Articles

Adaptability of the U.S. Industrial Relations System

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An industrial relations system describes the basic values, laws, institutions, and organizational practices that govern employment relationships. To be effective, an industrial relations system must be well matched to its economic and social environment and able to meet the strategic needs of employers, the workforce, and the larger society. The current state of American industrial relations is assessed against these criteria. The general proposition advanced is that the U.S. system of industrial relations that grew out of the New Deal labor legislation of the 1930s performed effectively from the 1940s through the 1960s. Pressures for change on the system began to build through the 1970s because of changes in the economic and technological environment and in the strategic behavior and needs of the parties. These pressures erupted in the early 1980s to produce a period of experimentation and fundamental change in union-management relations. The critical question in industrial relations today is whether the process of adaptation will be sustained and expanded to cover a broader range of employment relationships.

THE PRESSURES FOR CHANGE THAT HAVE BEEN AFFECTING the American economy over the course of this decade have posed fundamental challenges to many traditional industrial relations and human resource management policies and practices in the United States. Increased price competition in world and domestic markets, greater uncertainty and volatility in currency values and commodity prices, the availability of new information and manufacturing technologies, the shortening of product life cycles, the greater specialization of product markets, and the greater sensitivity to product quality are all demanding changes in industrial relations (*1*). These pressures translate into demands on the U.S. industrial relations system for (i) labor cost moderation and flexibility, (ii) improved productivity, (iii) flexibility in the use of human resources, (iv) a highly motivated and multiskilled labor force, and (v) sustained labor-management cooperation at the workplace.

These are not features that traditional industrial relations policies and practices were designed to produce because the needs of workers, employers, and the broader society were quite different in the 1930s when many of these traditional practices were institutionalized through the passage of the New Deal labor legislation. Instead, the major achievements of the industrial relations system that evolved out of the New Deal included (i) the steady improvement in wages and working conditions through wage standardization and the diffusion of professional human resource management practices, (ii) labor-management peace (though not necessarily cooperation) through collective bargaining procedures, and (iii) a high degree of skill specialization and tight divisions of labor.

This traditional U.S. industrial relations system is currently undergoing a significant transformation in which labor, management, and government policy-makers are searching for ways to meet the requirements of today's economy while still attending to the traditional economic and social aspirations of the American workforce. In this article I summarize current research on the adaptation process and suggest several research and policy issues that are likely to be of critical importance to the future course of the adaptation process.

Evolution of the New Deal Industrial Relations System

To understand the adaptations that have been occurring in union-management relations in recent years we need to first characterize the system of industrial relations that was encouraged and codified by the labor legislation passed in the 1930s as part of the New Deal and the environment in which this system evolved.

The New Deal industrial relations system grew out of the industrial structure of the 1930s and the economic and social crisis of the Great Depression. The labor force of the 1930s was predominantly blue-collar. Manufacturing was the growth sector. Between 1935 and 1950, the majority of new jobs created were in manufacturing. Yet in 1933, 25% of the labor force was unemployed and following a decade-long decline in union membership, labor management conflict was again rising in both frequency and intensity as workers sought more direct means for improving their wages and economic conditions.

A new form of industrial unionism was about to emerge following a bitter internal debate and ultimately a split between old-line craft union leaders of the American Federation of Labor and advocates of industrial unions. The latter argued that the rise of large-scale manufacturing firms employing large numbers of unskilled and semiskilled production workers required equally broad unions that organized all production workers within a firm (*2*). Worker trust and confidence in management that had been built up in the early 1920s by use of paternalistic personnel policies and "welfare capitalism" was broken as the pressures of the Great Depression forced most firms to abandon these policies, cut wages, and lay off large numbers of workers (*3*). Thus, the central labor problems of this period were to resolve labor conflicts and provide workers an institutionalized voice for upgrading their economic status and working conditions.

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It is out of this context that collective bargaining was chosen as the cornerstone of the New Deal model. Collective bargaining was endorsed in the National Labor Relations Act as the preferred mechanism for accommodating the conflicting interests of labor and management and for establishing the terms and conditions of employment. It was premised on the notion that management should be free to make the basic strategic business decisions and workers were to be free to decide whether or not they wanted to be represented by a union for the purposes of negotiating over the impacts of management decisions on wages, hours, and working conditions.

Within this legal framework union membership and collective bargaining expanded to cover approximately 35% of the nonfarm labor force by the mid-1950s (*4*). The influence of collective bargaining on employment conditions was considerably greater than this percentage suggests, however, because the majority of production workers in the key sectors of manufacturing, transportation, communications, mining, and utilities was organized. Many of the innovations in personnel practices achieved through collective bargaining were adopted by nonunion employers as well (*3*). In time, where unions were organized and collective bargaining was established, detailed contracts were negotiated governing individual worker and management rights and responsibilities. This evolved into what has been termed a "job control union model" at the workplace and was enforced through the establishment of formal grievance procedures that provided for binding arbitration of disputes over contract interpretation. Thus in return for the right to bargain about basic working conditions and the right to enforce through grievance arbitration the detailed rules contained in labor contracts, unions left the basic strategic and entrepreneurial decisions to management.

An important feature of this collective bargaining system was that it was able to standardize wages across competitors operating in the same product markets and thereby "took wages out of competition." In some cases, such as in the steel, coal, trucking, construction, and apparel industries, standardization was achieved by negotiating a single contract with a centralized, multiemployer association in each industry or regional product market. In most manufacturing industries, such as automobiles, rubber, or electrical equipment, wage standardization occurred through a more informal pattern bargaining arrangement: that is, a contract would be negotiated with one major employer which would set the pattern to be followed by others in the industry or product market. The adoption in the 1950s of 3 years as the standard duration for contracts with built-in cost-of-living adjustments added further stability to labor management relations.

This form of bargaining produced two important results. First, it stabilized wages and reduced the incentive and the ability of employers to compete on the basis of achieving a low wage advantage vis-à-vis their competitors: that is, employers were forced to adopt business strategies that gained competitive advantage through superior marketing, product or process innovations, or other strategies. Second, it helped to limit strike activity because once the pattern was set or a centralized agreement was reached, the probability of a strike occurring was reduced considerably. And once the contract was signed the grievance procedure helped ensure labor peace for the duration of the agreement.

This system of collective bargaining was well matched to the economic environment of the war and postwar periods and to the strategic needs of management and labor. The economy was expanding and productivity rose at an annual rate of between 2 and 3%, thereby supporting wage increases and some modest improvements in real wages and standards of living. Between 1948 and 1977, for example, productivity in the nonfarm business sector rose at an annual rate of 2.3% whereas real compensation per hour grew at an almost equivalent annual rate of 2.4%. Business achieved the labor peace and certainty it needed to take advantage of expanding domestic and world markets. In time, as management adjusted to the presence of unions, the personnel management and industrial relations function became more professionalized and centralized.

Given the match between the environment, the objectives of the parties, and the institutional structure and process of collective bargaining, it is not surprising that in the 1950s and 1960s much of the professional industrial relations literature emphasized the underlying stability and effectiveness of the U.S. industrial relations system (*5*). This stability proved, however, to be misleading.

Pressures for Change

Since the late 1950s nonunion employment relationships have been expanding to the point where by 1987 union membership covered only about 17% of the nonfarm workforce. Moreover, between 1960 and 1980 a number of large, visible, and growing nonunion firms introduced human resource practices that achieved more flexibility, higher employee morale and satisfaction, and lower labor costs than their unionized competitors (*6*). In time, therefore, these newer nonunion practices began posing significant competitive problems for unionized workplaces and therefore intensified the pace of employment declines in the union sector.

Of equal importance was the gradual increase in the competitive pressures facing U.S. manufacturing firms in general. Imports as a percentage of U.S. manufacturing sales grew from 2.5% in 1958 to 7.2% in 1977 and to 11% by 1984 (*7*). These gradual economic pressures were joined by more abrupt competitive shocks in the airline and trucking industries as they were deregulated in the late 1970s. Thus the 1970s were years in which economic pressures for change were building on industries that were most highly unionized.

Relatively few adjustments to this growing pressure occurred in collective bargaining in the 1970s. A 1977 survey of labor relations practices in a broad cross section of private sector firms found that the basic features of the New Deal system outlined earlier were continuing to function as they had during the previous decades of economic expansion and productivity growth (*8*). Comparability or standardization and pattern bargaining continued to dominate the wage determination process, and few firms reported new initiatives at the workplace to improve productivity, to achieve greater flexibility in the design of jobs or assignment of workers, or to increase worker participation or labor management cooperation. Moreover, because of the high rates of inflation following the oil shock of 1973, wages negotiated under collective bargaining grew more rapidly than nonunion wages during the 1970s. By the end of the 1970s, the differences in wages between union and nonunion workers had grown from the 10 to 15% of the 1950s and 1960s to between 15 and 20% for wages and as much as 30% for fringe benefit costs (*9*). Thus, in the early 1980s, the pressures on collective bargaining reached what proved to be the boiling point.

Changes in Collective Bargaining

The most visible changes in industrial relations in the early 1980s came at the collective bargaining table. Moderation in wage settlements and what has now been termed "concession bargaining" began occurring in some negotiations as early as 1981 and showing up in aggregate wage increase data by 1982 (*10*). First-year wage increases in contract settlements negotiated in 1982 dropped to

3.2% from 9.8% in the previous year. In 1982, 44% of new contract settlements called for a wage freeze or a wage reduction. This trend also continued at an unprecedentedly high rate; between 1982 and 1986, 34% of all major agreements contained a wage freeze or wage reduction in the first contract year. Two-tier wage settlements (establishing a lower entry level wage for new hires without lowering the wages of incumbent workers) also began to be introduced more frequently during this period. Between 1982 and 1986, 8.5% of all new contracts included some type of two-tiered wage structure (*11*).

These changes have sparked an active debate over whether or not wage bargaining has undergone a significant structural shift of lasting consequence or merely reflects either the normal adjustments to the cyclical downturn of the early 1980s or a delayed reaction to the competitive changes in the manufacturing sector (*12*). Our own estimates suggest that wage settlements in manufacturing in the 1980s were between 1 and 3% lower than would have been the case if the basic model of wage determination that emphasized wage standardization and pattern bargaining that dominated collective bargaining in the 1970s had continued in the current decade (*13*). Instead this model broke down because union membership had declined and many of the centralized and pattern bargaining structures were no longer able to achieve uniform wage increases. Thus, the biggest deviations from prior wage settlements occurred in those highly unionized firms and industries that had relied on centralized or strong pattern bargaining in the earlier period. These changes in wage bargaining have continued well beyond the end of the 1981–82 recession. Wage settlements in major bargaining agreements in 1987, for example, averaged 2.2% during the first contract year and 2.1% over the life of the agreement. Moreover, for the fifth year in a row labor costs increased less for unionized workers than for nonunion workers. This also reverses the pattern established in earlier years.

Although wage moderation has been maintained, pressures for change may once again be building up within bargaining relationships, especially among those employee groups that have experienced significant real wage declines since the late 1970s. Real hourly earnings have declined by an average of approximately 8% between 1977 and 1986. Workers subject to wage freezes, two-tier wage structures, and other concessions can be expected to put increased pressure on their union leaders and employers for wage improvements, particularly if the rate of inflation rises in the years ahead. Unions will find it very difficult to respond to these pressures, however, given that there are few settings where collective bargaining covers a sufficient portion of the product market to standardize wages and thereby take wages out of competition. Thus, although collective bargaining has proved to be highly adaptable on the wage side in the early 1980s and the model of wage determination inherited from the prior period has been weakened if not broken, considerable unrest over wages could lie ahead.

Concerns over the possibility of a return to previous wage patterns has spawned a number of proposals for contingent compensation schemes that link wage adjustments to firm, establishment, or work-unit specific movements in profits, productivity, skill attainment, or other indicators of economic performance. In theory, such compensation systems should have desirable macroeconomic features (that is, they should expand employment and restrain inflation) (*14*). Although there appears to be an increase in the number of such plans, no data are available to assess how widely they have diffused, the degree of support they have achieved within the workforce, or their macroeconomic consequences.

Most researchers agree that further diffusion of contingent compensation schemes in union and nonunion settings is not likely in the absence of complementary changes in management practices such as broader sharing of financial information and strategic business plans. These accompanying changes are needed to gain and sustain workers' trust and acceptance of contingent systems (*15*). The strongest advocates of these plans further argue that tax incentives will be required to achieve their widespread acceptance.

There is little doubt, however, that employers will continue to press for various means of linking labor costs to their specific economic circumstances and labor leaders will be under continued pressure to achieve wage settlements that improve their members' real earnings. Thus negotiations over the principles used to guide wage setting are likely to continue to feature prominently in collective bargaining in upcoming years.

Changes in Workplace Industrial Relations

The changes in wage settlements are highly visible; recently industrial relations researchers have begun to recognize the sizable effects that workplace industrial relations features have on productivity and product quality. These models emphasize the importance of cooperation and trust between workers and managers, workers' skills and training, the flexibility in the rules governing assignment and use of the workforce, and the participation and commitment of employees to learning and problem-solving. Achieving these attributes requires overcoming the rigid and arm's length relationships that grew up in some bargaining situations under the job control unionism model described above and produced a self-reinforcing high conflict–low trust cycle of behavior. Low trust between workers and managers produced demands for more detailed contractual rules to limit management discretion or more clearly specify worker obligations. These rules in turn produced more grievances over their interpretation which in turn reinforced the low trust. This pattern of workplace industrial relations has been shown to have significant negative impacts on productivity and product quality in the automobile industry as well as other areas of manufacturing (*16*).

A variety of workplace innovations have been introduced in collective bargaining relationships in the 1980s in an attempt to break the high conflict–low trust cycle. Among the most frequent have been quality circles and other forms of employee involvement designed to give workers larger roles in solving productivity and quality problems associated with their jobs or immediate work environment. The most recent estimates suggest that approximately 25 to 35% of all American firms and over 50% of firms employing 1000 or more workers have experimented with this form of workplace innovation since 1980 (*17*). But these efforts have also proved to be rather fragile. No aggregate data are available, but one study of quality circles estimated an attrition or failure rate of approximately 20% within the first year (*18*). These results are consistent with conclusions in our own case studies and surveys: that is, quality circles or similar forms of worker participation are useful starting points for change but standing alone do not achieve sufficient results to be sustained (*19*). The more meaningful improvements in economic performance are being achieved in settings where quality circles or related forms of employee participation are integrated in much broader changes in manufacturing processes and strategies that emphasize a commitment to quality, flexibility, and continued improvements in productivity. Where combined with these new manufacturing systems employee participation and industrial relations reforms have also been broadened to encompass work organization changes, expanded training, more decentralized decision-making, and in general greater flexibility in the use of human resources. This in turn has produced productivity improvements by reducing the number of supervisors, quality control inspectors, and

other direct (production) and indirect (maintenance and support) workers (*20*).

Effects of new technology. These data also are instructive for assessing the way in which the introduction of new technology affects economic performance. The traditional view or expectation of new technology is that it will increase productivity by reducing labor content. In fact, experience to date shows there is substantial variation in both technology's impact on employment and on productivity (*21*). The hypothesis most often offered to explain this variation is that the most significant economic returns to new technology are found in those settings where its design, introduction, and use are integrated with broader changes in manufacturing strategies and industrial relations practices discussed above (*20*). Again, the best tests of this hypothesis are coming from the domestic automobile industry. Here both case study data and interplant comparisons have failed to show a strong association between investment in new manufacturing technology and improvements in productivity, product quality, or other indicators of economic performance (*22*). Thus, the highest technology plants in the United States today are not the most productive nor do they achieve the best quality. Instead the best performing automobile plants are those that have introduced changes in technology with reforms in workplace industrial relations as part of a shift in manufacturing policies toward just-in-time inventory control, statistical quality control, or other new manufacturing strategies (*20*). The lesson from this industry is, therefore, that when new processes or technology and industrial relations reforms are successfully linked they have a mutually reinforcing effect: the returns to the technology are increased and the new industrial relations practices are more likely to be institutionalized.

Employee characteristics. Before leaving the workplace-level issues, it is important to ask, "How well are American workers adapting to these new industrial relations practices? Are they willing and able to learn new skills, adapt to new work systems, and participate in solving task-related problems?" Survey data consistently report that over 80% of the workforce expresses an interest in gaining greater influence over job-related decisions, and a majority expresses an interest in work systems that allow them to expand and more fully use their skills (*14*). Moreover, there is little evidence that many employees resist the introduction of new technologies or that there is a shortage of employees who possess the ability or willingness to be trained in the use of new information or manufacturing technologies (*21*). But at the same time a substantial and perhaps growing minority of employees do lack the skills and motivation needed to adapt to these new job demands. This will require greater investment in training than has been typical of American firms in the past. The American workforce is highly diverse in skill levels and in motivation and is likely to become even more diverse in the future.

The clearest evidence for this is provided by the long queues of applicants, the low selection ratios (ratio of applicants accepted to applicants reviewed), and in some cases the relatively high turnover rates reported in the start-up phase of new plants that adopt new industrial relations features (*23*). Exact data on selection and training costs are sparse, but our case studies of new plant start-ups suggest these costs range between 10 and 20% of total capital investment. Thus there appears to be an ample supply of new recruits able and willing to adapt to these new features; however, careful selection and intensive training are still required.

A similar diversity in response to new practices appears within workforces in existing employment relationships; however, the evidence suggests that the process of adaptation is slower and more difficult. Successful adaptation requires "unfreezing" past practices and traditions, a process that generally requires considerable perception of a threat to stimulate interest in change (*24*). Thus, managing the adaptation process in existing as opposed to new work sites is a more difficult and long-term process. Overall, however, the evidence suggests that the characteristics of the U.S. workforce do not pose significant barriers to change, provided adequate resources are allocated to meeting employee interests in the adaptation process.

Perhaps the group most frequently cited as a source of resistance to these new practices is first-line supervisors and middle managers. This is not surprising, however, since this is the group whose basic career and employment security interests and organizational status are most threatened as decision-making power is decentralized to lower level employees. Thus, there is almost unanimous agreement among behavioral scientists who have studied the change process that whether or not the career interests and reward systems affecting this group of employees are addressed is a key determinant of the success of the adaptation process (*25*).

Changes in Strategic-Level Practices

Recall that one of the basic principles of the New Deal industrial relations model was that it was "management's job to manage." That is, strategic and other long-term business decisions were to be left to the prerogative of management while workers and their representatives were given the rights only to negotiate over the impacts of these decisions after the fact. This principle has also been challenged in recent years, in part in response to many of the changes in collective bargaining and workplace industrial relations discussed above.

In a large number of cases where employers have pressed for wage concessions or proposed the introduction of contingent compensation plans, they have agreed to share heretofore confidential information on the firm's performance or future prospects and plans, or both. In other cases, workplace reforms have led to a significant broadening of the union's role in organizational governance. For example, the 1987 bargaining agreements signed by the United Auto Workers and Ford and General Motors establish plant-level and corporate-level union management committees to discuss new plant designs, investment plans, "insourcing" or "outsourcing" of component parts, and related product market developments. In return, the union receives employment guarantees for current workers and commits its support to promoting flexibility in work practices, employee participation, and other means of improving quality and productivity at the workplace (*26*).

A broader worker or union role in these types of strategic decisions is likely necessary to sustain workplace innovations. This is because these strategic decisions affect workers' long-term security and therefore either reinforce or destroy trust at the workplace. It is not surprising, therefore, that an increasing number of union leaders are searching for appropriate ways to represent worker interests in strategic decisions before they are made rather than by limiting their role to negotiating over their impacts on worker interests after the fact. This, therefore, promises to be an active area of experimentation, research, and policy debate in future years.

Prospects for Diffusion

Although the general contours of a new industrial relations model have emerged from the experiments of the early 1980s, at present, diffusion of this new model is limited to those union-management relationships that experienced the most severe pressures to change and where a strong union exists that is accepted by the employer as a legitimate partner in managing change. Where the parties did not experience severe pressure or where management opposes a broad

union role or follows a union avoidance policy with respect to new investments or work locations (or both), only selected features of the new model are visible and further adaptation is unlikely. The vast majority of contemporary union-management relationships fall into this latter category. In these settings management efforts to limit the role of union representatives and to resist union efforts to organize its nonunion operations also limit union cooperation and in time undermine the trust required to maintain worker cooperation and flexibility at the workplace. Thus, resolution of this fundamental conflict and tension over the role of unions in society and at the workplace is required if industrial relations reforms based on new forms of labor management cooperation are to continue to diffuse.

Beyond the Union Sector: Human Resource Practices for Unorganized Workers

Continued adaptation within the union sector and those unorganized firms that tend to match (or exceed) union developments is a necessary but far from sufficient condition for human resource practices to contribute to the performance of the U.S. economy. It must be recalled that over 80% of the labor force is not organized. Even within many firms where blue-collar workers are organized, the majority of labor costs come from white-collar, technical, and managerial employees who are not represented in collective bargaining. Considerably less is known about practices in unorganized settings, but there are sufficient indications to suggest that the pressures for change are mounting.

White-collar productivity, for example, has been a bigger problem in the United States in the past decade than blue-collar productivity. Between 1978 and 1985 while real business gross national product grew by 16%, blue-collar employment declined by 1.9 million workers or 6%, and white-collar employment grew by 10 million workers or 21% (*27*). Even more troubling is the fact that white-collar employment grew most rapidly in those service and manufacturing industries that were making the biggest investments in new information technologies (*28*). Output per "information" (white-collar) worker actually declined by 6.6% from 1970 to 1986 whereas output per production worker increased 16.9% during this same period. One of the biggest users of new information technology, the finance, insurance, and real estate sector, performed particularly poorly in the 1980s, with a 9.3% decline in output per information worker and 7.9% for all workers. Although a great deal more careful empirical research needs to be done with these aggregate data, it is clear that new staffing, work organization, and technology management strategies are needed for white-collar workers in general and information workers in particular.

Evidence of a productivity problem is also mounting with respect to engineering, technical, and managerial employees engaged in the design and development of new products and services. The best available data suggest that it takes approximately 40% longer and perhaps as much as 50% more man-hours of engineering time to design a new car in U.S. firms than in Japanese firms (*29*). The reasons for these differences have not yet been carefully documented; the favored hypothesis is that engineering work in the United States is too segmented, specialized, and sequential in nature. Japanese product development processes emphasize the interdependence between design, manufacturing, and marketing functions, make greater use of teams of engineers and manufacturing personnel, and encourage greater cross-functional cooperation and problem-solving before finalization of design decisions (*30*). Japanese engineers are also more broadly trained and work more directly with manufacturing personnel and thereby achieve higher levels of manufacturability in their designs than their U.S. counterparts. Thus, we can expect increasing attention to focus on ways to modify the organization of work and staffing of research and development activities. This is especially likely to occur as new computer-aided design (CAD) systems are purchased and implemented. The one study available to date that has measured the effects of CAD systems on productivity reached a conclusion similar to the studies of the effects of manufacturing technology: CAD technology alone had no direct effects on productivity but had positive indirect effects through its influences on changes in work organization and job design (*31*). The hard question is whether the lessons from the blue-collar environment on the need to integrate consideration for human resource issues into the new technology strategy will be applied in these settings or whether the same overinvestment in hard technology and underinvestment in human resource management adaptations will be repeated as these new engineering system are implemented.

Future Issues: New Jobs and New Labor Force Entrants

Perhaps the most significant long-term challenge to the adaptability of the U.S. industrial relations and human resource system to the future needs of the economy lies in the potential mismatch that is projected between the education and skills demanded in the jobs of the future and the characteristics of future labor force entrants. Between 1987 and 2000 more than 90% of the new entrants into the labor force will be women, minorities, and immigrants (*32*). Members of these groups have been less well prepared and have been less successful in breaking into the occupations that will be growing the fastest in future years. They are more heavily concentrated in jobs and occupations that will grow more slowly or decline in the future. For example, Bureau of Labor Statistics occupational projections show that more than half the new jobs will require more than a high school education and higher levels of language, reasoning, and math skills than are characteristic of the current mix of jobs (*33*).

The implication of these projections is that there will need to be considerable improvements in the education, skill, and occupational attainments of women, minorities, and immigrants both to meet the economy's job requirements and to avoid further inequality in income distribution and employment experiences. This will require expenditure of considerable resources on education, training, and equal employment opportunity and affirmative action strategies. Identifying the appropriate mix of public and private initiatives to accomplish these tasks should be a top priority for researchers and policy-makers in the years ahead.

These examples do not exhaust the range of adaptations needed to reform human resource management practices outside of the unionized sector of the economy. Instead they are presented only to illustrate that what has begun as a transformation of industrial relations practices in selected unionized environments must now be translated into a broader sustained process of adapting human resource policies and practices across all parts of the workforce and the economy. Moreover, they illustrate the point that the lessons learned from the blue-collar manufacturing environment are likely to apply as well to human resource management for other employees.

Conclusions

The fundamental lessons learned from the changes introduced in industrial relations practices in the early 1980s appear to be that

meeting the future needs of the economy will require (i) reducing overspecialization in work organization and job structures, (ii) increasing and sustaining teamwork and cooperation among workers across functional work units and between labor and management, (iii) integrating the introduction of new technology with human resource innovations, (iv) encouraging business strategies that support and reinforce these adaptations in workplace industrial relations, and (v) improving the education, training, and occupational status attainment of women, minorities, and immigrants.

The process of adaptation is well under way among blue-collar workers in manufacturing and the obstacles to its further diffusion are relatively well understood. Overcoming these obstacles will require changes in national labor policy and the endorsement of these new practices by leaders in the labor and management communities. Although further research will support this change process, industrial relations researchers now need to give greater attention to human resource policies and practices governing white-collar, professional, and technical workers in manufacturing and employees at all levels in the service sector.

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