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RESOURCE MANAGEMENT**

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## **A SKILL-BASED APPROACH TO HUMAN RESOURCE MANAGEMENT**

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Skill-based human resource management is a relatively new and underdeveloped approach to strategic human resource management. The skill-based model is developing slowly from the experience of firms that are seeing a new source of competitive advantage. Many companies have adopted practices that are consistent with the new approach, but no firm has embraced it completely and moved away from the job based approach that has been dominant since the development of the bureaucratic model of organizations. We will attempt to clarify the assumptions and principles of this emerging model, and to suggest what types of human resource practices it implies. We will also review its possible advantages and disadvantages. Finally, we will consider the conditions under which the new model may be effective.

The skill-based approach has its roots in the work on skill-based pay systems. These systems reward employees for the range of skills they master rather than for the job they hold at a particular point in time. Skill-based pay currently is one of the most rapidly spreading compensation innovations in the United States (Lawler, Mohrman, and Ledford, 1992). Our research indicates that skill-based pay rarely is enacted as a stand-alone innovation. Rather, it is packaged with a wide range of other innovations. Skill-based pay is found most often in organizations that pay unusually high wages, provide exceptionally high levels of training, and make extensive use of employee involvement practices, such as self-managed teams, open sharing of business information, and various pay innovations (Gupta, Ledford, Jenkins, and Doty, 1992). These are characteristics of the high involvement management model, which is based on design principles emphasizing a high degree of employee participation, teamwork, self-management, mutual trust, and growth and development (Lawler, 1992).

Skill-based pay often is more than just another piece of a high involvement puzzle. Rather, it often acts as a driving force that pushes the organization toward a high involvement approach to management (Ledford, Tyler, and Dixey, 1991). To design and implement the pay system, the

organization first must define clearly the work to be done, and how it should be allocated among individuals and teams. Training must be developed that is closely linked to the blocks of skill rewarded in the pay system. The development of skill certification procedures leads to a reexamination of how skill and performance are designed and measured. Employees may take on more self-management and handle decisions involving job rotation and skill certification. Paying for skills thus can set in motion widespread changes that go well beyond the pay system.

It is a short step from these observations to a broader question. Can a systematic approach to human resource management and organization design be based on the identification of critical organizational skills and a focus on the development of skills among organizational members? We believe that such an approach is possible and that in some situations it can provide a competitive advantage.

### **Skill as an Organizing Principle**

The concept of skill and the capabilities of individuals are basic to human resource practice. It plays an important role in job-centered approaches, top-down, strategic approaches and it is particularly important in the competency based approaches to strategy.

### **Job Descriptions and Skills**

The most common approach to human resource management is based on job descriptions. Needed skills are discovered by analyzing the jobs in the organization. Job evaluations typically rate job value on the basis of skill level as well as other factors. The resulting job descriptions are used for defining jobs and setting pay rates. Pay systems, training, careers, and hiring systems also are built around the job descriptions. Training systems enhance job-related skills that are identified through the job description process. Selection systems hire employees who have the skills needed to perform the jobs available in the organization. Labor contracts in organized settings usually codify these human resource practices and job descriptions in the form of labor contracts.

The advantages and disadvantages of using job description systems to set pay rates have been discussed elsewhere (Lawler, 1990). Here we focus on their limitations as a way of structuring the skill development activities in an organization. Although the approach does take needed employee skills into account, it is not truly a skill-based model. Skill is only one factor in the typical job analysis. Other factors may include level of responsibility, number of subordinates, physical working conditions, and so on. The importance of skill may be diluted by these other factors. For example, employees may engage in behaviors that maximize their job evaluation score (such as collecting subordinates or amassing budgetary authority) but do not enhance their skills and thus their real value to the organization.

Perhaps the most serious problem with job description based human resource management systems lies in their focus on jobs rather than on individuals. The model basically tries to find and shape individuals who fit job descriptions. All too often, these descriptions reflect how organizations have operated in the past and, thus, are not capable of anticipating future needs of the organization. They also fail to focus on an individual's ability to contribute to the organization's success in ways that go beyond their present job and how it is described. Flexibility in skills is not rewarded, and career development and competency have to be managed within the boundaries of job descriptions and the overall job orientation of the human resource management systems. These obvious weaknesses with the traditional job description based systems have led to the development of an approach that focuses on the strategic directions that such an organization is taking.

### **Strategic Human Resource Management**

While most organizations attempt to define the skills they need by examining what exists now in the organization, strategic human resource management takes a different approach. Its advocates argue that human resource management should be linked to the organization's overall strategy to anticipate the kinds of changes in human resource policies and practices that will be needed in the future (for example, Schuler, 1992; Schuler and Jackson, 1987).

Strategic human resource management activities address a wide variety of personnel issues relevant to business strategy. A major focus is the match between the mix of knowledge, skills and abilities needed to successfully implement the organization's strategies and the mix currently available to the organization. Usually, a misalignment leads to the adoption of changes in human resource practices, such as hiring people with needed skills, creating new training programs, making changes in executive succession plans, and so on. For example, an organizational strategy that calls for providing exemplary quality in products or services may lead to hiring quality specialists and trainers, the development of statistical process control training and other quality training programs, increased rewards for high quality and penalties for poor or average quality, promotions that are linked to a track record of improving quality, and so on. In some cases, a strategic human resource analysis may lead to changes in strategy. For example, a high-cost, high margin producer of specialty products may determine that its managerial skills, culture, and human resource systems make it unable to compete effectively in low-margin commodity businesses.

Strategic human resource management is desirable but difficult to do. It is very complex and time-consuming process. As with business planning of other kinds, the process is likely to be full of error. External conditions are likely to change before the plans are implemented, some assumptions made in the planning process are likely to be wrong, many changes will be more difficult to enact than expected, and so on. In addition, the process seems to lead to a certain amount of "motherhood and apple pie" thinking. Regardless of the business strategy, most strategic human resource plans we have seen attempt to encourage employee empowerment, total quality, respect for the individual, control over business costs, innovation, development of employee skills and abilities, rewarding individual performance, and so on. The list of human resource practices that the plan calls for to achieve these objectives is equally long and predictable.

We have not seen any organization develop a top-down approach to strategic human resource planning that is focused primarily on skills. We believe that such an alternative might be useful, however, in sharpening management thinking about what human resource objectives and practices are really important to the business, rather than those that simply look good to managers

and employees. Such an approach might dovetail with current thinking on business strategy concerning "core competencies" and "strategic capabilities."

### **Competency Management**

Considerable attention has been given in recent years to the concepts of "core competencies" (Prahalad and Hamel, 1990; Hamel and Prahalad, 1991) and strategic "capabilities" (Stalk, Evans, and Shulman, 1992). These perspectives argue that the key to competitive success is a strategy for developing and maintaining superiority in critical technical and organizational skills. The core competencies approach focuses on technological and production skills needed to produce a firm's products. For example, much of Sony's success can be attributed to its core competencies in miniaturization and precision manufacturing. These competencies provide competitive advantages in a wide variety of markets that a first glance appear unrelated. The strategic capabilities approach focuses on business processes and the infrastructure needed to gain competitive advantage from them. For example, Wal-Mart's strategic capabilities in distribution and marketing offer important competitive advantages that have very far-reaching implications. Wal-Mart uses innovative methods of inventory management ("cross-docking" to avoid inventory, and its own truck fleet), marketing (everyday low prices replace frequent promotions), information management (the company has its own satellite communication system linking data directly from every point-of-sale to every vendor), and vendor relations (rapid payment of invoices in exchange for linkage to the information system, which permits automatic reordering based on sales).

Focusing on core competencies and strategic capabilities greatly sharpens strategic thinking. Rather than taking a comprehensive look at all aspects of organizational strategy, these approaches invite attention to a smaller part of the overall picture. If the analysis of core competencies and/or strategic capabilities is correct, then time and effort are devoted to the issues that make the most difference in business success: being sure the organization has the right skills to perform as its strategic intent demands.

Strategists who have written about core competencies and strategic capabilities have given relatively little attention to the human resource implications of their approaches. We believe that stressing these concepts permits more focused thinking about the ways human resources must be managed to meet the organization's strategic needs. Rather than stepping into a black hole of comprehensive analysis, managers can focus on how to address of a much smaller set of issues. In particular, the focus is on the skills that the organization needs, and on how these skills must be acquired or developed. Rather than looking at all the skills that may be needed in the future by the organization, managers can look at critical skill sets that are related to core competencies and strategic capabilities. Each human resource subsystem (training, hiring, pay, appraisal, etc.) can then be examined to consider how it supports the strategic thrust.

### **Implications of a Skill-Based Approach**

Instead of the fundamental building block of the human resource management system being the job, in a skill-based approach the basic building core block needs to be the individual. The design task in the organization concerns to develop the model of what skills each individual in the organization needs. The skill mix that is identified for each individual, of course, needs to reflect the core competencies of the organization and the way the organization wishes to operate from a management style point of view. The human resource management subsystems, such as the training system, selection system, the pay system, the appraisal system, and the career development systems need to be aligned with the development of individuals so that the organization ends up with the right skill profile for each individual employee.

### **Work Design**

Perhaps the most fundamental implication of moving to a skill-based approach to management concerns the area of work design. Instead of developing detailed job descriptions, organizations need to develop person descriptions. These person descriptions should indicate the skills that an individual needs to be effective in their particular work area. In many cases, the

immediate assignment of tasks to individuals can be done by their work team, and, thus, there is no permanent assignment of work activities to particular individuals. Instead, teams are assigned responsibility for the performance of a particular work process or dealing with a particular set of customers. The alternative to a team approach is to continue to assign work to individuals. This makes sense where independent tasks can be identified and can be performed by one person.

In many reports, the skill-based approach is most effective in work situations where knowledge work is involved and where individuals can add significant value to the product or service. Its effectiveness can be enhanced by individuals being relatively self-managing. The types of work designs that are established in job enrichment and the self-managing work team approaches are particularly good fit with skill-based approach to human resources management.

### **Base Pay Systems**

Skill-based pay offers an alternative to the familiar job evaluation approach to pay. The skill-based approach focus closely on skills and pays individuals according to the skills they have. Blocks of skills that are needed by the organization, rather than jobs, are the basic units of analysis. In simple skill-based pay systems, employees may be rewarded for learning what in essence are multiple jobs. For example, members of a factory work team may be given a pay increase for each machine they learn to operate as well as for each support job they learn, such as inspection, maintenance, and material handling, complex work systems individuals may be rewarded for learning more abstract collections of skills. In information services organizations, for example, employees may be rewarded for learning hardware-related skills, programming (software) skills, and skills in consulting to line managers, rather for performing a single job within one of these areas.

Skill blocks in skill-based pay systems become analogous to jobs in job-evaluation systems. Skill evaluation, appraisal, certification, pay rates, and training all must be closely tied to skill blocks in order for these systems to work effectively. This insures that the organization is receiving value for its investment in wages, training, and other resources.

## **Pay for Performance**

The key pay for performance issue in any skill-based system concerns how well employees use their skills during a particular time period. In some cases, particularly where individual job enrichment is the preferred approach to job design, this may simply involve looking at how well somebody performed a particular job. More commonly, however, it involves looking at what individuals contributed to the performance of their team. Where this is measurable, it may make sense to tie part of a person's compensation to their individual contribution to their team. This raises some interesting measurement issues, since in a team environment, it may not be obvious what role particular individuals play. One solution is to use peer ratings that appraise performance and tie pay to these ratings.

The alternative to individual pay for performance is to not measure individual performance and to base pay on team performance or organizational business unit performance. Gainsharing plans are a classic example of a pay for performance system that fits well in a team environment. It rewards the entire team based on its performance and does not need individual performance measures.

## **Training and Development**

Training and development are critical to the success of a skill-based human resource management approach. Particularly when individuals are paid for skill acquisition, they place a great emphasis on being able to learn and develop their abilities. This means that the organization has to have a well-developed system for providing training to individuals and that they have the time available to take advantage of the training. An important piece of the training needs to be a skill certification process that assures the individual not only develops the skills but assures that individuals maintain them as long as they are needed and are paid for.

## **Career System**

The career systems in organizations need to reflect the skill-based approach to human resource management. Specifically, rather than being viewed as a set of hierarchical, upward moves, careers need to be conceptualized as involving multiple skill acquisition tracks. For example, a career track might involve someone becoming more and more expert in a limited set of skills while a managerial track might involve the acquisition of a broad understanding of how the organization operates and training in various types of managerial activities.

Although not necessary part of the approach, in most cases it is advisable to put responsibility for career management in the hands of the individual. The organization's task is to make visible the career alternatives and to provide the wherewithal for individuals to follow the particular career tracks. Since a critical element in an individual developing along a career track is the individual's desire, interest and learning capability, it is preferable to have the individual actively involved in career decisions.

### **Selection Process**

Traditional selection activities focus on finding individuals who fit particular job openings. In the skill-based model, selection is best thought of as finding individuals who fit the learning environment that is provided by the organization. In essence, the task is to select individuals for organizational membership, not for a particular job. Thus, the selection process needs to focus on people who can learn and follow the various career tracks that are available in the organization. Attention needs to be given during the process to finding the right number of individuals for the different career tracks.

The selection technology to facilitate this should include a realistic job preview, as well as assessments, of whether individuals are capable of learning the types of skills that are needed by the organization. Of course, in some cases, experienced individuals are needed, and then, a critical element of the selection process should be selecting individuals who can already perform specific skills. Assessment by already existing members of the workforce can be a helpful way of

deciding whether an individual will fit the culture of an organization and whether they have specific job work-relevant skills.

### **Labor Relations**

Traditional labor management relations do not fit well with the skill-based approach. Careful specifications of job boundaries, for example, generally, works in opposition to individuals continuing to grow, learn, and development. Similarly, seniority rights to job openings do not fit unless they take into account the skills that individuals have and are able to develop. Similarly, layoffs that are based on seniority do not fit because individuals with high levels of skills may have low seniority and it is dysfunctional for the organization to lay them off while keeping individuals with fewer skills or with less valued skills.

With a skill-based approach, there still is the need for a union to negotiate pay raises, to assure the availability of learning opportunities for individuals, and to play a role in the assessment of skill acquisition. Thus, although the role of the union needs to change significantly, there is still a very important role for organized labor in a skill-based system. One way to think of the new role of organized labor concerns the whole issue of job security. Historically, in many countries, unions have sought to provide job security through seniority rights and due process rather than through assuring that their members have skills that are highly marketable. In the skill-based approach, the opportunity exists for unions to help individuals create job security through the skills that they have and, in fact, to increase their market value through adding additional skills.

### **Potential Advantages of a Skill-Based Approach**

There is only one compelling reason for adopting a skill-based approach. That is to create a competitive advantage, because it leads the organization to perform better. The writings earlier on organizational competencies partially address why it can provide one. They point out that ultimately the best competitive advantage in global markets is the performance capability of the organization. Critical to developing and maintaining performance capability is the skills of the

individual employees and of course how these skills mesh to support a particular organizational competency and strategic direction. By moving to the skill-based approach, organizations can create systems that proactively support the development of particular kinds of competencies. It need not be left to chance. In a more traditional job based approach, in which organizations simply worry about filling jobs, the skill competencies of individuals and in the organization receive less focus. They cannot be proactively managed the same way they can in a system that is designed to support individuals developing particular competencies.

In addition to helping organizations develop particular technical competencies, the skill-based approach can help an organization develop individuals who are capable of functioning with particular management styles. This is particularly apparent in the case of management styles that emphasize total quality management and employee involvement. These approaches require individuals to have skills that are above and beyond those that are normally required in a command and control management approach. A skill-based approach can directly target the learning of these new skills to help insure that individuals have them. This, in turn, can allow the organization to operate with a management style that can provide a hard-to-duplicate competitive advantage. The competitive advantage comes from the fact that an organization can operate more flexibly with better integration and with less hierarchy and fewer organizational control systems (Lawler, 1992). This type of advantage often is sustainable because it is difficult to duplicate by organizations who maintain a traditional approach to management. Indeed, even if organizations do decide to change, it may take them years before they can adjust their human resource systems to an approach that emphasizes skills and a new management style. The skill-based model may aid greatly in attracting new employees and retaining existing ones. The model offers benefits, such as relatively high wages and opportunities for advancement, that most current and prospective employees consider attractive. These advantages are especially appealing to employees in an era of limited advancement opportunities.

Moreover, the skill-based model should prove an especially strong inducement for the very types of employees that organizations using the model will most want. For example, not all

employees are equally interested in working for organizations with a high involvement culture. Personal success in a skill-based environment requires considerable employee flexibility and initiative. Employees who are oriented toward learning new skills, taking on new responsibilities, and assisting in the management of the business will be the ones who are most attracted to the skill-based model. These are the types of employees who will be best suited to a culture of high involvement.

Professionals may find skill-based systems especially attractive. Northern Telecom, for example, experienced sharply lower turnover when it adopted a skill-based pay plan covering several thousand field technicians and engineers (LeBlanc, 1991). Professionals tend to be keenly interested in increasing their expertise. A skill-based pay system thus pays these employees for what they want to do in the first place. Greater expertise also affords the employee some measure of professional security in an era when fewer and fewer employees can expect to spend their entire career in any one company. The more the employee knows, the greater the employee's chances of having some expertise that prospective employers would value.

Reducing turnover and increasing retention is an advantage to many employers. Replacing employees who have left the organization is costly in most conditions. Studies indicate that replacement costs typically run to the equivalent of six to nine months of the employee's salary, once severance, recruitment, training, and socialization costs are added up. These costs can be minimized only if the labor market is large and the work is so simple that new hires can do it with minimal training. This is not the types of work for which the skill-based model is appropriate. On the other hand, the costs of losing key managers and professional employees--those for whom the skill-based model is more appropriate--often are much greater than the average costs.

### **Potential Pitfalls for a Skill-Based Approach**

There are a number of limitations and potential pitfalls associated with using the skill-based approach. At the individual employee level, it is clearly a high-cost approach. It invests considerable time and money in individuals to make them more valuable. This, in turn, leads to

them being more highly paid. Unless the additional skills that they acquire allow them to add more value to the product than employees in competing firms, this can create a situation where an organization has higher wage costs than their competitors.

Although some work has been done on designing skill-based approaches, in many respects, the technologies involved are immature. Skill-based pay, for example, is relatively well developed, but there are still many unanswered questions about how skill-based pay systems should be designed. The selection of individuals for organizational membership rather than particular job responsibilities is a relatively new idea and practice.

An organization that is moving to a skill-based approach needs to make a partial leap of faith. It is hard to specify, in advance, the cost benefit changes that this approach will produce and, to some extent, the organization has to invest in developing technology to make a skill-based system effective.

Perhaps the biggest obstacle in moving to a skill-based system is the amount of change required. It is clearly much easier to establish the skill-based approach in new organizational settings than it is to change an existing organization. Some of the most successful systems are in new plants that have been designed from the beginning to have employee involvement oriented management styles and to emphasize skills and skill development. In existing organizations, the entire human resource management infrastructure needs to be altered or eliminated. This is clearly a large task and may be resisted by the many employees that are comfortable with traditional job descriptions, job based-pay, and the bureaucratic approach to management. Indeed, many of them may not have the capability of functioning effectively in an organization that emphasizes the skill-based approach. This can lead to a difficult initial period when the approach is installed and, potentially, result in an increased rate of turnover. Once the initial resistance is overcome, however, as was noted earlier, turnover is likely to be lower.

The detailed practices that are used in the skill-based approach need to take into account the nature of the work situation and the nature of the business that the organization is in. For example, it is important to consider the amount of change in the environment in a relatively stable

environment, long-term skill development models can be developed that include stable pay systems, selection systems, and personnel policies. If an organization is in a highly dynamic environment, that frequently calls for the organization to change its behavior, the human resource management system needs to be much different. For example, it doesn't make sense for skills to be paid for on a long-term basis if they quickly become unnecessary or obsolescent. In a dynamic environment, skills may be best acquired through hiring rather than through internal development. Because a one-size-fits-all approach will not work, organizations need to spend time developing approaches that fit their situation, and that can be costly.

### **Organizational Conditions Conducive to a Skill-Based HRM Model**

A variety of conditions favor the use of a skill-based human resource management model. Here, we will consider the most important strategic, structural, and cultural contingencies.

#### **Strategic Conditions**

*Identifiable Core Competencies/Capabilities as Basis for Competition.* The approach we have outlined assumes that the organization is capable of and has performed a solid strategic analysis to identify its core competencies and strategic capabilities. This step must precede the strategic analysis of skills that the organization needs; otherwise, the cart is before the horse. Once the strategic analysis is completed, human resource systems design is straightforward.

The concepts of core competency and strategic capability are still new, and only a relatively small number of firms have undertaken their analysis. Until more firms have done this kind of strategic analysis, the human resource approach we have outlined will not become widespread. However, obstacles lie in the way of greater use of the concepts of core competency and strategic capability. The concepts are still somewhat murky, and the procedures for determining them are vaguely defined at this point. How does a firm such as Sony determine that its core competencies lie in miniaturization rather than other technical competencies that also help describe many of its products? The answer is not obvious.

It is also possible that these concepts are not useful in all firms. In some firms, particularly those that are highly diversified, it is not apparent that the organization has core technical competencies. The analysis of core competencies and strategic capabilities in these firms must be limited to specific business units rather than the corporation as a whole. Conglomerates do have a critical firm-level strategic capability, but it may not be susceptible to development. The ability to successfully manage a large number of diverse businesses seems to be limited to a very few, unusually talented executives, such as former CEOs Harold Geneen at ITT and Harry Gray at United Technologies. If such executive talents are born and not made, then highly diversified firms that attempt to develop these executive abilities will be disappointing.

*Human Resources as a Basis of Competition.* Implicit in the skill-based model of human resource management is the assumption that human resources are an important basis for competition. The greater the extent to which human assets play a key role in the success of the business, the greater the potential payoff from human resource strategies that attempt to systematically address this competitive condition. We believe that the ways that employees are recruited, socialized, trained, organized, and rewarded is critical to competitive success in a wide range of industries and competitive conditions facing contemporary firms.

On the other hand, human resources are not a critical variable in all situations. In some situations, success or failure is governed by market and financial forces that have little to do with employee capabilities. Good human resource practices would not have saved the buggy whip industry a century ago, nor will such practices save the modern counterparts of these firms today. In addition, the skill-based human resource approach we have outlined may be a disadvantage for organizations with highly routine, low-skill technologies. In organizations with deskilled technologies, the practices we have outlined may increase costs dangerously and may generate employee expectations that cannot be met. Fast-food restaurants and manufacturing plants with very simple assembly operations, for example, appear to be poor candidates for the skill-based approach.

## **Structural Conditions**

*Lean Structure.* An unmistakable trend among firms in modern economies is the attempt to become more "lean and mean" in order to reduce costs and increase competitiveness. In the U.S., three-fourths of *Fortune* 1000 firms either downsized or reduced the number of management layers during the 1980s, while two-thirds did both (Lawler, Mohrman, & Ledford, 1992). Repeated downsizing and delayering can create morale problems among employees. One problem is that these actions place great strain on human resource systems that are built around opportunities for advancement through the management ranks. The elimination of management layers has removed hundreds of thousands of management jobs to which lower-level employees once aspired. Downsizing has further decreased advancement opportunities by reducing the chances that more management positions will reopen in the future. The problems are especially acute for professional workers who have high expectations for career advancement. Many employees perceive that they are being asked to do more and more work formerly done by managers, yet their own pay, perquisites, and status have not changed.

An advantage of the skill-based approach is that it is especially well suited to lean organizational structures. The skill-based approach offers a way of addressing many concerns of employees in lean firms. In particular, skill-based practices give employees ways of obtaining financial incentives, career growth, and personal development even without hierarchical advancement. The approach does not necessarily increase job security within the firm, but nevertheless it may help by giving employees a broad repertoire of skills that may make them desirable to a wider range of potential employers if they lose their present jobs.

*Knowledge-Intensive Service Work.* Organizations of the 1990s need better human resource strategies to help manage knowledge workers. Knowledge workers include engineers, scientists, accountants, human resource professionals, information managers, and others. The importance of knowledge workers is obvious in such industries as computers, electronics, biotechnology, and aerospace. However, their importance is not limited to high-tech industries. Wal-Mart in retailing and Federal Express in package delivery illustrate the use of information

technology as a competitive weapon in relatively low tech industries. Knowledge work increasingly is becoming a competitive battlefield for organizations of all kinds.

Knowledge-intensive service work is a favorable condition for the use of the skill-based human resource model. The model avoids many problems presented by standard methods of paying, appraising, developing, and promoting knowledge workers. For example, conventional practices encourage hierarchical advancement rather than skill development as the road to personal success. Skill-based practices encourage continuous development of skills, which make be critical for technological leadership.

We see evidence in a number of companies that the skill-based model is becoming much more common among knowledge workers. For example, there seems to be a trend in the field of information services toward rewarding employees for developing their skills and remaining abreast of current developments in their disciplines. Thousands of IS employees are now managed in this way. Many firms also are rethinking their technical ladder programs for scientists and engineers, in some cases placing all non-management technical employees on such programs and increasing opportunities for developing both broader and deeper skills. Motorola is an example of a high technology firm that use human resource management systems to emphasize the importance of technological leadership. The company has several dozen Vice Presidents who have no management responsibilities; they are awarded a high level of compensation, recognition, and status by virtue of their technical accomplishments.

### **Cultural Conditions**

*High Level of Employee Involvement.* As our earlier discussion about the skill-based model and employee involvement implies, the use of employee involvement practices favors use of the skill-based model of human resource management. This is consistent with prior research indicating that the use of employee involvement practices is correlated with the success of skill-based pay programs (Jenkins et al., 1992). Here we go further, and argue that a high level of

employee involvement may be necessary for the firm to enjoy a competitive advantage from the skill-based model. First, organizations with a high level of employee involvement have more avenues for making use of employees skills and talents. Bureaucratic organizations that restrict employee contributions to a narrowly defined area of job responsibility may be unable to use what employees know to fullest advantage. Second, the skill-based model probably requires continual redefinition and refinement that cannot be managed only by top managers. If employees are involved in managing the human resource system, they are more likely to understanding and be committed to it and are more likely to reflect employee knowledge about what is needed in the organization. Finally, the skill-based model gives employees a broader perspective on the organization than does a model based on specific jobs. Employee involvement in decision making and problem solving is needed to use this broader perspective effectively.

***Learning Organization.*** Many contemporary management thinkers emphasize the importance of developing the "learning organization." This means the capacity of the organization to learn from its own experience and adapt successfully changes in the environment. This perspective has roots in organization theory, the quality movement, and the field of organizational development. The essential argument is that some organizations are better able than others at anticipating the demands of the external environment, improving continuously, changing organizational structures and patterns of behavior to exploit new opportunities, and avoiding dysfunctional learning patterns. Advocates of organizational learning argue that firms which are better at learning will be more effective over time.

Organizations that focus on enhancing organizational learning are fertile soil for the skill-based human resource management approach. The skill-based approach to human resource management can facilitate organizational learning in a number of ways. By increasing the range and depth of employee skills, it can increase the firm's adaptability to changing conditions by permitting it to enter new markets or create new products and services more rapidly. By anticipating the skills that employees will need in the future, the organization's ability to adapt to change is enhanced. By giving employees a broader perspective on the organization, it can

facilitate more effective problem finding and more creative problem solving. Perhaps most important, skills directly relevant to organizational learning can be identified as a key strategic capability, and employees can be rewarded for learning them as part of the overall approach.

### **Conclusions**

We predict that there will be a great increase in use of the skill-based approach to human resource management in the 1990s. We have outlined the strategic, structural, and cultural conditions that favor the use of this model. All of these conditions are becoming more common in modern economies, suggesting that the skill-based model is becoming increasingly relevant. Perhaps the most important factor leading to diffusion will be the more systematic use of this approach by prominent firms. As firms begin to use this approach more systematically, and find competitive advantage as a result, pressure will increase on other firms to make greater use of skill-based practices. Thus, while many questions remain about how best to design and implement the skill-based model, we believe that its future is very bright.

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