



Manufacturing Advantage: Why High-Performance Work Systems Pay Off

Review Author[s]:
William Finlay

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Manufacturing Advantage: Why High-Performance Work Systems Pay Off.

Eileen Appelbaum, Thomas Bailey, Peter Berg, and Arne L. Kalleberg. Ithaca, NY: Cornell University Press, 2000. 259 pp. \$45.00, cloth; \$19.95, paper.

The prominence in the United States over the past three decades of various campaigns to increase the influence that low-level employees have over their work—campaigns that have gone under the names of workplace democracy, the quality-circle movement, total quality management, participatory management, and employee involvement—have been met by skepticism from two quarters. Some observers have questioned whether these programs result in increased efficiency or productivity. Other critics have suggested that these efforts are really a subtle and insidious extension of managerial authority that, in effect, turns workers into supervisors of one another. For the most part, however, the passion of these arguments has not been matched by the quality of the data used to test them. Appelbaum et al.'s book, which assesses the consequences of what they call "high-performance work systems" in three industries and forty plants is, therefore, a timely, valuable, and sorely needed contribution to the debate. Equally important, Appelbaum and her coauthors have taken the trouble to collect data from managers (interviews) and from workers (surveys) in the forty plants, thus allowing them to verify whether managerial claims about, say, participation in self-directed work teams were supported by workers' accounts.

The three industries they chose to study—selected because they illustrate the diversity of employee skills, production processes, and workforce characteristics in American manufacturing—were steel, apparel, and medical electronic instruments and imaging. Data were collected from employees in 14 steel mills (with an average size of 3,754 employees), 16 apparel factories (with an average size of 253), and 10 medical electronic instruments and imaging plants (with an average size of 808). In all, nearly 4,400 employees were surveyed, about half of whom worked in the steel industry and

approximately one-quarter of whom worked in each of the other two industries. It must be noted, as the authors themselves acknowledge, that the companies included in the study were not a random sample of firms in the industries; indeed, their willingness to participate means that it is reasonably probable that they were above-average employers.

Appelbaum et al. define high-performance work systems as work arrangements that give workers the opportunity to participate in substantive decisions, the skills to make this participation meaningful, and the incentives to encourage skills acquisition and workplace participation. They pose two questions: first, what effect do these work systems have on plant performance, and second, what effect do they have on the attitudes and experiences of workers? As the book's subtitle would suggest, and as the authors confirm in the opening chapter, their findings lead them to conclude that high-performance work systems are good for everyone: they boost plant performance and improve the quality of employees' working lives.

Appelbaum et al.'s findings occupy five of the book's eleven chapters. The first of these (chap. 6) summarizes their results in non-technical language, which will certainly be welcome to those readers reluctant to plunge too deeply into the thickets of regression analysis in the chapters that follow. The performance outcomes are striking. In the steel industry, high-performance work systems improve "uptime" (a measure of the amount of time the equipment is in use) by 17 percent. In the sewing industry, high-performance practices reduce "throughput time" (the time it takes for cut pieces of material to be assembled into finished garments) by 94 percent. In the medical industry, the interpretation of performance is not quite as straightforward; nonetheless, the authors report a correlation of .62 between a plant-level measure of workers' opportunity to participate in substantive decisions (obtained by aggregating the responses of all workers in a given plant) and plant profitability.

The performance results are all the more significant because they are accompanied by clear evidence that workers also benefit from high-performance work systems. The authors examine six worker outcomes: employees' earnings, their trust in managers, the extent to which they feel that their jobs are intrinsically rewarding (a three-item scale that measures each worker's sense of whether the job is challenging and requires creativity and knowledge), their organizational commitment, their job satisfaction, and their work-related stress. For four of the variables, the results are consistent across all three industries—high-performance plants pay workers better (even when individual worker characteristics are controlled), increase workers' trust in their managers, make them feel that their jobs are more intrinsically rewarding, and have no impact on workers' stress levels (contrary to the argument of those who claim that high-performance systems are a form of work speed-up). For the other two outcomes, organizational commitment and job satisfaction, high-performance work systems have an indirect effect through trust and intrinsic rewards, increasing organizational commitment in the steel and medical industries and increasing job

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satisfaction in the steel industry. The authors observe that these results indicate that the "introduction of HPWSs leads to win-win outcomes for plants and workers" (p. 115).

It remains for future researchers to determine exactly why high-performance work systems improve plant performance and worker contentment. In their concluding chapter, the authors suggest that high-performance work systems improve plant performance because they elicit greater discretionary effort from workers and because they provide more opportunities for shop-floor learning. These are certainly plausible intervening variables; pinning down what precisely discretionary effort is and how exactly it shapes organizational outcomes would be a worthy extension of this study.

Appelbaum et al. have written a masterly analysis of the impact of high-performance work systems that should be of interest to practitioners and academics alike. It is an exemplary demonstration of the value and power that careful, thoughtful empirical analysis can bring to our understanding of organizational processes.

William Finlay
Department of Sociology
University of Georgia
Athens, GA 30602

Managing the Organizational Melting Pot: Dilemmas of Workplace Diversity.

Pushkala Prasad, Albert J. Mills, Michael Elmes, and Anshuman Prasad, eds. Thousand Oaks, CA: Sage, 1997. 395 pp. \$27.95, paper.

Research on workplace diversity is characterized by a curious contradiction. On one hand, the field has developed an impressive lexicon of clichés that aim at capturing the challenges associated with managing diversity. On the other hand, on the research front, the struggle to nail down the complex dialectics of workplace diversity continues. The editors of *Managing the Organizational Melting Pot* aim at steering away from a minefield of diversity-related clichés while invoking a pantheon of theoretical perspectives that could illuminate future research.

The volume is organized around two themes. The first draws on a wide array of radical postmodernist perspectives to critique existing approaches to diversity management in organizations. In the section devoted to this theme, Oseen and Marsden both draw on Marxist and Foucauldian theory to reexamine organizational processes (Oseen) as well as human resource practices (Marsden) that perpetuate structures of dominance and subordination in organizations. In a similar vein, based on postmodernist feminist theory, Jacques argues that the "common sense of day to day thinking functions to reinforce dominance and marginality" in organizations (p. 81). Cavanaugh and P. Prasad draw on institutional theory (Cavanaugh) and Weber's notion of the Protestant ethic (P.



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Review Author[s]:
Charles Koeber

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certain familial obligations (alimony and child support) cannot be discharged.

One of the more interesting findings concerns the family home. Many bankrupt people are homeowners. In Chapter 7, the authors explain how the powerful meaning of homeownership leads owners to hang on too long to a house that is more an economic liability than an asset. Like good captains, they go down with their houses.

While all five factors play an important role in personal bankruptcy, credit card debt is clearly first among equals. Only the explosion in consumer debt can account for the nearly 400 percent increase in bankruptcy filings since 1985. In the last chapter, the authors put U.S. law in comparative context, noting that European countries offer different (and more robust) social protections against economic risk, and consequently have lower bankruptcy rates. This book greatly increases our understanding of bankruptcy, and draws a connection between bankruptcy and risk that encourages a rethinking of social protection. It is a fine piece of work.

Manufacturing Advantage: Why High-Performance Work Systems Pay Off, by **Eileen Appelbaum, Thomas Bailey, Peter Berg,** and **Arne L. Kalleberg**. Ithaca, NY: Cornell University Press, 2000. 258 pp. \$45.00 cloth. ISBN: 0-8014-3765-2.

CHARLES KOEBER
Wichita State University
chuck.koerber@wichita.edu

For three decades managers, scholars, policymakers, and union activists have argued the nature, extent, and consequences of work transformation. On one side of this largely polarized debate are advocates who believe the redesign of work enhances economic competitiveness of business organizations and creates work that is more rewarding to workers. However, many opponents view the redesign of work as a sophisticated form of class conflict in which employers combine new forms of work organization with advanced information technologies to reduce labor costs, intensify work, and undermine the collective power of workers.

Unfortunately, more of this debate has been fueled by politics, propaganda, rhetoric,

and anecdotal accounts than by systematic research. In this regard, *Manufacturing Advantage* is a refreshing exception. It reports on a large, complex, and multilevel study of the effects of high performance work systems (HPWS) in three manufacturing industries: steel, apparel, and medical electronic instruments and imaging. According to the authors, HPWS differ from the traditional Taylorist organization of work in that HPWS: (1) provide workers with more control and autonomy over their tasks; (2) enhance communication among workers as well as between workers and managers and experts in other parts of the organization; (3) organize workers into self-directed work teams; (4) involve workers in quality improvement or problem-solving teams; (5) hire or train a highly skilled workforce; (6) provide incentives to workers to motivate them to invest in skills upgrading, exercise discretionary effort, and make decisions that are in the best interest of the employer (pp. 116–24).

The findings of the research offer a resounding endorsement of HPWS practices. High performance work systems increase plant performance. Workers who participate in HPWS experience greater levels of trust and intrinsic rewards. They are more committed to their organizations. Contrary to the view of many critics, HPWS do not increase levels of stress among workers. And, workers in HPWS earn higher wages than do those in traditional forms of work organization. The authors conclude that “Overall, our results suggest that in manufacturing, the introduction of HPWS leads to win-win outcomes for plants and workers” (p. 115).

The strength of the book’s argument rests on its research design that consists of site visits and collections of plant performance data from 40 facilities, as well as interviews with managers and union officials. Especially useful are surveys from a sample of over 4,000 employees (pp. 15–16). Many empirical studies err in that they rely on institutional level data or on interviews with managers to measure effects of HPWS on workers. Conversely, many case studies base their results on only small samples of workers. The authors avoid these methodological problems and are pathbreaking in their incorporation of workers into the analysis of HPWS.

Manufacturing Advantage is well-written and clearly organized. The authors begin by

providing justification for a study of workplaces in manufacturing. In Chapter 1, they emphasize an important yet often overlooked fact—that even in postindustrial society, industry is still vital to the U.S. economy, particularly in terms of productivity growth. Chapter 2 presents a general history of the transformation of work in America and describes the introduction and implementation of HPWS. In three subsequent chapters the authors rely on the results of their case studies to provide overviews of specific market dynamics and work organizations in the steel, apparel, and medical electronics imaging industries. Chapter 6 provides the general results of the research. While the first six chapters of the book are accessible to undergraduates and laypersons, the last five chapters are geared toward those with statistical inclination and training (p. x). Chapter 7 describes the research methods of the study, and subsequent chapters describe the specific effects of HPWS on plant performance, worker outcomes, earnings, and productivity growth.

In spite of the impressive size, scope, and methodology of the research, and the clarity and persuasiveness of the text, the authors' study presents several serious shortcomings. First, they point out that employers who volunteered for the study are perhaps "above average" (p. 20). In other words, their form of HPWS may approximate an ideal type not found in most workplaces. Second, the authors' assertion that a stable macroeconomic environment is necessary to implement successfully the HPWS is, at the very least, ironic and contradictory: Macroeconomic instability (e.g., the unpredictability of global competition) is perhaps the major incentive managers give for redesigning workplaces. Third, the authors acknowledge that the results of their research cannot be generalized to other industrial sectors and it is doubtful that even three so important industries can reflect the situation of the entire manufacturing sector.

Finally, as in most of the literature advocating workplace redesign, the authors never resolve a major contradiction—that HPWS must simultaneously build trust among workers while enabling plants to perform more work with fewer workers. For example, according to the authors, workers must have a vested interest in the long-term well-being

of their organizations. The authors then recite William Ouchi's first lesson of "Theory Z" that states the importance of trust (p. 44). However, on the very next page the authors point out the labor-cost advantages, explaining how HPWS may allow plants to accomplish more work with fewer workers (p. 45). At the end of the book, I was left questioning the honesty of a work system that so effectively builds trust among workers while simultaneously figuring out how to eliminate their jobs. I was also left wondering to what extent short-term improvements in the welfare of workers in HPWS are superseded by long-term effects of job loss.

This contradiction exposes a weakness of the book: It is not equipped to analyze critically the relationship between the contemporary reorganization of work and the structure of the larger economy. It does not consider, for example, if HPWS helps enable the waves of corporate restructuring and downsizing that continue to eliminate the jobs of hundreds of thousands of manufacturing workers, even in companies experiencing strong productivity growth and record profits. The reader senses no potential dark side to HPWS.

Manufacturing Advantage is a well-written celebration of HPWS and a necessary read for all interested in the contemporary transformation of work. The authors are to be congratulated for the impressive research methodology of their study. However, for balance, I recommend the work of David Gordon, Bennett Harrison, Philip Kraft, Kim Moody, Mike Parker and Jane Slaughter, or James Rinehart, all of whom offer more critical analyses of workplace redesign in manufacturing and of the transformation of work in general.

Constructing Boundaries: Jewish and Arab Workers in Mandatory Palestine, by **Deborah S. Bernstein**. Albany: State University of New York Press, 2000. 277 pp. \$71.50 cloth. ISBN: 0-7914-4539-9.

ZEEV ROSENHEK
The Hebrew University of Jerusalem

Constructing Boundaries is an important contribution to the growing body of sociological and historical studies of the Zionist project in Palestine, the basic premise being that "the



Manufacturing Advantage: Why High-Performance Systems Pay Off

Review Author[s]:
Paula B. Voos

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Group Identity, and the Evasion of Politics (2000, Washington, DC: Brookings Institution).

PHILIP STARK

University of California, Berkeley

Manufacturing Advantage: Why High-Performance Systems Pay Off. By Eileen Appelbaum, Thomas Bailey, Peter Berg, and Arne L. Kalleberg. London: ILR Press, 2000. Pp. v, 259. ISBN 0-8014-3765-2. JEL 2000-1037

In discussions of how to maximize the productivity of private enterprise, economists historically focused on how markets encouraged firms to use the cost-minimizing mix of capital and labor for a given level of output. What managers actually did with that combination of capital and labor was the concern of management science, not economics. We simply assumed that management made optimal decisions, or that if they did not in a particular enterprise, that this enterprise would not survive in competition with more efficient firms. In recent years, many economists have begun to look inside the black box of the firm. Some have begun to study (1) how various methods of organizing work, and/or various human resource practices, can affect productivity, and (2) how firms can utilize the input of both managers and non-managerial employees to produce optimal decisions. The spread of high performance work practices—teams, employee involvement, quality initiatives involving shop-floor workers—has explained this new research focus.

Manufacturing Advantage: Why High-Performance Work Systems Pay Off is the result of a collaboration between three economists (Appelbaum, Bailey, and Berg) and one sociologist (Kalleberg). It is written unusually well and is suitable for scholars who need a solid appraisal of what is now known about high performance work systems, for students, and for the thoughtful citizen. It presents high-quality research on the subject of high-performance work systems, productivity, and worker earnings. The authors focus on three industries: apparel, steel, and medical electronic instruments and imaging. Their research method combines both econometric and qualitative analyses.

Appelbaum et al. utilize systems theory as their fundamental perspective. The systems

approach posits that in order to obtain a substantial payoff from high performance work systems, firms must adopt a cluster of coherent practices. These simultaneously (1) allow workers to participate in decisions that alter organizational routines, (2) foster the firm-specific and general skills that are needed for this participation, and (3) create incentive systems that encourage skill acquisition, retention, and participation, including changes to both compensation and employment security policies. Others developed the systems perspective; according to Appelbaum et al. recent research studies continue to validate the systems approach. (On the systems approach, see for instance Casey Ichniowski, Thomas A. Kochan, David Levine, Craig Olson, and George Strauss 1996, "What Works at Work: Overview and Assessment," *Indust. Relat.* 35:3, pp. 299-333).

The steel industry study provides an example of the sophistication of the research reported in this volume. The authors personally collected data from both managers and workers in 48 production lines—including those in rolling mills, electrogalvanizing and regular galvanizing lines, pickle lines, temper mills, and cold-rolling mills. Managers provided monthly data on uptime (the crucial determinant of productivity in the steel industry), work organization, and human resource practices. These included such matters as what percentage of workers received formal training in the previous year, whether or not workers were covered by an employment security agreement, and whether or not they received a quality incentive as part of their pay. Unlike many other researchers, however, the authors did not simply use the managers' evaluation of these matters—they also asked workers about what actually occurred on the job, both the formal and the informal workplace practices. Workers, for instance, were asked whether or not they thought the company would go to great lengths to avoid laying them off if product demand decreased.

Cluster analysis of both worker and manager responses indicated that steel mills fell into four groups: traditional mills, mills emphasizing monetary incentives, mills emphasizing participation, and high performance

mills. The latter group was high on training, participation, employment security, and incentives. Sophisticated econometric analysis indicates that the high performance system raised uptime by 17 percent over the traditional system, whereas participation or incentives alone had intermediate effects on performance.

The analysis of garment manufacturing is similarly rich in institutional detail and similarly careful with regard to data analysis. High performance work in this industry has taken the form of modular sewing systems utilizing teams and team incentives, instead of the old bundle system that extensively individualized tasks and relied on individual piece rates. The authors find that the modular system dramatically reduces throughput time and hence saves on work-in-process inventory costs. Seven of the nine plants studied had cost savings, although on average unit labor costs did not differ between the two systems. On the other hand, six of the nine factories paid higher wages to employees under the modular system.

The data analysis of the medical electronic instrument and imaging system was somewhat less convincing; here the authors rely on correlation analysis. They find high correlations between opportunity to participate scales and plant operating profits, as well as high correlations between participation and workers' perceptions that productivity and quality are high. The institutional detail is also less rich and intellectually satisfying.

The three industries differ substantially in terms of capital intensity, competitive position, skill level of employees, nature of the production process, and unionization. Hence, the book's conclusion that high performance work systems raise productivity and worker pay is likely to apply to many other manufacturing, and even service, industries.

PAULA B. VOOS

Rutgers University

Immigration and Opportunity: Race, Ethnicity, and Employment in the United States. Edited by Frank D. Bean and Stephanie Bell-Rose. New York: Russell Sage Foundation, 1999. Pp. x, 425. \$39.95. ISBN 0-87154-123-8.

JEL 2000-1044

This book is concerned with the nexus between immigration and race/ethnicity in the late twentieth-century United States. The focus is on the impact of post-WWII immigration, and in particular post-1965 immigration, on the economic status of U.S.-born African Americans. The primary issues of concern are the labor market and demographic impacts. This volume is intended to complement an earlier volume edited by Daniel Hamermesh and Frank Bean (1998, *Help or Hindrance? The Economic Implications of Immigration for African Americans*, NY: Russell Sage Foundation), which focused on the broader economic impacts of immigration on African Americans. (For my review of this book, see the *J. Econ. Lit.* 38:1, pp. 146-48).

Aside from the introduction written by Bean (a sociologist) and Bell-Rose (a lawyer), the eleven substantive essays in this volume have twenty authors and coauthors, including Bean. The participants are sociologists and demographers, with no economist in sight. This distinguishes this volume from the earlier Hamermesh/Bean volume in which the essays were all written by economists. It is curious that a major research effort funded by the Andrew W. Mellon Foundation and published by the Russell Sage Foundation with a primary focus on the "opportunity" (i.e., economic consequences) of immigration would have a dearth of economic analysis. Whether this is a commentary on the sponsors and editors of this volume or on the economics profession is left to the reader to decide. Given the similarity in the topics of the two volumes it would have been useful if they had been integrated across the two disciplines.

One can find no fault with the sociologists/demographers included in this volume. Alba, Bean, Frey, Passel, Portes, Tienda, Waldinger, and Walters, among other senior scholars, have each been major contributors to first-rate research on immigration for several decades. These senior scholars have done well by including doctoral students and junior faculty in this volume, generally as coauthors.

The large increase in immigration, both legal and illegal, in the post-WWII period and the change in the mix of origins from

grate to urban centers in search of new livelihoods.

An important chapter of the book deals with African countries, although its author does not focus on any particular one, and possibly over generalizes at times. Many of these countries, like their Latin American counterparts, adopted import-substituting industrial strategies as they became independent during the post-World War II period. However, the development of their internal markets was thwarted by low incomes, a factor which was evidently aggravated by government exploitation of peasantry to accumulate the capital needed for the strategy. The need to import raw materials also eventually caused indebtedness to rise, such that up to 50 percent of export earnings had (and has) to be used to pay off debt. Agriculture was neglected; taxes on agricultural products have constituted up to 70 percent of peasants' revenue, collected by state commodity boards, which then presumably guided (all or part of) the proceeds to industrialization and infrastructure schemes. A result has been increased rural-urban migration, which contributes to employment problems and deterioration of urban centers.

However, the author notes that tax cuts instituted in more recent years in some African countries, and ending the practice of farm product sales to commodity boards, has helped expand rural self-employment, as have devaluations that made these products competitive with cheap imports.

Yet the economic development of African countries remains stymied by the large military expenditures and bureaucracies of their governments, often at the expense of adequate infrastructure. The needs for reform evidently cannot be met by economic liberalization alone; the reform of governance itself remains the problem.

The book is quite instructive about the relationship of economic liberalization and labor markets. But considering

the book's scope of vast human problems implicit in its discussions, it is surprising that the editors fail to present a concluding essay that comes to grips with these problems more broadly. The employment problem, once discussed only within the frame of the industrial countries, has widened to global scope. Can economic liberalization resolve it? The book's message does not allow much optimism about the answer. One misses some further, deeper probing of this question.

—Horst Brand

Economist,
formerly with the
Bureau of Labor Statistics

High performance systems

Manufacturing Advantage: Why High Performance Work Systems Pay Off.

By Eileen Applebaum, Thomas Bailey, Peter Berg, and Arne Kalleberg. Ithaca, NY, Cornell University Press, 2000, 259 pp. \$45, cloth; \$19.95, paper.

Manufacturing Advantage is a timely book from the Economic Policy Institute that focuses on the competitiveness of manufacturing industries in the United States. It attempts to answer the question of how to transform "old economy" manufacturing industries to take advantage of "new economy" concepts, like digitization, and in the process become more efficient, which is paramount to the ability of many of these industries to gain competitive advantage.

Eileen Applebaum, Thomas Bailey, Peter Berg, and Arne L. Kalleberg examine the role of high performance work systems in helping to transform "old economy" manufacturing firms to become more technologically savvy and meet the ever-changing needs of the marketplace. High performance work systems are defined as workplace prac-

tices that incorporate worker involvement in frontline decisions and range from participation in production and quality management teams to employee incentive and reward schemes. The book is beneficial because changing workplace practices in the apparel, steel, and medical-instrument industries are meticulously examined. In addition, the authors provide empirical evidence of the effect of these workplace practices on reducing costs and improving plant performance.

Chapter 2 begins with a useful discussion of the historical origins of workplace practices beginning with the Taylorist or "assembly line" theory of mass production, which emphasized quantity over quality and hierarchy of workers. As the emphasis in the marketplace shifted from quantity to quality, high performance work systems evolved as a management style suited to address this need.

The next three chapters provide an informative and in-depth analysis of three very different industries in the manufacturing sector, as well as the role of high performance work systems in changing the competitive advantage in each of these industries. These chapters provide the crux of the industry analysis and give a clear understanding of the efficacy of high performance work systems in different industry types. In chapter 3, the analysis focuses on the capital-intensive steel industry. This chapter details the transformation of an industry on the brink of collapse to one that is now the most efficient in the world. It also provides a perfect example of the effects of the Japanese high performance work systems and inter-industry technology. Consequently, the steel industry not only completely digitized their production process, but also adopted new work system practices.

Chapter 4 discusses the case of the apparel industry, which is very labor-intensive and operates under different dynamics than the more capital-intensive steel industry. Changes in retailer

demands put pressure on apparel producers to change their production methods and introduce new work systems. Producers changed from a bundle system, emphasizing quantity, to a modular system that focuses more on quality and customer service. The modular system is more flexible and, unlike the bundle system, can adapt to frequently changing styles. Additionally, each member in the bundle system monitors the quality of the team, which eliminates the need for quality inspectors.

Chapter 5 discusses the highly technological medical instruments industry, which operates with a significantly higher proportion of skilled employees than either the steel or apparel industry. This industry is very material-intensive, and labor is only a small percentage of production costs. Competitive advantage in this industry is based on responsive design and engineering to adhere to changing U.S. regulatory standards. Thus the firm's ability to understand client needs and quickly produce new technological devices is essential to competitive advantage. High performance work systems helped smooth this flow and increase productivity with the introduction of problem-solving teams, developing standards to increase the communication between engineers and managers, as well as the incorporation of the just-in-time inventory system.

The remaining chapters are meaty with details of the data and empirical analysis. Though these chapters provide much of the empirical evidence on

high performance work systems, non-laymen readers will not lose much of the book's substance by skimming these sections.

In chapter 6, the authors use worker surveys to develop "opportunities to participate in decisions that matter" as one work system measure. The authors estimate the effect of this variable on plant performance, worker satisfaction, worker stress, and wages in the three industries. They find positive effects of the opportunity to participate on performance in all three industries, no effects on worker stress or improvement in wages, and varied effects on worker satisfaction. However, when broken down by industry, some effects vary based on employee skill level.

In chapter 7, there is a technical discussion of the data used in the analysis, while chapter 8 presents further detail of the effects of high performance work systems on plant performance. The effect of these new work systems from the workers' perspective is analyzed in chapter 9. This is an interesting chapter, as the authors find that high performance work systems are successful in increasing worker levels of organizational commitment and job satisfaction.

Along those same lines, chapter 10 investigates the extent to which high performance work systems financially benefit workers. High performance work system employees are expected to be able to understand and carry out more functions than workers in traditional production systems, resulting in higher

wage expectations. The authors find this scenario to be the case in all three industries. For example, in the apparel industry, team managers often provide group incentives and raise the base wage to promote a positive team attitude.

Chapter 11 provides the book's noteworthy conclusion, which serves an argument for employing higher-wage U.S. workers. High performance work systems are shown to increase total factor productivity and create surplus economic rents, part of which can be used to justify higher wages. The authors note that the real payoff to high performance work systems is on the revenue side—performance improvements that increase sales and profits. In addition, economic gains to plants adopting high performance work systems result in decreases in the number of nonproduction workers, inventory and inventory costs, scrap and waste, and the amount of space required for production.

In summation, in light of low-wage labor in other countries that have forced many U.S. manufacturing production facilities abroad, *Manufacturing Advantage* provides strong evidence for managers and unions that ultimately hope that high performance work systems will allow them to remain competitive while employing U.S. workers.

—Marva E. Corley

Office of Productivity
and Technology,
Bureau of Labor Statistics

Untidy Gender is a rich mosaic of observations of a group of Turkish women's lives, relationships, and daily negotiations of the structures of gender and social class. Ozyegin's integration of issues of family, social class, work (paid and unpaid), gender, modernity, and globalization are fascinating, competent, and insightful. This book offers rich rewards to scholars working in these areas and to teachers, particularly at the graduate level.

—Karen Campbell
Vanderbilt University
—Angela Hattery
Wake Forest University
—Ivy Kennelly
George Washington University
—Robin Leidner
University of Pennsylvania
—Patricia Martin
Florida State University

Editor's Note: *The above is a composite review based on an "Author Meets Critics" session at the Southern Sociological Society meeting, April 2002, in Baltimore. Patricia Martin graciously agreed to shape the comments of the four critics into a cohesive review, and Sandy Smith (a sociology graduate student at Vanderbilt) did final editing.*

Manufacturing Advantage: Why High-Performance Work Systems Pay Off, by Eileen Appelbaum, Thomas Bailey, Arne L. Kalleberg, and Peter Berg. Ithaca, NY: Economic Policy Institute/Cornell University Press, 2000, 259 pp. \$47.50 (cloth), \$19.95 (paper).

DOI: 10.1177/073088802237562

Manufacturing Advantage is an exquisite example of a well-designed and thoroughly executed inquiry into what the authors call "high-performance work systems" (HPWS). Through a rigorous statistical analysis of survey data integrated with interviews with managers and employees, the authors lay out one of the most in-depth examinations to date of the forces and consequences of HPWS. By selecting three very different industries, the authors are able to dissect the impact of high-performance work organizations, taking external and technological factors into account. Their descriptive industry analyses of steel, apparel, and medical equipment are outstanding case studies, providing a rich historical and macroeconomic picture of forces driving the evolution of HPWS within each industry. The layout of the book also provides a ready text for both lay and academic audiences—chapters 1 through 6 provide the

meat of the argument, leaving chapters 7 through 10 for empirical findings that delve deeply into the statistics behind the conclusions.

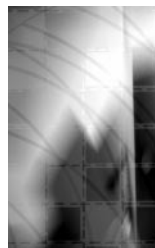
The authors are obviously biased toward HPWS but objectively investigate HPWS impact on both organizational performance and worker outcomes. They conclude that HPWS do have positive effects on both but also recognize that HPWS alone will do little to curb the continued movement of manufacturing to low-wage countries. They also point out the differences in perspective between managers and workers and use those views to explore both the presence (or absence) of formal HPWS practices as well as the extent to which workers participate in a practice.

Although the study is technically sound, there is one problem. The authors combine apples and oranges in their definition of HPWS. Their definition of HPWS is four-part: (a) worker autonomy and control over decisions affecting work tasks; (b) communications between workers and their peers, managers, and support experts; (c) work in self-directed work teams; and (d) participation in off-line problem-solving or quality-improvement teams. Granted, all four are critical components for providing an opportunity to participate and, as the authors demonstrate, are practices that tend to bundle together. What they miss is an important distinction between self-directed work teams and lean manufacturing teams—both of which they include as HPWS.

The authors do an excellent job of describing the characteristics of self-directed work team systems, that is, workers trained and expected to do a variety of horizontal and vertical tasks, fewer levels of supervision, and so on. But they also write about the use of lean manufacturing work organizations and refer to those as HPWS. Granted, many organizations have introduced both self-directed teams and lean manufacturing practices, but the latter involves a much more limited degree of participation. Generally speaking, participation in lean production systems is limited to off-line teams. In addition, lean manufacturing plants, especially those mimicking the Toyota Production System, make no attempt to reduce levels of the hierarchy. Hence, task variety is primarily horizontal, or what has traditionally been called *job enlargement*, not *job enrichment*.

Lean manufacturing practices reduce buffer inventories, which is the opposite of what early researchers of autonomy recommended as a vehicle to decouple groups to provide control over one's work pace. Reduction of inventory, especially in labor-intensive operations such as apparel manufacturing, has a negative impact on opportunities to participate. This may well be the reason that the researchers found a negative impact of teams on worker satisfaction and commitment in the apparel industry. This effect is not typically present in capital-intensive processes, such as steel and medical equipment, because what is coupled is equipment, not people. Hence, distinguishing between self-directed work teams, off-line teams, and lean manufacturing practices would have strengthened the analysis. Despite this shortcoming, the book is an elegant inquiry and should be required reading for all scholars who teach or study human resources and workplace practices.

—Janice A. Klein
MIT Sloan School of Management



Workers, unions and the high performance workplace

■ **Andy Danford**

University of the West of England, UK

Eileen Appelbaum, Thomas Bailey, Peter Berg and Arne L. Kalleberg

Manufacturing Advantage: Why High Performance Work Systems Pay Off

Ithaca and London: Cornell University Press, 2000, paperback £19.95, 259 pp.

Gregor Murray, Jacques Bélanger, Anthony Giles and Paul-André Lapointe (eds)

Work and Employment Relations in the High-Performance Workplace

London and New York: Continuum, 2002, paperback £19.99, 244 pp.

The high performance workplace (HPW) is the latest derivative of the lean production model that, like such predecessors as the ‘high commitment’ organization or ‘world class manufacturing’, is supposed to encapsulate current shifts in the organization of the labour process and employment relations. Whether it is a term that will stay with us or fade away as a result of the ever mutating business and management discourse remains to be seen. For the moment it has become a salient topic for public policy debates on the competitiveness of British industry.

Like human resource management the concept, if not the practice, of the HPW arrived on these shores from the USA and so it is no coincidence that both books in this review have been written by researchers based mostly in North America. Although the different authors have contrasting theoretical positions they share similar definitions of the HPW concept itself. At its core is the notion of a more systematic mobilization of tacit knowledge and worker discretion by managerial practices (high performance work systems) that permit workers to participate in decisions that affect their organizational routines. In the interests of organizational flexibility and efficiency, workers in the HPW should experience more autonomy over job tasks and working methods and enjoy a greater input into managerial decision-making processes through extensive systems of organizational communications. Appelbaum et

al. place more emphasis upon the adoption of clusters of practices that provide workers with the opportunity to participate in work decisions, whilst many of the authors in Murray et al.'s edited collection focus on the centrality of social adhesion in fashioning the HPW employment relationship.

Appelbaum et al.'s monograph provides the more substantial empirical base. Relying primarily on quantitative data collected through structured interviews with workers and managers in three sectors in the USA (steel, apparel and medical electronic instrumentation) the authors use multiple regression analysis to investigate the impact of high performance work systems (HPWS) on organizational performance and a variety of worker outcomes. Some of these workers are employed by firms that adopt HPWS practices and others are employed by non-HPWS firms.

Before summarizing the results of this research it may be instructive to review the authors' theoretical framework. Appelbaum et al. use a conceptual framework that posits a series of links between plant performance, discretionary effort, motivation, skills and worker participation. Underpinning this is a theory of 'systems models' or 'horizontal fit' that emphasizes both internal coherence between work organizational and human resource practices and a fit between the use of 'bundles' of practices and exogenous factors such as market and product flexibility. The authors locate their theoretical position along a continuum of historical patterns of management attempts to secure greater worker output and commitment through non-authoritarian means. Thus, HPWS constitute the latest and most sophisticated pattern of work reform that has direct antecedents in the human relations movement associated with the Hawthorne experiments of the late 1920s and the group relations movement associated with the Tavistock Institute and others in the 1950s.

For this reviewer two problems emerge from this theoretical positioning. First, virtually no space is allowed for critiques of the ideas underpinning the authors' framework or, indeed, for the possibility that the management practices associated with HPWS reflect relations of power, exploitation and control at work. Perhaps if the authors had at least considered the work of Braverman (1974: 140, 141) on this subject then we might have been reminded that the recurrent interest in securing worker cooperation through work reform is rarely concerned with the degradation of men and women in capitalist society but instead with the management problems caused by worker reactions to that degradation. Second, and the corollary of this, is the authors' quite naked managerialist assertions of the need for HPWS clusters to enhance organizational efficiency. For example, they argue that the use of incentive systems, production teams and self-hiring practices can reduce 'individual shirking and free-rider problems' (p. 33). An alternative perspective might consider the right of those who labour under HPWS regimes to take a breather now and again. Similarly, they argue for more rigorous selection practices to capture those with the 'appropriate knowledge, skills and abilities to function effectively in an HPWS' (p. 41). Again, an alternative perspective might ponder the nature of those who get excluded from this recruitment strategy, trade unionists for example? This bias towards HPWS also features in some of the statistical analysis and I shall come to that in a moment.

The presentation of the results of the research – and most of the book is devoted to this – is excellent. Three chapters set up sequential ‘case studies’ of the industrial sectors and each provides contextual material for the quantitative analysis that makes up the remainder of the book. Information on the shifting economic and industrial environments affecting the participating firms is included along with descriptions of the particular HPWS practices utilized. There then follows a concise and very useful chapter that summarizes the main findings from the quantitative research. Some readers might be tempted to stop there but this would be a mistake because these summaries obscure the impressive depth of analysis that follows as well as some of the problems contained in it. The quantitative results are divided into three main chapters that measure the impact of HPWS on organizational performance, worker outcomes and earnings. This review will concentrate on worker outcomes since it is this theme that may be of most interest to readers of *Work, Employment and Society*.

Appelbaum et al. operationalize the core employee dimensions of HPWS by creating a summative scale that they term ‘opportunity to participate’. This comprises survey questions on autonomy in decision-making, membership of self-directed teams, membership of off-line continuous improvement teams and extent of communications with peers, managers and technical experts. A series of multiple regressions of trust, intrinsic rewards, commitment, job satisfaction, job stressors and overall job stress are then presented using ‘opportunity to participate’ and other components of HPWS as independent variables. It must be said that both the description of the statistical method and the systematic presentation of regression models are first class and would be of great interest to students of multivariate analysis as well as researchers in the field. Nevertheless, there are some problems of researcher partiality. One example of this is the impact of the ‘opportunity to participate’ scale. Most of the regressions show that this scale has a significantly positive impact on worker outcomes such as trust and commitment and this result is pivotal to the authors’ core argument. At various points in the book the authors emphasize the centrality to HPWS of two key components of this ‘opportunity to participate’ scale: participation in self-directed teams and continuous improvement groups. However, the regressions also show – and the authors understate this – that membership of such teams has a much smaller impact than the more nebulous ‘autonomy in decision-making’ variable and that in some firms and sectors team membership is likely to have a negative impact on worker outcomes. This leaves us with the unremarkable finding that job autonomy, rather than teamworking, can have a positive impact on workers’ sense of trust, commitment and satisfaction. Another example is that additional job security variables seem to be far more powerful predictors of positive worker outcomes than ‘opportunity to participate’. Yet this is hardly mentioned in the analysis despite emerging research showing that HPWS practices go hand in hand with downsizing and redundancies and thus give rise to job *insecurity* (Biewener, 1997; Osterman, 2000).

Murray et al.’s edited collection provides some substantial theoretical and empirical contributions to the HPW research agenda. It is recommended reading for researchers and students of contemporary work restructuring. The book addresses

three themes that are viewed as critical to an understanding of the conditions that support or constrain the emergence of HPW as a new work paradigm: the shape of the new production model, the implications of the model for workplace relations, and the required institutional configurations that might support the new model. Chapters by different researchers based in Canada provide a mix of theoretical and institutional frameworks whilst Eileen Appelbaum (with a summary of the *Manufacturing Advantage* research) and Paul Edwards et al. provide empirical analysis based on workplace surveys. It is not possible here to summarize all of the material so this review will focus on some of the arguments contained in two key theoretical chapters: Jacques Bélanger, Giles and Murray; and Paul-André Bélanger, Lapointe and Lévesque.

Drawing on the traditions of the Regulation School these different authors claim that we can now discern core principles of an emerging model of production, a model that is significantly different from its Fordist predecessor. It is argued that the institutional stability of the Fordist regime of accumulation gave way to instability, multiple tensions and an eventual crisis of efficiency and worker alienation. In these conditions a 'new paradigm', based on managerial initiative, an unbridled neo-liberalism and new forms of work organization characterized by principles of flexibility and worker empowerment, was essential to overcome the contradictions of the Fordist regime. Of course, we have heard all of this paradigmatic talk before through the debates on 'Japanization', TQM, business process re-engineering and the like. Jacques Belanger et al. claim that what makes the high performance workplace really new is its emphasis upon meaningful job participation (as operationalized by Appelbaum et al.) and social adhesion.

Social adhesion refers to the processes by which employees and their trade unions become committed to organizational objectives, a necessary precondition to the mobilization of tacit knowledge and worker discretion. In considering this the authors raise a number of 'tensions' and 'contradictions' in social adhesion at work which for this reviewer are more profound. For example, the implications of the fundamentally unequal capitalist employment relationship; the transfer of substantial risk to employees in the form of task accretion, employment contract flexibility, and job insecurity; the likelihood of 'disappointed outcomes' for employees; and the erosion of the social base of independent union representation.

The role of trade unions in the high performance workplace is tackled directly by Paul-André Bélanger, Lapointe and Lévesque. These authors argue that assuming a workplace union is in a position of organizational strength then its strategic choice can be reduced to two stark options: either to oppose managerial initiatives and focus on distributive bargaining or to adopt an autonomous, proactive position that involves 'exchanging' employee involvement for the acquisition of new partnership rights. In other words, the union abandons its opposition to direct employee involvement in return for greater union input into managerial decision-making. In supporting the latter option Paul-André Bélanger et al. are quite clear as to what this might mean. That is, weakening shopfloor rules that protect workers and constrain managerial prerogatives; shifting the goal of collective bargaining to work organization and the management of the firm; and developing strong cooperation between

managers and workplace unions. Without providing much supporting evidence the authors claim that in some areas of Canada, and particularly Quebec, industrial relations are now marked by a sharing of power, unions are more concerned with a firm's economic performance and unions and workers are now performing duties that used to be the prerogative of management. Having stated this, the authors then observe that such strategic engagement creates tensions for unions and their traditional role as the independent representatives and defenders of workers. Again, for this reviewer these 'tensions' amount to something more profound than this. For example, 'how can [unions] take part in strategic management without being ensnared in the logic of management, a logic that subordinates social performances (employment, wages and working conditions), and thus workers' interests, to the demands for return on investment and profitability of capital?' (p. 163). Or, for example, 'can real participation that actually has an influence on decision making be compatible with a weakened union "partner"?' (p. 163). Well quite. The authors address these problems by arguing for the development of an alternative logic of management that subordinates the profitability of capital and shareholders' earnings to social performance and workers' interests, and for national and regional institutional arrangements that encourage long-termism and labour-management cooperation in corporate governance. This is a laudable thesis but once again we have heard much of it before, whether in the form of the Swedish model, Modell Deutschland, the Japanese model, or the flexible specialization of the Third Italy (which it particularly resembles). The problem for advocates of HPWS and the new workplace partnership is that although nobody is denying that anything has changed there is no real evidence of a *paradigmatic* break with the capitalist logic of 'Fordist' or 'Taylorist' work techniques. Neither is there any evidence that the dominance of maximizing profits and shareholder value in Western firms is about to give way to anything more favourable to worker interests.

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