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**The Design of Skill-Based Pay Plans**

**CEO Publication  
G 89-15 (158)**

**GERALD E. LEDFORD, JR.  
Center for Effective Organizations**

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## THE DESIGN OF SKILL-BASED PAY PLANS

In skill-based pay (SBP) systems, employees receive compensation for the range, depth, and types of skills they possess. They are paid for the skills they are capable of using, not for the job they are performing at a particular point in time. This is a fundamental departure from traditional job-based pay plans, which pay employees for the jobs they hold (Jenkins & Gupta, 1985; Lawler & Ledford, 1985; Tosi & Tosi, 1986).

Because little research has been conducted on skill-based pay, there are many questions about the forms SBP can take and about the strengths and weaknesses of SBP. One of the most important practical limitations of the available literature is that it offers little information about how to develop SBP plans. This paper attempts to address this shortcoming, by reviewing the key issues and options in designing skill-based pay plans.

We will begin by discussing the nature of skill-based pay systems. Then we will review the use and effects of skill-based pay. We also will consider some of the reasons why designing a SBP plan is more difficult than designing a traditional job-based pay plan. Next, we will offer a framework for understanding skill-based pay design issues. Finally, we will explore in detail the key design issues in SBP and their associated design options. We will begin by considering three types of skill-based pay.

### Types of Skill-Based Pay

Skill-based pay also is called pay for knowledge, pay for skills, and multiskilled compensation. There is no generally accepted distinction among these terms, and we will not make distinctions among them here.

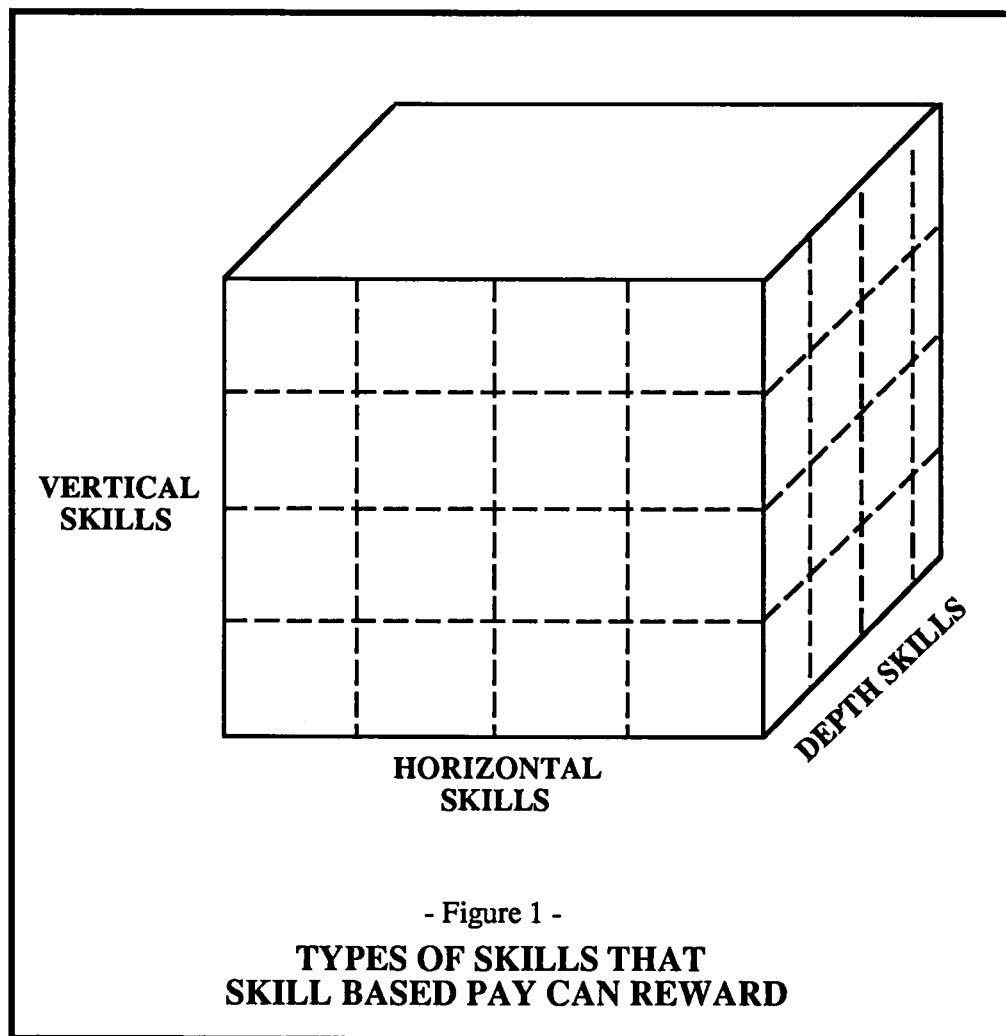
More important to understanding SBP is indicating the types of skills that can be rewarded in a skill-based pay system. Skill-based pay systems can be designed to reward at least three types of skills. These types are depicted as different skill dimensions in Figure 1.

The first dimension is *depth* of skill. That is, employees may be rewarded for knowing more and more about a particular specialized area. Although not usually recognized as such, some depth-based skill-based pay systems have been common for decades. The blue-collar skilled trades system typically provides pay increases for employees who progress through the steps of apprentice, journeyman, and master craftsman in a given trade such as electrician, pipefitter, or millwright. Among white-collar employees, the technical ladder is used in many companies to reward scientists or engineers for becoming more and more expert in their field, even without advancement through different levels in the management hierarchy.

The second dimension is *breadth* of skill (horizontal skills). That is, employees may be rewarded for learning skills that are upstream, downstream, or parallel to their original job in the production or service

delivery process. In most cases, this would include learning other jobs within the employee's work group or department. In other cases, employees may be rewarded for learning every job in a manufacturing plant or other work location. Pay systems that reward breadth of skill are a more recent innovation than depth-based systems. The first manufacturing plants that used such SBP systems were built in the 1960's by Procter & Gamble.

The final dimension is *vertical* skills. These are self-management skills, such as scheduling, leading group problem-solving meetings, training, communicating, and coordinating with other groups. In traditional organizations, these skills are expected of supervisory and managerial employees, not non-exempt employees.



Any particular skill-based pay plan may make use of one or more of these three dimensions. Whether acquiring the skills represented by any given dimension is rewarded, and how much emphasis is placed on the dimension, should be a function of the goals of the plan. In turn, the goals of the plan need to

be determined by the technology of the organization, business needs, and the desired culture of the organization. For example, organizations that rely on self-managing work teams may find it especially desirable to encourage employees to acquire vertical skills, which in other organizations these might be reserved for supervisors or higher-level managers. In a later section, I will have more to say about matching the skill-based pay plan to organizational needs.

### **Who Uses Skill-Based Pay, and Why?**

Skill-based pay is an increasingly prevalent pay innovation. Previously, SBP was used mostly with non-exempt manufacturing employees. Recently, however, SBP has spread to service organizations in such industries as telecommunications (AT&T and Northern Telecom), insurance (Shenandoah Life and others), hotels (Crown Plaza), and retailing (Dayton Hudson). It also has been used with white collar professionals, most notably with information system professionals in several companies who are given incentives to broaden their skills and remain current in a rapidly changing field. Polaroid is attempting to become the first large corporation to pay virtually all employees on a SBP system.

Three studies have attempted to assess the prevalence of SBP in the U.S. The most sophisticated study was a national sample survey of corporations listed on the New York and American Stock Exchanges for the U.S. Department of Labor (Gupta, Jenkins, Curington, Clements, Doty, Schweizer, & Teutsch, 1986). The researchers found that eight percent of these companies used pay-for-knowledge plans. A survey of large U.S. organizations by the American Productivity Center and the American Compensation Association (O'Dell, 1987) found that five percent used SBP plans with production and/or service workers, and of these 68 percent had adopted their plans within the previous five years. The study projected a 75 percent increase in future use of skill-based pay. Both studies found that current SBP usage is concentrated in blue-collar manufacturing jobs, but that it also is used in a wide variety of job types and organizations. A more recent study of Fortune 1000 firms (Lawler, Ledford, and Mohrman, 1989), found that 40 percent claimed to use skill-based pay, broadly defined, with at least some employees.

There is evidence from several case studies (Gupta et al., 1986; Ledford, 1985; Tosi & Tosi, 1986) that employees often feel high levels of pay satisfaction when they are paid on SBP plans. Also, both the Gupta et al. (1986) and O'Dell (1987) studies found that the overwhelming majority of firms using skill-based pay plans believed them to be effective overall in enhancing organizational performance along virtually every dimension considered. However, little hard research evidence is available so far to confirm or disconfirm these opinions about the performance effects of SBP. Indeed, it is difficult to conduct well-controlled research on the organizational effects of SBP plans. This is because organizations that adopt SBP also tend to adopt a number of other practices that are designed to encourage high levels of employee involvement. It is hard to separate the effects of the pay plan innovations from the effects of such practices as self-managed work teams, high levels of training, extensive sharing of business information, and many

other innovations. Therefore, a discussion of the advantages and disadvantages of SBP is somewhat speculative.

The potential advantages and disadvantages of skill-based pay plans have been considered elsewhere (see Gupta et al., 1986; Jenkins & Gupta, 1985; Lawler & Ledford, 1985; Tosi & Tosi, 1986). Briefly, under some conditions skill-based pay can lead to higher performance, including lower staffing levels, greater productivity, improved quality, faster response to customer orders, more effective problem solving, lower absenteeism and turnover costs, and other benefits. These benefits can be the result of (1) greater employee flexibility and (2) the facilitation and support of a high involvement management style. Greater flexibility is the obvious result of having employees who can perform multiple jobs. Multi-skilled employees can be moved to where they are needed, such as to bottlenecks in the production or service system, and they can cover for each other when employees are absent due to illness, transfers, or training. Multi-skilling also reinforces a high involvement management style, in which employees are given a high level of responsibility for self-management. It makes self-management more effective by giving employees a broader understanding of the overall production system, emphasizes the value placed on employee development, and makes possible leaner direct labor and management staffing.

Skill-based pay also carries with it some potential disadvantages. SBP leads directly to increased wage and training costs, which may or may not be offset by cost savings. Pricing jobs in the marketplace may be more difficult if there are no competitors or other organizations in the area that pay on a SBP plan. SBP is more complex and difficult to administer than job-based pay. This is because employees must understand a pay system that involves advancement through and certification on a series of jobs, not just one pay rate associated with the one job they hold. Finally, some employees do not have the ability or the desire to learn multiple jobs, and as a result they may resist SBP.

### **Difficulty of Designing Skill-Based Pay Plans**

Methods for designing traditional *job-based* pay plans are institutionalized in contemporary organizational practice. Standard textbooks codify these practices. Universities and the American Compensation Association (ACA) offers courses that teach design methods to compensation professionals. Organizations can hire nationally prominent consulting firms such as Hay Associates to design job-based systems. The net result is that the procedures for designing job-based pay systems are widely understood, and the expertise needed to design and administer such systems is widely available.

Designing a *skill-based* pay plan is more difficult. Compensation textbooks give little or no attention to skill-based pay, and there is no college course on the subject. Although some ACA courses touch on skill-based pay concepts, the ACA does not yet offer any course on methods of skill-based pay design. No large consulting firm has much experience with skill-based pay. There also has been very little academic research or theory on SBP, and there are few articles offering practical advice on SBP. This



makes it difficult to know the key characteristics of skill-based pay plans, what design variations are possible, or what the design process should look like.

Virtually the only published research on the design of SBP plans has been conducted by a group of researchers at the University of Arkansas (Gupta et al., 1986, Gupta et al. 1987). They examined the degree to which the perceived effectiveness of 19 SBP plans was related to a wide variety of design factors, including number of skill blocks, maximum and minimum number of skill blocks required of employees, period of time required to learn skill blocks, period of time employees must remain within skill blocks before learning new ones, etc. The only design factor that the researchers found to be related to effectiveness was number of skill blocks. Their data indicated that the more the number of skill blocks, the lower the effectiveness--presumably because the greater the complexity, the harder it is for employees to understand and be motivated by the plan. They argue that the specific mechanical elements of the SBP plan generally are unimportant compared to organizational context, such as whether the organization supports and is suitable for a SBP plan and whether the SBP plan is supported by management and by organizational factors such as training practices.

These research findings are interesting but not definitive. It is notable that the organizational context for SBP was found to predict the effectiveness of the pay plans. This paper accepts the view that the organizational context surrounding the SBP plan is crucial, and discusses a number of specific contextual elements in detail. However, I do not share the view that the mechanics of the plan are unimportant in determining effectiveness. There is no reason to expect that most of the factors examined by the Arkansas researchers, such as minimum and maximum number of skill blocks, would be important in the same way across different organizations and SBP plans. Thus, they do not serve as good predictors in a correlational or multiple regression sense. Rather, these features need to be tailored to specific organizational conditions and the goals of the plan. Since my experience suggests that the mechanics of the plan are critical to effectiveness, I have discussed a number of design issues concerning mechanics in this paper as well.

### **Key Issues In SBP Design**

This paper is intended to advance knowledge about how to design skill-based pay plans. It contains few prescriptions, but rather attempts to identify a wide range of design issues that are important in the design of SBP plans. It also suggests some of the key options that designers have used in addressing these design issues. Future research will be needed to confirm whether these factors truly are important in the effectiveness of SBP plans and to discover whether some design options are consistently better than others. The current state of SBP research does not permit us to go much farther with confidence at this point.

In developing a sound skill-based pay plan, a wide variety of design issues must be considered. This section considers the major issues and relevant options. There are three general categories of SBP design issues:

- **Global issues**--designing SBP to fit its organizational context;
- **Mechanics**--the "nuts and bolts" of the SBP plan;
- **Transitions**--issues concerning the transition from the existing pay system to a SBP system.

These categories can be thought of as a range of issues that must be addressed before a skill-based pay plan is complete.

## **Global Issues**

Global issues concern the "big picture," that is how skill-based pay is designed to fit into its organizational context. Many of these issues are not explicitly considered when designing job-based pay systems in traditional organizations. This often is not a problem because, in general, job-based pay systems fit within the context of traditional organization designs rather well. That is, they emphasize the importance of hierarchy, specialization, and seniority, which are cornerstones of traditional organization designs. Skill-based pay plans are designed for different purposes and fit different organizational contexts than job-based pay. Thus it is important to review explicitly the following issues of fit with the organizational context.

**1. Fit with organizational culture.** Organizations that adopt SBP for all employees should have or be moving toward a participative organizational culture. Generally, the flexibility advantages of SBP can be gained more cheaply in other ways (such as by cross-training a group of utility workers). The cost of SBP for all employees is justifiable only if it is an integral part of a high involvement management system, which has the potential to offset the cost of increased wages per employee with greater productivity and other performance advantages.

It is especially important for organizations using a participative management style to encourage breadth skills. Breadth skills allow employees to gain perspective on the technical system, improve employee problem solving, and help employees appreciate their common fate. These are critical aspects of a high involvement culture. Many high involvement organizations also find it useful to reward vertical skills in the SBP plan, for example through a team leader skill block that all can earn. By contrast, a SBP system that is oriented only toward depth skills encourages a narrow, parochial focus that works against self-management.

**2. Fit with technology and business objectives.** The SBP plan is effective only if it reinforces business objectives, as constrained by the technology and work design. This is often easier said than done, because there can be multiple, competing objectives that are difficult to support simultaneously. Nevertheless, we can point to examples of how SBP may support business needs.

In continuous process technologies (such as food processing or chemical refining) the key to business success is tight control of the production process. Interdependent employees from throughout the facility must respond quickly and accurately to quality and production problems that may appear anywhere in the process. Thus, SBP plans in these plants often reward employees for learning skills *throughout* the facility.

Manufacturing cells typically combine different functions (such as machining and assembly) into self-contained units that make one set of products and serve specific customers. In these systems, SBP may reward employees for learning as many skills as possible *within* the cell, but not for learning skills in *other* cells or departments.

In customer service operations, the critical need may be to have employees who can respond to all common customer queries without referring the queries to other departments. This avoids the familiar and aggravating situation in which no single employee knows enough to help a customer with a problem. Thus employees may be rewarded for learning all the skills they need to serve employees effectively.

**3. Employee involvement in the design process.** Because organizations that install skill-based pay usually attempt to encourage high levels of employee involvement in general, it follows that in these organizations there should be some level of employee involvement in the design of the pay system, which can affect employees profoundly. Employee involvement in pay system design potentially offers the same advantages as employee involvement on other matters: greater employee understanding and acceptance of the change and better decision making.

In practice, it is common to design a SBP plan using a task team that includes several representatives of non-exempt employees. A more limited form of participation is sometimes used in the case of new organizations, in which the essentials of the pay system may be determined before non-exempt employees are hired. In these cases, employees nevertheless may be involved in the design of such specifics as skill evaluation tests and procedures. In unionized firms, a form of representative participation--collective bargaining--obviously is the norm.

**4. Employee groups to be covered.** A conscious decision should be made about which employee groups will be covered by SBP. All else being equal, it is probably better to include all employees in the same facility on the same type of base pay plan. Covering some employees on SBP and other employees on job-based pay can create tensions over pay equity. This is especially true in the case of an organization in which the pay plan is changed from job-based pay to skill-based pay for only some employees. The job-based pay employees who do not have opportunities for earning greater pay through SBP can be expected to lodge inequity complaints.

Nevertheless, skill-based pay plans often apply to some but not all employees in the work location. In manufacturing plants, it is common to include all non-exempt factory employees in the plan but to omit

other groups, such as managers and office workers. In principle, however, there is no reason that skill-based pay plans could not be extended to all groups.

**5. Alignment for local and industry equity.** Any pay plan must take into account the wages that are paid in the surrounding community and by competitors in the industry. Paying wages that are too low leads to high turnover, especially by experienced and talented employees who are most in demand. Paying wages that are too high leads to excess labor costs.

Skill-based pay plans often are difficult to price in the market. There may be no other firms in the local area or in the industry that pay using a SBP plan. The skill blocks or steps in a SBP plan rarely translate well to job classifications in a traditional job-based pay plan.

In practice, organizations with SBP usually make no attempt to peg each step in the plan to particular jobs in the external market. Rather, they are most concerned about pricing the entry rate and the top end of the pay system in the market. The entry rate is set just high enough to get qualified applicants from the community to accept jobs in the organization. The high end often can be pegged to multiskilled utility operator jobs in the market, or is based on management's estimate of what it can afford to pay if a significant proportion of the workforce eventually reaches the top of the SBP ladder. Once a top and bottom are set, the available pay in between is allocated to skill blocks in a way that maintains equity within the SBP system.

Managers considering skill-based pay often become alarmed at the prospect of all employees earning top wage rate. Two points are worth noting in this regard. First, even if all employees reach the top of the pay scale, this will not happen for a period of time (usually several years). If the plan is well-designed, the plan should be returning performance benefits to the organization that offset the added costs. Second, data from a Department of Labor study indicate that a majority of employees tend to stop advancing before reaching the top of the pay scale if they not required to reach the top (Gupta et al., 1986).

**6. Plan for review and renewal.** Most of the skill-based pay plans known to the author have undergone substantial revisions after initial implementation, for three reasons. First, errors may be made in the design of the plan. Design mistakes are common in organizational changes of all kinds, particularly when the changes are innovative.

Second, some skills for which employees are being paid may become obsolete due to changes in technology or work methods, the loss of certain types of business, or other reasons. In this case, employees who are being paid for obsolete skills usually are red-circled to maintain their pay level for a period of time. During this time, they can learn other skills (such as operating the new technology) that allow them to avoid a loss of pay.

Third, the objectives of the SBP plan may evolve over time as business conditions change, and as the organization matures. For example, the initial pay system in new plants may encourage the acquisition

of all the skills within an employee's first work team. This insures that employees have basic technical knowledge they need to perform efficiently. Over time, however, the focus of the plan may shift to rewarding the acquisition of additional skills in other teams. This can improve coordination and cross-functional problem solving as employees gain a better perspective on the production process.

Changing the pay plan creates problems only if SBP is oversold and employees are led to expect that the original version of the plan will solve their pay problems, once and for all. It is better to create the opposite expectation: that no pay plan is perfect, and that the plan will need to be modified periodically in the future to learn from experience and to insure that the plan continues to meet the needs of employees and the organization. This is consistent with the "self-design" approach to implementing organizational change (Cummings and Mohrman, 1987).

The self-design approach requires that systematic data be collected in order to monitor the implementation and effects of the change. This is essential to the learning process. Thus, the skill-based pay implementation plan needs to include provisions for the renewal process, including what type of assessment data will be collected, when and by whom data will be collected, and how the data will be used to make any needed modifications in the plan.

## **Mechanics**

**1. Defining skill levels or blocks.** A skill block is a cluster or set of skills that the organization is willing to reward with extra pay. There are no hard and fast rules on what is included in a skill block and what pay is attached to it. However, well-designed skill blocks are critical to the design of the plan, for two reasons. First, the structure of the blocks determines how well the pay plan fits with the organizational technology, management style, and business needs. Second, the pay blocks are the skeleton of the plan which is fleshed out by attaching pay levels, certifications, training, and communication methods. A SBP plan with poorly designed skill blocks usually is ineffective, no matter how well other aspects of the pay plan are handled.

An important question to ask is whether the skill blocks should be built around specific work stations or steps in the production process. If there is little redundancy in the skills required at different work stations, they may serve as skill blocks or parts of skill blocks. This is advantageous because the blocks can be easily defined and communicated to employees. However, if the skills between different work stations overlap to a significant degree, they may not make a good basis for skill blocks. This is because employees in effect would be tested and paid over and over for learning the same core set of skills. It then would be better to repackage specific job skills into more abstract, generic skills (such as material handling, inspection, machine operation, etc.) that cut across different work stations.

It is important to define the order of progression through different skill blocks. It may be necessary to learn skills in a certain sequence. If a specific sequence is not needed, it should not be mandated because doing so unnecessarily clogs job rotation and limits advancement possibilities.

In order to control job rotation, to insure that employees are spending enough time on the job to fully learn new skills, and to maintain organizational performance at reasonable levels, it is customary to insist that employees remain within their skill blocks for a minimum period of time. Three to nine months is a typical period of time that employees remain within a skill block. The time period (and pay increase attached to the skill block) usually varies with the difficulty of the block. In any case, it is important that the time period attached to each skill block permits mastery of the skills by employees who have completed that block. Many organizations set maximum times within a skill block as well to facilitate job rotation.

Some organizations set minimum and maximum numbers of skill blocks that all employees can learn. The logic behind a minimum number of blocks is that the organization design may rely on employees who have enough technical skills to be self-managing. Minimums are much more common in new plants, where everyone can be told from the start of the hiring process that they will be required to learn, for example, every job in their team or every job in the plant. Maximums are set to insure that employees are not paid for more skills than they can retain at an acceptable level of proficiency.

**2. Skill assessment/certification.** Often one of the most contentious issues in skill-based pay systems is the assessment or certification of employee skills. This issue has no counterpart in job-based pay systems, since no elaborate process is necessary for determining which job the employee holds. However, skill assessment is central to the concept of skill-based pay; it is the basis for setting pay levels. When base pay levels are involved, employees pay close attention to the fairness and adequacy of the assessment process. Assessment issues to consider include assessment criteria and methods, personnel, timing, and reassessment policies.

The criteria and methods used to determine skill attainment need to follow from the nature of the work. Obviously, the criteria used should be closely linked to the skills that are represented in the skill blocks. Testing methods can include work samples, paper and pencil tests, and oral tests. The best method to use, all things being equal, is the work sample. It is the most objective testing method, and the least subject to claims that "test anxiety" led to failing the test. A work sample may be a simple demonstration for a tester, or a longer term demonstration that, for example, the employee can operate a machine at a high rate of efficiency for several weeks. Work samples are not always enough to certify skills, however. For example, the skill block may include knowledge of emergency safety procedures or knowledge of how to handle unusual situations that cannot be recreated for purposes of a work sample. These may need to be tested with written or oral tests. Written tests permit efficient coverage of a wide range of issues, but can be a problem if literacy levels are low. Oral tests have the advantage of permitting follow-up questions that prevent employees from simply memorizing study material by rote without understanding. Whatever testing method is used, it is common to provide employees with some type of skill-based pay manual that permits them to study for the tests they will take.

Skill assessments may be conducted by supervisors or managers, staff personnel (engineers or human resource staff), fellow employees, or some combination of these. In traditional organizations, employee responsibility for pay decisions about co-workers usually is resisted by both management and employees. However, employee teams in mature high involvement organizations may assume most of the functions of first-line supervisors, including hiring and firing. In these organizations, it may be highly appropriate to make skill assessment a team responsibility.

The certification process is time-consuming. In fact, it may become one of the most time-consuming supervisory duties. Thus, the timing of skill assessments needs to be determined as part of the SBP plan. May employees be tested at any time upon request, or only at certain times? If an employee fails a certification, must he or she wait before being retested? Is there any queuing of certification opportunities within the work group?

Finally, a plan for periodic recertification may be desirable. This depends partly on the nature of the skills being certified. Some skills are like riding a bicycle; retesting them is waste of time because they are rarely lost once gained. Many other skills, however, such as computer skills, can be lost rapidly unless the skills are reused. The firm may be paying for skills that have been lost through disuse if there are no recertifications.

**3. Training plan.** Skill-based pay plans cannot succeed without training. Training gives employees the learning opportunities that are essential to advancement in the system. Because SBP creates such strong incentives for employees to learn new skills, managers should expect the demand for training to increase greatly following the adoption of SBP (Feuer, 1987).

Because more training will be needed, it is a desirable to create a solid training plan. The content of the training can be linked closely to the content of the skill blocks and certification tests. The training plan needs to go further, however. It should indicate what specific training courses will be provided according to what schedule. The training plan also should indicate who will do the training (will it be provided by trainers, training vendors, peers, managers, or others?). Finally, the training plan should identify any conditions attached to the training. For example, training may be on company time, on employee time, or on some combination of the two.

Job rotation, which is essential to training job skills, has the potential to be the source of much controversy and hard feelings. It is desirable to decide in advance how decisions will be made about rotation. For example, will it be done on an inflexible timetable, or will on-going decisions about rotation be made by team members or the supervisor? It is also desirable to think through in advance how two common problems will be handled. First, how will short-term production needs, which are a pressure for slowing down rotation and training, be balanced with long-term organizational needs for a more highly skilled workforce and employee preferences for more training? Second, how will slow learners and those who refuse to rotate be handled? Such employees reduce training opportunities for others if they can lock

up certain jobs indefinitely. There are a variety of options for addressing this problem, but all the options are more palatable if they are agreed upon or at least understood in advance.

**4. Communication plan.** SBP is far more difficult than job-based pay for employees to understand. In job-based pay, employees really must know only their job classification and the pay is attached to their classification in order to understand how they are paid. Skill-based pay is far more complex, and employee understanding is critical to the effectiveness of the plan. Employees need to understand a whole ladder of skills, the certification standards process, and how to obtain training in order to advance in the system. Moreover, changes in the pay system also tend to affect far more people in SBP plans. If a change in technology leads to a new job classification in job-based pay, only the job incumbent is affected directly by the change in the pay system. In SBP, the change affects every person who is eligible to earn a skill block that includes that job.

Thus, it is imperative for the organization to do a good job of communicating to employees about the nature of the SBP plan, how it affects them, and how they can advance in the system. Because the information that must be communicated is complex and because some employees may be very emotional about it, it is best to plan on intensive, multi-channel communications. Written materials that employees can study are especially important. One common form of written communication is a notebook of SBP rules and certification tests that each employee receives as a study guide.

## **Transitions**

Transitional issues are those that involve moving from the existing pay system to SBP. These issues usually are present but less intense in new organizations, where the SBP system replaces only a single entry rate pay structure. However, these issues can be critical in retrofits, where there is a conversion from job-based pay to skill-based pay.

**1. Initial assessment of skill levels.** Organizations that are converting from job-based pay face the prospect of testing virtually everyone who will be covered by the skill-based pay system to determine where they will fall on the SBP ladder. There is no obvious way to avoid a costly and time-consuming crush of SBP certifications. One organization I have worked with, however, stretched out the testing process by announcing that employees would be converted from job-based pay to skill-based pay, and testing needed for the conversion would be conducted, on the employee's hiring anniversary date. Birthdays could also be used in this way.

**2. Credit for prior education and skills.** An issue can arise about whether the SBP system should credit the education and skills that new hires bring to the organization. This is most likely to be an issue if the organization needs to hire people who have needed technical skills that are in short supply in the



labor market. In a labor shortage, applicants may refuse to take a job at the organization's entry pay rate, even if they have opportunities for advancement, when they can make much higher starting pay elsewhere.

There are various options. Some jobs requiring scarce technical skills may be exempted from the skill based pay system, in order to set pay rates high enough to attract workers to those jobs. Alternatively, employees may be hired for some jobs at a rate on the SBP system corresponding to their apparent skills. Then they are red-circled at that rate for a specified period of time until they can pass the certifications that justify their higher initial pay rate. Also, it may be possible to hire contractors for a period of time long enough to train employees as permanent replacements.

**3. Role of seniority in SBP.** SBP is not a seniority-based pay system. It does not assume that people who have worked in an organization longer have more skills. SBP rewards the skills that people can demonstrate, not their longevity in the organization. Nevertheless, there may be instances in which seniority appropriately can play a minor role in SBP. For example, it may serve as the basis for queuing when training or job rotation opportunities are limited.

**4. Dilemma of high pay/low skill employees.** Employees who are relatively highly compensated do not necessarily have higher levels of skill in traditional pay systems. Under traditional pay systems, employees can reach higher levels of pay by seniority or by bidding into jobs that are rated highly. As a result, a certain percentage of the workforce in job-based pay systems is likely to be high in pay but low in skills.

Depending on the number of these employees and their social status, this can be a very divisive issue for organizations converting to SBP. Job title and loyalty as indicated by length of service, which were valued under the old system, may suddenly become unimportant compared to skill level. Senior employees who benefitted under the old system may resist SBP, while SBP may be endorsed by younger employees who see opportunities for advancement at a much faster pace than would otherwise be possible. The two types of pay systems thus may be seen as having different winners and losers, and the losers may oppose the new pay plan.

There may be no easy solutions to this problem. One alternative is to red-circle employees who are at pay levels well above that warranted by their skills. This promises that their pay will not be cut while they gain the skills needed to reach and surpass their current pay level. Depending on the structure of the new plan, however, some employees may go for years without a pay increase while they gain new skills. A second alternative is to preserve one or more pockets of the organization in which employees are managed and/or paid in a traditional way. If employees can bid into these parts of the organization, it may become unnecessary for high pay/low skill employees to change. On the other hand, this option may not be feasible or desirable in light of the overall organization design, and it may maintain tensions in the workforce. A third option, which can be used in combination with the other two, is to offer early retirement incentives for

these employees. In some situations, however, there may be no acceptable solution, and the divisions caused by the skill-based pay plan may be so severe as to foreclose skill-based pay as an option.

**5. Interim training delivery.** Increased training becomes an on-going obligation of organizations that adopt SBP. The most intense demand for training, however, is at the beginning of the plan. As the material to be covered in the certifications becomes known, employees realize that they can be certified in additional skill blocks simply by closing a few gaps in their knowledge or by brushing up on skills that were learned once and later lost through disuse. A special interim training plan is needed to find ways to respond to intense short-term demands for training.

We have considered design issues concerning the global context of SBP, the mechanics of the plan, and transitions from job-based pay to skill-based pay plans. This list of issues may be useful as a checklist of issues and options. However, designing a SBP plan is not a simply matter of going through the list of issues one at a time. The actual process inevitably is much less linear and much more messy. Inevitably, there is much going back and forth between issues and revising earlier conclusions.

### **Installing SBP in New and Old Organizations**

An increasingly important issue in SBP design is whether SBP is equally suitable to new organizations and to existing organizations that have a long history of using job-based pay. Early SBP plans tended to be found mostly in new high involvement plants. More recently, however, there appears to have been a sharp growth in the use of SBP in existing organizations that originally had a job-based pay plan. Companies such as General Motors, Eaton, Northern Telecom, and General Mills have installed plans in existing operations. It does not appear that even the presence of a union is a barrier to SBP. There are now many unionized retrofit installations (Bureau of National Affairs, 1988).

New plants and other new organizations have advantages over existing organizations when implementing SBP. On the positive side, there is a very easy transition to SBP in new organizations. New plants using SBP typically pay all employees at the entry rate until the SBP plan can be developed and installed. Thus, employees want to see the plan installed as quickly as possible; it is really the first pay plan they will see. It is no accident that the fastest installations of SBP I have seen are in new plants. It typically requires nine to 12 months to design and install SBP in a new plant.

On the negative side, new plants also face adverse conditions in designing a SBP plan. These include chaotic startup conditions, very long working hours, a technology that often does not work very well (making skill analysis difficult), and the lack of an established training function.

These conditions contrast with conditions in existing organizations, which often enjoy such luxuries as a known technology, training and other resources that are already developed, and the available time to "do it right" in making organizational changes. Thus it is probably no accident that the best communication packages, the most thorough training materials, and the most carefully designed SBP plans

that I seen are those developed in conversions rather than new organizations. In general, then, conversions tend to take longer to complete the installation process, but adopt more careful pay plans and support for SBP.

There is another difference between new organizations and existing ones that adopt SBP. It is often possible to offer more of a SBP incentive in new organizations, in the form of a greater spread between the bottom and top rates. In new plants, all new hires can begin at a relatively low entry rate, and then progress through the system at an appropriate pace. Existing organizations cannot take away pay by starting everyone at the entry rate in the new SBP system. People will move from their existing pay rate, which on average may be well above the entry rate, to the new SBP structure. Thus, if a new and old organization have the same top pay rate, there will be less incentive built into the old organization's plan because people will not be able to advance as far under SBP.

## **Conclusion**

This paper has reviewed a number of issues in the design of skill-based pay. Much remains to be learned about how to design effective plans. Research on skill based pay is needed to help identify the variables that are most important in the success or failure of SBP plans. In the meantime, the issues and options identified here can help managers insure they have thought through the key design issues as we presently understand them.

Certainly, much will be learned about skill-based pay in the future. There has been a tremendous growth in SBP installations in recent years. One trend in particular suggests why this growth is occurring: the increased use of SBP in existing organizations that are converting from traditional job-based pay plans. As long as the use of SBP was limited primarily to new plants and other new organizations, the overall usage of SBP was bound to remain low. Now, however, evidence is accumulating that SBP can be successful in conversions. As more is learned about how to implement SBP in conversions, and as more examples are publicized of companies that have gained a competitive advantage through SBP, the overall use of SBP no doubt will accelerate.

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