

The Effect of Monetary Incentives on Absenteeism: A Case Study

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ABSTRACT

An attendance bonus paid by a wood processing firm was studied to determine its effectiveness in reducing absenteeism. Employees were divided into permanent and short-term groups, and their response to the bonus was studied, using non-parametric tests. The evidence suggested that the incentive favorably influenced the work attendance of only the permanent group. Recommendations are made for future research.

ABSENTEEISM is a critical problem commonly encountered by management. In a survey of Missouri's wood industry, it ranked third in importance as a problem faced by supervisors in maintaining production (*Adair 1969*).

The effects of absenteeism can be measured in terms of higher production costs and lost sales. For example, consider:

Sick Pay.—Those who are absent are frequently given a half or even a full day's pay for which the company does not receive any work in return.

Other Fringe Benefits.—Even if sick pay is not given, most firms continue to contribute to the absentee's hospitalization and life insurance, and to provide the same number of paid holidays and vacation days.

Extra Workers on the Payroll.—Stand-by men, sometimes called "floaters", are often kept on the payroll to fill in for absentees. But since the number of absentees fluctuates, there are times when these extra men are not fully utilized.

Overtime Pay.—Firms are often forced to pay overtime premiums to make up for the lost production caused by absent workers.

Reduced Operating Efficiency.—When inexperienced workers are used as replacements for trained men, output is lower, raw material waste is frequently greater, and the end product is often poorer in quality.

Idle Machinery and Unused Investment.—This occurs when no one is available to take over the absentee's job.

Disrupted Schedules and Inconvenienced Customers.—Delays in production and shipping schedules may mean loss of customers to competitors, and the need to carry larger inventories.

Absenteeism can be classified as either voluntary or involuntary. Involuntary absences result from legitimate causes such as

illness, death in one's family, jury duty, and injuries sustained on or off the job. In contrast, voluntary absenteeism is avoidable and can be prevented. It occurs when the employee could come to work but for some reason decides not to.

Two methods are often used to reduce and control voluntary absenteeism. The first method involves the use of various forms of punishment. An offending employee is usually given a warning, then is laid off, and is finally discharged if his absence from work continues. The threat of disciplinary action is used to coerce the employee into regular work attendance.

The second method consists of providing the employee with extra incentives for coming to work. These incentives may take the form of cash payments, additional time off, stock purchasing privileges, trading stamps, free lunches, or a chance at a company-sponsored jackpot.

Many managers object to the use of attendance incentives because they believe it should not be necessary to give extra compensation to employees for doing what they are expected and already paid to do. However, some companies that use attendance incentives claim that incentives are effective in reducing and controlling absenteeism.

To help determine the usefulness of incentive programs, we studied one being used by a wood processing firm in the Appalachian region.

BACKGROUND

The study firm operated two sawmills and a hardwood dimension plant which together employed 136 people. In December of 1970, the company's management started a cash incentive plan to encourage its non-supervisory production and maintenance workers to improve their work attendance.

The incentive plan was quite simple. Each individual who had worked a 5-day week received a \$2 cash certificate that was re-

deemable once a year during the week before Christmas. The certificates were signed and distributed by the company's foremen at the end of each work week. Employees who were absent for more than 4 hours on any one day—regardless of the cause—did not receive their certificates.

The bonus represents 3.1 percent of the weekly pay for employees earning \$1.60 per hour and 2.0 percent for those making \$2.50 per hour. The first annual payment of the bonus was made in December of 1971 and amounted to nearly \$5,000. Eight employees earned the maximum bonus of \$104.

STUDY METHODS

To determine whether the incentive plan influenced work attendance, we examined absenteeism during three 6-month periods. The first period was from December 1969 through May 1970, during which there was no attendance bonus in effect. The second period was from December 1970 through May 1971. Because the bonus began in December 1970, its immediate effect was indicated during this period.

The third and final period was from December 1971 through May 1972, which immediately followed the company's first annual payment of the bonus. This period was examined to determine if employees improved their attendance after once having received a cash payment for their efforts.

Absenteeism for these three time periods was measured in two different ways. The first measure was the total number of days a worker was absent per period and the second was the number of incidents or occasions of absence per period. By using this latter measure, an employee who missed several consecutive workdays would be charged with only one incident of absenteeism. A measure of this type has been recommended for use as an indicator of voluntary absenteeism because it accounts for the frequency rather than the duration of absence (*Chadwick-Jones et al. 1971*).

The study firm's management felt that its permanent employees might be more responsive to the incentive than the workers with less tenure. To account for this possible dif-

ference, we divided the employees into permanent and short-term groups. Workers who had been continuously employed by the firm from December 1969 through May 1972 were classified as permanent employees. All others were placed in the short-term group.

Samples were randomly drawn from each of the employee groups. A sample of 27 men was selected from the permanent group. Three samples—30 men in each of the first two periods and 27 in the last—were selected from the short-term group.¹ It was necessary to draw an independent sample of short-term employees in each period because none of the men had worked all three periods.

Absence rates were found by making tabulations from employee time cards. All absences were counted with the exception of holidays and vacations. Employees were considered absent if they worked less than 4 hours during a regularly scheduled workday.

A plot of the data showed that the frequency distributions were skewed to the left and included a number of outliers. This suggested that a distribution-free or nonparametric test would be more appropriate than the analysis of variance. The signed-rank-difference test (*Wilcoxon 1949*) was used for permanent employees and the two-sample rank test (*Wilcoxon 1945*) was used for the short-term employees.

DISCUSSION AND RESULTS

Absenteeism for the firm's short-term employees was much greater than for the permanent ones (table 1). In 1970, the short-term men were absent 7 percent of the scheduled work time, as compared to only 4 percent for the permanent men. However, the average length of each incident of absence was longer for the permanent workers. In 1970, the permanent men were out of work an average of 2 days each time they were absent, while the short-term men were out of work only 1½ days. This probably indicates that a

¹Thirty employees were originally included in each sample. During the final stages of data collection, a few were omitted because some of their time cards were missing.

Table 1.—Mean absence per 100 working days for permanent and short-term employee samples

Employee group	Absence measure	Operating period		
		1970 ^a	1971 ^b	1972 ^c
Permanent	Number of days	3.99	4.38	2.56
	Number of incidents	2.04	2.31	1.65
Short-term	Number of days	6.98	8.81	7.91
	Number of incidents	4.77	5.88	5.20

^a12/69-6/70 No incentive in effect.

^b12/70-6/71 Incentive in effect but no cash yet received.

^c12/71-6/72 Incentive in effect and cash received in December for 1971 attendance.

larger proportion of the absences of short-term men were voluntary.

The mean number of days absent increased from 1970 to 1971 and then decreased in 1972 for both the permanent and short-term employee samples. Analysis of variance indicated that these changes were not statistically significant at the 10 percent level for either days or incidents of absence and could easily have been the result of sampling.

The Wilcoxon signed-rank-difference test for the permanent employees provided evidence that the bonus was working. From 1970 to 1972, there was a decrease in the median number of days absent ($P=.046$). There was also weak evidence of a decrease in absences over time under the bonus except for incidents of absence during the 1970-71 period. The two-sample rank test showed no statistically significant difference in absenteeism of the short-term employees.

The evidence available indicates that the incentive plan favorably influenced the work attendance of the permanent employees but had no measurable effect on the short-term men. This conclusion supports management's prior observation that the permanent men were making an extra effort to get to work while there was no noticeable change in the habits of the short-term employees.

The incentive did not affect the work attendance of the short-term employees even though they had the highest absence rates. A possible explanation is that the attendance

certificates were redeemable only in December of each year and only if the worker was currently employed by the firm. This restriction made many of the workers ineligible to receive the bonus, thereby taking away any incentive they might have had to improve their work attendance. This could have been partly avoided by making the payments on a quarterly or monthly basis. An alternative to increasing the frequency of payment would be to permit workers to redeem their certificates whenever they terminated their jobs or to sell them to other employees.

The 12-month waiting period required to redeem the attendance certificates may have been too long. To effectively motivate employees, incentives should be paid on a relatively frequent basis. Too long a time interval between payoffs may cause a loss of interest. In our opinion, a time interval of 3 months or less would be more suitable.

The size of the attendance incentive was relatively small compared to similar incentives that have been used by other companies. Most attendance incentive plans that have been reported in the literature provide a bonus representing 5 to 10 percent of an employee's weekly pay. A larger incentive by the study firm might have resulted in a greater response by all the employees.

In spite of these faults, the incentive plan had several good features. It was simple to explain and could be easily understood by the firm's employees. The plan treated all workers fairly and avoided arbitrarily determining whether each absence was justified. A half-day's absence was permitted without penalty. This helped to avoid the ill-will of employees who would have otherwise lost their bonuses for excusable reasons. And the plan was designed so as not to become too great a clerical and administrative burden.

The incentive plan might have caused a more impressive change in absenteeism if it had been introduced by a firm that originally had high absence rates. The absence rates of the study firm (4 percent for permanent men and 7 percent for short-term men) were relatively low compared with those of other lumber companies in the same area. During 1970—the year before the incentive plan started

—two nearby firms lost twice as much time because of absenteeism. Many personnel managers consider between 2 to 3 percent to be the minimum rate obtainable.

RESEARCH NEEDS

This study has shown that additional research is needed before conclusions can be drawn about the usefulness of attendance incentives. Different forms of rewards—money, time off, stamps, etc.—need to be explored along with the effects of varying the size, frequency, and basis of payment. Positive incentives should be compared with disciplinary measures to determine which approach is most effective for reducing absenteeism. These studies should extend over several years to find out whether the effectiveness of incentives diminishes with time.

The incentive plan cost the company nearly \$5,000 per year. It is uncertain whether the improvement in work attendance among the senior employees justified this outlay. Management did not know how much absenteeism was costing the company. Therefore, it was impossible to compare the cost of the incentive program with the savings from lower absenteeism.

This emphasizes the need to develop cost accounting procedures to determine the losses caused by absenteeism. Such procedures would enable managers to evaluate the economics of incentive schemes.

If at all possible, future studies of attendance incentive programs should include control groups. Other mills in the same company or separate departments and work shifts could serve this purpose, provided that both man-

agement and the employees are willing to cooperate.

All incentive plans have an important shortcoming—they fail to identify and correct the underlying causes of poor work attendance. For example, high absenteeism may be caused by poor working conditions or inadequate communication between supervisors and their men. Offering a pay incentive may tend to make the employees more tolerant of these conditions rather than correcting them. A better approach would be to accompany the incentive with management efforts aimed at improving the conditions that initially caused the absenteeism.

To do this, research is needed to identify and measure the personal, organizational, and labor market variables that influence absence rates. Included in these categories are such factors as age, occupation, tenure, firm size and industry, work schedules, sick leave policies, wages, and the unemployment rate. Studies of this type would provide information needed to design incentive programs and to suggest changes for eliminating some of the causes of absenteeism.

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