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A Human Resource Planning Approach for Reducing the Cost of Absenteeism

Dow Scott

Although absenteeism rates can be reduced significantly in most organizations, it must be recognized that absenteeism is a legitimate employee benefit and will occur at some level despite control efforts. The author proposes that a human resource planning approach can substantially reduce the cost of absenteeism by staffing for predicted levels of absenteeism. There are three preconditions for such an approach: (1) absenteeism measures must be developed and attendance data collected; (2) the probability that jobs will be vacant must be calculated; and (3) a cost analysis for alternative strategies of filling job vacancies must be completed. Diagnostic instruments are included so managers can determine if this approach will reduce the cost of absenteeism for their organizations. Dow Scott is with the College of Business at Virginia Polytechnic Institute and State University.

Absenteeism is recognized as a costly and pervasive problem in both the public and private sectors. Conservative estimates indicate that U.S. absenteeism costs are in excess of \$30 billion annually in direct replacement costs and productivity losses. An organization with 1,000 employees and a paid absence program invests in excess of \$200,000 for each percentage point of absenteeism. As a result, a substantial effort has been made to control this problem as the numerous articles published and the large enrollments in absenteeism control seminars attest (Porter and Steers, 1973; Muchinsky, 1977; Rhodes and Steers, 1978).

An examination of these materials clearly indicates that absence control in either context means a reduction in absenteeism. However, neither writers nor managers would suggest that absenteeism could, or should, be eradicated. In fact, employee absenteeism is not only allowed, it is often paid because job absences represent an important and very legitimate employee benefit (Scott and Markham, 1981). The implicit, if not explicit, concern is the abuse of this expensive benefit by employees (Hedges, 1977). Employers do not want ill or emotionally distraught people at work. Furthermore, employees must have access to services that are available only during working hours, such as doctors, lawyers, government offices, etc. Vacations, holidays, military leave, and jury duty are allowed as compensation for employment and to protect employees from financial loss if they have to miss work. As a result, even if absenteeism control methods are successful in preventing abuses, absenteeism will still occur. As such, it is reasonable to assume that absenteeism is a given in the employment relationship and that strategies for controlling absenteeism should include methods of coping with this problem. Human resource planning (HRP) technology offers one such approach for reducing the cost of absenteeism, even if methods of further reducing the rate are not feasible.

The HRP approach reduces absenteeism costs by identifying the most effective methods of replacing absent employees at a predicted level of absenteeism. Such strategies devised to reduce the costs inherent in absenteeism have received limited

consideration. Although Berger and Monahan (1974) discussed HRP in this context, their analysis was limited to one method of replacing absent employees. Other references to this approach, such as Stone's (1980), refer to replacement strategies in terms of calculating absenteeism costs but do not tie replacement strategies to HRP. Accordingly, a basic method of forecasting absenteeism rates is examined and a procedure for identifying the least costly means of replacing absent employees is outlined.

THE FORECASTING PROCESS

The basis of most employment forecasting is what has happened in the past. However, unlike human resource supply or demand forecasting, the attempt here is to predict attendance on any given day. Because of data availability and significant planning constraints inherent in this process, the prediction accuracy is increased substantially over traditional human resource planning forecasts.

Although personnel managers and supervisors have "gut level" feelings for how many, if not who, will be absent on any one day, specific absenteeism measures and sound data collection procedures are required. In one sense, the measurement of absenteeism for HRP purposes is quite simple -- the employee is either at work or he/she is absent. The reason for the absence is of little importance; rather, the concern focuses on the predictability of the job absence and the method of replacing the absent worker. Yet, in most cases absenteeism data collected in organizations exclude certain absences such as vacation, jury duty or military leave from the calculation of absenteeism rates. Although this categorization provides useful information for identifying possible abuse of absenteeism policies and for allocating the compensation budget, job absences (for whatever reason) must be examined in terms of their degree of predictability for HRP purposes. For example, vacation time is scheduled in advance and most organizations have rules concerning the number of people who can take a vacation during any one time period. In fact, in some cases, the plant/operation may close in the summer or over Christmas and force employees to use vacation time during these closings. Illness is unscheduled but most firms have call-in requirements, and estimations can be made concerning the duration of the absence. Seasonal fluctuations have also been observed which could improve one's ability to predict this occurrence. The least predictable is car trouble or an accident on the way to work because advanced warning is not possible. Categories of absenteeism data for HRP purposes could, for example, include:

1. **Scheduled Absences:** Employees provide at least 48 hours advance notice and have some flexibility in scheduling their absences.
2. **Announced Absences:** The employee provides at least 12 hours notice when he/she must be absent.
3. **Unscheduled Absences:** The employee calls in prior to the beginning of the shift indicating he/she will be absent.
4. **No Show or AWOL:** The employee does not inform management that he/she will be absent. The employee may call sometime during his/her shift.

The next step involves collecting the absenteeism data. Although this may seem like a relatively minor element of a program, it has been the author's experience that absenteeism data is often not very accurate. Clerks or supervisors who tabulate this information may consider it unimportant or only have a vague notion of what circumstances surrounded the absence. Thus, attendance records might be incom-

plete or have systematic errors and inconsistencies. The organization reward structure may be such that distortion of this information is in the best interest of supervisors and managers.

Once a reasonably sound data base has been established, the predictability of absenteeism can be increased by identifying attendance patterns over time. This analysis requires that the unit of analysis be established. At one extreme, the unit of analysis could be the entire organization. Assuming the organization was larger than 80 employees, the absenteeism rate would probably be fairly consistent on a daily basis. However, there would be several problems inherent in this unit of analysis. First, employees are not perfectly interchangeable. One could not simply replace a skilled production worker with an office secretary if an absence occurred. Second, because employee and job characteristics differ between occupations, absenteeism rates could vary widely between employee groups. Finally, wage levels and the employee impact on the productivity of the organization would also differ markedly. A single cost-effective strategy could not be constructed to replace absent employees across all job classifications.

At the other extreme, the individual employee represents the smallest possible unit of analysis. Although a very exact determination of employee and job characteristics would be possible, the probability that one individual would be absent on any single day would be so low that prediction would not be possible. As a result, utilizing individual employees as a unit of analysis would also not be very practical.

Although the establishment of the absenteeism analysis unit between these two extremes is going to be organization-specific, several factors should be considered. First, the number of employees in the unit must be large enough to allow prediction of the absenteeism rate on any single day. Second, it is helpful to have similarities between employees and job characteristics because persons performing similar work under the same working conditions, who are for the most part members of the same social unit, may have similarities in attendance patterns. For example, among production workers in rural communities, absenteeism is higher during harvest and hunting season. Third, wage rates, job flexibility and impact on productivity must be considered because they will influence cost effectiveness of replacement strategies. A more detailed discussion of methodological issues concerning the analysis unit of absenteeism is provided by Markham, Danserau, and Alutto (1981).

Once the units have been established, a probability schedule for the number of absences can be calculated based on historical data. For instance, the probability that three employees out of 50 may be absent may be 1.0 on any one day; six employees, .80; eight employees, .50; and 11 employees, .05. This is the same type of predication of uncertainty made when hotel reservations or airline flights are overbooked. Once these probabilities are arrived at, replacement strategies may be considered.

ANALYSIS OF ALTERNATIVE STAFFING STRATEGIES

Although organizations typically do not suspend operations when employees are absent, staffing to cover absent employees is often haphazard at best. The four basic alternative staffing strategies for absenteeism are described and the costs associated with these strategies are outlined.

Operating with reduced staff is probably one of the first alternatives considered by managers when absences occur. Although salaries/wages and benefit coverage for additional employees are saved by not replacing those who are absent, reductions in productivity and decreased employee morale may result. The major cost associated with reduced productivity is consumer complaints concerning late ship-

ments, lost sales because the product is not available to the purchaser, and disruption of the production process when materials move between departments. The impact of this staffing strategy will depend on the organization's ability to shift people internally to higher priority work, thus maintaining production levels. Other costs include quality problems if substitutes are less expert than the employees they replace, higher wages if replacements are substituted from better paying jobs, and additional training costs to maintain worker flexibility.

The quality reputation of automobiles built on Mondays and Fridays illustrates the impact of these types of problems. Operating with reduced staff will negatively affect employee morale because employees are pressured to take up the slack created by those absent, and those who show up are constantly moved around to fill job vacancies. Such morale problems have been associated with employee grumbling, unionization attempts, and where unions exist, the negotiation of restrictive work practices. Of course, when absenteeism reaches certain levels, production will come to a halt because essential operations cannot be covered, as has been the case with Navy destroyers and carriers.

Having employees work extra hours represents another strategy for replacing absent workers. In the chemical industry where plants operate 24 hours a day, it is common to replace absent workers by having someone from the previous shift stay over four hours and asking someone from the next shift to come in four hours early. The overtime premium is a substantial cost inherent in this strategy because the payment for the extra hours is at least time-and-a-half, and may be double-time, or more. Even though employees working overtime are skilled people, productivity may decrease while accidents increase because of worker fatigue. Where overtime requirements are high, employee morale tends to go down and absences will increase because workers will take days off to conduct personal business or to "rest-up."

A third strategy of staffing for absenteeism is to employ more people than are normally required to operate the production unit. On days of high attendance, a major cost is incurred if there is not enough work to go around. Labor costs are higher because additional employees receive the benefits offered by the organization. This strategy may also result in higher costs in the long run if employees develop poor work habits because of being overstaffed. Lower productivity or more frequent absences result when employees know that people are available to replace them.

Finally, temporary help can be used to replace absent employees. This method requires that a list of qualified replacements be maintained and that these temporaries have some kind of incentive for working parttime on a short notice call-up. For certain employee classifications, temporary employment services will fulfill this function for a fee. Whether the organization maintains its own list or utilizes an employment service, these replacements are often less productive, require more orientation/training, and may not be available when needed. Although temporaries usually do not receive benefits, a wage premium may be demanded if they are to be available when needed.

The replacement strategies discussed provide only a general listing of those costs an organization must assume when it staffs for absenteeism. Of course, the total relative cost of each strategy will vary widely among organizations and even among major categories of employees. These cost variations are caused by differences in: 1) client/customer demands for goods and services; 2) availability of skilled replacements; 3) the production process; 4) relative labor costs; and 5) the organization's ability to predict absenteeism.

In order to calculate the specific costs inherent in each replacement strategy, four major cost categories should be considered:

1. Pay: Does the replacement strategy require premiums or duplicate fringe benefits?
2. Productivity: Does the replacement strategy slow production or decrease the quality of goods/services? Are replacements more accident prone or does the scrap/error rate increase? Do reduced staffs cause employees to neglect important duties or result in idle production capacity?
3. Administration: Does the replacement strategy require additional time investments by supervision or administrative staff, e.g., orientation, training, obtaining replacements, documentation requirements for additional staff, etc.?
4. Morale: What effect does the replacement strategy have on employee job satisfaction, work habits, propensity to be replacements documentation requirements for those absent, etc.?

Figure 1 shows an instrument that has been designed to evaluate these costs in terms of each replacement strategy. Translating these costs into exact dollar amounts is certainly desirable but it must be recognized that exact figures may be quite costly to obtain or not entirely feasible. However, these estimates should provide enough precision to determine which replacement strategy is the most efficient one at a given level of absenteeism.

FIGURE 1
Employee Replacement Strategy Evaluation

EMPLOYEE CATEGORY _____
Predicted Absenteeism Rate _____

ADDITIONAL COST	OPERATE WITH REDUCED STAFF	OVERTIME	OVER-SCHEDULE	TEMPORARY HELP
<u>PAY</u> <ul style="list-style-type: none"> • Wages/Salary Premium • Duplicate Benefits <u>PRODUCTIVITY</u> <ul style="list-style-type: none"> • Quantity • Quality • Idle Production Capacity • Unfilled Orders (customer dissatisfaction) • Accidents • Neglect of Important Duties • Scrap/Error • Confusion <u>ADMINISTRATION</u> <ul style="list-style-type: none"> • Employment Service Fee • Documenting Request • Lead Time Requirements • Orientation • Training • Obtaining a Replacement • Employment • Overhead of extras <u>MORALE</u> <ul style="list-style-type: none"> • Job Dissatisfaction • Poor Work Habits • Propensity to be Absent 				

Once a level of absenteeism can be predicted through forecasting, then the least costly replacement strategy can be determined. Assuming that these replacement costs have not been carefully thought through before, a substantial savings may result from simply changing the method of replacing absent employees.

However, the cost of replacement will vary with the level of absenteeism. For instance, at lower levels of absenteeism the cost of overtime may only be a 50% premium. As increased amounts of overtime (higher absenteeism) are required, productivity may decrease while accidents increase due to fatigue, employee morale may go down because the organization demands longer work hours, and absenteeism may increase as employees take regular work days off to handle personal needs. Because the cost of utilizing a particular replacement strategy is not constant, organizations may be able to reduce absenteeism costs even further by using a combination of replacement strategies.

To illustrate this point, consider a medium-size hospital (150 beds) with 160 nursing services employees. Because the hospital is in a continuous operation, three shifts exist, and work is required on the weekends. An analysis of absenteeism data has shown that eight employees are absent during any 24-hour period. Given this level of absenteeism, the most cost-efficient strategy can be determined using the form in Figure 1. However, if one examines this situation more closely, a combination of strategies may be warranted. The hospital administrator has found that the hospital can operate without two or three employees on four or five shifts during the week with little effect on productivity. It has been the administrator's experience that small amounts of overtime increase cost by only the pay premium, but at higher levels fatigue decreases productivity and there are fears that errors may be made in giving medication. For female employees, their home responsibilities are such that overtime is not popular and absenteeism increases when overtime is required. Temporary help has proven to be a good source of replacements because there are a number of nurses with small children in the area who desire parttime employment. Although a pay premium to be on-call is required for temporaries, they are not covered by the hospital benefit program. Because temporaries do not come in every day, supervisors must spend more time orienting them and certain work cannot be assigned to these nurses.

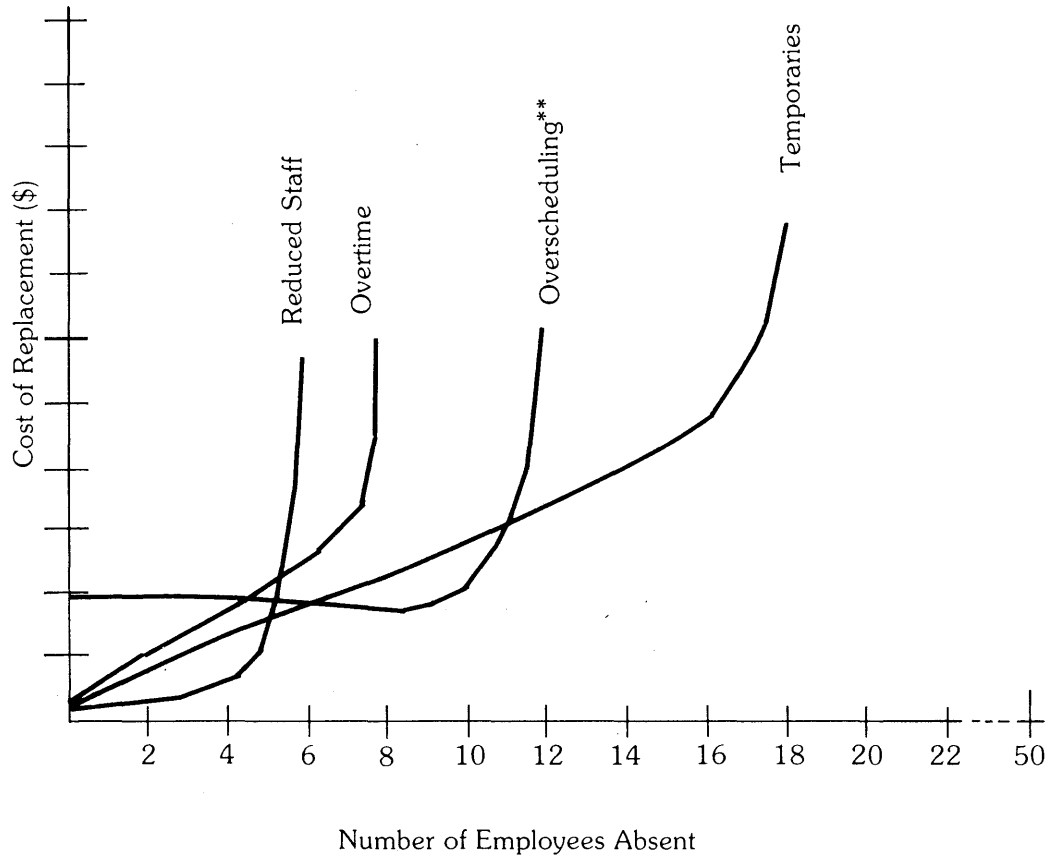
In this hospital illustration, as in many organizations, the relationship between replacement costs and rate of absenteeism is more complex. To determine the best approach in these situations requires a cost analysis of replacement strategies at different levels of absenteeism. In other words, the cost of replacing nurses with overtime and with the other three strategies must be calculated for situations where from 0 to 15 employees are absent and then compared. To make this comparison process easier, the cost for each strategy can be graphed as in Figure 2. This displays the rate of absenteeism with cost of replacement for all four strategies.

As can be seen in the graph, certain strategies are more cost-efficient at different levels of absenteeism than are others. For instance, operating with reduced staff is far cheaper than overscheduling when only one or two persons are absent. However, this strategy becomes quickly prohibitive at higher rates of absenteeism because the potential for error is increased.¹ When the curve becomes vertical, the cost of this strategy is no longer acceptable. In the hospital illustration the administrator said that risks to patients were unacceptable when five nurses were absent during a 24-hour period, whereas overscheduling (six employees) is the most cost-effective strategy when five to nine persons are absent. Based on this type of analysis, the hospital

1. Note that some of these costs must be quantified into dollars even though some of the costs are judgments made by management according to its perceptions of risk.

FIGURE 2

Nursing Services: Replacement Cost Attributed To Four Replacement Strategies*



*The cost relationships between replacement strategies will vary depending on organization compensation packages, technological process, labor markets, etc.

** Assuming a given level of overscheduling (6 EES)

administrator can formulate a set of replacement strategies based on the predicted level of absenteeism for a given 24-hour period. Remember, this predicted level may vary based on such factors as the day of the week, shift, season, etc. Varying levels of predicted absenteeism will require that management use different replacement strategies based on the forecast.

It should be noted that the order in which replacement strategies are used will depend in part on flexibility/lead-time requirements for these particular strategies. For instance, because operating with a reduced staff offers the most flexibility, the administrator may use overscheduling and temporary help to replace predicted absenteeism. Then, on those occasions when absenteeism is higher than predicted, the administrator may invoke the strategy of operating with a reduced staff.

CONCLUSION

The HRP approach to controlling absenteeism represents a logical approach for reducing the costliness of this pervasive problem. This approach was initially tested in three medium-size organizations. The personnel managers reported that absenteeism could be predicted and that there were substantial cost/feasibility differences between the four replacement strategies described here. Two out of the three organizations were not using the optimal strategies for replacing absent employees. This indicates a need for a more vigorous empirical test of the model. However, absenteeism control still demands careful attention because increases in absenteeism can quickly erode cost savings achieved through HRP. The HRP approach should be used in conjunction with programs that discipline employees who abuse absence policy, and programs that reward those employees with good attendance.

In addition to providing one weapon for controlling absenteeism costs, other benefits can be derived from HRP. This approach will increase management's sensitivity to the costs inherent in absenteeism. It will also require a monitoring system which may, in fact, reduce the rate of absenteeism, and it will provide information for constructing more effective absenteeism control programs. Success with HRP within the context of absenteeism can encourage the application of this technology to other human resource management problems.

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