

**HUMAN RESOURCE MANAGEMENT AND BUSINESS LIFE CYCLES:
SOME PRELIMINARY PROPOSITIONS**

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W. P. # 1021-96

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Some Preliminary Propositions

Interest in human resource management has blossomed in recent years at the same time U.S. high technology industries have enjoyed rapid growth. Because many of the most successful and visible high technology firms have earned reputations as innovators in human resource policy and practice, it is understandable why some might confuse the association of high technology and human resource innovation with a cause and effect relationship. The purpose of this paper is to suggest that such a view is superficial because it fails to recognize the basic forces that stimulate and maintain innovative human resource policies and practices. To appreciate the underlying forces we need to develop a more systematic theory of human resource policy. With the help of a stronger theoretical foundation more grounded predictions can be made about human resource management both in the high technology sector and in firms operating in other parts of the economy.

In no other field of the social and behavioral sciences than human resource management has organizational practice, management consulting, prescriptive academic and textbook writing, or teaching so far outstripped theory and hard empirical evidence. The lack of a sound theoretical foundation in the face of a growing demand for information by practitioners has led to the proliferation of popular

literature that focuses on process rather than content issues. For example, managers are constantly bombarded with the obvious and difficult-to-refute advice that effective human resource management policies require human resource planning which, in turn, requires effective integration with an organization's strategic planning processes. If this is true, then we have both theoretical and empirical grounds to predict that high technology firms have very ineffective human resource policies. This is because strategic planning is most difficult to do and least likely to actually determine policies in environments or organizations that are changing rapidly (Mintzberg 1985). A recent study of human resource planning in a sample of high technology firms located in the Boston area concluded, for example, that products, markets, and organizational structures were changing so fast that few firms studied had human resource planning systems that came close to fitting the prescriptive models found in the literature (Wilson 1982). Of course the author has a prescription: these firms need to remedy this deficiency by developing more systematic planning processes linked to their business strategies. The point of this example is not to suggest that the advice about planning is wrong, but to demonstrate the need for a deeper conceptual base to explain and evaluate the practices that are unfolding before jumping to prescriptive statement.

Tasks of a Theory of Human Resource Management

What then should go into a theory of modern human resource

management systems? Although a comprehensive theory and research program will require addressing the variety of questions concerning the antecedents and consequences of human resource management policies (Dyer 1984), here we want to focus on a narrower set of questions, namely what accounts for the development and maintenance of human resource policy innovations that add up to what might be labeled a new human resource management system. We see this as an initial step toward development of a more analytical and testable theory of the substantive content or features of this system, their determinants and dynamics, and ultimately their effects on the goals and interests of the parties to employment relationships. First, then, we need to outline the substantive dimensions of such a comprehensive new system.

Table 10-1 presents several broad dimensions of what our larger research group (see Kochan, McKersie, and Katz 1985) has identified as a new set of comprehensive human resource policies. The list is not meant to be exhaustive. Instead it seeks to focus attention on activities at three levels within the firm: (1) the top level of organizational decision making where the basic beliefs and value premises are formed that guide organizational human resource policies and the business strategies of the firm; (2) the middle or functional tier where human resource staff professionals, line managers, and, where present, trade union leaders traditionally have

Table 10-1
Comparisons of New and Traditional
Human Resource Management Policies

	<u>New System</u>	<u>Traditional System</u>
Strategic Level	<ul style="list-style-type: none"> -Active influence of top executives in human resource management policy development -Human resource management staff participates in key business decisions -Human resource management planning process linked to strategic plans 	<ul style="list-style-type: none"> -Human resource policy recommendations developed by staff and approved by top executives -Personnel or IR policies managed in a defensive or reactive fashion
Functional Level	<ul style="list-style-type: none"> -Contingent compensation practices -Employment stabilization for core employees; flexible contracts for others -Compensation and benefits set at or above labor market median -Promotion from within -Extensive training and career development 	<ul style="list-style-type: none"> -Wage policy driven by external standards -Layoffs used during short-term demand fluctuations -Promotion and training policies are a function of labor market conditions and contractual rules
Workplace	<ul style="list-style-type: none"> -Due process managed through multiple informal and nonbinding communications, appeals and counseling processes -Flexible work organization systems -Skills or knowledge based pay structure -High levels of individual and internal work group participation in task related decisions 	<ul style="list-style-type: none"> -Due process through grievance procedure and binding arbitration -Individual job assignments and rules -Little individual or group participation in task decisions

interacted to establish and administer specific personnel or industrial relations policies; and (3) the workplace level where individuals and work groups interact with supervisors, union representatives, and each other in implementing these policies and experiencing their effects.

This three-tiered framework is drawn from our group's larger effort to reconceptualize the nature of industrial relations systems at the level of the firm (Kochan, McKersie, and Katz, 1985; forthcoming). In that work, we add to the framework parallel levels of policies and practices for labor unions and the government, since these are two additional actors affecting human resource management or industrial relations activities either through direct interactions with the firm or by the threat of potential interactions. Thus, any theory of human resource management should be integrated into a larger model of the industrial relations context or system. This serves as the first central premise of the model developed here.

A second premise of this approach is that there are systematic patterns or interrelationships among the policies and practices that cut across the three levels of human resource management activity. It is this pattern that can be said to constitute a human resource management system. More specifically, these interrelationships define the coherency or lack thereof, of the overall human resource management system. Coherent human resource management systems have

human resource policies that are consistent across all three levels of human resource management activities.

The dimensions of this new human resource management model outlined in Table 10-1 can be summarized briefly. At the highest tier of activity, the policy is generally supported by a strong commitment from the chief executive of the organization to values that are conducive to giving human resource management concerns a high priority in organizational decision making. In much of the popular literature (Peters and Waterman 1982), the chief executive officer's role has been overly idealized and sanctified and taken as the dominant or sole driving force in the development of new policies of managing people. Less attention is given to the deeper question of why has the role of top management values and beliefs surfaced as such a visible and seemingly important causal force at this particular moment in our historical experience. Out of this current "cult of the executive" has arisen a large literature on organizational cultures and their effects on human resource management policies. It is believed that a strong culture initiated and nurtured by the beliefs, values, and actions of the chief executive can filter down throughout the organization and be sustained over time in ways that condition the alternatives considered acceptable or unacceptable in making decisions.

While we believe that the organizational culture literature grossly overstates the centrality of the chief executive, it is also

clear from a good deal of literature on organizational change that the values and the commitment of top decision makers in an organization are critical to the acceptance and nurturing of a comprehensive new policy. Thus, it is not surprising that we see the need for chief executives with values attuned to or committed to a strong role for human resource policy as a key dimension of these policies at the strategic level of decision making within the firm.

A second ingredient at the top level of policy making is the existence of a human resource staff that has an influential role in executive decision making. In recent years there have been growing signs that human resource executives have increased their influence within organizations and that they have been moving into higher levels of executive decision making. A closely related third component at the strategic level is a feature criticized at the outset of this paper, namely, the existence of a human resource planning process that does attempt to link the organization's human resource policies to the business strategies of the firm. In some cases the firm may even adapt its business strategies at the margin to fit its human resource policies.

At the middle tier of the framework, firms following the most innovative human resource policies tend to have compensation and fringe benefit levels that are at or above the median in the labor markets in which they compete. In addition, compensation policies tend to be more contingent in design. That is, salary increases are

more closely tied to the economic performance of the firm and a higher percentage of total employee income may be derived from profit sharing, bonuses, or merit adjustments and differentials.

Staffing policies of firms following the new human resource management model reflect a commitment to employment stability for a core set of workers supported by sets of less secure part-time or temporary employees, subcontractors, or other buffering agents able to absorb fluctuations in product demand. Efforts to avoid layoffs in response to short term fluctuations in product demand for core workers also lead to reliance on work sharing, wage and salary freezes during cyclical downturns, and well developed transfer and retraining systems for redeploying labor during periods of structural shifts in business strategies or product demand. Employment stabilization policies are further supported by a commitment to employee training, development, and career planning, along with a policy of emphasizing promotion from within rather than external recruitment.

At the workplace the policies that support and are most consistent with those described at the functional and strategic levels are ones that maximize the dual objectives of flexibility in the utilization and deployment of workers and a high degree of commitment, loyalty, participation, and motivation on the part of individual employees and workgroups (Walton 1980). These dimensions of work organization and management of individuals are reinforced by

communication programs and due process mechanisms for resolving conflicts involving individual rights, problems, and complaints. More specifically, our research on industrial relations has identified three interrelated dimensions generic to workplace management of human resources (Katz, Kochan, and Weber 1985; Kochan, McKersie, and Katz 1985). The choices made concerning these dimensions largely define the substantive human resource policies at this level of the framework.

The first dimension has to do with the management of conflict and the provision of due process mechanisms at the workplace. In the most innovative organizations, a variety of mechanisms including grievance procedures, ombudsman services, meetings with managers to discuss problems, and other oral and written communications mechanisms are used to achieve this purpose (Aram and Salipante 1981; Balfour 1984; Rowe and Baker 1984). The second dimension involves the rules and principles for organizing work and designing jobs. The work organization system tends to emphasize relatively few job classifications, use of work teams as opposed to individual work assignments, compensation systems that set pay on the basis of skill attained rather than the specific job performed on a given day, and flexible assignment of people to different tasks (Verma 1985). The third dimension focuses on the extent to which the firm attempts to bring individuals into the decision-making process surrounding their job in an effort to both better motivate individuals and to improve

productivity and product quality through more decentralized organizational decision making and communications. The most frequent terms for the processes used to carry out this objective are quality circles, quality of working life programs, employee involvement, or employee participation teams.

While few organizations probably have all of these human resource management practices at these three levels, the policies listed in Table 1 do summarize much of what both the popular and the more analytic literature suggest are characteristic of the most innovative human resource management organizations. Moreover, for our purposes it is important to note that the policies found at the three levels fit together in a coherent fashion. That is, to develop and maintain over time the high level of trust and efficient and flexible work organization systems requires policies at the strategic level which give human resource management considerations a high priority when making business strategy decisions and adjustments. This in turn requires the support of top executive decision makers. Moreover, commitment to policies of employment stabilization requires flexibility in labor costs. Therefore, contingent forms of compensation fit better with an employment stabilization commitment than does a wage system that adjusts to fluctuations in product demand by adjusting the quantity rather than the price of labor. Organizations that attempt to implement a strong set of values of the chief executive, in turn, need to emphasize promotion

from within so that employees can be socialized into accepting the values of the organization. Similarly, promotion from within provides additional reinforcement for a high level of employee commitment to the firm and an acceptance of profit sharing or other contingent forms of compensation.

This set of policies stands in contrast to the more traditional human resource management or industrial relations system that grew up and became institutionalized during an earlier era. This earlier system was based on the principles of scientific management, job control unionism that emerged after the passage of the New Deal labor policies, and the job evaluation and other administrative principles that grew out of the personnel management profession of the 1930s and 1940s. At the strategic level, the traditional model had less integration between strategic business decision makers and the industrial relations or personnel staff. Partly this was due to the need to respond to union pressures. It also reflected the lack of commitment of top executives to the role of unions in the firm and to the collective bargaining process. Instead, unions and collective bargaining principles were something that had to be tolerated because there was no viable strategy for union avoidance. Therefore, industrial relations staff were rewarded for stabilizing labor-management relations and for avoiding uncertainties which might inhibit the attainment of strategic business objectives. Industrial relations and personnel policies and the staff specialists

responsible for them were therefore relegated to defensive or reactive roles rather than active, planning, or policy initiating roles.

At the functional level wages were set in a more externally oriented fashion by emphasizing comparison of wages across competing firms in an industry and in response to changes in aggregate productivity and cost of living. Employment fluctuated more directly with fluctuations in product demand and business conditions. Layoffs were used as the chief mechanism for dealing with short term needs to reduce employment costs, rather than work sharing or contingent or flexible compensation policies.

At the level of the workplace, scientific management and job evaluation principles were incorporated into detailed collective bargaining contracts and personnel policy manuals for nonunion employees. Jobs were divided up along narrow lines with specific wage rates, duties, and individual worker rights associated with each job. Over time, the number of job classifications multiplied and job descriptions narrowed. The major mechanism for assuring due process and conflict resolution under collective bargaining was the grievance procedure with third party arbitration. In nonunion settings, the personnel department was responsible for enforcing uniformity and equity in the day-to-day administration and management of these policies. Less emphasis was given to the management of individuals or bringing individuals into decision making through direct employee participation.

It should be noted that the above description of the traditional industrial relations system is also a very stylized ideal type. A great deal of diversity in personnel and industrial relations policies and practices existed across firms and industries operating under this system. Moreover, the traditional system was not limited to unionized establishments. Indeed, the literature on personnel management from the 1930s through the 1960s consisted largely of the analysis of techniques to implement these same policies in nonunion work settings. During this period, however, new policies tended to first be adopted under collective bargaining and then spilled over to the nonunion sector not only because nonunion firms wanted to remain unorganized, but also because these practices generally fit well with the economic environment of the post 1930s period, the technology of mass production, and the prevailing theories of personnel management.

Determining Forces of Human Resource Management Innovation

A central conclusion of our larger research project on industrial relations is that over the past two decades the new system outlined above has diffused and become institutionalized in a large enough number of organizations that it now serves as a significant competitive threat to firms operating under the traditional system. Because features of the new model have become accepted as the prevailing practice or state-of-the-art management policies, they are now being built into the design of most new organizations (Stinch-

combe 1965; Tolbert and Zucker 1983). At the same time, however, we observe a growing pressure on some of the practices embodied in the new system. Thus, we need to understand both the factors that caused the new system to emerge where it did and those that will influence its future dynamics. Several competing explanations for why new human resource management policies adopted were implied in the above discussion. In this section we will make these more explicit by offering specific propositions relating environmental changes, business strategies, management values, and organizational structures to different dimensions of the new system. Three broad premises guide the choice for the variables and specific causal arguments presented in this section. First, no single causal force or variable dominates or provides a parsimonious explanation for all characteristics of the new system. Thus we need to introduce the role of each of these variables as causal forces. Second, it is the confluence or interaction of these forces working in the same direction that accounts for the emergence of enough of the innovations across the three levels to produce a stable or enduring new human resource management system. Younger or newer high technology firms currently possess many of the necessary values, business strategies, and environmental conditions. This explains why high technology firms tend to exhibit many of the features of this new system.

A third important premise guiding development of the causal forces is that economic pressures to change or abandon some of these human resource management innovations increase as firms, or more precisely business units, move to advanced stages of their business or product life cycles or, for other reasons, face significant and sustained increases in price competition. As price competition increases, the confluence of forces giving rise to the emergence and stability of the new system breaks down and firms experience internal debates among those who argue for maintaining the existing policies and those who propose changes which are believed to be necessary, given the changed market circumstances. The outcome of these internal debates is indeterminant a priori and depends on the outcomes of internal organizational political processes (Mintzberg 1985). What often results is a piecemeal adaptation (Katz and Sabel 1985) that gives rise to internal contradictions or inconsistencies among policies at the different levels of the system (Kochan, McKersie, and Katz 1985). Similar internal contradictions characterize the piecemeal efforts of many older firms operating in cost competitive mature markets as they attempt to adopt only selected features of the new model. We will illustrate the types of internal contradictions that can develop by speculating where the pressures on this new system are likely to be experienced as high technology firms move to advanced stages of their life cycles and by efforts of more mature firms to adopt selected innovations as they

search for new market niches to support growth strategies.

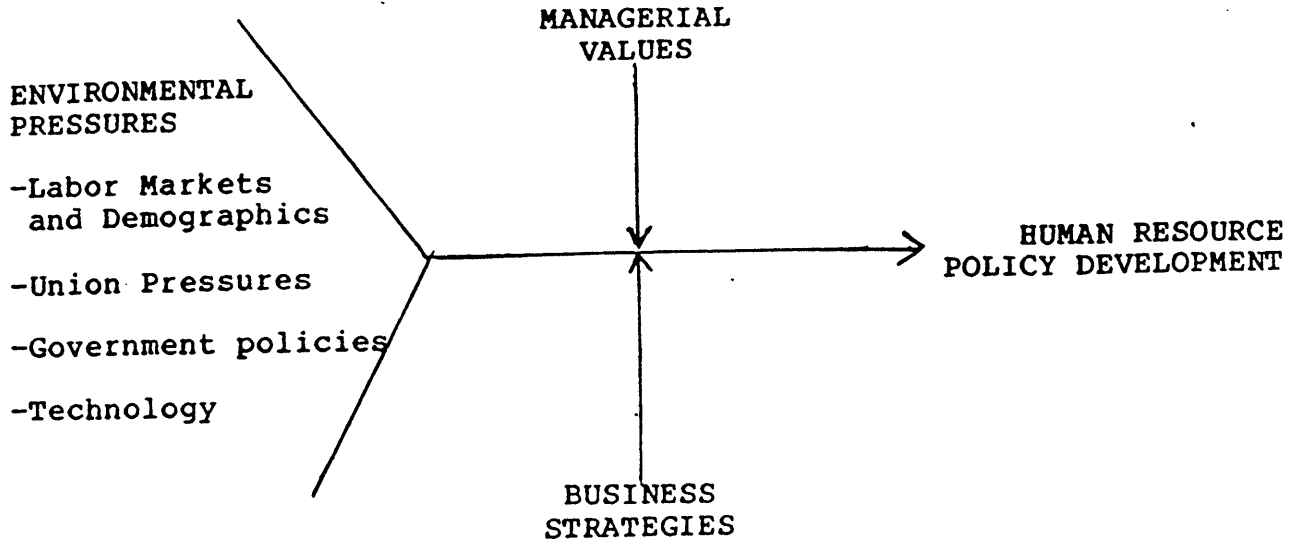
The key variables in this model and their interrelationships are diagrammed in Figure 10-1. The model starts with environmental characteristics of (1) the labor market and the demographics of the workforce, (2) government policies, (3) the threat or presence of unions, and (4) the nature of technology. Business strategies and organizational values play mediating roles in determining how similar environmental pressures influence organizational policies in specific firms. These mediating variables introduce a range of discretion into firm policy making and account for what we have labeled elsewhere a strategic choice model of industrial relations (Kochan and Cappelli 1984; Kochan, McKersie, and Katz 1985). The central arguments of this model, then, are that it is the interaction of these environmental pressures and organizational choices that determine the content of human resource policies, and it is the degree of coherence or compatibility among policies found across the three levels of the system that contributes to its stability.

Environmental Forces

Labor Markets and Demographics. Labor market forces and the demographic characteristics of workers provide a good starting point for the model because they exert the most exogeneous effects of all the variables to be introduced. Two propositions summarize the effects of these variables. First, the tighter the labor markets the greater the human resource management innovation. Second, the

Figure 10 - 1

Figure 10-1



higher the proportion of the firm's labor force employed in high skill, managerial, technical, and professional occupations, the greater the human resource management innovation.

Labor market pressures lie at the heart of both neoclassical economics and organizational efficiency explanations for the rise of internal labor markets and modern personnel practices (Hall 1982; Jacoby, 1985; Baron, Dobbin, and Jennings 1985). While we agree with Jacoby and with Baron et al. that the efficiency view fails as a complete explanation of human resource innovation, tight labor markets clearly serve as an important driving force. Tight labor markets for critical technical skills are especially prevalent and pose major threats to the strategic business objectives of firms in the initial and early growth stages of business life cycles (Kochan and Barrocci 1985; Galbraith 1985; Wils and Dyer 1984). At this early stage the firm, or business unit, often lacks the internal human resources and technical talent needed to transform into marketable products the ideas of the founder or the basic technological breakthrough that gave rise to the new business venture. It must recruit aggressively on the external labor market for technical talent in competition with other organizations that are working on similar new products or technologies. Thus, in the early stages of a business life cycle, recruitment of the best available talent is the critical functional human resource activity, since the ability of the business venture to exploit the growth opportunities avail-

able to it depends on its ability to get its new products to the market quickly (before its competitors). Human resource costs tend to be given lower priority. Furthermore, because time is critical, the firm prefers to recruit externally rather than to develop needed talent internally by investing in training or retraining existing technical staff. This further drives up wage costs, since premiums have to be paid to lure scarce technical talent from other firms. Since turnover to firms is costly, extensive fringe benefit packages and, for high level executives, incentives and bonuses are often used to deepen commitment to the firm.

These effects were observed in a case study we recently conducted of the selection system in a rapidly growing high technology firm engaged in defense contracting and computer software development (see Kochan and Barocci 1985). The firm had several major government contracts in a newly emerging area of defense technology and needed to recruit a large number of electrical engineers and computer professionals with state-of-the-art training in order to meet the performance requirements of these contracts. Furthermore, the anticipated expansion of this area of the Department of Defense budget suggested that future contracts awaited those firms that could demonstrate their technical capabilities at this early stage of market development. Thus, recruitment of technical talent was the most critical human resource management activity in this firm at this point in time. The firm was prepared to devote whatever finan-

cial and staff resources were needed to get this job done well.

While movements in the business cycle can produce tight labor markets at later stages of a business life cycle as well, this example illustrates how at early stages the competition for scarce talent (1) leads executives to give a high priority to attracting the talent needed to achieve business objectives, and (2) creates incentives to shape a "culture" that emphasizes deep commitment of the firm to meeting employee needs in hopes that top management concerns are reciprocated with strong employee commitment and a low turnover rate. Employment stabilization policies may feature prominently in this environment because the growth conditions needed to support such a policy are present and top executives want to demonstrate their concern for employee welfare in visible ways (Dyer, Foltman, and Milkovich 1985). It is also clear in this environment why salary and fringe benefit costs can escalate rapidly for scarce talent and in turn exert pressure to raise salaries and fringe benefits for other employee groups in order to preserve internal equity. Thus, careful control of compensation costs tends to be given lower priority than it will receive at later stages in the life cycle. In these ways the interaction of tight labor markets, business strategies, and management values contributes to the emergence of several dimensions of the new human resource management system.

The gradual but steady growth of demand for white collar, technical, and managerial talent that has been fueled, in part, by the

growth of advanced technology industries since 1960 has contributed to the new system in related ways by encouraging more careful management of individual motivation, satisfaction, and career development and aspirations (Kanter 1977). Responsibility for designing management and personnel systems for these more technical and professional workers was given to those personnel specialists with training in the behavioral sciences.

Thus, the gradual transformation of the workforce and the growing importance of these skills since 1960 laid part of the foundation for the growth in influence of human resource professionals within the firm (Kochan and Cappelli 1984). The dominant values of these professionals focused on fostering environments that nurtured individual worker motivation, creativity, commitment to the objectives of the firm, and job satisfaction. Moreover, emphasis on individual worker needs and strategies for motivation made these professionals early supporters of job enlargement and rotation, theories of motivation that stressed individual participation in task-related decision making, and compensation systems that tied rewards to individual performance (Hulin and Blood 1968; Vroom 1964; Porter and Lawler 1968).

Government Policy. Government policy has played important roles in stimulating, diffusing, and institutionalizing changes in personnel and industrial relations practices at a number of critical stages in the evolution of U.S. industrial relations. The role of

government can be summarized in three propositions. First, the passage and initial vigorous enforcement of new government policies contribute to the development of new human resource policies and practices. Second, the requirements of these regulations strengthen the role of human resource professionals and planning processes within the firm. Third, declining enforcement pressures by government agencies weaken the ability of human resource professionals to use government policy requirements to maintain influence in management decision making.

The passage of the National Labor Relations Act and the role of the War Labor Board during World War II were critical to the development and institutionalization of collective bargaining (Kochan, McKersie, and Katz 1985; Jacoby 1985; Baron et al. 1985). At other times, the absence of an active governmental role has limited diffusion or contributed to the erosion of employer and/or union commitment to new or emerging policies. The end of the War Labor Board's efforts to promote labor-management production committees after World War II, for example, led to the decline of the majority of these committees (Dale 1949). The withdrawal of the financial and consultant resources provided by the National Commission on Productivity and Quality of Work Life in the mid-1970s also led to the atrophy of most of the workplace experiments promoted by this organization (Goodman 1980).

Similarly, the enactment and the changing patterns of enforcement of various employment standards policies after 1960 have served to increase the priority given to these issues, strengthened the power of the human resource staff assigned responsibility for managing organizational adaptation to the policy requirements, and stimulated substantive changes in various recruitment, promotion, and other personnel practices. A Conference Board study concluded, for example, that the passage of equal employment opportunity, safety and health, pension, and other employment regulations served as the most important catalyst for strengthening and professionalizing the emerging human resource management function (Janger 1977). The government reporting and compliance requirements contained in these laws also led to the collection of demographic data and stimulated their use for human resource forecasting (Milkovich and Mahoney 1978).

The passage of new public policies, along with the scarcity of technical and managerial talent during the 1960s and part of the 1970s, forced human resource specialists to give high priority to the pressures arising from these environmental forces. This, in turn, increased the leverage of these staff specialists in managerial decision making (Kochan and Cappelli 1984). By relying on the government requirements, human resource professionals could get top executives and line managers to commit resources and support for policy changes that otherwise would not have occurred because their

actions would not have appeared to be necessary for carrying out business strategies and objectives. Thus, government pressure was most influential as an innovative force in the 1960s because the changes it induced proved to be instrumental in improving organizational performance, given the tight labor markets and growing business opportunities for industries employing large numbers of technical and professional employees.

But just as government pressure increased management commitment to these policies and encouraged centralization of responsibilities for adjusting to them in the hands of human resource professionals, the declining commitment and enforcement activity of the Reagan administration in the 1980s eased the pressures on firms and set the stage for personnel and human resource professionals and policies to turn inward to focus on the values and strategic objectives of their top executives.

Union Pressures. The threat of unionization, as well as the presence of unions in an organization, have historically and currently served as important determinants of innovation in personnel policies at all three levels of the framework presented in Table 10-1. The effects of unions on management policies have been well documented elsewhere (Slichter 1941; Slichter, Healy, and Livernash 1960; Freedman 1979; Foulkes 1980; Kochan 1980; Freeman and Medoff 1984; Kochan, McKersie, and Katz 1985) and therefore we do not need to repeat this evidence here. Instead, what is most relevant here is

an understanding of how the threat effect and the actual effects of unions vary under different competitive conditions or over different stages of a business life cycle. Our central proposition here is that both the threat of unionization and/or the presence of a union leads to the greatest human resource innovations during growth stages of business life cycles.

In early growth stages of a business high priority is attached not only to satisfying individual worker needs in order to reduce turnover, but also to achieving labor peace in order to avoid work stoppages which impede the firm's ability to exploit its market opportunities or allow competitors to gain market share. For the nonunion firm, the threat of unionization increases the risk of a disruption. Because costs are not as tightly controlled or given high priority at this stage, meeting, or in some cases exceeding, union wage and benefit standards serves as an efficient union avoidance strategy. For the unionized firm, the costs of work stoppages are high relative to the costs of meeting union demands for improved wages and benefits and, therefore, unions achieve significant gains through collective bargaining. As businesses mature, however, increased price competition and concern over manufacturing costs lead union firms to more aggressively seek to control labor costs. For nonunion firms, the need to cut labor costs is weighed against the priority attached to union avoidance and the severity of the threat of being organized.

Management Values. The values and ideologies of key executives play important roles in filtering pressures that arise from the environment or from business strategies by giving prominence to those policy options that are consistent with the dominant values, well matched to the strategic needs of the firm, and effective in coping with environmental pressures. Our central proposition here is: the greater the diffusion of strong top management values in the firm, the more coherent the human resource management system. At the extreme, shared values can be used as substitutes for detailed rules or bureaucratic structures and narrow divisions of labor. This is the essence of clan type organizations (Ouchi 1980) or strong organizational cultures (Deal and Kennedy 1982; Peters and Waterman 1982). Since the origin of these values or norms usually can be traced to the values of the organization's founders or early leaders, their effects tend to be especially strong in younger organizations and in those where the early successes of the business continue to be reinforced by continued growth and positive economic performance (Schein 1983). While the effects of values on human resource management could be illustrated in a number of ways, we will focus on the values of business executives toward unions, or more specifically, toward union avoidance, since this will demonstrate an important set of interactions among two key variables in our model.

It is widely recognized that the dominant value system of American managers leads them to prefer to operate without unions (Bendix 1956; Brown and Myers 1957; Kochan 1980; Foulkes 1980). In our research on the growth of the nonunion sector of the American economy since 1960, we found that (1) union avoidance strategies dominated managerial policies toward unionization whenever it was feasible for management to do so, (2) these strategies led to a higher rate of innovation in human resource practices at the workplace that served to reduce the incentives for workers to organize, and (3) the combination of union avoidance strategies and workplace innovations significantly reduced the number of workers organized in firms between the mid-1970s and early 1980s (Kochan, McKersie, and Chalykoff 1985). Specifically, we found that the only firms that did not place a high priority on union avoidance strategies were those that could not easily pursue union avoidance because they were already highly unionized and dependent on maintaining good relations with their current unions. Those firms that did assign a high priority to union avoidance were more likely to establish nonunion grievance procedures, to use autonomous work teams in nonunion establishments, and to use work sharing instead of layoffs with nonunion employees (Chalykoff 1985). Together, the effects of these union avoidance strategies and workplace innovations reduced the likelihood that a new plant would be organized to nearly zero, and, over the six-year time span examined (1977-1983), reduced union mem-

bership in these firms by approximately 8 percent. Thus, top management values can have an extremely strong effect on human resource or industrial relations practices at the workplace and, in turn, affect outcomes such as union membership as well.

Technology. Uncertainty over the effects of technology on work organization is perhaps one of the most hotly debated human resource management issues of the decade. Innovations in microelectronics are producing new products and services and affecting the number of jobs, the nature of the skills required to operate the new technology, and the organization of work in both factories and offices. It is neither possible at this point, nor for our purpose necessary, to predict the net effects of these new technologies on the demand for labor or on skill content. Instead, what is critical here is to recognize that the design of work systems for new technologies is itself a choice or a decision that is influenced by market characteristics, the values of decision makers, and business strategies of the firm (Walton 1980). Our basic proposition concerning technology is that the more investment in new technology that occurs, the more organizations will attempt to introduce flexible work organization designs.

Piore and Sabel (1985) demonstrate, for example, that firms facing uncertain markets and employing flexible manufacturing technologies will seek to design flexible work organization systems of the type characterized earlier as part of the new human resource

management model. Evidence from both the U.S. and European auto firms (Katz 1985; Katz and Sabel 1985) is consistent with this hypothesis. Yet, it is not clear that new technology or market uncertainty are the sole or even the dominant forces leading to more flexible work organization designs. The motivation to lower labor costs by reducing employment and eliminating various restrictive work rules may be equally important factors, especially in mature manufacturing industries such as autos. Moreover, fundamental or complete changes in work organization systems are hard to achieve in established work and organizational settings. Thus, the most flexible work organization systems in the United States, and those reinforced by policies at higher levels of the organization that are consistent with the new model, tend to be found in the newest plants, offices, and firms, and particularly in new greenfield plants that recruit and select entirely new workforces (McKersie 1985; Katz 1985). Whether these attempts are successful depends on the ability to gain the support of the workforce and, where present, the unions representing the workers. Whether the flexibility built into the design of these new work systems atrophies as the employment relationships age will depend on the outcome of the dynamics introduced below.

High Technology Firms and Life Cycle Dynamics

Given the model developed in the preceding sections, it is easy to see why many high technology firms tend to exhibit characteris-

tics of the new human resource management system. They are generally younger firms operating in tight labor markets and developing or growing product markets; they employ high proportions of professional and technical employees; and they are often run by their founders and able to incorporate new technology into new plants and offices. The rapidly changing and uncertain character of product markets creates further incentives to build flexibility and high levels of participation into work organization and management systems. Business strategies depend on research and development and the ability to get new products to market quickly. Moreover, while few of the eligible high technology workers are unionized, the priority placed on union avoidance is quite high. Since 1980, relaxation of government enforcement pressures has allowed human resource management specialists to turn their attention inward to respond to the calls from their profession to link human resource policies to internal business strategies and to help shape and diffuse the culture espoused by top executives throughout the organization. This role is reinforced by the burst of books, articles, conferences, and consulting services that stand ready to assist human resource managers and line executives in measuring, understanding, shaping, or changing their organization's culture.

Thus, the state of all of the environmental and organizational variables in the model presented in Figure 10-1 fit together at this stage in the evolution of high technology industries and firms to

create the confluence of conditions we have hypothesized supports the development and stability of the new human resource management model. Whether this model will remain stable over time depends on the extent to which the values supporting the development of this system withstand the pressures that will be experienced as markets mature and price competition becomes a more important strategic concern, and the extent to which environmental conditions either continue to reinforce or challenge the features of the new system. More specifically, as markets mature or price competition intensifies for other reasons, the need to reduce costs will intensify pressures to: (1) slow the growth in compensation costs; (2) reduce employment, especially for staff, management, and other indirect labor positions, since this is where the bulk of labor costs lie; and reorganize and rationalize production by seeking lower labor cost environments, especially in firms where production technology is relatively routine and volumes are high.

It is not inevitable nor likely, however, that firms will simply revert to the traditional human resource management/industrial relations system when faced with these pressures. Those firms that have the diffused and institutionalized values that gave rise to the new system may respond to these economic pressures by holding to their values and absorbing the transition costs until a new business strategy can be put in place that can again support the system. The growth of various voluntary severance, early retirement, and other

workforce-reducing strategies used by companies determined to avoid layoffs or involuntary termination represents an effort to fashion such transition strategies (Kochan and Barocci 1985).

A case in point is one large high technology firm several of our colleagues have been studying that is facing severe cost competition from overseas and domestic competitors in one of its divisions. At the same time, price competition intensified and demand fell because of a downturn in the business cycle. Rather than resort to layoffs which would have violated the employment stabilization policies and values of the firm, various attrition, interplant and intraplant transfers, early retirement, and voluntary severance programs were offered to employees. A larger workforce than necessary was also carried during the downturn in anticipation of capturing a higher market share when the economy picked up again. Moreover, a new business strategy and accelerated investment in new manufacturing technology were expected to then be in place, which would again stabilize employment. In this example, the organization's values not only overcame the conflict with short-term business strategy pressures but also stimulated the search for a new business strategy that allowed the values to survive.

Summary

The analysis presented in this paper suggests that managerial values and business strategies in the context of specific environmental pressures of the past two decades have been the dominant

determinants of a set of policies and practices that we believe constitute a new human resource management system. The confluence of these environmental and organizational forces and the fact that the more innovative organizations were in the growth stages of their business life cycle provided the internal consistency between human resource policy and practices at the different levels of the firms needed to make them durable. As the pressures of government regulation recede in the current environment, and as the price competition in high technology markets intensifies, pressures to adjust these policies will build to the point where firms will need to choose between their desire to maintain commitment to the complete package of policies that give the new system its internal coherence, and the need to make incremental policy adjustments in order to respond to shifting business strategies. The more incremental adjustments that are made, the greater the potential there is for internal contradictions among the policies to develop and the greater the potential for conflict among organizational participants who are affected by these policy changes.

The layoffs, wage freezes, temporary shutdowns, and permanent job losses that have occurred in many high technology firms as they adapt to a temporary economic downturn in demand for computer related products and the intensifying price competition of maturing product markets illustrate the type of pressures for policy adaptation that can lead to internal contradictions envisioned in our

model. Older high technology firms that were viewed as human resource management innovators in the 1960s and 1970s, such as Polaroid, Eastman Kodak, Xerox, and IBM, also have experienced many of the pressures to adapt to more highly competitive product markets and to refocus their business strategies with the objective of lowering manufacturing costs. The strategic adaptations these firms have made in recent years posed challenges to the staffing, compensation, employment stabilization, and work organization practices they had followed during the rapid growth phases of their businesses. Moreover, each of these firms faces the challenge of managing some business units with attractive growth opportunities and, at the same time, having to cope with high cost operations in other business units that are in more mature and price competitive markets. Thus, these firms and others that face multiple market environments will constantly be facing the decision whether to adapt policies to specific business strategy considerations of different units or maintain an overall set of policies that are consistent with the values and preferences of those who promoted the initial policy innovations and strategies that produced the new model.

The current passive role of the government and the declining threat posed by unions have created a vacuum that allowed management to gain the initiative. At other periods of history, government or labor unions have served as the dominant forces for innovation. It is too early to tell where the initiative will lie in producing the

next round of human resource innovations, but an answer may be found by observing how the various parties or actors in our industrial relations system respond to the internal contradictions that characterize employment relationships moving from one stage of a business life cycle to another.

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