

AD-A096 850

HOUSTON UNIV TEX

F/G 5/1

MANAGEMENT PRACTICES, ENVIRONMENTAL CHARACTERISTICS AND ORGANIZ--ETC(U)

FEB 81 J R TERBORG, J M KOMOCAR

N00014-78-C-0756

NL

UNCLASSIFIED

For
AD-A
Circ-0

1

END

DATE

FILED

4-81

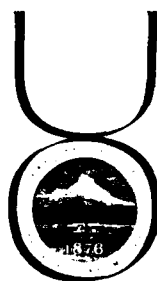
DTIC

AD A 096850

LEVEL II

12

fw



DTIC
ELECTE
MAR 25 1981
F

DTIC FILE COPY

Graduate School of Management
University of Oregon
Eugene, Oregon 97403

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

81323032

LEVEL II

(12)

(4) Management Practices,
Environmental Characteristics
and Organizational Performance.

(1) James R. Terborg
University of Oregon

Mr. Terborg

and

John M. Komocar
University of Illinois

Accession For	
NTIS GFA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	

Technical Report 81-8

FINAL REPORT.

February 1981

DTIC
ELECTE
MAR 25 1981

Prepared with the support of the Organizational Effectiveness Research Program, Office of Naval Research (Code 452), under Contract No. 00014-78-C-0756, NR 170-877.

Reproduction in whole or in part is permitted for any purpose of the United States Government.

Approved for public release; distribution unlimited.

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

17

52

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER FINAL REPORT 81-8 ✓	2. GOVT ACCESSION NO. AD-A096850	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Management Practices, Environmental Characteristics and Organizational Performance		5. TYPE OF REPORT & PERIOD COVERED FINAL REPORT 1-1-79 to 2-28-81
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) James R. Terborg and John M. Komocar		8. CONTRACT OR GRANT NUMBER(s) No. 00014-78-C-0756
9. PERFORMING ORGANIZATION NAME AND ADDRESS Department of Management College of Business Administration University of Oregon, Eugene OR 97403		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NR 170-877
11. CONTROLLING OFFICE NAME AND ADDRESS Organizational Effectiveness Research Programs Office of Naval Research Arlington VA 22217		12. REPORT DATE February, 1981
		13. NUMBER OF PAGES 30
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Satisfaction group process Climate supervisory practices Likert organization practices Organization Performance aggregate attitudes Turnover		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) -Organization performance was investigated as a function of internal organization characteristics and local external environmental factors. Aggregate employee ratings from 2540 people in 19 homogenous retail stores were found to be significantly correlated with objective measures of profit, sales per employee, and turnover rate. Community buying power and unemployment rate also correlated with these performance measures. The importance of internal management practices for unit performance is discussed. The need to consider performance in the context of demands, opportunities and constraints also is articulated.		

Management Practices, Environmental Characteristics and Organizational Performance

How well or how poorly an organization performs is a function of factors external and internal to that organization. Much organizational research, however, has been designed to emphasize the importance of internal organizational conditions (Pfeffer & Salancik, 1978). Following this line of argument, organizations are thought to be effective when there is an absence of internal conflict, communication flow is frequent and accurate, and employees are satisfied. But, little of this research has attempted to relate these process variables to what some would call objective measures of organization effectiveness. In addition, almost no research has been done that considers the relationship between process and outcome variables within the context the organization is operating.

The purpose of the present study is to examine the predictive utility of a limited number of internal organization process variables and external environmental variables on commonly used measures of organization performance. We believe that research on the general topic of organizational effectiveness must consider the simultaneous effects of internal process variables and the nature of the external context that impacts on the activities of the organization.

An Internal View of Organizational Performance

Examination of typical models of organization effectiveness (cf. Campbell, 1978) would suggest that attitudes and behaviors of organization members are thought to have significant impact on the profit, sales, growth and survival of the organization.

One of the most widely known and researched models endorsing the internal view of organizational performance is Likert's System IV Theory. Based on several years of research, Likert contends that in general, the same basic principles of organizing and managing human behavior are used by managers who achieve the highest performance outcomes (Likert, 1961; Likert, 1967; Likert & Likert, 1976). The assertion is that the closer management practices are to participative management and the further these practices are from exploitive authoritative management, the higher the performance outcomes of the organization.

Examination of the literature on Likert's model produced a wide variety of studies. In evaluating this body of research, it was decided to omit reports that were essentially descriptions and testimonials of past successful applications. The end result consisted of four intervention studies (Likert, 1967; Marrow, Bowers & Seashore, 1967; Dowling, 1975; Likert & Likert, 1976) and seven correlation studies (Likert, 1967; Bowers & Seashore, 1966; Roberts, Miles & Blankenship, 1968; Kovic, Rus, & Tannenbaum, 1971; Taylor & Bowers, 1972; Butterfield & Farris, 1974; Pennings, 1976; Likert & Likert, 1976).

The overall results of these studies suggest tentative support for the hypothesized relationship between employee descriptions of management practices and measures of organization performance. There are problems, however, with aspects of the research. The major shortcoming that we identified was the total lack of attention directed to factors in the external environment of the organization that might also contribute to variation in performance measures. For example, turnover rate has been used as one index of organization performance yet environmental characteristics such as local unemployment rate have not been considered as an independent predictor or as a moderator. Failure to consider environmental factors could produce incomplete and possibly inaccurate

theories.

Inattention to external variables, which is a serious problem with Likert's research, does not necessarily imply that the model's predictions would be invalid if certain external variables were considered. In certain situations, conditions in the environment might enhance the predictability of internal process models of organization performance. External factors could be a source of criterion contamination. Research in employee selection (cf. Guion, 1965) suggests that when extraneous factors can be identified and measured, they should be controlled for in the determination of the predictive validity of selection tests. The same principle applies to research on predictors of organization performance. Consider once again the proposed relationship between management practices and turnover rate within the unit. Likert's research has not assessed or controlled for local unemployment rate. But, doing so might remove a source of criterion contamination. That is, to accurately examine the impact of internal management practices on organization turnover rate, units that are to be compared should not be in drastically different labor markets. Failure to control for differences in unemployment rates could result in a unit with System IV management practices in a competitive labor market having a higher turnover rate than a unit with System I management practices in a non-competitive labor market. Faced with the demands and constraints of a competitive labor market, the System IV unit might be doing very well in retaining valued employees.

An External View of Organizational Performance

Over the past few years, Pfeffer and Salancik (Pfeffer, 1978; Pfeffer & Salancik, 1978; Salancik & Pfeffer, 1977) have demonstrated through their own research and that of others the importance of the environmental context for understanding organization performance. Actions that an organization

can take are severely limited. Pfeffer and Salancik assert that because of contingencies and constraints in the external environment, organizational behavior and performance is over-determined. The success, growth and survival of an organization is inextricably tied to complex events that often times are not known to organization members or are beyond the influence of the organization. Because management practices directed internally have virtually no impact on environmental contingencies and events, Pfeffer and Salancik (1978) state that models such as Likert's System IV are ill advised. If management is to have any impact on organization performance, it should direct actions outward toward the reduction of uncertainty in the environment.

Whereas Pfeffer and Salancik are correct in stating that much past research has neglected to systematically consider external demands and constraints, they perhaps under estimate the significance of management practices. They cite the results of Lieberman and O'Connor (1972) as evidence of their position on the external control of organizations. This study examined sales, profit and net return for 167 companies in 13 industries over a period of 20 years. The majority of variation in organizational performance was accounted for by examination of yearly economic cycles, industry type and company. Organization leadership was reported to have little impact. But, it should be noted that these predictors were not independent and that different conclusions could be reached depending on whether or not the other predictors were controlled for statistically in the analysis. In this study, the contribution of leadership was tested only after the effects of all the other predictors were taken into consideration. Also, Pfeffer and Salancik (1978) do not clearly state that when profit margins were lagged three years after leadership measures, leadership accounted for more variance than any of the other external factors. Finally, perhaps the most critical comment that can

be made is that leadership was poorly operationalized. In this study, quality of top administration was defined as whether or not the Chief Executive Officer of the corporation changed during the year. Although the CEO is in most instances the person with the greatest influence in the company, we believe that simple knowledge of a change in this position can hardly be equated with Likert's ratings of management practices as reported by organization members.

Our criticism of this work should not detract from the basic thrust of Pfeffer and Salancik's statements. External factors do control organizations. Government regulations, economic factors, and even revolutions in foreign governments have undeniable consequences. Understanding organizations requires a sincere appreciation for the context in which they operate. Likert's work would be more complete if organizational context had been included in research. We believe that over emphasis on external factors, however, is as myopic as over emphasis on internal factors.

Development of Hypotheses

Arguments over how much variance in organization performance can be attributed to internal versus external factors is dysfunctional. Research is needed that considers the joint impact of the nature of the organization and the nature of the context in which the organization must function.

The present study was designed to examine the general notions of Likert's theory with the added consideration of two seemingly important environmental variables. Specifically, employee reactions to an attitude survey were used to index the quality of supervisory practices, group process and organization practices. Archival data were available from 19 units of the same retail sales organization. Performance measures consisted of store profit, sales per employee, turnover rate for full-time employees and turnover rate for part-time employees. Environmental variables were local unemployment rate and mean effective buying

power of families in the county in which the retail store was located.

Based on Likert's research and the work of Pfeffer and Salancik, four hypotheses were developed.

Hypothesis I: Aggregate employee descriptions of group process, supervisory practices and organization practices will be positively correlated with measures of profit and sales and negatively correlated with turnover rates.

Hypothesis II: Mean effective buying power will be positively correlated with profit and sales per employee, and local unemployment rate will be negatively correlated with turnover rate.

Hypothesis III: Aggregate employee descriptions of internal organization practices and external environmental characteristics will jointly predict organization performance.

and, Hypothesis IV: The predictive relationship between internal organization practices and organization performance will be a function of whether or not the organization context is considered.

METHOD

Subjects and Units for Analysis

Subjects (N = 2540) were salespersons, sales support personnel (N = 2008) and supervisors (N = 532) from 19 geographically dispersed stores that were part of the same retail sales organization. All people were full-time employees who anonymously participated in a larger organizational survey conducted by the parent organization. Participation was voluntary although employees were given release time from work to complete the forms. Response

rate exceeded 90% in each of the stores. Although not verifiable with independent data, because the stores belonged to the same firm, it was felt that little variation existed between stores on structure, technology, output and criteria used to select and train personnel. Consequently, results would not be expected to be open to alternative hypotheses stemming from widely divergent organization characteristics. Also, use of different units within the same organization provides for greater measurement equivalency across performance outcomes.

Assessment of Variables

Organizational performance measures were provided by the organization. Percent profit and sales per employee were given in z-score form to maintain the confidentiality of store records. This should not have a detrimental effect on analyses and interpretation. Annual turnover rate for full-time and part-time employees were given in percentage form.

With these performance measures, two aspects of the store's environment were thought salient. Mean effective buying power for the county in which the store was located was used as an index of the potential of the store to show a profit and to report high sales. Thus, this variable could be interpreted as both an environmental constraint and an environmental opportunity. Data were taken from Sales and Marketing (1974, 1975) for the appropriate years to match the performance data. Local unemployment rate also was thought to index a pertinent aspect of the environmental context. Turnover rates have been predicted from unemployment figures (Roberts, Hulin & Rousseau, 1978). These data were taken from statistics compiled under the Comprehensive Employment and Training Act and they also were at the county level. Unfortunately, in some cases it was not possible to retrieve unemployment rates for the same year as the turnover rates.

The best available data were for a period one to two years after the turnover records. The decision was made to use this data given that it might be less than accurate because it was the best measure available.

The procedure used to assess employee descriptions of managerial practices was somewhat complicated, but a brief explanation will be attempted. First, recall that we were using a survey developed by the organization. It was not possible to administer the Survey of Organizations (Taylor & Bowers, 1972; Likert & Likert, 1976) in order to examine Likert's predictions. However, inspection of the archival survey and the Survey of Organizations revealed that many items seemed to deal with the same general topics. We wanted to maintain contact with the basic theoretical notions behind Likert's work. In order to do this, items from the Survey of Organizations and representative items from the archival company survey were separately typed on index cards. Twenty expert judges familiar with Likert's theory were presented summaries of four major dimensions discussed by Likert (Likert & Likert, 1976). These dimensions were supervisory leadership, climate, peer leadership and group process. The judges were asked to sort all of the items into one of the four dimensions. This procedure is similar to the retranslation step used to construct behaviorally anchored rating scales (Smith & Kendall, 1963). We hoped to find that the judges would sort the items from the Survey of Organizations back into the dimensions defined by Likert's empirical work. At the same time, we would discover which items from the archival company survey were sorted into Likert's dimensions.

A chi square analysis of each of the distributions of the 42 items from the Survey of Organizations and the 39 items from the archival company survey showed that none of the Survey of Organizations items and only one of the archival surveys items had a random distribution across the four dimensions.

Furthermore, all of the Likert items were correctly sorted. No items from the archival company survey "loaded" onto the peer leadership dimension, however. Coefficient alpha was calculated for each of the three remaining dimensions with the objective to delete items that lowered internal consistency estimates. Four items were dropped. The final result was an eight item scale measuring supervisory practices ($\alpha = .91$), a 22 item scale measuring organization practices ($\alpha = .83$) and a six item scale measuring group process ($\alpha = .63$). As a final check on the classification of items, an index for comparing the joint agreement of several observers was employed. The G statistic (Light, 1971) tests the null hypothesis of random agreement of a group of observers with a standard. The null hypothesis was rejected beyond $p < .01$. Although it would have been desirable to have actually administered the Survey of Organizations or some other valid and accepted measure, this was not possible. The instrument used, however, was thought to be a valid assessment of the general nature of internal managerial practices.

RESULTS

All data analyses were conducted using the store as the unit of analysis. For each store, the mean of employee responses to the three dimensions was computed.

Results pertaining to Hypothesis I are presented in Table 1. Supervisory

Insert Table 1 about here

practices were significantly correlated with the other two aggregate measures and with sales per employee. Group process was significantly correlated with profit, sales per employee and turnover rate for part-time employees. Organizational practices was correlated with turnover rate for part-time employees.

Of interest, the four performance measures were not highly interrelated. Out of 12 correlations between aggregate employee descriptions and objective performance measures, five correlations were statistically significant and all 12 correlations were in the predicted direction. Thus, moderate support was found for Hypothesis I with these data from 19 stores.

Results for Hypothesis II can be found in Table 2. Mean effective buying

Insert Table 2 about here

power correlated $r = .65$ with profit and $r = .53$ with sales per employee. Local unemployment rate correlated $r = -.52$ with turnover rate for full-time employees but was not significantly correlated with turnover rate for part-time employees. These results were taken as support for Hypothesis II.

Results for Hypothesis III also are presented in Table 2. Because the sample was limited to 19 stores, the three aggregate employee descriptions were combined into one measure of internal managerial practices. Both measures of internal practices and external characteristics were placed simultaneously into a regression equation. For the criterion of store profit, the beta weights for both predictors were significant ($R^2 = .59$). For the criterion of sales per employee, both predictors again had significant beta weights ($R^2 = .50$). Neither predictor was useful in explaining variation in turnover rates for part-time employees. Finally, only local unemployment rate had a significant beta weight when used to predict turnover for full-time employees ($R^2 = .29$). Hypothesis III was supported when sales per employee and store profit were used as criteria. There was little support for the hypothesis when turnover rates were used.

Results for Hypothesis IV are presented in Table 3. Each of the three

aggregate employee description measures were correlated with the four

Insert Table 3 about here

performance measures and with the residuals of those performance measures. Residual was defined as the difference between actual performance and predicted performance from the environmental variable. For three of the nine pairs of correlations, the two correlations in the pair were significantly different from each other using a test for dependent correlations. Organizational practices predicted profit residual better than it predicted actual profit. In contrast, this same variable predicted actual turnover better than it predicted turnover residuals. When profit and sales per employee were examined, all of the correlations with performance residuals were larger than correlations with actual performance. But, the opposite trend was found when turnover was the criterion. These results provide weak support for Hypothesis IV.

Discussion

The overall results obtained in this study of 19 retail sales units support the general positions developed from the work of Likert (1967), Pfeffer and Salancik (1978) and others. Measures of managerial practices within the unit were correlated with measures of profit, sales per employee and turnover rate. This finding extends Likert's model in that the relationships were obtained with a measure of managerial practices that was similar to but not identical with the measures used by Likert and his associates. The results support Pfeffer and Salancik's contention that organization outcomes are dependent on forces in the external environment. Profit and sales per employee were correlated with mean effective buying power in the

community in which the store was located and unemployment rate was correlated with turnover rate for full-time employees. Support also was found for the hypothesis that performance measures would be a joint function of internal characteristics of the unit and external characteristics of the unit's environment. Finally, there was some evidence, although limited, to suggest that relationships between internal unit practices and measures of unit performance would be affected by whether or not external factors were considered. In all instances when performance was operationalized as profit or sales per employee, managerial practices were more highly correlated with the performance residual than with actual performance. But, when performance was operationalized as turnover rate, the opposite pattern of results were observed.

The distinction between actual performance and residual performance merits further discussion even noting that our results were weak. The external environment can be conceptualized and classified in many ways. We believe that one meaningful way to look at the environment is to consider three functions the environment serves. First, there is a demand function. There are certain actions required of the organization if the organization is to survive. Failure to comply with environmental demands will have serious negative consequences for the organization. Second, there is a constraint function. We define constraint consistent with Pfeffer and Salancik (1978). That is, there is something in the organization's context that limits the degree to which various actions and outcomes occur. Finally, there is the opportunity function. The environment is responsive to actions taken by the organization and there are few limits to what the organization can strive to accomplish.

The implications of this conceptualization of the external environment suggest that managerial actions will be less strongly related to performance outcomes when those outcomes are constrained and that managerial actions will

be more strongly related to performance outcomes when opportunities to display those outcomes are present. This argument is similar to that suggested by researchers in the field of employee motivation (cf. Terborg, Richardson & Pritchard, 1980). Differences in employee ability levels will be most evident when performance is measured during conditions of high motivation than during conditions of low motivation. Thus, we might expect that good or bad managerial practices would be most evident during periods of environmental opportunities and differences in outcomes between good and bad managerial practices would be least evident during periods of environmental constraints. In the present study, mean effective buying power in the community could be interpreted as an opportunity while unemployment could be interpreted as a constraint.

Although the predictive relationship between internal managerial practices and organizational outcomes might be greatest during periods of opportunity, it should be noted that the importance of managerial actions might be most relevant during periods of severe constraints. Even though the differences between good and bad management may be slight, the difference in this critical time period may be significant for the survival and growth of the organization. Consider the case of a president of a state university. The president can have greatest impact during periods of plentiful resources and during periods of financial emergency.

The present study is only suggestive of these hypothesized relationships between managerial practices and environmental demands, constraints and opportunities. But, we believe that future research should consider the impact of these contextual factors on both the magnitude of predictive relationships and the significance of differences for the survival of the organization.

Our discussion of this research has attempted to avoid getting into

conceptual and operational problems that accompany research on organizational effectiveness. We instead have focused on three objectively defined outcomes that this organization monitors. We make no claims as to the relationship between this research and the broad area of organizational effectiveness. We recognize, however, the critical issues in studying organizational effectiveness (cf. Goodman & Pennings, 1980; Pfeffer & Salancik, 1978; Steers, 1977) but prefer to limit the current work to identifying predictor -- criterion relationships where the unit of analysis is the organization.

The present study has both strengths and weaknesses. Although the total number of respondents exceeded 2500, when the store was used as the unit for analysis the sample size was 19. Relative to much of psychological research and the statistical procedures employed this was a small sample size. Relative to research on Likert's model it was moderate in size. The studies reviewed were based on data from one to 40 units or organizations. The design was cross-sectional and usual limitations of causal interpretation apply. But, the variables were measured in such a way as to rule out problems associated with common method bias. We note once again, however, that for some stores the measure of local unemployment was taken one or two years after the performance data were collected.

In conclusion, the present study makes a contribution to the literature on Likert's model in that support for his predictions were obtained with a different measure of managerial practices, and when environmental factors were considered as predictors of performance outcomes in addition to measures of managerial practices. The results demonstrate that future research in this area must consider not only the nature of the organization but the nature of the organizational context as well. In contrast with Pfeffer and Salancik (1978), we believe the present study demonstrates that it is necessary

to construct models and design research that consider both the external control of organizations and the internal control of organizations.

REFERENCES

- Bower, D.G., & Seashore, S.E. Predicting organizational effectiveness with a four factor theory of leadership. Administrative Science Quarterly, 1966, 10, 263-283.
- Butterfield, D.A., & Farris, G.F. The Likert organization profile. Journal of Applied Psychology, 1974, 59, 15-23.
- Campbell, J.P. On the nature of organization effectiveness. In Goodman, P., & Pennings, J. (eds.) New perspectives on organizational effectiveness. San Francisco: Jossey-Bass, 1978.
- Dowling, W.F. At General Motors: System IV builds performance and profits. Organizational Dynamics, 1975, Winter, 23-28.
- Goodman, P.S., & Pennings, J.M. Critical issues in assessing organizational effectiveness. In Lawler, E., Nadler, D., & Cammann, C. (eds.) Organizational assessment: Perspectives on the measurement of organizational behavior and the quality of work life. New York: Wiley, 1980.
- Guion, R.M. Personnel testing. New York: McGraw-Hill, 1965.
- Kravic, B.R., Rus, V., & Tannenbaum, A. Control, participation and effectiveness in four Yugoslav organization. Administrative Science Quarterly, 1971, 16, 74-86.
- Lieberson, S., & O'Connor, J.F. Leadership and organizational performance: A study of large corporations. American Sociological Review, 1972, 37, 117-130.
- Light, R.J. Measures of response agreement for qualitative data: Some generalizations and alternatives. Psychological Bulletin, 1971, 76, 365-377.
- Likert, R. New patterns of management. New York: McGraw-Hill, 1961.
- Likert, R. The human organization. New York: McGraw-Hill, 1967.
- Likert, R., & Likert, J.G. New ways of managing conflict. New York: McGraw-Hill, 1976.

- Marrow, A.J., Bowers, D.G., & Seashore, S.E. Management by participation. New York: Harper & Row, 1967.
- Pfeffer, J. Organization design. Arlington Heights, Ill.: AHM, 1978.
- Pfeffer, J., & Salancik, G. The external control of organizations. New York: 1978.
- Pennings, J.M. Dimensions of organizational influence and their effectiveness correlates. Administrative Science Quarterly, 1976, 21, 688-699.
- Roberts, K., Miles, R.E., & Blankenship, L.V. Organizational leadership, satisfaction and productivity. Academy of Management Journal, 1968, 11, 401-414.
- Roberts, K., Hulin, C.L., & Rousseau, D. Developing an interdisciplinary science of organizations. San Francisco: Jossey-Bass, 1978.
- Salancik, G., & Pfeffer, J. Constraints on administrator discretion: The limited influence of mayors on city budgets. Urban Affairs Quarterly, 1977, 13, 123-132.
- Smith, P.C., & Kendall, L.M. Retranslation of expectations: An approach to the construction of unambiguous anchors for rating scales. Journal of Applied Psychology, 1963, 47, 149-155.
- Steers, R.M. Organizational effectiveness: A behavioral view. Santa Monica, Calif.: Goodyear, 1977.
- Taylor, J.C., & Bowers, D. Survey of organizations: Toward a machine-scored standardized questionnaire instrument. Ann Arbor: Institute for Social Research, 1972.
- Terborg, J.R., Richardson, P., & Pritchard, R.D. Person-situation effects in the prediction of performance: An investigation of ability, self-esteem and reward contingencies. Journal of Applied Psychology, 1980, 65, 574-583.

U.S. metropolitan market projection and growth rates for population, households effective buying income, and retail sales. Sales & Marketing Management, 1974-1975.

FOOTNOTE

This research was supported in part by Grant No. N00014-78-C-0756, from the Office of Naval Research, James R. Terborg principal investigator. We thank F. Smith for assistance throughout this project and C. Hulin for comments on various stages of development. Reprints can be obtained from James R. Terborg, Department of Management, College of Business Administration, University of Oregon, Eugene OR 97403.

Table 1
Correlations Among Measures of
Internal Organizational Practices and Organizational Performance^{1,2}

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Supervisory Practices	--	.57	.63	.16	.39	-.23	-.32
(2) Group Process		--	.76	.42	.40	-.31	-.43
(3) Organization Practices			--	.26	.30	-.32	-.40
(4) Profit				--	.36	-.23	-.36
(5) Sales per Employee					--	-.05	-.59
(6) Turnover - Full-time						--	.32
(7) Turnover - Part-time							--

¹ N = 19

² $r \geq .39$, $p < .05$ (one-tailed test)

Table 2
Regression of Performance Variables on
Internal Organizational Practices and Environmental Characteristics

	<u>Beta</u>	<u>r</u>	<u>R</u>
	<u>Profit</u>		
Internal Practices	.42 [*]	.28	.77 [*]
Environmental Characteristics ¹	.72 [*]	.65 [*]	
	<u>Sales per Employee</u>		
Internal Practices	.48 [*]	.37	.71 [*]
Environmental Characteristics ¹	.61 [*]	.53 [*]	
	<u>Turnover/ Full-time</u>		
Internal Practices	-.12	-.32	.54 [*]
Environmental Characteristics ²	-.48 [*]	-.52 [*]	
	<u>Turnover/Part-Time</u>		
Internal Practices	-.37	-.42 [*]	.44
External Characteristics ²	-.14	-.29	

¹ Mean Effective Buying Power

² Local Unemployment Rate

* $p < .05$

Table 3
Correlations Between Internal Organizational Practices
and Organizational Performance with External Environmental
Characterisitcs Not Controlled and Controlled

	<u>Profit</u>	<u>Profit Residual</u> ¹
Supervisory Practices	.16	.31
Group Process	.42*	.50*
Organizational Practices	.26	.53*+
	<u>Sales/Employee</u>	<u>Sales/Employee Residual</u> ¹
Supervisory Practices	.39*	.53*
Group Process	.40*	.43*
Organizational Practices	.30	.49*
	<u>Turnover/P T</u>	<u>Turnover/P T Residual</u> ²
Supervisory Practices	-.32	-.24
Group Process	-.43*	-.39*
Organizational Practices	-.40*	-.28+
	<u>Turnover/F T</u>	<u>Turnover/F T Residual</u> ²
Supervisory Practices	-.23	-.06
Group Process	-.31	-.25
Organizational Practices	-.32	-.10+

¹Residual = Actual Performance - Performance Predicted from Mean Effective Buying Power

²Residual = Actual Turnover - Turnover Predicted from Local Unemployment Rate

+Correlations are significantly different from each other

*p < .05

LIST 1
MANDATORY

Defense Documentation Center
ATTN: DDC-TC
Accessions Division
Cameron Station
Alexandria, VA 22314

Library of Congress
Science and Technology Division
Washington, DC 20540

Chief of Naval Research (3 copies)
Office of Naval Research
Code 452
800 N. Quincy Street
Arlington, VA 22217

Commanding Officer (6 copies)
Naval Research Laboratory
Code 2627
Washington, DC 20375

LIST 2
ONR FIELD

Commanding Officer
ONR Branch Office
1030 E. Green Street
Pasadena, CA 91106

Psychologist
ONR Branch Office
1030 E. Green Street
Pasadena, CA 91106

Commanding Officer
ONR Branch Office
536 S. Clark Street
Chicago, IL 60605

Psychologist
ONR Branch Office
536 S. Clark Street
Chicago, IL 60605

Commanding Officer
ONR Branch Office
Bldg. 114, Section D
666 Summer Street
Boston, MA 02210

Psychologist
ONR Branch Office
Bldg. 114, Section D
666 Summer Street
Boston, MA 02210

Office of Naval Research
Director, Technology Programs
Code 200
800 N. Quincy Street
Arlington, VA 22217

LIST 3
OPNAV

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Scientific Advisor to DCNO (Op-01T)
2705 Arlington Annex
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Director, Human Resource Management
Division (Op-15)
Department of the Navy
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Head, Research, Development, and
Studies Branch (Op-102)
1812 Arlington Annex
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Director, Human Resource Management
Plans and Policy Branch (Op-150)
Department of the Navy
Washington, DC 20350

Chief of Naval Operations
Head, Manpower, Personnel, Training
and Reserves Team (Op-964D)
The Pentagon, 4A578
Washington, DC 20350

Chief of Naval Operations
Assistant, Personnel Logistics
Planning (Op-987P10)
The Pentagon, 5D772
Washington, DC 20350

LIST 4
NAVMAT & NPRDC

NAVMAT

Naval Material Command
Program Administrator, Manpower,
Personnel, and Training
Code 08T244
1044 Crystal Plaza #5
Washington, DC 20360

Naval Material Command
Management Training Center
NMAT 09M32
Jefferson Plaza, Bldg #2, Rm 150
1421 Jefferson Davis Highway
Arlington, VA 20360

NPRDC

Commanding Officer (5 copies)
Naval Personnel R&D Center
San Diego, CA 92152

Navy Personnel R&D Center
Washington Liaison Office
Building 200, 2N
Washington Navy Yard
Washington, DC 20374

LIST 5
BUMED

Commanding Officer
Naval Health Research Center
San Diego, CA

Commanding Officer
Naval Submarine Medical
Research Laboratory
Naval Submarine Base
New London, Box 900
Groton, CT 06340

Director, Medical Service Corps
Bureau of Medicine and Surgery
Code 23
Department of the Navy
Washington, DC 20372

Naval Aerospace Medical
Research Lab
Naval Air Station
Pensacola, FL 32508

CDR Robert Kennedy
Officer in Charge
Naval Aerospace Medical
Research Laboratory Detachment
Box 2940, Michoud Station
New Orleans, LA 70129

National Naval Medical Center
Psychology Department
Bethesda, MD 20014

Commanding Officer
Navy Medical R&D Command
Bethesda, MD 20014

LIST 6
NAVAL POSTGRADUATE SCHOOL

Naval Postgraduate School
ATTN: Dr. Richard S. Elster
Department of Administrative Sciences
Monterey, CA 93940

Naval Postgraduate School
ATTN: Professor John Senger
Operations Research and
Administrative Science
Monterey, CA 93940

Superintendent
Naval Postgraduate School
Code 1424
Monterey, CA 93940

LIST 7

HRM

Officer in Charge
Human Resource Management Detachment
Naval Air Station
Alameda, CA 94591

Officer in Charge
Human Resource Management Detachment
Naval Submarine Base New London
P.O. Box 81
Groton, CT 06340

Officer in Charge
Human Resource Management Division
Naval Air Station
Mayport, FL 32228

Commanding Officer
Human Resource Management Center
Pearl Harbor, HI 96860

Commander in Chief
Human Resource Management Division
U.S. Pacific Fleet
Pearl Harbor, HI 96860

Officer in Charge
Human Resource Management Detachment
Naval Base
Charleston, SC 29408

Commanding Officer
Human Resource Management School
Naval Air Station Memphis
Millington, TN 38054

Human Resource Management School
Naval Air Station Memphis (96)
Millington, TN 38054

Commanding Officer
Human Resource Management Center
1300 Wilson Boulevard
Arlington, VA 22209

Commanding Officer
Human Resource Management Center
5621-23 Tidewater Drive
Norfolk, VA 23511

Commander in Chief
Human Resource Management Division
U.S. Atlantic Fleet
Norfolk, VA 23511

Officer in Charge
Human Resource Management Detachment
Naval Air Station Ehidbey Island
Oak Harbor, WA 98278

Commanding Officer
Human Resource Management Center
Box 23
FPO New York 09510

Commander in Chief
Human Resource Management Division
U.S. Naval Force Europe
FPO New York 09510

Officer in Charge
Human Resource Management Detachment
Box 60
FPO San Francisco 96651

Officer in Charge
Human Resource Management Detachment
COMNAVFORJAPAN
FPO Seattle 98762

NOV 15 1964

NAVY MISCELLANEOUS

Naval Amphibious School
Director, Human Resource
Training Department
Naval Amphibious Base
Little Creek
Norfolk, VA 23521

Chief of Naval Education
and Training (N-5)
ACOS Research and Program
Development
Naval Air Station
Pensacola, FL 32508

Naval Military Personnel Command (2 copies)
HRM Department (NMPD-6)
Washington, DC 20350

Navy Recruiting Command
Head, Research and Analysis Branch
Code 434, Room 8001
801 North Randolph Street
Arlington, VA 22203

Chief of Naval Technical Training
ATTN: Dr. Norman Kerr, Code 0161
NAS Memphis (75)
Millington, TN 38054

Naval Training Analysis
and Evaluation Group
Orlando, FL 32813

Commanding Officer
Naval Training Equipment Center
Orlando, FL 32813

Naval War College
Management Department
Newport, RI 02940

THIS PAGE IS NOT FOR RELEASE TO THE PUBLIC

LIST 9
USMC

Commandant of the Marine Corps
Headquarters, U.S. Marine Corps
Code MPI-20
Washington, DC 20380

Headquarters, U.S. Marine Corps
ATTN: Dr. A. L. Slafkosky,
Code RD-1
Washington, DC 20380

LIST 11
OTHER FEDERAL GOVERNMENT

National Institute of Education
Educational Equity Grants Program
1200 19th Street, N.W.
Washington, DC 20208

Office of Personnel Management
Organizational Psychology Branch
1900 E Street, NW.
Washington, DC 20415

National Institute of Education
ATTN: Dr. Fritz Muhlhauser
EOLC/SMO
1200 19th Street, N.W.
Washington, DC 20208

Chief, Psychological Research Branch
ATTN: Mr. Richard Lanterman
U.S. Coast Guard (G-P-1/2/62)
Washington, DC 20590

National Institute of Mental Health
Minority Group Mental Health Programs
Room 7 - 102
5600 Fishers Lane
Rockville, MD 20852

Social and Developmental Psychology
Program
National Science Foundation
Washington, DC 20550

LIST 12
ARMY

Army Research Institute
Field Unit - Monterey
P.O. Box 5787
Monterey, CA 93940

Deputy Chief of Staff for
Personnel, Research Office
ATTN: DAPE-PBR
Washington, DC 20310

Headquarters, FORSCOM
ATTN: AFPR-HR
Ft. McPherson, GA 30330

Army Research Institute
Field Unit - Leavenworth
P.O. Box 3122
Fort Leavenworth, KS 66027

Technical Director (2 copies)
Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333

LIST 13
AIR FORCE

Air University Library/LSE 76-443
Maxwell AFB, AL 36112

AFOSR/NL (Dr. Fregly)
Building 410
Bolling AFB
Washington, DC 20332

Air Force Institute of Technology
AFIT/LSGR (Lt. Col. Umstot)
Wright-Patterson AFB
Dayton, OH 45433

Technical Director
AFHRL/ORS
Brooks AFB
San Antonio, TX 78235

AFMPC/DPMYP
(Research and Measurement Division)
Randolph AFB
Universal City, TX 78143

CURRENT CONTRACTORS

Dr. Clayton P. Alderfer
School of Organization
and Management
Yale University
New Haven, CT 06520

Dr. H. Russell Bernard
Department of Sociology
and Anthropology
West Virginia University
Morgantown, WV 26506

Dr. Arthur Blaiwes
Human Factors Laboratory, Code N-71
Naval Training Equipment Center
Orlando, FL 32813

Dr. Michael Borus
Ohio State University
Columbus, OH 43210

Dr. Joseph V. Brady
The Johns Hopkins University
School of Medicine
Division of Behavioral Biology
Baltimore, MD 21205

Mr. Frank Clark
ADTECH/Advanced Technology, Inc.
7923 Jones Branch Drive, Suite 500
McLean, VA 22102

Dr. Stuart W. Cook
University of Colorado
Institute of Behavioral Science
Boulder, CO 80309

Mr. Gerald M. Croan
Westinghouse National Issues
Center
Suite 1111
2341 Jefferson Davis Highway
Arlington, VA 22202

Dr. Larry Cummings
University of Wisconsin-Madison
Graduate School of Business
Center for the Study of
Organizational Performance
1155 Observatory Drive
Madison, WI 53706

Dr. Asa G. Hilliard, Jr.
The Urban Institute for
Human Services, Inc.
P.O. Box 15068
San Francisco, CA 94115

Dr. Charles L. Hulin
Department of Psychology
University of Illinois
Champaign, IL 61820

Dr. Edna J. Hunter
United States International
University
School of Human Behavior
P.O. Box 26110
San Diego, CA 92126

Dr. Rudi Klauss
Syracuse University
Public Administration Department
Maxwell School
Syracuse, NY 13210

Dr. Judi Komaki
Georgia Institute of Technology
Engineering Experiment Station
Atlanta, GA 30332

Dr. Edward E. Lawler
Battelle Human Affairs
Research Centers
P.O. Box 5395
4000 N.E., 41st Street
Seattle, WA 98105

Dr. Edwin A. Locke
University of Maryland
College of Business and Management
and Department of Psychology
College Park, MD 20742

Dr. Ben Morgan
Performance Assessment
Laboratory
Old Dominion University
Norfolk, VA 23508

Dr. Richard T. Mowday
Graduate School of Management
and Business
University of Oregon
Eugene, OR 97403

LIST 15 (Continued)

Dr. George E. Rowland
Temple University, The Merit Center
Ritter Annex, 9th Floor
College of Education
Philadelphia, PA 19122

Dr. Irwin G. Sarason
University of Washington
Department of Psychology
Seattle, WA 98195

Dr. Benjamin Schneider
Michigan State University
East Lansing, MI 48824

Dr. Saul B. Sells
Texas Christian University
Institute of Behavioral Research
Drawer C
Fort Worth, TX 76129

Dr. H. Wallace Sinaiko
Program Director, Manpower Research
and Advisory Services
Smithsonian Institution
801 N. Pitt Street, Suite 120
Alexandria, VA 22314

Dr. Richard Steers
Graduate School of Management
and Business
University of Oregon
Eugene, OR 97403

Dr. Arthur Stone
State University of New York
at Stony Brook
Department of Psychology
Stony Brook, NY 11794

Dr. James R. Terborg
University of Houston
Department of Psychology
Houston, TX 77004

Drs. P. Thorndyke and M. Weiner
The Rand Corporation
1700 Main Street
Santa Monica, CA 90406

Dr. Howard M. Weiss
Purdue University
Department of Psychological
Sciences
West Lafayette, IN 47907

Dr. John P. French, Jr.
University of Michigan
Institute for Social Research
P.O. Box 1246
Ann Arbor, MI 48106

Dr. Paul S. Goodman
Graduate School of Industrial
Administration
Carnegie-Mellon University
Pittsburgh, PA 15213

Dr. J. Richard Hackman
School of Organization
and Management
Yale University
56 Hillhouse Avenue
New Haven, CT 06520

Dr. Joseph Olmstead
Human Resources Research
Organization
300 North Washington Street
Alexandria, VA 22314

Dr. Thomas M. Ostrom
The Ohio State University
Department of Psychology
116E Stadium
404C West 17th Avenue
Columbus, OH 43210

Dr. Phillip G. Zimbardo
Stanford University
Department of Psychology
Stanford, CA 94305