Supervisory Behavior and Employee Turnover: A Field Experiment[1]

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Specific supervisor interactions with tellers in 50 branches of a commercial bank were examined for their contribution to turnover rates. For those branches that instigated such actions, turnover was significantly lower than in the matched control groups. Moreover, actual implementation was found to be influenced by the efficiency level of the individual branches.

Turnover has been the object of extensive investigation in organizational behavior. One reason for this has been organizations' concern over the dysfunctional consequences of high turnover rates. In addition, turnover is a specific behavior, easily measured, with interesting implications for both practitioners and theorists (Price, 1977). Although studies of employee turnover abound, the vast majority of these have been correlational. This literature is helpful in identifying potential determinants of turnover, but a more pressing question concerns the extent to which variables can be manipulated by the supervisor to provide a change in turnover rates.

One consistent finding in the research on turnover is its relationship to tenure; the longer employees have been with an organization, the less likely they are to leave. Thus in organizations with high turnover, the problem often stems from the inability to retain their newest members. It has been observed recently that newcomers require more social cues for what is

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expected from them than do veteran employees (Buchanan, 1974; Katz, 1978; Wanous, 1977).

The role of the supervisor is key to a new employee's job experience for several reasons. First, supervisors control the degree of structure, ambiguity, and conflict in the work itself. Second, they provide informal and formal feedback to the employees on their work behavior. Third, they control rewards and even the job security that the employees may enjoy. All these parts of the job experience are particularly important to newcomers who are trying to orient themselves in a new organizational environment (Katz, 1978; Van Maanen, 1975).

The supervisor's role is clearly important to the employee, but the exact prescription that should be given to the supervisor to reduce turnover is less obvious. For example, it has been found that work characteristics such as job variety, autonomy, and responsibility usually associate negatively with turnover (Ross & Zander, 1957; Taylor & Weiss, 1969; Waters & Roach, 1971). However, exceptions have been noted (Kraut, 1975), and moderators such as high growth needs have emerged to explain conflicting or weak results (Hackman & Lawler, 1971). Findings that both autonomy and role clarity (Ilgen & Seely, 1974; Lawler, 1973; Porter & Steers, 1973) are negatively associated with turnover lead one to speculate either way on the possible effects of providing more or less formal structure on a job.

Attitudes also have related inconsistently to turnover rates. Although overall job satisfaction has been repeatedly linked to turnover, the sources of that satisfaction (or dissatisfaction) have not been as uniform in their relationship to turnover. Satisfaction with the supervisor, for example, has had mixed relationships with turnover of subordinates: curvilinear relationships (Fleishman & Harris, 1962; Skinner, 1969), insignificant relationships (Koch & Steers, 1978; Taylor & Weiss, 1969), and negative relationships (Graen & Ginsburgh, 1977; Hulin, 1966). Satisfaction with the immediate work group initially was found to be correlated with turnover (Blau, 1957; Evan, 1963; Farris, 1971; Shils & Janowitz, 1948). More recently, however, this relationship has not been supported (Granovetter, 1974; Kraut, 1975).

Given these and other ambiguous results, a multiple stage process was developed with the goal of reducing bank teller turnover. The first stage involved gathering preliminary data and identifying which supervisor-controlled variables could be reasonably expected to be effective at reducing turnover in the particular organizational setting studied. In the second stage, a supervisory intervention was designed and implemented based on the information collected in the first stage.

METHOD

Procedure

Sample—Bank tellers were chosen as the subjects of the experiment for two reasons. First, tellers have a high turnover rate, frequently on the

order of 50 percent annually (80 percent of this turnover occurs in the first six months on the job). Although the particular bank chosen has a turnover rate comparable to that of its competitors, top management nonetheless felt that it was too high and consequently detrimental to the effective operation of the organization. Second, the bank was composed of similar but physically separated working units (branches), which facilitated a matched group experimental design with little chance of confounding interaction between the experimental and control groups.

A total of 50 branch offices of the bank were selected for the experiment. The branches ranged in size from 2 to 15 tellers and represented a broad spectrum of locations and clienteles. Of these, 25 pairs were matched by size, location (residential vs. commercial), and average income level of their depositors. The branches for each pair were then assigned randomly to either the control or experimental group.

Preliminary Data—Preliminary data were gathered prior to the intervention to determine what, if any, recurring themes in the teller's work environment might be associated with his or her decision to stay or leave the organization. The researchers conducted interviews and administered questionnaires to separate groups of bank employees. This information was subsequently shared with the supervisors at their workshops to facilitate their choice of strategies for reducing turnover.

The interviews were conducted with 24 tellers and 6 branch managers in a total of 15 branches. These branch offices were selected randomly from those not involved in the main study. Generally, it was found that the tellers were concerned with such matters as professional growth and development, relationships with their supervisor, and communication to and from management.

The questionnaires were administered to all the tellers in the 50 branches participating in the study. Questions focused on the issues revealed by the interviews and other job attitudes. Also included was a question concerning how long the teller intended to stay with the bank, a question that has been shown to have strong predictive validity (Bluedorn, 1979). With 60 percent of the questionnaires returned, the findings confirmed the investigators' expectation that one important way to influence the pivotal factors governing turnover (as perceived by the tellers questioned) would be through the immediate supervisor. For example, the degree to which supervisors were perceived as helping to develop skills in the tellers who were not expecting a promotion was significantly correlated with intended length of stay at the bank ($r = .43$, $p < .01$). Similarly, the degree to which the supervisor "made life easier" was associated with the intended length of stay ($r = .50$, $p < .01$). Those tellers who expected a promotion were most sensitive to role clarity (correlation with intended length of stay $= .55$, $p < .01$), an issue that also is under the control of supervisors.

Duration of Intervention—Four months were allotted for the experimental period for two reasons. First, it allowed sufficient time to implement the objectives that the supervisors had set for themselves. Second,

with teller turnover averaging 50 percent annually, it was expected that turnover would be around 15 to 20 percent in the control branches during the 4-month experiment. This expected rate was deemed sufficient in size to allow observable and significant differences to emerge between the experimental and control groups, should the intervention be successful.

The Supervisor Workshop

First-line supervisors from the experimental branches attended two workshops on teller turnover and its causes. At the first meeting, the workshop facilitators (training officers from the bank) asked the supervisors to identify issues that they felt were contributing to the problem of turnover. These issues were discussed in light of what emerged from the preliminary interviews and questionnaires. Each supervisor was then asked to return to his or her branch and discuss the issues and their possible solutions with the tellers and managers.

At the second meeting (one week later), the supervisors discussed the reactions of the branch personnel to their ideas. They generated several possible specific objectives that they felt could be accomplished within a 4-month period and would have a reasonable chance of improving the turnover rates. Of these, the three objectives listed below were selected by the group as potentially the most effective without demanding too much of their time. Each supervisor, then, agreed to try to implement these three objectives over the next four months:

1. Meet informally with each teller individually at least once during the next three months. The purpose of this activity was multifaceted. In general, it provided an opportunity for the supervisor to focus on the personal needs, questions, and complaints of each teller. In addition, the teller could receive feedback on his or her performance. The exact format and content of these meetings, however, were left up to the supervisor to work out mutually with the tellers.

2. Meet with the tellers as a group at least four times during the next three months. This objective was similar to the first in many respects: it provided a forum for the exchange of questions, information, and recognition. In addition, work group issues could be discussed and resolved. Again, the content and format of these meetings were left up to the supervisors. Such flexibility allowed the needs of the particular branch to be met.

3. Set up a specific cross-training schedule for those who desired cross-training as part of their job. (Cross-training involved allowing tellers the opportunity to become skilled at a number of functions within the branch.) It was anticipated from the interviews and questionnaires that somewhere between one-fourth and one-half of the tellers would want such an opportunity. The supervisors felt that those tellers who were not ambitious or career oriented would probably consider cross-training an encumbrance and therefore should be omitted from this activity. For

those who did want this opportunity, however, it was anticipated that the experience would be valued highly as a way of breaking up the monotony of teller work as well as a stepping stone toward advancement possibilities.

A reward was promised to all supervisors who successfully attained all three objectives. The formal reward was to be a letter of commendation (to be placed in the supervisor's personnel file), along with recognition at a breakfast given in honor of all the participants by the regional vice presidents. Additionally, it was made clear to the supervisors that this project had the full endorsement of top management of the bank and that there would be substantial recognition if they were successful in implementing the program.

In order to discover the extent to which the branches in the experimental group actually reached each of the objectives, at the conclusion of the intervention questionnaires were sent to the tellers who had participated in the experiment. They were asked whether or not they had been involved in the activities specified. Implementation, then, was measured as follows: A branch was considered to have met an objective if, and only if, more than half of the tellers responding to this questionnaire in the branch indicated that they had been involved in the specific activity during the intervention period. Thus, a majority of the tellers who had been employed at the branch had to agree that a particular objective was reached (at least from their personal experience) before that branch was identified as having implemented that objective.

RESULTS

Voluntary turnover data were obtained directly from the personnel department at bank headquarters. The results are shown in Table 1. As can be seen, implementation was associated with a lower branch turnover rate compared to the matched control counterpart (at the .05 level).

TABLE 1
Turnover (Matched Pair Comparison) as a Function of
the Number of Goals Implemented[a]

Turnover (Matched Pair Comparison)	Number of Goals Implemented in Experimental Branches		
	0	1	2
Number of pairs for which the turnover in the experimental branch was *less than* the turnover in the matching control branch	2(40%)	5(50%)	5(100%)
Number of pairs for which the turnover in the experimental branch was *equal to* the turnover in the matching control branch	1(20%)	1(10%)	0(0%)
Number of pairs for which the turnover in the experimental branch was *greater than* the turnover in the matching control branch	2(40%)	4(40%)	0(0%)
Total number of pairs	5(100%)	10(100%)	5(100%)

[a]Kendall's tau = .37, $p < .05$.

In examining Table 1, note should be made of some problems in the implementation of this research that resulted in a reduction of the number of branches represented in the table. Of the 25 experimental branches, only individuals in 20 branches responded to the implementation questionnaires. Therefore, the remaining five branches were ignored for this part of the analysis. Also, implementation of only two of the objectives was used to predict turnover differences. The third, that of setting up a cross-training schedule for those who wanted it, was omitted for two reasons: First, although no tellers, or few tellers, claimed that they were involved in this goal, this did not necessarily indicate that the supervisor had not in fact lived up to the agreement made at the supervisor workshop. It was quite possible for none of the tellers in a branch to desire cross-training; consequently, they would have been exposed to no cross-training and would respond on the questionnaire appropriately. There would be no way to distinguish such a teller response from one who had never been provided the opportunity to go through cross-training. The second reason was that the third objective added little predictability of turnover. Although cross-training was positively associated with lower turnover, it contributed very little to the explained variance beyond that explained by the other two objectives. Specifically, the overall association between the implementation of two objectives (group and individual meetings) was .37 (Kendall's tau, see Table 1). The inclusion of the third objective, cross-training, in Table 1 along with the other two objectives, would only increase the power of association between number implemented and turnover to .397. Given the questionable validity of the measure of the cross-training objective and given that the other two objectives explain almost as much variance as all three did together, it was decided that analysis would be conducted on the implementation of the two teller meeting objectives only.

Each of the experimental branches that implemented both the group meeting goal and the individual meeting goal had lower turnover during the course of the study than did the corresponding control branch. As would be expected in a random assignment, turnover rates in the five experimental branches that implemented neither of the objectives in question were not different from the control group of branches. The difference in turnover rates was not improved noticeably in the groups that implemented only one of the objectives. However, the strength of the success of those branches that implemented both objectives was sufficient to provide a significant overall association between number of objectives implemented and turnover (Kendall's tau = .37, $p < .05$).

The raw turnover data in Tables 2 and 3 confirm the same trend. Table 2 displays the raw turnover rates for each of the three groups of branches (implementing none, one, or two goals) during the six months prior to the start of the intervention. In all three groups, turnover was not significantly different between the experimental branches and the corresponding control branches. The turnover rates during the intervention, on the other

TABLE 2
Turnover Prior to the Intervention
Related to Number of Goals Implemented During the Intervention

Prior Turnover (Raw Data)	Number of Goals Implemented in Experimental Branches During Intervention		
	0	1	2
In experimental branches (Number who left/Number at start of study)	3/26(=11.5%)	12/58(=20.7%)	3/44(=6.8%)
In matching control branches (Number who left/Number at start of study)	5/35(=14.3%)	18/72(=25.0%)	7/47(=14.9%)
Difference of proportions test	$Z=.314$ $p=$ ns	$Z=.583$ $p=$ ns	$Z=1.231$ $p=$ ns

TABLE 3
Turnover (Raw Data) as a Function of the
Number of Goals Implemented

Turnover (Raw Data)	Number of Goals Implemented in Experimental Branches		
	0	1	2
In experimental branches (Number who left/Number at start of study)	5/26(=19%)	9/58(=16%)	2/44(=5%)
In matching control branches (Number who left/Number at start of study)	3/35(=9%)	14/72(=19%)	12/47(=26%)
Difference of proportions test	$Z=-1.220$ $p=$ ns	$Z=.583$ $p=$ ns	$Z=2.773$ $p<.01$

hand, were significantly and substantially lower in the experimental branches that implemented both objectives than in their matched counterparts. The experimental branches held turnover to 5 percent; their matched control branches experienced a 26 percent turnover rate ($p<.01$).

The Effect of Efficiency

The question of why some branches chose to participate actively in the experiment while others refrained may be due to several local and independent reasons. It was observed at the supervisor workshops, however, that some supervisors were less enthusiastic about the nature of the experiment than others. Their major objection was the amount of time it would take out of an already crowded working day. Although the researchers did not measure directly how the supervisors responded to this issue in each case, they did have an indicator of "branch efficiency" (as computed monthly by the bank). This index is calculated by dividing the amount of work actually accomplished (number of checks processed, etc.) by the amount of work that should have been accomplished if everyone had been working at a standard efficiency level. Branches then could be identified as either high in efficiency (i.e., the output exceeded the standard) or low in efficiency.

TABLE 4
Efficiency Rating as a Predictor
of Number of Goals Implemented[a]

	Efficiency Rating	
Number of Goals Implemented	*Low*	*High*
Number of experimental branches that implemented *0 goals*	4(44%)	1(9%)
Number of experimental branches that implemented *1 goal*	4(44%)	6(55%)
Number of experimental branches that implemented *2 goals*	1(11%)	4(36%)
TOTAL	9(100%)	11(100%)

[a]Kendall's tau = .45, $p < .05$.

TABLE 5
Efficiency Rating as a Predictor
of Turnover (Matched Pair Comparison)[a]

|	Efficiency Rating	
Turnover (Matched Pair Comparison)	*Low*	*High*
Number of pairs for which the turnover in the experimental branch was *less than* the turnover in the matching control branch	5(45%)	9(64%)
Number of pairs for which the turnover in the experimental branch was *equal to* the turnover in the matching control branch	1(9%)	3(21%)
Number of pairs for which the turnover in the experimental branch was *greater than* the turnover in the matching control branch	5(45%)	2(14%)
Total number of pairs	11(100%)	14(100%)

[a]Kendall's tau = .27, $p < .10$.

As Table 4 shows, this efficiency rating is a useful antecedent of the number of objectives implemented (overall association: Kendall's tau = .45, $p < .05$).

Only one of the nine low efficiency branches completed both objectives, whereas over one-third of the high efficiency branches were able to do so. Conversely, only 1 of the 11 high efficiency branches failed to meet either objective, but almost half (4 out of 9) of the low efficiency branches failed to do so.

As one would expect, efficiency is also a reasonable antecedent, then, of turnover. Table 5 shows that nearly two-thirds of the high efficiency experimental branches had lower turnover than did their matched control branch; only 2 of the 14 high efficiency branches had higher turnover. The low efficiency branches were evenly split: half had lower turnover than did their control counterparts, and half had higher turnover (again, as would be expected in a random assignment). The overall association between turnover and efficiency was a modest .27 ($p < .10$).

The model suggested by the data from this experiment is:

Model 1:

High Branch Efficiency	Tau = .45 →	Objectives Implemented	Tau = .37 →	Lower Turnover
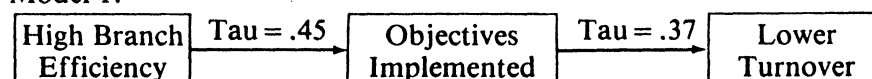
This model is supported by the overall correlations at both the links (from Tables 1 and 4) as well as the contingency tables showing the comparison in turnover for those branches with both objectives implemented (Table 3).

It could be argued, however, that branch efficiency is the controlling variable, predicting both number of objectives and turnover, thus obviating the need for objectives as an intermediate variable. This possibility is represented in the following model:

Model 2:
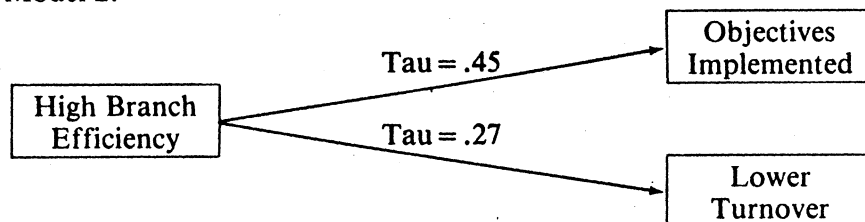
The comparative strength of these models can be evaluated with the use of partial rank order correlations (Siegel, 1956):

Correlation between turnover and objectives implemented
(controlling for efficiency)   = .34
Correlation between turnover and efficiency
(controlling for objectives implemented)   = .15

These figures indicate that controlling for efficiency does little to undermine the primary relationship between turnover and objectives implemented as posited by Model 1. Additionally, if Model 2 were correct, then the relationship between efficiency and turnover would be unaffected by controlling for number of objectives. In fact, however, this correlation is reduced by almost half when so controlled. It was thus concluded that the implementation of the objectives was a substantially stronger antecedent of turnover than was branch efficiency and that Model 1 was therefore more strongly supported than the alternative Model 2.

DISCUSSION

The purpose of this investigation was to determine whether turnover could be controlled through a supervisory intervention. Results reported here suggest that such a program can indeed result in lower turnover rates. The experimental branches that met their objectives in the areas of group meetings and individual counseling sessions during the course of the experiment had significantly lower turnover than did their control counterparts. Both the magnitude (5 percent vs. 26 percent) and the significance ($p < .01$) of this difference were substantial, indicating that the implementation of these activities was a major contributor to the control of turnover in the experimental branches.

This conclusion must be tempered by three observations, however. First, the number of branches involved in this comparison is small (5 experimental, 5 control), as is the number of tellers leaving (2 in the experimental, 12 in the control group). Although the probability level is sufficient to leave one confident that such a difference did not occur by chance alone, it is not clear how much of the difference is attributable to the intervention and how much may have been due to random fluctuations. Second, neither activity by itself made a noticeable difference in turnover rates. It was anticipated that the objectives would be additive in their effect; instead, it would appear that there may have been an interactive effect between them. Perhaps a minimum intensity of interventions is required—a threshold level—before an observable behavioral difference can be expected. Third, although the prior differences in turnover were not significant, some differences did exist. In particular, the turnover rate for the experimental group that eventually implemented both objectives was already lower than was the matched control group, although not significantly lower. This leads one to speculate whether the management teams in those branches that implemented the objectives were proficient in dealing with the turnover problem prior to the intervention, accounting for much of the difference in the results. There may be some credibility to this argument, but it still remains the case that these supervisors embraced these objectives with the concurrent effect of improving their edge over the control branches sufficiently to yield strongly significant results.

A related question arises concerning the key role of branch efficiency as described in Model 1. A possible explanation here is that supervisors who are skilled at structuring the work efficiently at a branch are more likely to have the time to incorporate the experimental activities into their other tasks. Again, the argument could be raised that the skilled supervisors had more to do with the turnover differences than did the activities themselves. Countering this line of reasoning are two observations, however. First, if the supervisors were the main cause of turnover differences, and if efficiency were an indication of quality supervision, then Model 2 should have been a stronger predictor of turnover than Model 1, as discussed earlier. Instead, it was found that the number of objectives implemented was more highly associated with turnover than was branch efficiency—or, by inference, supervisory skill. Second, according to the bank's own personnel studies, variance in branch efficiency is not due to managerial or leadership skills, because personnel turnover produces little change in the efficiency ratings. Efficiency appears to be a relatively stable branch characteristic rather than a representation of the quality of supervision. Hence, a more plausible explanation of its impact on the propensity of supervisors to engage in such experimental activities might be that high efficiency branches have more slack time in their daily workload. They can take the time to have group meetings without jeopardizing their position as a branch producing "above standard" output. A low efficiency branch, however, might be concerned primarily with getting the day's work done;

it may have less tolerance for supposedly "superfluous" interruptions such as those suggested by the intervention.

In conclusion, it would appear that it is possible to control turnover using correlates identified in the literature. In particular, supervisor behavior was shown to be an effective focal point for manipulating these correlates under certain conditions. These conditions appear to be related to the amount of slack in the workload. When the proposed intervention did not interfere with the completion of the standard output for a working unit (i.e., there was slack in the system), then supervisors had a high probability of succeeding at controlling turnover. From an organization's view, these findings suggest a potentially useful process for dealing with difficult and costly turnover problems.

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