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**Paying for Skills in
Two Food Processing Plants**

**CEO Publication
G 90-13 (175)**

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PAYING FOR SKILLS IN TWO FOOD PROCESSING PLANTS

In recent years, General Mills has adopted pay-for-skills (PFS) plans in several food processing plants. Two plants with pay-for-skills are relatively new facilities manufacturing a product called Squeez-it. Squeez-it is a ten percent fruit juice drink that comes in several flavors. The drink is packaged in plastic squeeze bottles that appeal to children, the target consumers. General Mills has built two plants to produce Squeez-it. The smaller West coast plant began operations in 1986. The East coast plant began operations in 1988.

Before considering the innovative pay-for-skills system at the Squeez-it plants, it is important to understand the key organizational characteristics that provide a context for the pay plan. Then, we will review the goals of the pay system and the pay plan itself.

Organizational Context

The Squeez-it business was new for General Mills. To minimize the risks of entering the business, the new plants were designed to be lean, low-cost producers. This is reflected in three key aspects of the organizational context: the self-design approach, the work system, and the technology. We will consider these in turn, and suggest why pay-for-skills was relevant to each one.

Self-Design Approach

Both Squeez-it plants were designed using a "self-design" approach (Mohrman and Cummings, 1990). This approach emphasizes an open, participative, value-based design process; a view of organization design as a continuing experiment; and minimal specification of the design rather than an overly restrictive blueprint at the beginning.

One consequence of this approach is that Division line and human resource managers generally set only broad design parameters, such as the technology and type of work system that would be used. Division management left to the plant employees the task of fleshing out the skeletal parameters with a detailed organization design. The two Squeez-it plants share many design features, which is not surprising because they are in the same business, use roughly the same technology, use similar work

systems, communicate with each other, and attempt to learn from each other's experiences. However, there is no management mandate that the plants evolve in similar ways, and in fact the two plants differ on many operational and design details.

There are, for example, many operational differences between the pay systems of the two plants, even though both facilities employ the pay-for-skills concept. The two plans differ on the design of the skill blocks, how skill blocks are priced, how training is handled, and other details. For simplicity, this paper focuses on details of the pay plan at one of the two facilities, namely the East Coast plant. This plant was chosen because the second author was much more heavily involved in the design process at the East Coast plant. The West Coast plant is equally interesting, but somewhat different. Later in this paper, we will review the specific design differences and look at outcomes common to both plants.

High Involvement/High Performance Work System

Senior line and human resource managers at the Division level determined early that a key to meeting business objectives was a "high involvement" or "high performance" work system at the plants. This type of organization design assumes that a high degree of employee involvement is a key to performance, and systematically moves decision making power, rewards for business performance, training, and information to the lowest possible level.

The senior line and human resource managers who designed the parameters of the work system believed that pay-for-skills was simply one of many design elements that were important to the system. Because the PFS system is custom tailored to support a particular high involvement organization, we will next consider several key elements of the design. These elements define the essential character of the social system, and reflect the core values of members of the plant.

Team Structure. The plant gives new meaning to the term "lean structure." The plant manager is the only line manager at the plant. Four self-regulating production teams and a small support staff report to the plant manager.

Each production team performs all production operations on its shift. The four production teams rotate between the two twelve-hour production shifts and time off. No managers work regularly

on the night shift. There is a Coordinator on each team, but the Coordinator is not a surrogate foreman; the position is rotated among team members. Originally, there were 15 members per team. The number has been increased slightly as a result of plant expansion.

The production teams are highly involved in managing the enterprise. They determine job assignments, conduct training, perform needed setup and maintenance operations, participate in the hiring process, and even discipline fellow team members if necessary. The teams are given extensive operating data as well as information concerning marketing and business strategies and plans.

Each day there is a plant staff meeting attended by the team coordinators. This permits communication and coordination of activities across shifts.

Egalitarian Management Practices. Management practices and the physical layout reinforce the lack of hierarchy and status differences in the plant. All employees are salaried. There are no time clocks or even individual time cards, no separate dining or locker facilities for management personnel, and no reserved parking spaces for management.

There is only one job classification in the plant. All non-exempt production employees are hired as "operator/mechanics." There is no separate maintenance group or classification. Routine maintenance is handled by the teams. Maintenance work that is beyond the skill of the teams is contracted out.

Hiring Practices. Special effort was taken to recruit employees who represented a strong fit with the desired culture of the organization. The hiring process included state job service screening interviews, test batteries, open house information sessions, in-depth panel interviews, and physical examinations. Potential hires were given enough information about the organization so that they could make an informed choices about becoming plant employees. They were told specifically that the plant would be adopting some kind of pay-for-skills plan.

This pattern of hiring is important when considering the success of pay-for-skills plan at the plant. Employees were hired specifically because the culture of the organization appealed to them. Employees in traditional organizations may not respond in the same way to pay-for-skills and the other innovations at the Squeez-it plant.

Relevance of PFS to the Work System. Pay-for-skills is a key element of the overall work system. PFS gives employees an incentive to learn the technical skills that make them effective team members, and promotes flexibility within the team. PFS also gives employees a broader understanding of the production system, since it gives incentives for learning each stage of the production process. Since every employee can rise to the top of the system, it is consistent with the lack of status and hierarchical distinctions within the plant.

Technology

The pay system is custom tailored to the technical system as well as to the social system. Next we consider the technical system.

Figure 1 depicts the four basic work areas corresponding to different steps in the production flow. A *material handling* function is responsible for receiving and staging raw materials and shipping finished product. At the *mixing* stage, employees combine the raw materials for the fruit juice drink and the plastic bottles. The *filling* stage is the most sophisticated step in the production process. At this stage, machines blow-mold plastic bottles, fill them with juice, and seal the bottles. The final stage is *packaging*. Even though the level of automation is fairly high, packaging is by far the most labor-intensive step in the process. Workers operate machines that successively package the bottles into 6-packs, cases, and pallet loads, and also monitor machines that perform quality checks.

Insert Figure 1 about here

This is a continuous process technology, similar in many ways to the technologies used to produce chemicals, make paint, or manufacture paper. The technology is relatively capital intensive and the different steps in the production process are highly interdependent. In such technologies, the most important role of employees is to monitor and control the production process; physical effort is secondary. Workers at every stage of the production process need to be able to detect production and quality problems as they arise and to communicate promptly and directly with those controlling the source of the problems, even if the problems are in work areas other than their own.

Pay-for-skills is a natural fit with continuous process technologies. By giving employees incentives to learn the entire production process, PFS increases the ability of the work force to control the process and to respond quickly to quality and production problems.

Pay-for-Skills Design Process

The compensation strategy at the plant was based on the following goals:

1. Attract and retain a talented workforce.
2. Develop a salary structure competitive in the beverage industry.
3. Insure that the pay system reinforced the values of the organization and supported the work system and technology.

The PFS plan was selected as the appropriate pay system for all employees at the plant except those in administration and quality control.

Most of the work of designing the pay system was done by a plant PFS Design Committee, which represented all production teams, manufacturing support, the Plant Manager, and the Human Resource Manager who serviced the plant. The Design Committee was created in June 1988, about five months after initial plant startup and about a month after the first product was manufactured.

The team visited other plants with PFS systems, discussed PFS with employees from the West Coast Squeeze-it plant, and received some consulting input from the first author. The Design Committee did not, however, simply borrow a pre-existing plan or blueprint. The PFS plan at the plant was very much the product of the Design Committee. The committee kept continuously in touch with the production teams on the group's progress and deliberations, and production team input also helped to shape the final plan. A plan was approved by senior Division management in the fall of 1988, and was implemented on November 1, 1988. Thus, the design process lasted about five months, and was completed about 11 months after the first employees were hired.

Mechanics of the Plan

Skill Blocks

Each production area shown in Figure 1 represents a *skill block*. There are three *skill levels* representing increasing degrees of knowledge and skill within each skill block. Thus, there are a total

of twelve skill levels in the plant (four blocks times three skill levels). All skill levels are defined in terms of "performance required," "area knowledge," and "technical knowledge" (such as operating principles in the area). The three levels of skill within blocks are differentiated as follows. Level 1 indicates limited ability, such as knowledge of basic facts and ability to perform simple tasks without direction. Level 2 indicates partial proficiency, such as the ability to apply technical principles on the job. Level 3 signifies that the employee is fully competent in the area; for example, the employee can analyze and solve production problems, perform preventive maintenance, and conduct some major maintenance such as rebuilding a machine.

A new employee may be assigned initially to any skill block. Job rotations can occur as often as every three months for training and skill maintenance purposes. Employees who are unable to pass the certification for a particular skill level within three months may be forced to wait until another opportunity arises to rotate back into the area. After completing certification in Level 1, an employee begins working on Level 2 within that skill block. The process is repeated at Level 3. If an individual is unable to master Level 3, or chooses not to pursue Level 3, he or she can move to a new skill block when an opening becomes available.

Employees are required to achieve at least Level 2 within each skill block. Employees who are unable to achieve at least Level 2 in each skill block are subject to dismissal. However, so far no employees have been dismissed for this reason. Dismissals have been avoided primarily because a high-caliber work force has been recruited through the selection system. Very few employees who were unlikely to meet the minimum requirements of the PFS system have been hired, and those employees left the work force long before the minimum requirements of the pay system became an issue.

Under the PFS plan, all twelve skill levels are considered equal in value, training time, and compensation. Implicitly, this suggests that there are no differences in the degree of skill between levels. In reality, some skill levels may be harder than others, despite attempts to balance the degree of skill in different levels. However, equalizing the skill levels encourages a sense that all skill blocks are of equal value to the operation, and facilitates job rotation.

Skill Pricing

The PFS system was intended to be competitive in the local community and in the beverage industry. It was not easy to set competitive wage rates, however, because no other employer in the area or the industry used PFS. The skill blocks at Squeez-it did not correspond closely to the job classifications in traditional organizations. At a more general level, however, the plant required semi-skilled employees, rather than unskilled or highly skilled employees. This permitted some use of local pay data.

The plant's entry rate was pegged at the low end of semi-skilled rates in the community, as determined by an analysis of job descriptions and wage rates. The top PFS rate was set at the low end of the skilled worker wage rate for premium employers in the community. Management accepted those rates as top and bottom pay levels after checking them against available data on industry pay rates. The difference provided a spread of 50 percent between the entry level and top skill level. The salary structure is evaluated at least annually in order to insure that the overall structure is competitive.

Management left to the local PFS Design Committee the task of apportioning the available pay increases to the skill blocks. The team allocated equal pay increases to each production block. Payment for each block was further divided to provide increases of one-third of the block total for each level within the block. Employee compensation is determined by the total number of skill levels achieved, regardless of the skill blocks in which they were earned.

Training

Training has been a key to the success of PFS. Training at the plant is linked closely to the requirements of the PFS plan. In addition to training that is generic to the entire plant, training is available for each PFS skill level. Considerable training is required to advance through the entire pay system. Clearly, employees are keenly interested in receiving the training they need to advance in the pay system, and the training they receive is considerable.

The overall PFS training process is managed within the production teams. More specifically, an employee who is certified (see below) for a given skill level is responsible for training the next employee who rotates into the position.

The short-run need to manufacture the product efficiently can conflict with the long-term benefits of training to the plant and to employees. Training is delayed when production demands require skilled employees to remain in place. Employees must wait for openings in new areas before they can rotate and begin to train. There are as few two positions in some skill blocks, while packaging has many positions; the imbalance creates rotation bottlenecks. The practical limitations on training and job rotation opportunities extend the time required for an employee to reach the top pay rate. A new employee typically reaches the top plant rate within four to five years, rather than the two to three years estimated originally. Employees recognize that training is a means to improve production, not an end in itself, but nevertheless limited training opportunities have been a source of frustration at times.

Certification

Each skill block and level is broken down into a detailed list of specific tasks, general knowledge, and trouble-shooting knowledge. These sets of skills and knowledge are organized into checklists. The employee acting as trainer uses the checklists to determine whether the trainee employee has acquired the skills and knowledge relevant to each level in the skill block. Upon attainment of a skill level, the employee's entire team must approve the advancement.

Overall, certification is less formal than in some PFS plans. For example, there is no specific time at which an employee must pass a written test and/or demonstrate the range of skills for which he or she is being certified. Because employees train and certify each other, it is always possible that employees might "go easy" on each other to avoid conflict and to make their own certification easier. There are no ironclad protections against such subterfuge, but four provisions in the pay plan reduce the risk. First, if an employee is unable to perform skills for which he or she has been certified, both that employee and the trainer/certifier lose their next pay increase. Second, individuals requalify for each skill level when they rotate back into a skill block. Third, the entire team must approve all pay increases, and each team reviews its training and certification activities monthly to insure that such activities are conducted appropriately. Since the teams are relatively small and rotation is frequent, shortcomings in employee skills become obvious to other team members. Finally, the Plant Manager

gives final approval for certifications, and on very rare occasions has turned down pay increases that he believed were not merited.

So far, it appears that employees learn the skills for which they are paid. However, some have misgivings about the lack of formal, systematic testing in the certification process. Clearly, this certification process depends on an exceptional level of trust between employees and management.

Communication About PFS

During the PFS design process, the Design Committee kept team members informed about its deliberations through oral reports to the teams, written progress reports, and PFS plan outlines. Each team met to discuss the plan before the Design Committee recommended a pay system to management.

After management approved the PFS plan, the Design Committee compiled a PFS manual that it distributed to all employees. The manual describes the philosophy of the plan, plan rules, and salary progressions, and provides detailed checklists for each skill level. The manual is a communication tool and also a study guide, since it helps employees keep track of what skills they must learn to advance. The plant committee amends the manual as needed to reflect changes in the pay system.

Implementation Issues

In general, implementation of the plan went smoothly. However, two problems arose in implementation.

First, the pay system and skill blocks were repriced even before the PFS plan was implemented. The compensation strategy called for matching the semi-skilled labor rates of local premium employers. The second author discovered, in response to better wage data and employee comments, that the first blocks in the pay system were not high enough to meet this standard. The pay system was recalibrated in combination with another change, which was the redefinition of skill blocks. The original pay system used to hire the work force provided pay increases for two levels of a "startup block." The startup block included general skills useful to the organization, an introduction to a specific area of the plant, and helping with the installation and checkout of equipment. The startup block was eliminated, and the skills it involved were folded into the four production blocks, before the PFS plan was implemented.

Second, and more important, was a problem arising because management prematurely made statements during the hiring process and in the early days of the startup that were interpreted by employees as commitments concerning employee advancement. The initial hires -- a majority of the workforce at the plant -- expected that they would be able to reach the top plant rate within two to three years under the PFS plan. This estimate turned out to be too optimistic; four to five years would have been a better estimate.

The initial management estimate was not out of line with the total amount of time required to learn all the jobs in the plant. However, the estimate did not take into account the practical difficulties of training and job rotation. The teams had to avoid a "musical chairs" scenario in which employees were always rotating from one training situation to another without being proficient at any of the tasks they were performing. Also, there were inevitable bottlenecks in the rotation schedule.

Out of respect for management's initial promises, which were a factor in the decision of some employees to take jobs at the plant, the Design Committee and management agreed to a "grandfathering scheme." All those hired after the initial round of hiring would progress according to the PFS plan that has been described in this paper. The first group of 42 hires, however, would be "grandfathered" so that it would be possible for them to progress to the top rate within three years. This group was given time to make up for skills they "owed," that is skills for which they were being paid but for which they had not yet been certified. As part of the scheme, grandfathered employees lost pay for skill levels if they rotated into an area but could not pass the certifications.

Grandfathered employees have progressed as hoped in the training and certification process. Within 18 months of adopting PFS, less than half of the work force was being paid based on the grandfathering arrangement. In part, this is because many original hires have been able to sustain an accelerated training schedule, largely because startup conditions provided them with wider experience than would be the case in normal operation. Also, a few of the original hires have left the organization. Obviously, it would have been better for management to have avoided a premature commitment in the first place. Under the circumstances, however, the grandfathering arrangement has worked satisfactorily so far.

Evolution of the PFS Plan

The plan has evolved over time in minor and major ways. More or less routine modifications occur periodically in the skill levels and skill blocks to take into account changes in the production process. For example, as new steps in the process are added or the machinery changes, the pay plan must change as well. A major change was the addition of a "training group." This group met several needs. Hiring replacement workers was a source of frustration because the hiring process is so thorough and time-consuming. Hiring a replacement worker typically requires six to eight weeks -- a long time for a short-handed team to wait. The solution was to create the training group, a set of two to four people who are the pool from which replacements are drawn. The training group works full-time on the day shift, helping with special projects, replacing long-term absentees, and working in the storeroom. They are on the skill-based pay system, and they can receive credit for any skill levels they learn. However, they have limited opportunities to advance until they become regular team members.

In the future, additional skill blocks may be added to the PFS system. The Design Committee has discussed adding skill blocks concerned with maintenance skills and administrative/ office skills. Because not every employee needs to have such skills, there may be limitations on the number of team members who are eligible to receive compensation for these skills.

Comparison of PFS at Both Squeeze-it Plants

We have focused on the PFS plan in only one Squeeze-it plant for illustration purposes. It is useful to review the major differences between the two pay plans, before reviewing the effects of PFS in both plants.

The West Coast plant uses similar skill blocks, but has no distinct levels within the blocks. This means that each pay increase received by an employee is worth more but is received less frequently than in the East Coast plant. Also, there was less effort to balance the degree of skill in each block, and the higher amounts are paid for attaining more difficult skill blocks. The West Coast plant also uses a permanent "team leader" position that includes a small pay premium. Both plants successfully used a grandfathering scheme, although the specifics of the plan and its dynamics differed

in the two plants. Finally, the West Coast plant is further ahead in defining possible new skill blocks beyond the four main production blocks.

Despite these differences, the two plans are much more similar than different. This follows from the way in which both plans were tailored to essentially the same technology and work system. Both use a similar skill block structure, similar training practices, a heavy dose of employee participation in pay design and administration, and so on.

Effects of the PFS Plan

It is difficult to prove that pay-for-skills plans benefit the organization in a high involvement startups like the Squeeze-it plants. This is because many innovations are adopted at startup, including work teams, extensive information sharing, heavy training, and so on. It is difficult to attribute positive results to any particular innovation, rather than to the overall system. Nevertheless, the plant manager and the human resources manager responsible for the plant are convinced on the basis of their personal experience that the PFS system has led to a number of positive effects, including greater employee flexibility, a reduction in the number of job classifications, support for other innovations such as training and work teams, and so on. A special benefit relevant to startups is that employee labor costs did not reach a peak for several years as employees moved through the PFS system. The ramp-up in production levels during this time created the resources to fund employee pay increases on the PFS system.

Organizational Effectiveness

It is clear that both Squeeze-it plants are highly effective organizations, even if it is difficult to know how much PFS has contributed to their effectiveness. On every key measure of internal performance, these plants are among the most effective in their Division. Staffing is lean because of the absence of hierarchical levels and job classifications. Overall, Division managers estimate that the two Squeeze-it plants operate with 20 percent fewer exempt and non-exempt employees than would have been the case if a traditional organization design was used. The two plants also are among the best performers in the Division on ratings of productivity (measured by throughput efficiency), quality (measured by customer complaints per million units), sanitation (measured by inspection ratings), and

lost-time accidents. Another indication of effectiveness was the success of the production startups in meeting startup commitments and production requirements. This was especially true of the East coast plant, which was able to avoid some of technical glitches initially experienced by the West coast plant. The most pessimistic conclusion one could draw from this bright picture is that the PFS plan did not stand in the way of superior performance at either plant. Management and employees generally believe, on the other hand, that PFS is one important element in a larger pattern of practices that generates high performance.

Benefits of PFS to Employees

The benefits of the PFS system have accrued to employees as well as to the plants. The average employee in both organizations earns higher wages than would have been the case if the plants had used traditional pay systems. Employee attitude data also indicate that the employees endorse the pay system and see it as in their interest.

Insert Figure 1 about here

Systematic attitude data are available from the West coast plant. An employee survey was administered at the plant by the first author just after adoption of the PFS system in 1987, and a second survey was conducted by his colleagues at the Center for Effective Organizations 14 months later, in 1988. Figure 1 presents a summary of relevant measures from a larger study of attitudes at the plant.

The data reveal that a majority of employees have positive attitudes on various traditional survey measures, such as pay satisfaction, satisfaction with pay administration, and measures of pay equity. Consistent with the ongoing efforts to develop the pay system, most employees were optimistic that change in the pay system was moving in a positive direction. Attitudes on these measures are favorable but not exceptionally so.

Attitudes about the PFS system specifically are conspicuously favorable. Sixty to 90 percent of employees express a preference for PFS over traditional pay systems, indicate they understand the plan, believe the plan is equitable, believe that certification is done fairly, and believe that PFS fits the overall

work system design. Participation in pay system design and administration was more limited, although there was a sharp increase in involvement by Time 2.

Attitudinal outcomes measures confirm that there is a very high quality of work life at the plant. Approximately 90 percent of employees indicate that they are satisfied with their job, satisfied with opportunities to meet their growth and social needs, and committed to the organization. A small minority indicate that they intend to quit the organization.

Most employee attitudes were stable from 1987 to 1988. Statistical analyses of attitude change are not reported here. However, a useful rule of thumb is that survey changes of .3 or greater and a shift in percent positive of 10 percent or more probably are meaningful, while smaller changes may be due to random variation. Using this rule of thumb, all meaningful changes are in a positive direction during the first year of experience with PFS. This is especially true of attitudes directly concerned with the PFS system. For example, preference for PFS, ratings of the fairness of certifications, and employee participation in pay design and administration all rose sharply.

Comparison data were collected by Sue Mohrman and Peter Kreiner of the Center for Effective Organizations in 1988 from all plants in the Division except the East coast Squeez-it plant. The data indicate that all five attitudinal outcomes are considerably higher in the West coast Squeez-it plant than in the Division as a whole. Indeed, the West coast plant had the highest average of any plant in the Division on four of the five measures. The Squeez-it plant was close to the average for all plants on pay satisfaction, overall pay equity, and equity compared with co-workers, and was above average on satisfaction with pay administration. However, the second survey administration was conducted after only a little more than a year's experience with the pay system, and no employees had yet reached the top pay rates. Prior research on pay suggests that employee pay satisfaction and possibly other pay attitudes should become more favorable over time as pay levels increase under the PFS system. Obviously, no comparison data were available concerning the PFS system itself.

The survey was not conducted in the East Coast plant. However, based on in-depth interviews with employees and the second author's experience, the general profile at the West Coast plant appears to fit the East Coast plant reasonably well.

Conclusions

This case suggests several lessons about PFS systems.

1. *Pay-for-skills is a long-term investment.* Both for employees and for the organization, PFS plans represent a long-term investment. Employees must progress through the system over a period of several years in order to reach the top pay rate. In order for this to be possible, management must maintain its commitment to providing training and other resources needed to make the pay plan work. Management must continue to support this non-traditional system during a period in which employees may insist on involvement in pay administration, a sensitive their area traditionally reserved for management. Such a plan is likely to fail if it is viewed as a quick fix.

2. *Change in the pay system is inevitable, and should be expected and planned.* No pay system can remain static and still meet business objectives unless the technology, the work system, and the business all are stable. Few contemporary organizations enjoy such stability. Rather than resisting change in the pay plan, change should be embraced and in fact orchestrated periodically. Periodic changes need not threaten the system as long as employees understand and accept the changes.

3. *Employee involvement in PFS design is practical and can be very effective in gaining acceptance and understanding of the plan.* In both plants, employees did most of the pay design work themselves with only general guidance from management and outside consultants. Those involved in the design process clearly learned a great deal about reward systems as a result. There is no doubt in our minds that the high level of support for PFS at these facilities results partly from employee involvement. Employees see it as *their* plan to a large degree.

Several factors seemed helpful in making employee involvement successful. Clear parameters, set from the beginning, are very useful. The Design Team found it helpful to have a top and bottom pay rate from which to work, for example. Some initial training for the team on reward systems and PFS probably was essential.

It is important for management not to make premature commitments that lead the participative design process astray. The grandfathering arrangement, for example, was inconsistent with the logic of the PFS plan, and was adopted only as a compromise solution to a problem created by premature

management commitments. However, if management had allowed for the possibility of practical difficulties in job rotation and training, the problem need not have arisen. Fortunately, the grandfathering compromise worked at both plants, but it would have been better to have avoided the problem in the first place.

4. *PFS is not a complete pay system.* PFS is a base pay system; it does not directly tie pay to performance. It is desirable to combine PFS with some of pay for performance. One particularly promising combination is PFS and gainsharing. Gainsharing provides plant-wide bonuses to employees when the organization as a whole exceeds performance targets. Gainsharing is attractive to the two Squeez-it plants because the highly interdependent production technology makes identification of group performance far easier than the identification of individual performance, and because gainsharing is a natural fit with the team system. Both plants are actively considering the adoption of gainsharing plans for the future.

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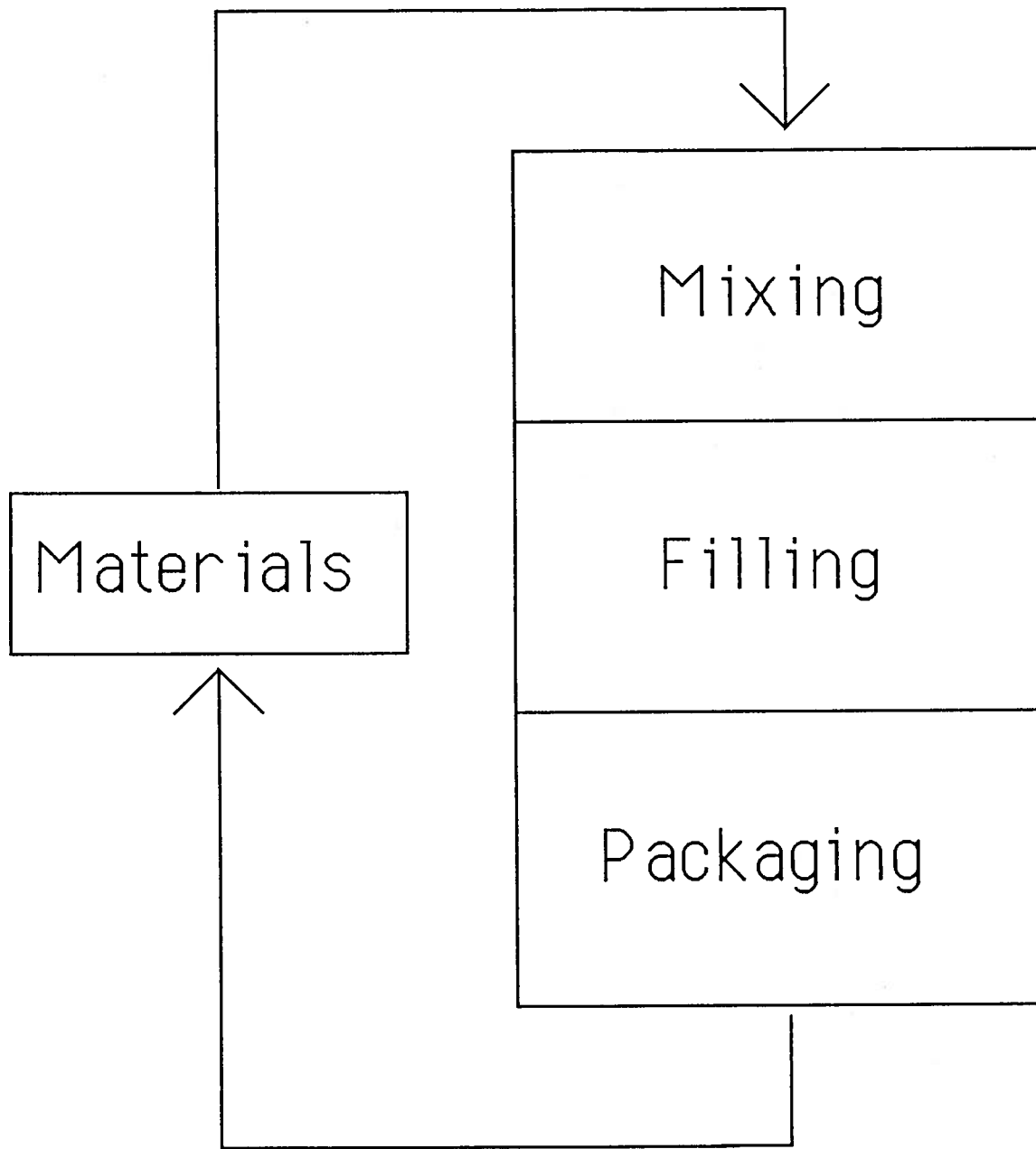


Figure 1

PRODUCTION TECHNOLOGY:
SEQUENCE OF STEPS

TABLE 1
 EMPLOYEE ATTITUDES TOWARD PAY-FOR-SKILLS
 AND RELATED ISSUES¹

SURVEY MEASURE	1987/1988 MEAN (AVERAGE)	1987/1988 PERCENT POSITIVE	1987/1988 PERCENT NEUTRAL	1987/1988 PERCENT NEGATIVE
<u>ATTITUDES TOWARD PAY</u>				
Pay Satisfaction	4.4 / 4.4	51/56	18/9	31/35
Satisfac.- Pay Administrat'n	4.6 / 4.7	56/55	17/9	25/26
Overall Pay Equity	4.5 / 4.7	55/68	16/6	29/26
Equity versus Co-Workers	4.9 / 4.9	63/69	17/10	20/21
Equity versus Local Area	4.7 / 4.9	57/71	31/12	11/17
Equity versus Industry	4.4 / 4.3	46/45	34/30	19/24
Change in Pay System	5.3 / 5.1	72/60	25/36	4/4
<u>ATTITUDES TOWARD PAY-FOR-SKILLS</u>				
Preference for PFS	4.9 / 5.4	61/82	24/4	15/15
Understanding of PFS	5.7 / 5.9	89/95	11/1	1/4
Equity of PFS System	5.3 / 5.3	73/79	19/9	8/12
Certification Fairness	5.0 / 5.3	63/83	31/0	6/17
Participation in PFS System ²	2.6 / 3.0	19/38	29/43	51/24
Fit of PFS w/ Organization ²	4.1 / 4.3	70/80	22/15	8/5
<u>ATTITUDINAL OUTCOMES</u>				
Job Satisfaction	6.0 / 6.1	89/94	5/0	6/6
Satisfaction: Growth Needs	5.7 / 5.8	94/91	3/6	3/3
Satisfaction: Social Needs	5.7 / 6.0	91/94	2/5	7/1
Organizational Commitment	5.9 / 6.1	90/95	7/2	4/3
Turnover Intention	1.8 / 2.0	5/11	9/3	86/86

NOTES

1. Data were from 36 respondents in 1987 (88 percent response rate) and 41 respondents in 1988 (91 percent response rate).

2. All measures used seven-point response scales except participation in PFS System and Fit of PFS with the Organization Design, which used five-point response scales. Higher means are more favorable except on Turnover Intention.