards. Broadening the view of sustainability to include both social and environmental features, raises the challenge even higher: ***Is there convincing evidence that firms that adopt and maintain social and environmental sustainability strategies and practices perform as well or better than those that focus solely or primarily on maximizing shareholder value at the expense of one or both of the other outcomes?*** Answering this question in turn requires more careful analysis of a set of subsidiary questions, including:

1. What firm level strategies and practices are capable of achieving high levels of financial performance and providing good jobs, wages, and environmental performance?

2. What human capital, labor, and employment practices/metrics *should be* included in social sustainability and environmental sustainability indices that are used by financial analysts to differentiate firms that do well on these dimensions?

1 See Lazonick (2009); Appelbaum, Batt and Clark (2013).

3. What measures *are* included in the range of different sustainability indices now being used by sustainability portfolio managers and how well do they match what the research evidence suggests should be included?

4. Are company self-reported measures of their practices reliable indicators of practices on the ground?

5. How are social and environmental measures of sustainability related? Positively correlated? Independent? Negatively correlated?

These questions cannot be answered in a single paper. Instead this paper summarizes what is known about the first question and then outlines a longer term research and educational agenda for addressing the others. To do so we draw on the extensive industry-specific research carried out over the past three decades that has identified firm level strategies and practices that achieve high performance and high productivity through what are called "high road" business strategies and "high performance work systems."[2] An understanding of this evidence is critical for investment analysts, private equity partners, and investors seeking to assess how well a firm is aligning its human resource and human capital strategies with the goal of generating value for investors, employees, the economy and society.

Aligning Human Capital Strategies: "High Road" and "High Performance Work Systems" Research

Beginning in the 1980s, a large number of industry specific studies have been carried out aimed at understanding how American firms can compete successfully in an increasingly global economy while preserving and advancing the employment and living standards of American workers and society. Some of the intellectual roots of this work can be traced to the work of behavioral scientists in the 1960s and 1970s urging firms to broaden the range of tasks included in typical blue collar jobs (i.e., so called job enlargement or job enrichment)[3] and efforts to counteract what was believed to be an increasingly alienated workforce by engaging employees in quality circles and quality of working life improvement projects.[4] It was the tumultuous economic and political events of the 1980s, however, that gave impetus to this work and transformed it from studies of individual practices to studies of the "system' or combination of firm level business strategies and workplace practices that, when implemented together, have been shown to produce sustained positive results.

It is not surprising that this work rapidly expanded in the 1980s. The economic pressures and impetus to change was felt most strongly by American manufacturing firms from growing import competition from Japan and from lower wage developing economies, from the deep recession of 1980-82, and from the entry of new lower cost competitors in newly deregulated industries such as airlines, trucking, and communications. The political environment and balance of power also changed dramatically in the U.S. in the 1980s creating new pressures on workers and labor unions and new opportunities for employers to insist on significant changes in workplace practices. The

2 For a recent review of this literature that we draw on in this paper see Appelbaum, Leana, and Hoffer-Gittell (2013).
3 See Hackman and Oldham (1976).
4 See U.S. Department of Health (1973); Kochan and Rubinstein (1999).

most visible shift in the political environment came with the hard line the Reagan Administration adopted in firing of the Air Traffic Controllers. This served as a model for private employers to act accordingly. Less visible but equally important signals of a more aggressive anti-labor policy came in decisions of the National Labor Relations Board and reductions in the budgets and enforcement behavior of other employment regulatory agencies. As a result the 1980s proved to be a decade of transformation in American industrial and labor relations that witnessed a growth in two different sets of business and workplace strategies.[5] One strategy was to more aggressively seek to compete with low wage competitors by demanding and achieving wage concessions and lower or "two-tier" wages for entry level workers. This became known as the "low road" competitive strategy. Labor was viewed as a cost to be controlled similar to any other factor of production. The alternative or "high road" strategy was to view labor and human capital as an asset by investing in employee development and training and more fully utilizing the knowledge and skills of the workforce to drive innovation, product and service quality, and productivity. The fact that divergent strategies approximating these two approaches could be observed in many industries, along with the support of a new industry specific research program supported by the Alfred P. Sloan Foundation gave rise to a significant growth in industry specific workplace research designed to assess the effects of these different approaches on firm performance and on employees.

A number of different labels have been used describe research on the relationship between work and employment practices and performance, including high performance work systems, high commitment work systems, high involvement work systems and high performance human resource management.[6] The common finding that emerged out of these studies is that achieving and sustaining high levels of performance requires a *combination* of workplace innovations that produce and sustain a positive workplace culture and practices that develop and leverage employees' knowledge and ability to create value and coordinate their efforts to work together. While the specific practices need to be tailored to fit different industries and occupations, they generally include selection, training, mentoring, incentives, knowledge-sharing, engaging front-line workers in operational decisions, and partnership based labor-management relations and other shared decision making mechanisms to address broader issues.[7] These practices were found to be most effective when implemented together and in concert with new capital or technological investments.[8]

Researchers have documented the impact of high performance work practices on efficiency outcomes such as worker productivity and equipment reliability;[9] on quality outcomes such as manufacturing quality[10] customer service, and patient mortality;[11] on financial performance and profitability;[12] and on a broad array of other performance outcomes.[13] Although some studies have found mixed results regarding performance differences associated with these work practices,[14] many other studies have found that these work practices explain significant performance differences

5 Kochan, Katz and McKersie (1986).
6 Becker and Gerhart (1996); Bailey, Berg, and Sandy (2001); Ramsey, Scholarios, and Harley (2000); Ichniowski et al. (1996).
7 Horgan and Muhlau (2006).
8 MacDuffie (1995); Dunlop and Weil (1996); Ichniowski., Shaw, and Prennushi (1997); Batt (1999); Appelbaum, Bailey, and Kalleberg (2000).
9 Youndt, Snell, Dean, and Lepak (1996); Ichniowski, Shaw, and Prennushi (1997).
10 MacDuffie (1995).
11 West, Borrill, et al. (2002).
12 Huselid (1995); Delery and Doty (1996); Collins and Smith (2006).
13 Appelbaum, Bailey, Berg, and Kalleberg (2000); Bartel (2004); Wright, Gardner, and Moynihan (2006).
14 Cappelli and Neumark (2001).

among auto assembly and parts plants, steel mills and finishing lines,[15] call centers,[16] airlines,[17] banks,[18] health care clinics and hospitals,[19] retail stores,[20] and high technology firms.[21] The magnitude of the effects is substantial, with performance premiums ranging between 15 and 30 percent.

More recently, this line of research has been extended to small, younger firms in manufacturing and health care with the support of the Hitachi Foundation. The same pattern of results is observed across a range of case studies in these industries: Employers that invest in their employees at an early stage of their organizational life and build workplace systems that fully utilize these skills have prospered and grown while also providing high quality jobs.[22].

How High Performance Work Practices Work

High performance work practices have been shown to work in three different ways: (1) fostering development of *human capital*, creating a performance advantage for organizations through processes such as increased employee skill development and improved customization by employees in service industries;[23] (2) enhancing the *motivation and commitment* of employees, creating an organizational and labor-management climate that motivates and supports employee engagement in problem solving and performance improvement;[24] and (3) building organizational *social capital*, which facilitates knowledge sharing and the coordination of work, and thus improves performance.[25] Research in settings ranging from public schools to airlines has demonstrated the added benefits to be realized when work practices encourage the simultaneous development of human capital and social capital among employees.[26]

The Role of Unions in Implementing High Performance Work Practices

One of the questions key questions addressed in this literature is: What is what role do unions play in fostering or opposing adoption and /or influencing the effects of high performance work practices? Again, an understanding of the historical context in which these systems began to emerge in the 1980s is needed to understand the relationship of union and high performance work practices. Many of these practices were first introduced in new "greenfield" non-union workplaces, sometimes with the explicit goal of avoiding unions. Not surprisingly, this made union leaders suspicious of and reluctant to support or champion these strategies and practices. By the early 1980s, however, a number of union leaders in the telecommunications, autos, steel, office equipment, and apparel industries began to champion these new systems in unionized settings where unions were treated as partners in designing and overseeing them with management. Case studies of labor management

15 Ichniowski, Shaw, and Prennushi (1997).
16 Batt (1999).
17 Gittell (2003); Gittell (2001).
18 Richard and Johnson (2004).
19 Gittell, Seidner, and Wimbush (2009).
20 Ton (2012).
21 Cutcher-Gershenfeld (1991); Collins and Clark (2003).
22 Hitachi Foundation(n.d.).
23 Gibbert (2006); Fried and Hisrich (1994); MacMillan, Zemann, and Subbanarasimha (1987); Snell and Dean (1992); Batt (2002).
24 Osterman (1988); Mahoney and Watson (1993); Tsui, Pearce, Porter, and Hite (1995); Appelbaum, Bailey, Berg, and Kalleberg (2000).
25 Nahapiet and Ghoshal (1998); Tsai and Ghoshal (1998); Leana and Van Buren (1999); Levin and Cross (2004); Gittell (2000); Gittell, Seidner, and Wimbush (2009).
26 Leana and Pil (2006); Gittell (2000); Pil and Leana (2009); Gittell (2009).

partnerships documented the ways unions contributed to workplace innovations in organizations such as New United Motor Manufacturing Inc., (NUMMI), Xerox, Jones and Laughlin Steel Corporation, AT&T, Saturn, Kaiser Permanente, Southwest Airlines, and others. A common theme in these studies was that neither highly adversarial battles over union organizing nor on-going adversarial labor management relations are conducive to implementing and sustaining high performance work practices or achieving positive results. Instead labor-management partnerships that were based on mutual respect for worker, union, and employer rights and responsibilities were shown to achieve high performance by facilitating employee participation and related high performance work practices and by creating social networks within and across organizations.[27] An important feature of the most successful partnerships was some agreement for both employment security for incumbent employees and employer neutrality when their non-union employees sought representation.

By the mid-1990s the unionized sector had caught up with the non-union sector in the percentage of employees covered by some form of high performance work system. Moreover, several studies found the presence of a union was positively associated with the adoption and effectiveness of high performance work practices.[28] Furthermore, a combination of formal and informal mechanisms for employee voice has been found to improve the productivity effects associated with implementing high performance work practices compared to implementing the same practices with just informal voice mechanisms or no employee voice.[29] Thus, when treated as partners rather than adversaries, unions have been and can be a positive force for promoting adoption of and increasing the performance benefits generated through high performance work systems.

Workforce Benefits

While most of these studies focused on the benefits accruing to firms, those that examined the effects on workers found that employees benefit from adoption of high performance work systems in three ways: (1) their human and social capital and therefore their market value are increased by the technical and problem solving training built into these systems; (2) over 70 percent of workers prefer these work systems over either traditional union or non-union systems and therefore their job satisfaction and satisfaction with their union increases; and (3) when combined with union representation these work systems tend to be associated with higher wages, some of which are achieved through mutual gain sharing or similar compensation practices.[30] Thus, taken together with the performance focused effects, a path for better aligning employer and employee interests seemed to have been identified.

Forces Limiting Diffusion of High Road-High Performance Models

Despite this growing body of research, surveys have shown that the practices needed to drive and sustain high levels of performance with and good jobs with good wages have not diffused beyond a minority of firms and workers in most if not all industries.[31] Moreover, it appears the number of

27 Rubinstein (2006); Appelbaum and Hunter (2005); Kochan, Eaton, McKersie, and Adler (2009).
28 Gittell, von Nordenflycht, and Kochan (2004); Eaton and Voos (1992); OECD (1999).
29 Black and Lynch (2004); Coats (1999).
30 MacDuffie and Kochan (1995); Freeman and Rogers (1999); Appelbaum, et al (200); Kochan, et al (2009).
31 See for example Osterman (1994).

firms adopting these practices slowed considerably or may have declined in recent years.[32] Why might this be so?

One reason is the constant pressures facing executives in publicly traded companies for short term financial returns that grew significantly since the 1980s—what was referred to above as the financialization of the U.S economy and corporate decision-making. Gaining a return on the investments in workforce training and development and other aspects of high performance work systems requires time—the expenses involved are visible in the short term while, like all other investments, the benefits require a longer time horizon and in some cases (e.g., the improvements in product and service quality, workplace safety, or innovative capacity) are much harder to observe and measure. The pressures on company executives in the case of leveraged buyouts of companies by private equity funds are no less intense. These managers are handed a debt structure and a target for returns that the PE investors expect. There is a huge equity upside for these executives, who can expect to cash out in 3 to 5 years if they succeed. If they fail to deliver, they will be summarily dismissed. If the debt levered on the company in the buyout precludes investment in employee skills, organizational improvements, or new technology, the incentive to cut jobs and payroll will be strong. Over PE's time horizon of a few years, this can boost profit margins, but at the expense of long term sustainable value creation. [33]

Cost reductions and low wages and/or outsourcing of work to lower wage countries are easier to observe, especially by financial analysts and other potential investors looking at firms from the outside and/or interested in short term earnings rather than long term sustainable value creation. Moreover, few analysts and investors have expressed interest in or request information on these practices either for work being performed in a company's domestic operations or across the global supply chains of multinational firms. Thus better education of financial analysts and investors and better measurement and more careful observation of the workplace practices employed by firms are needed in both domestic and global operations.

The experience of Southwest Airlines provides a good illustration of the importance of educating and communicating with investment analysts about why a firm follows long term value creating and sustainable practices. Southwest has bucked the trend of other airlines and the pressures from Wall Street to grow rapidly and to take on higher levels of debt. It has consistently taken a conservative approach to both growth and leverage. As a result it was the only major U.S. airline able to withstand and manage through the aftermath of the 9/11 attack without resorting to layoffs. It had the financial resources in reserve needed to see it through that crisis without risk of bankruptcy. Southwest also engages in proactive communications with industry analysts about why it places a high priority on the range of high performance workplace practices and achieving high levels of coordination among its different employee and managerial groups. Simply put, a positive workplace culture, cooperative and flexible employee and union-management relations, and good coordination are critical to its business strategy of turning planes around in approximately one third less time than its competitors, thereby generating higher use of its capital resources (airplanes and airplane gates). By being proactive in communicating why it has adopted and remains committed to these financial, business, and workforce strategies to an otherwise skeptical or less than enthusiastic investment community, Southwest has been able to be consistently profitable, generate long term value for

32 Benson and Lawler (2010).
33 Appelbaum and Batt (2012).

investors and other stakeholders, and be listed year after year among the 100 best places to work in America.[34]

A second reason why high road and high performance strategies and practices have not diffused widely is that there are insufficient pressures or constraints on firms adopting low road strategies of minimizing labor costs and tightly controlling workforce practices and behavior. Union representation in the U.S. has declined to the point where it is no longer a meaningful countervailing force for limiting low road strategies and the labor law that is supposed to protect worker rights to organize a union has been shown to be largely dysfunctional and ineffective both in protecting workers rights to organize or in promoting workplace innovations in settings that are already unionized.[35] Thus employers have found it easier to avoid unions than to work together with them in transforming practice to achieve high performance. Globalization of supply and production increases this problem given the general weakness or absence of independent unions and/or the weak enforcement of labor standards in many developing countries.

Measuring Firms Against High Road/High Performance Standards

There are significant information challenges facing those who would like to invest in high road/high performance work system firms. For one thing, while the generic features of this approach are well understood, the specific practices that are needed in different industries may vary considerably. Not surprisingly, therefore, academics studying these different industries have not all measured the same practices. Moreover, there is an active debate among researchers over whether the full set or "bundle" of practices need to be in place to obtain and maintain high levels of performance or whether some subset will do just as well. There is also the question of internal variability in implementation of the practices across the multiple worksites of typical large multi-location firms and questions regarding the stability of these practices over time. Most researchers have therefore chosen to measure these practices at the establishment or workplace level rather than trust firm level measures. The best studies have also gone beyond self reports of practices by high level managers or human resource specialists who have an incentive to overstate the quality of employment practices on the ground and/or underreport incidents of failure to comply with stated company policies or legally required employment standards. This suggests that investors seeking to identify firms that follow socially sustainable practices will need to look carefully at a range of available data sources and develop industry specific knowledge of what it takes to truly achieve high levels of performance and good employment outcomes in a given industry.

The good news is that there appears to be a growing body of information becoming available along these lines. Fortune Magazine and others have developed lists of the "best places to work" in America. The Global Reporting Initiative, Dow-Jones and comparable Sustainability Indices, SAI's Social Fingerprinting assessment tool, the Good Company Index, the B-Company qualifying criteria, and others are all potential sources of data on firm-specific sustainability practices. To our knowledge, however, there has yet to be systematic research examining the comparability of these

34 Gittell, Cameron, and Rivas (2006).
35 Ferguson (2008); Kochan (2013).

different indices or measures. Nor has there been a comparison of the practices measured in these indices against the evidence reviewed above on high performance work systems.

Another potential body of data on global operations of multinational firms can be found in the growing number of firms generating Corporate Social Responsibility reports that include data on their suppliers and contractors. Following the pressures experienced by firms such as Nike, a growing number of multinational employers have now established codes of conduct containing a wide array of workplace conditions and workforce requirements. Some of these firms are now making these data transparent in annual or otherwise periodic reports. These data should still, however, be treated with caution if not skepticism since research on these codes and the auditing or monitoring systems used to collect the data finds wide variability in their reliability and limited effects on improving and maintaining compliance with the labor standards they seek to measure and monitor. Indeed, there is a growing body of "just supply chain" research underway that seeks to assess the effects of these global compliance systems—essentially the current equivalent of the high performance work practice literature of the 1980s and 1990s. To date the results suggest that, like the earlier domestic research, improving labor conditions in global supply chains cannot be achieved through a single intervention. Instead it requires a combination of pressure from multinational firms to comply with codes of conduct, active technical and managerial assistance and consultation with local managers in how to improve workplace practices and link them to state of the art production processes (i.e., application of high performance principles in contractor firms), some workplace based independent worker representation and/or NGO role in monitoring compliance, and government policies that respect and enforce worker rights.[36]

Moving Forward: Research and Education Needs to Support Social Sustainability

The bottom line is that the research community has learned a great deal about how to better align investor and employee interests both in domestic and global operations. New data sources and measurement and assessment tools are becoming available that, if validated, can provide better information on the employment practices firms at least profess to want to see implemented within their organizations and suppliers. Investors need to become better educated in the types of information they should be asking for from firms. Business schools need to expand teaching of finance industry professionals currently doing this work as well as the next generation of MBAs and other students seeking careers in the financial services sector. Moreover, careful research needs to be carried out to assess the reliability and validity of the various sustainability measures and indices currently on the market or under development. Taking these steps is essential if the finance and investment community is to be transformed from a constraint to a supportive force in promoting social sustainability in U.S. and global enterprises. This paper should be viewed only as a first installment in this research and education agenda.

36 Locke (2013).

References

Appelbaum, Eileen, Thomas Bailey, Peter Berg, and Arne L. Kalleberg. 2000. *Manufacturing Advantage: Why High-Performance Work Systems Pay Off.* Ithaca, NY: ILR Press.

Appelbaum, Eileen. and Rosemary Batt. 2012. "A Primer on Private Equity in the U.S." Washington, DC: Center for Economic and Policy Research. http://www.cepr.net/index.php/publications/reports/primer-on-private-equity

Appelbaum, Eileen and Larry Hunter. 2005. "Union participation in strategic decisions of corporations." In *Emerging Labor Market Institutions for the 21st Century*, eds. Richard B. Freeman, Joni Hersch, and Lawrence Mishel, 265-291. Cambridge, MA: National Bureau of Economic Research.

Appelbaum, Eileen, Carrie Leana, and Jody Hoffer-Gittell. 2011. "High Performance Work Practices and Sustainable Economic Growth." http://www.employmentpolicy.org/topic/23/research/high-performance-work-practices-and-sustainable-economic-growth-0

Bailey, Thomas, Peter Berg, and Carola Sandy. 2001. "The effect of high-performance work practices on employee earnings in the steel, apparel, and medical electronics and imaging industries." *Industrial and Labor Relations Review*, vol. 54, no. 2A, pp. 525-544.

Anne P. Bartel. 2004. "Human resource management and performance outcomes: Evidence from retail banking." *Industrial and Labor Relations Review,* vol. 57, no. 2, pp. 181-203.

Batt, Rosemary. 1999. "Work design, technology and performance in customer service and sales." *Industrial and Labor Relations Review,* vol. 52, no. 4, pp. 539-564.

———. 2002. "Managing customer services: Human resource practices, quit rates, and sales growth." *The Academy of Management Journal*, vol. 45, no. 3, pp. 587-598.

Becker, B., Gerhart, B. (1996). "The impact of human resource management on organizational performance: Progress and prospects." *The Academy of Management Journal,* vol. 39, no. 4, pp. 779-80.

Benson, George S. and Edward. E. Lawler III. 2010. "Raising Skill Demand: Generating Good Jobs." In *Transforming the U.S. Workforce Development System: Lessons from Research and Practice*, eds. David Finegold, Mary Gata, Hal Salzman and Susan Schurman, 87-107. Urbana-Champaign, IL: Labor and Employment Relations Association.

Black, Sandra and Lisa Lynch. 2002. "What's driving the new economy: Understanding the role of workplace practices." *Economic Journal*, vol. 114, no. 493, pp. F97-F116.

Cappelli, Peter and David Neumark. 2001. "Do high performance work practices improve establishment level outcomes?" *Industrial and Labor Relations Review*, vol. 54, no. 4, pp. 737-775.

Coats, David. 1999. "Speaking Up! Voice, Industrial Democracy and Organizational Performance." London: The Work Foundation. http://www.theworkfoundation.com/Reports/142/Speaking-up

Collins, Christopher J. and Ken G. Smith. 2006. "Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms." *The Academy of Management Journal,* vol. 49, no. 3, pp. 544-560.

Collins, Christopher J. and Kevin D. Clark. 2003. "Strategic human resource practices, top management team social networks, and firm performance: The role of human resource practices in creating organizational competitive advantage." *The Academy of Management Journal,* vol. 46, no. 6, pp. 740-751.

Cutcher-Gershenfeld, Joel. 1991. "The impact on economic performance of a transformation in workplace relations." *Industrial and Labor Relations Review*, vol. 44, no. 2, pp. 241-260.

Delery, John E. and D. Harold Doty. 1996. "Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions." *The Academy of Management Journal,* vol. 39, no. 4, pp. 802-35.

Dunlop, John T. and David Weil. 1996. "Diffusion and performance of modular production in the U.S. apparel industry." *Industrial Relations: A Journal of Economy and Society*, vol. 35, no. 3, pp. 334-355.

Eaton, Adrienne E. and Paula B. Voos. 1992. "Unions and contemporary innovations in work organization, compensation and employee participation." In *Unions and Economic Competitiveness*, eds. Paula B. Voos and Lawrence Mishel, Armonk, 173-191. NY: M.E. Sharpe.

Ferguson, John-Paul. 2008. "The Eyes of the Needle: A Sequential Model of Union Organizing Drives, 1999-2004." *Industrial and Labor Relations Review*, vol. 62, no. 1, pp. 3-21.

Freeman, Richard B. and Joel Rogers. 1999. *What Do Workers Want?* Ithaca, NY: Cornell University Press.

Fried, Vance H. and Robert D. Hisrich. 1994. "Toward a model of venture capital investment decision-making." *Financial Management*, vol. 23, no. 3, pp. 28-37.

Gibbert, Michael. 2006. "Generalizing about uniqueness: An essay on an apparent paradox in the resource-based view." *Journal of Management Inquiry*, vol. 15, no. 2, pp. 124-134.

Gittell, Jody H. 2000. "Organizing work to support relational coordination." *International Journal of Human Resource Management*, vol. 11, no. 3, pp. 517-539.

———. 2001. "Supervisory span, relational coordination and flight departure performance: A reassessment of post-bureaucracy theory." *Organization Science*, vol. 12, no. 4, pp. 467-482.

———. 2003. *The Southwest Airlines Way: Using the Power of Relationships to Achieve High Performance*. New York: McGraw-Hill.

———. 2009. *High Performance Healthcare: Using the Power of Relationships to Achieve Quality, Efficiency and Resilience*. New York: McGraw-Hill.

Gittell, Jody H., Andrew von Nordenflycht, and Thomas A. Kochan. 2004. "Mutual gains or zero sum? Labor relations and firm performance in the airline industry." *Industrial and Labor Relations Review*, vol. 57, no. 2, pp. 163-179.

Gittell, Jody H., Kim Cameron, Sandy Lim, and Victor Rivas. 2006. "Relationships, Layoffs, and Organizational Resilience." *Journal of Applied Behavioral Science*, vol. 42, no. 3, pp. 300-329.

Gittell, Jody H., Rob Seidner, and Julian Wimbush. 2009. "A relational model of how high performance work systems work." *Organization Science*, July 21.

Hackman, J. Richard and Greg R. Oldham. 1976. "Motivation through the design of work: Test of a Theory." *Organizational Behavior and Human Performance*, vol. 16, no. 2, pp. 250–279.

Hitachi Foundation. The Pioneers Employer Initiative. http://www.hitachifoundation.org/our-work/business-and-work-grants-program/initiatives/365-the-pioneer-employers-initiative

Horgan, Justine and Peter Muhlau. 2006. "Human resource systems and employee performance in Ireland and the Netherlands: A test of the complementarity hypothesis." *International Journal of Human Resource Management*, vol. 17, no. 3, pp. 414-439.

Huselid, Mark A. 1995. "The impact of human resource management on turnover, productivity and corporate financial performance." *The Academy of Management Journal*, vol. 38, no. 3, pp. 635-672.

Ichniowski, Casey, Thomas A. Kochan, David Levine, Craig Olsen, and George Strauss. 1996. "What works at work: Overview and assessment." *Industrial Relations,* vol. 35, no. 3, pp. 299-333.

Ichniowski, Casey, Kathryn Shaw, and Giovanna Prennushi. 1997. "The effects of human resource practices on manufacturing performance: A study of steel finishing lines." *American Economic Review*, vol. 87, no. 3, pp. 291-313.

Kochan, Thomas A. 2013. "The American Jobs Crisis and its Implications for the Future of Employment Policy." *Industrial and Labor Relations Review*. Forthcoming.

Kochan, Thomas A. and Saul Rubinstein. 1999. "From quality circles to organizational transformation." In *The Quality Movement and Organization Theory*, eds. Robert E. Cole and W. Richard Scott, 387-398. Thousand Oaks, CA: SAGE Publications, Inc.

Kochan, Thomas A., Adrienne E. Eaton, Robert B. McKersie, and Paul S. Adler. 2009. *Healing Together: The Labor-Management Partnership at Kaiser Permanente*. Ithaca, NY: Cornell University Press.

Kochan, Thomas A., Harry C. Katz, and Robert B. McKersie. 1986. *The Transformation of American Industrial Relations*. New York: McGraw Hill.

Leana, Carrie R. and Frits K. Pil. 2006. "Social capital and organizational performance: Evidence from urban public schools." *Organization Science*, vol. 17, no. 3, pp. 353-366.

Leana, Carrie R. and Harry J. Van Buren. 1999. "Organizational social capital and employment practices." *Academy of Management Review*, vol. 24, no. 3, pp. 538-555.

Levin, David Z. and Rob Cross. 2004. "The strength of weak ties you can trust: The mediating role of trust in effective knowledge transfer." *Management Science*, vol. 50, no. 11, pp. 1477-1490.

Locke, Richard. 2013. *The Promise and Limits of Private Power: Promoting Labor Standards in a Global Economy*. Cambridge: Cambridge University Press. Forthcoming.

MacDuffie, John Paul. 1995. "Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry." *Industrial and Labor Relations Review*, vol. 48, no. 2, pp. 197-221.

MacDuffie, John Paul and Kochan, Thomas A. 1995. "Do U.S. firms invest less in human resources? Training in the world auto industry." *Industrial Relations*, vol. 34, no. 2, pp. 147-168

MacMillan, Ian C., Lauriann Zemann, and P.N. Subbanarasimha. 1987. "Criteria distinguishing successful from unsuccessful ventures in the venture screening process." *Journal of Business Venturing*, vol. 2, no. 2, pp. 123-138.

Mahoney, Thomas A. and Mary R. Watson. 1993. "Evolving modes of workforce governance: An evaluation." In *Employee Representation: Alternatives and Future Directions*, eds. Bruce E. Kaufman and Morris M. Kleiner, 135-168. Madison, WI: Industrial Relations Research Association, University of Wisconsin.

Nahapiet, Janine and Sumantra Ghoshal. 1998. "Social capital, intellectual capital and the organizational advantage." *Academy of Management Review*, vol. 232, no. 2, pp. 242-266.

OECD. 1999. *OECD Employment Outlook 1999: June*. Paris: OECD Publishing.

Osterman, Paul. 1988. *Employment Futures: Reorganization, Dislocation and Public Policy*. New York: Oxford University Press.

———. 1994. "How Common Is Workplace Transformation and How Can We Explain Who Adopts It?" *Industrial and Labor Relations Review*, vol. 47, no. 2, pp. 173-188.

Pil, Frits K. and Carrie R. Leana. 2009. "Applying organizational research to public school reform: The effects of teacher human and social capital on student performance." *The Academy of Management Journal*, vol. 52, no. 6, pp. 1101-1124.

Ramsey, Harvie, Dora Scholarios, and Bill Harley. 2000. "Employees and high-performance work systems: Testing inside the black box." *British Journal of Industrial Relations,* vol. 38, no. 4, pp. 501-532.

Richard, Orlando C. and Nora Brown Johnson. 2004. "High performance work practices and human resource management effectiveness: Substitutes or complements?" *Journal of Business Strategy*, vol. 21, no. 2, pp. 133-148.

Rubinstein, Saul.A. 2006. "Collaborative community and employee representation." In *The Firm as Collaborative Community: Reconstructing Trust in the Knowledge Economy*, eds. Charles Heckscher and Paul S. Adler, 334-352. Oxford: Oxford University Press.

Snell, Scott. A. and James W. Dean. 1992. "Integrated manufacturing and human resource management: A human capital perspective." *The Academy of Management Journal*, vol. 35, no. 3, pp. 467-504.

Ton, Zeynep. 2012. "Why good jobs are good for retailers." *Harvard Business Review*, January-February, vol. 90, no. 1-2, pp. 124-131.

Tsai, Wenpin and Sumantra Ghoshal. 1998. "Social capital and value creation: The role of intrafirm networks." *The Academy of Management Review*, vol. 41, no. 4, pp. 464-476.

Tsui, Anne S., Jone L. Pearce, Lyman V. Porter, and Jennifer P. Hite. 1995. "Choice of employee-organization relationship: Influence of external and internal organizational factors." In *Research in Personnel and Human Resource Management: A Research Annual*, ed. Gerald R. Ferris, vol. 13, pp. 117-151. Greenwich, CT: JAI Press.

U.S. Department of Health. 1973. *Work in America Report of a Special Task Force to the U.S. Department of Health, Education, and Welfare*. Washington, DC: U.S. Government Printing Office.

West, Michael, Carol Borrill, Jeremy Dawson, Judy Scully, Matthew Carter, et al. 2002. "The link between the management of employees and patient mortality in acute hospitals." *International Journal of Human Resource Management*, vol. 13, no. 8, pp. 1299-1311.

Wright, Patrick M., Timothy M. Gardner, and Lisa M. Moynihan. 2006. "Impact of HR practices on the performance of business units." *Human Resource Management Journal*, vol. 13, no. 3, pp. 21-36.

Youndt, Mark A., Scott A. Snell, James W. Dean, Jr., and David P. Lepak. 1996. "Human resource management, manufacturing strategy, and firm performance." *The Academy of Management Journal*, vol. 39, no. 4, pp. 836-866.