CHAPTER 11

SKILLS, KNOWLEDGE, AND COMPETENCY-BASED PAY

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COMPENSATION SYSTEMS THAT PAY FOR skills, knowledge, and competencies (SKCs) use a different logic than conventional job-based pay systems. Job-based pay systems compensate for the *job* that an employee is performing at particular point in time. By contrast, systems that pay for skills, knowledge, and competencies reward the employee's repertoire of capabilities. Moreover, compensation typically follows a formal certification that the employee has acquired SKCs. By contrast, the trigger for a change in job-based pay is a change in the employee's job, not a demonstration of

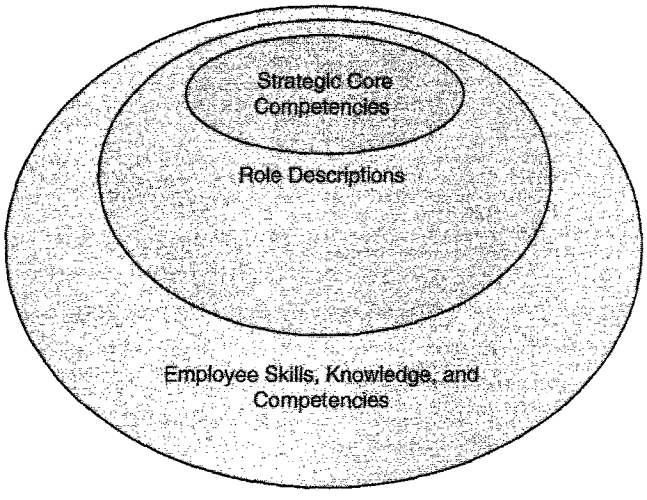
capability. In the extreme, the employee's job-based compensation level may change during the course of the workday as the person temporarily changes jobs.

By definition, pay for SKC plans do not reward performance directly. Rather, these plans seek to provide employees with the SKCs that *enable* greater performance. The starting point for establishing an SKC compensation system can be organization-level *core competencies* (making explicit behaviors associated with the core values of the organization), or team-level *role descriptions* (such as multiple roles to be performed by team members), or finally individual-level *SKCs* (see Figure 11.1).

Plans that pay for skills, knowledge, and competencies have become relatively common. The sixth triennial study of human resource practices in Fortune 1000 firms by the Center for Effective Organizations in 2002 found that 56 percent of firms used pay for knowledge or skill, and that this percentage had been relatively constant since 1993.[1] However, the percentage of employees covered by these plans tends to be small. Only 7 percent of Fortune 1000 firms covered more than half of their workforce with these plans. Another survey, conducted in 2003 by Mercer Human Resource Consulting,[2] found that 17 percent of the companies surveyed used, and 9 percent were considering adoption of, skill-based pay, while 15 percent of the companies used, and 12 percent were considering adoption of, competency-based pay. The number of firm considering adoption may portend a future increase in the use of such plans.

The use of pay for skills, knowledge, and competencies has gone global. A 2007 Towers Perrin study[3] of over 600 managers in 21 countries found that salary increases are based on competencies for executives in 27 percent of cases, for managers and professionals in 36 percent, and for nonmanagement in 28 percent.

FIGURE 11.1 Types of skills, knowledge, and competencies



Additionally, increases were skill-based for executives in 9 percent of organizations, for managers and professionals in 15 percent, and for nonmanagers in 18 percent. Skill-based pay plans are even relatively common in the public sector. The International Public Management Association for Human Resources found that 22 percent of public sector organizations surveyed used skill-based pay in 2007.[4]

The available evidence indicates that these plans tend to be successful in general. The users of these plans consistently report a high level of satisfaction with them. For example, a study of 97 skill-based pay plans sponsored by the American Compensation Association found that two-thirds to three-quarters of these plans were rated as successful on a wide range of outcome measures, such as increased workforce flexibility, reduced staffing, and productivity.[5] A rigorous case study reported that skill-based pay in a manufacturing setting resulted in greater productivity, lower labor cost per unit, and favorable quality outcomes.[6]

This chapter will consider two major issues concerning these plans. First, we will examine different types of plans and their applications. Second, we will consider the major issues in the design of these plans, including the infrastructure needed to support them.

VARIETIES OF PLANS TO PAY FOR SKILLS, KNOWLEDGE, AND COMPETENCIES

Plans discussed in this chapter have many names, and they tend to be applied to different groups of employees. However, they share the key characteristic of paying for the employee's repertoire of skills, knowledge, and competencies rather than for the job the employee is currently performing. In this section, we describe the major types of skill-, knowledge-, and competency-based pay approaches, and the conditions in which they appear to work best.

Skill-Based Pay

Skill-based pay originated as a way to reward nonexempt employees for cross-skilling. Organizations may also call these plans pay for knowledge, knowledge-based pay, pay for skills, or pay for applied skills. Although some versions of this approach are ancient, we can trace the modern approach to high-involvement manufacturing plants that Procter & Gamble built in the 1960s. Line managers developed skill-based pay plans to incentivize employees to learn the multiple jobs necessary to support self-managed teams and business involvement. Compared to the other forms of pay for SKCs, skill-based pay systems stick very closely to the specific tasks that employees perform. Characteristics of the original Procter & Gamble plans describe the classic skill-based pay plan still commonly found today. The classic skill-based pay plan has the following characteristics.

1. *Compensation approach*—the classic system is pure base pay, not a set of bonuses or add-ons to base pay.

2. *Design methodology*—the classic system is based on a relatively exhaustive analysis and cataloguing of all the skills necessary to do the work of the organization. The skills identified through this analysis then are packaged into skill blocks that represent compensable units of skill, and employees receive base pay increases for mastering these blocks. Management develops assessment procedures to test whether employees have mastered new skill blocks, and establishes training systems to make it possible for employees to learn new skill blocks.
3. *Most common settings*—classic plans are most common in manufacturing or manufacturing-like service settings, such as back office operations in insurance and financial services. The term skill-based pay continues to be applied primarily to plans that cover nonexempt employees at the lower levels of the organizational hierarchy.
4. *Implicit assumptions*—classic skill-based pay plans require a significant startup investment. Typically, 6–18 months is required to complete the entire design process in a large plant or similar unit. These plans depend on having enough organizational stability to realize a payback on the investment in the design process.

There is far more experience with such skill-based pay plans than with other types of plans that pay for SKCs. The available research suggests that the clear majority of these plans are successful in encouraging multiskilling and in increasing organizational performance, notwithstanding some well-publicized failures (such as one at Motorola). A relatively strong finding in the literature is that these plans work best and are found most often in settings that encourage a high degree of employee involvement, and indeed involve employees in the design and administration of the pay plan. In addition to the typical advantages of employee involvement in the process of organization change, a high involvement system is more likely than a traditional bureaucratic management system to take good advantage of the new skills that employees acquire. A system that adds skills but does not take advantage of new employee abilities simply adds cost without gaining offsetting advantages.

Competency Pay Plans

Competency pay plans evolved from the work of psychologist David McClelland and others on the importance of competencies in determining individual job performance.[7] Competencies are demonstrable characteristics of the person that enable performance, including knowledge, skills, and behaviors. Most of the work in this tradition has focused on the exempt workforce, specifically managers and professionals. In keeping with the nature of the work of these populations, the competencies rewarded in these systems tend to be more abstract and less closely tied to the specific tasks of those on the plan. Cognitive skills (such as analytic thinking), values, self-image (such as self-confidence), motivational patterns,

and even personality traits have been used as competencies that are rewarded in pay plans.

Writings about competency pay often include lengthy discussions about what constitutes a competency and about distinctions among different types of competencies. Each author tends to apply his or her own classification scheme. A common distinction is between those competencies that are necessary to perform the job but are not the source of competitive advantage and those that are more difficult to achieve and more strategic in nature, offering the hope of competitive advantage. The former are called, for example, requisite or threshold competencies, while the latter are called for example, strategic or differentiating competencies.

Common characteristics of competency pay systems include the following.

1. *Compensation approach*—the typical competency pay system is pure base pay, not a set of bonuses or add-ons to base pay.
2. *Design methodology*—the most common approach to designing competency pay systems is to study a group of performers who are judged as superior on specified performance criteria, and to collect extensive data to determine how top performers are different from average or poor performers. An extensive battery of tests, interviews, observations, and ratings may be used to discover such differences. The differentiators are packaged into competencies that are then tied to human resource systems, including compensation.
3. *Most common organizational settings*—the term competency pay is most often applied to systems that cover managers, supervisors, professionals (including human resource professionals), and technical personnel. Often, these systems are applied to large numbers of personnel in different positions and locations within a company. When this occurs, the system may not be closely tied to the specific work of covered employees.
4. *Implicit assumptions*—competency pay plans require considerable design and installation effort, and thus these plans make the same assumptions as skill-based pay plans about the organizational stability needed to realize a return on the up-front investment in the plan. These plans also make a strong assumption that performance at the organizational level will increase if more employees emulate the behavior and values of superior individual performers. This assumption is rarely tested, even though a fair amount of research suggests that organizational performance is not merely the sum of individual performance. The problem is that collective behaviors (such as setting a good performance strategy and coordinating effort) may be needed to generate good organizational performance, but not to generate the superior individual performance captured by the competency modeling process.

There is some evidence that plans of this type can have positive effects. For example, a Hewitt study[8] of exemplary firms for executive development found

that the use of rewards to reinforce core competencies was related to success. Hewitt found that "Top 20" Companies were twice as likely as other firms to pay for leadership competencies through base pay, annual incentive pay, and long-term incentives; 60 percent or more of Top 20 Companies used each of these compensation tools.

There is little research about the effectiveness of competency pay systems in increasing organizational performance. A 1996 study[9] found too few competency pay cases to draw conclusions about the organizational effects of these plans. A great many validation studies, using industrial psychology methodology, offer encouragement, but these usually validate against individual rather than organizational performance.

A particular concern with competency pay plans is the risk of legal jeopardy for poorly conceived and validated competency pay systems that may illegally discriminate against minorities and other protected groups. This is a special concern with competencies that are based on personality traits and other abstract competencies far removed from the actual work. These may not pass the "face valid" test and may invite court challenges.

Plans Based on Strategic Competencies

The third approach is embryonic. It has been the subject of considerable discussion because of the intense interest in "core competencies" in the business strategy literature and among senior executives during the 1990s.[10] The core competencies approach argues that a small set of technological and organizational skill complexes is a more stable and effective source of competitive advantage than superiority in particular markets or products. Market leadership is fleeting as products evolve rapidly, but competencies remain. For example, Sony's core competencies in miniaturization and precision manufacturing, Toyota's prowess at lean manufacturing, and Wal-Mart's core competencies in distribution, marketing, and information technology, are underlying sources of competitive advantage that remain despite rapidly shifting markets and products.

In many companies, human resource managers and consultants have used executive interest in core competencies as an opportunity to introduce competency-based pay plans. However, it is important to recognize that the "core competencies" of the strategy literature bear no relation to those found in many pay systems. It takes extensive analysis and effort to discover the handful of "core competencies" that business strategists have in mind. In the strategy management literature, sustainable competitive advantage results when a firm develops resources that are valuable, rare, and difficult to imitate. By contrast, "core" in the competency pay literature often means basic or requisite—the opposite of the meaning in the strategy literature. Worse, simply selecting competencies from a consultant's menu of prepackaged choices, a procedure that is far too common, may discredit the

plan for strategists and executives who are interested in discovering the unique competencies that gain competitive advantage for the firm.

One of the most positive aspects of the focus on strategic competencies is that it encourages forward thinking. By contrast, the focus in the competency pay approach on identifying why some are superior performers is essentially backward looking, in that it identifies the competencies that have made some people successful in the past. For companies that are about to undergo fundamental change in response to business conditions, reinforcing old successful habits can be a recipe for disaster. Consider IBM or AT&T in 1980, at the dawn of the PC and telecommunications revolutions. If they had paid for competencies, would they have been better served by a forward looking or backward looking system? Many companies believe that their situation today is analogous to that faced by IBM and AT&T 20 years ago.

There are relatively few examples of pay systems based on strategic competencies. Business leaders and authors have devoted little attention to how this approach might be applied to human resource systems, as opposed to business strategy. However, some characteristics of this approach seem clear.

1. *Compensation approach*—the typical system is a base pay compensation system.
2. *Design methodology*—the design methodology is "top down," evolving from the top executive group's identification of the core competencies of the corporation rather than from the current work of employees. This permits identification and rewarding of forward-looking competencies that have not received significant prior attention in the corporation.
3. *Most common settings*—although experience is limited so far, it seems likely that the pay of managers and professionals is most likely to be touched by these plans.
4. *Implicit assumptions*—an important assumption is that highly abstract strategic competencies that may not be within the experience of most employees can serve as the basis for an effective pay plan. This places a heavy burden on management to explain their reasoning and persuade employees of the merits of the strategic competency approach.

The first author has conducted an unpublished study of a plan that fits the strategic competency definition. The plan covered nearly 1000 managers from a variety of functions and levels within a large food company. All were rewarded by movement within a broad band for their mastery of just four competencies that applied to all those covered on the plan. The competencies were closely linked to the business strategy of the firm. For example, one competency supported the customer focus that was important to the company's then new Total Quality Management initiative. The study found that, across the company, the regions that

were most effective in implementing and supporting the competency pay plan were the most effective on hard measures of performance (productivity, cost, and quality).

SKC BONUSES

So far, we have considered three kinds of base pay systems for rewarding the acquisition of SKCs. In general, base pay systems are advantageous. Adoption of a base pay system tends to force a relatively thorough analysis of needed SKCs, rather than the casual adoption of a new pay plan. Base pay plans also are relatively difficult to remove arbitrarily. Finally, employees tend to view base pay increases as a desirable and meaningful reward. However, one-time bonuses are an underused alternative to base pay increases, and they make a great deal of sense in two situations.

First, bonuses may help preserve a competitive wage position in the market. If an existing organization is converting to a pay for skills plan, and if base wages are already over market, the organization may not be able to offer additional base wage increases without becoming uncompetitive. It is difficult to see how existing plants in the auto industry, for example, can offer meaningful base wage incentives for skill acquisition, but one-time bonuses may offer an attractive alternative. This is because bonuses do not have the recurring annuity cost of base wage increases.

Second, bonuses are attractive when the organization is experiencing rapid changes in the types and mix of skills, knowledge, and competencies that it needs to be successful. In high technology, for example, the competitive landscape changes so frequently that long-term planning is difficult. The rate of technical obsolescence may be so great that the organization does not have the luxury of devoting a year or two to creating a competency pay plan. The plan might be largely obsolete before the design was complete. Bonuses are an attractive option because they can be developed and implemented very quickly. Such plans can be modified frequently. For example, a new set of bonuses can be adopted each year, changing as business conditions change.

Bonuses have other advantages—and problems. They can be targeted to a select few competencies without upsetting the base pay system. Administrative support is much less than with a base pay system. Sloppy or even poor designs in any given year have fewer negative consequences, because of the absence of an annuity feature. On the other hand, bonuses may have more limited incentive value to employees. Also, these plans are probably more difficult to sustain over time, because management tends to feel more comfortable about terminating bonus plans than terminating base pay plans. The plan may lack credibility with employees if the opportunity for a quickly executed plan becomes an excuse for failing to support it with an adequate communications and training infrastructure.

There is no research about SKC bonus plans, but such companies as Monsanto and Rockwell have used them. Anecdotal evidence is highly encouraging. One engineering-intensive company placed thousands of employees on a competency pay bonus system. All exempt employees negotiated learning contracts with their

supervisors in an appraisal cycle set off by six months from the performance review cycle. The plan offered employees a $750 bonus for meeting the negotiated learning contract. The company experienced a five-fold increase in the amount of development activity in the company at a relatively modest cost in bonuses. The tuition reimbursement budget actually experienced a windfall, as technical personnel stopped taking classes that were not directly relevant to their work (and their learning contracts).

THE DESIGN CONTEXT

In designing plans that pay for skills, knowledge, and competencies, managers often seem to have an irresistible urge to jump into the details of skill block design. The first lesson from research and experience is that the fit of the system with its organizational context is far more important than any choice about the design of particular skill blocks. In particular, the system must be carefully married to the business context.

1. *Business-based objectives*—skill-based pay plans, for example, can be especially helpful in increasing employee flexibility, encouraging training, and reinforcing self-management skills. Designers need to think through what specific patterns of behavior are required of employees, whether the proposed pay plan is able to reinforce those skills, and how the intended benefits will be realized. A very important business issue to consider is how much flexibility the organization has to increase average wages levels, which will affect the availability of meaningful incentives in exchange for mastering new skills, knowledge, and competencies.
2. *Organizational structure and technology*—plans that pay for skills, knowledge, and competency can reinforce or undermine organizational structure. For example, if the organization is emphasizing the use of employee teams, cross-skilling within teams may be more appropriate than cross-skilling throughout the entire organization. The organization's production technology often acts as an important constraint, and in some cases, it may need to be modified to support training needs. For example, in customer service organizations, new technology can provide fully trained customer service agents with all the information needed to service a customer fully, rather than sending inquiries to multiple departments. Implementation is usually easier in manufacturing than in service settings. Skill-based pay appears to work best in complex, integrated manufacturing settings that require high levels of employee skill.
3. *Other pay systems*—pay for SKCs is not a complete compensation system, in that it does not reward performance directly. Therefore, it must fit with the overall pay architecture and the performance incentives provided by the organization. Fortunately, pay for SKCs is often highly complementary to

pay systems that reward team and/or organizational results. Group or unit incentives such as gainsharing or goal sharing often make a potent combination with pay for SKCs. Group or unit incentives help overcome the centrifugal force of the individualistic focus on personal SKC development, and encourage a balance between immediate performance requirements and long-term developmental needs. However, individual pay for performance is often problematic in combination with pay for SKCs, because the entire pay system encourages a focus on individual needs.

Organizational Culture

As we have indicated, organizations that adopt pay for SKCs should have or be moving to an open, participative culture. This is one of the strongest predictors of success, in part because cultures with such characteristics are far more likely to take advantage of the new capabilities employees develop through the plan. A hierarchical culture may make it difficult to take advantage of the employee flexibility and self-management capability that pay for SKCs encourages.

Institutional Factors

The economic and social context has a great deal to do with the receptivity to pay for SKCs and its prospects for success. For example, after unions in France lost momentum and wage increases tied to inflation nearly disappeared, institutional pressure has promoted the use of pay based on the person rather than the job. Towards the end of 1990s, about one-fourth of top French companies used some form of skill-based pay.[11] In Britain, competence-related pay is not replacing traditional pay approaches but fusing with them. Such a combination helps to address both the measurement concerns of trade unionists and others and the results-focused orientation of line managers.[12]

THE DESIGN OF COMPENSABLE SKILLS, KNOWLEDGE, AND COMPETENCIES

The design of pay for skills, knowledge and competencies must be based on a holistic human resource management approach, which means that it is closely tied in with training, recruitment and other human resource management systems in the organization. Whatever form the pay system takes, it will be constituted of certain units of skills, knowledge, and competency that the organization is willing to compensate. We address three major issues that must be addressed in the design of compensable units: compensation management, training and development, and assessment.

Compensation Management

First, the architecture of the overall compensation system requires attention. The nature of the SKC blocks will be determined primarily by the type of plan being

implemented. A number of questions arise after the basic blocks are defined. How will SKC blocks or units be ordered, indicating career paths, and minimum and maximum advancement opportunities? Decisions about these matters will give employees messages about the sequencing necessary to advance and to remain an employee in good standing. In general, it is best to err on the side of conservatism in these decisions early in the history of the plan. Employees rarely complain if they end up with more career opportunities, easier minimum requirements, and greater maximum earning potential later, but the opposite condition feels like a "take-away" if the plan is modified because it was overly generous.

An important issue concerns the pricing of plans that pay for skills, knowledge, and competencies. Often, it is impossible to price each competency or skill block to the market, in the way that each job in a job-based system can be priced. Rather, the typical procedure is to price the overall system rather than each element of it. The entry rate is set at the level just high enough to get talented people to join the organization. The top rate is set based on market conditions as well. For example, in skill-based pay plans for semi-skilled factory workers, the top end of the range may be placed appropriately near the bottom of the skilled worker classification. Finally, in some cases an average rate pay rate is also set to market, based on labor market or industry benchmarks. Within these anchor points, skill blocks or competencies are assigned value based on their relative degree of difficulty. To take a simple example, assume that the entry rate is $10 per hour and the top rate is $20 per hour, both determined by the market. If there are 10 skill blocks of equal difficulty (as indicated by learning time or some other metric), each block an employee masters might have a value of $1 per hour.

Employees need to have some idea of how long it will take to master competencies or skill blocks. The amount of time required to master a block or competency can vary tremendously, from a few months to several years. In general, it is desirable to break very complex blocks or competencies into several pieces so at least annual advancement is possible on the system. If the blocks or competencies require only a few weeks to master, on the other hand, it is better to group them into a longer and more meaningful grouping or reconsider whether the plan really fits the skill requirements of the organization. The organization does not want too many blocks or competencies because this makes the plan difficult to administer and communicate, and because it sets up the expectation that employees will receive compensation every time they learn anything.

Training and Development

Unless employees have the opportunity to develop the skills and competencies that make up the pay system, they will be frustrated by the incentives they have no opportunity to earn. Experience and research clearly indicate that demand for training greatly increases once employee pay is attached to mastery of skills and competencies.

It is desirable to create a solid training plan in advance of the installation of the pay system. The starting point of the plan is the assessment of the training required to master each skill block or competency in the system, together with an estimate of the likely speed and path of progression of employees through the system. A menu of training courses relevant to the system, a specific schedule of offerings, and the assignment of instructors (which may be peers, vendors, managers, or trainers) are part of the plan. An adequate training budget is essential.

Job rotation is a critical part of the acquisition of many skills and competencies, especially in skill-based pay systems. No classroom training can take the place of the experiences on the job that are needed for mastery of most skills included in the typical system. Rotation issues can become very contentious, and it is best to anticipate the problems and plan for rotation ahead of time. Many issues need to be determined. Who will decide when to rotate, and according to what timetable? How will the organization balance production needs with employee desires for training? How will it handle slow learners and those who refuse to rotate, which can lock up the whole rotation system? Competency systems for exempt employees may require new assignments rather than something analogous to job rotation. However, the same types of issues are relevant.

Assessment of SKC Acquisition

Any system requires some way of determining whether an employee has mastered skill blocks or competencies. The methods and procedures for assessment can be quite contentious if they are not thought through well. The assessment step has no counterpart in job-based pay systems. Unless it is done well in SKC pay plans, however, the plan will deteriorate into a de facto time in grade system, and the organization will receive no value for the increased wages provided under the system.

Part of the design of each skill block or competency is the specification of the standards for determining how we can verify that an employee has mastered it. In skill-based pay plans for nonexempt employees, the process can be fairly elaborate, involving measurement of on-the-job performance, testing, and other methods. In general, management should rely on work samples whenever possible. Work samples are face valid, meaning they have natural credibility with employees. However, work samples may need to be supplemented with oral testing, written testing, or live demonstrations, if it is important to know how the employee would respond to rare or hazardous conditions that are not likely to be encountered during the work sample of a few weeks or months.

In skill-based pay systems, certification may become one of the most time-consuming supervisory duties. Thus, it is important to think through the scheduling of certifications and the procedures for handling those who fail the tests. For example, how soon will they be allowed to retest? Is there any queuing of certification opportunities in the work unit?

Periodic recertification, perhaps annually, seems to be an increasing trend in skill-based systems. This insures that employees maintain the skills for which they receive compensation. Without recertifications, the pay plan can result in increased wages that are attached to skills long lost through disuse.

Competency pay plans tend to incorporate competency assessments into the performance appraisal system. By their nature, most competencies are demonstrated on the job over a long period of time. Increasingly, assessments have a "360 degree" component, with reviews by peers, subordinates, supervisors, and customers who have relevant knowledge of the employee's demonstrated competency.

THE SURVIVAL OF PAY FOR SKCs

Some recent research has explored the reasons why plans paying for skills, knowledge, and competencies not only are successful, but also what explains their survival or termination. The most detailed study[13] examined longitudinal results for 59 plans. It found that the survival of these plans was most strongly associated with organizational characteristics (plans manufacturing was more likely to survive, and a business strategy based on innovation was negatively related to survival). Employee involvement in the design and certain plan characteristics (focus on breadth of skill, number of skill blocks) also predicted survival.

A study of five Finnish cases[14] found that some plans failed due to poor skill definitions and compensation assessment that employees considered unfair. Good training opportunities and clarity of learning goals were critical to the success and survival of these plans.

SUMMARY

We conclude with three summary lessons drawn from our experience and research.

1. The design of the system is important, but the quality of the infrastructure needed to support it (certification, training, ability to move employees among jobs, communication of the pay plan, etc.) is a stronger predictor of success than the elegance of the design.
2. All things being equal, simpler is better. One of the major problems with SKC pay plans is that they tend to become unnecessarily complex, and sometimes are abandoned because management comes to feel that the administrative hassle outweighs any benefit.
3. Communication is even more important than for job-based pay systems. SKC systems are inevitably unfamiliar to most employees, they are complex compared to job-based pay, and they are dependent on employee understanding of certification and training requirements that add complexity.

4. Any SKC pay plan will change over time or it will be abandoned because of its inflexibility and lack of fit with changing conditions. A complete design includes provisions for periodically revisiting the design and its infrastructure, and making revisions as necessary. Such a provision should be very explicit, to increase the chances that employees will greet changes with interest and appreciation rather than resistance.

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