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Organizational Conditions and Behavior in 234 Industrial Manufacturing Organizations.

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IN 234 INDUSTRIAL MANUFACTURING ORGANI-
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ORGANIZATIONAL CONDITIONS AND BEHAVIOR
IN 234
INDUSTRIAL MANUFACTURING ORGANIZATIONS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Psychology

by
George Henry Dunteman
B.A., Saint Lawrence University, 1957
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ABSTRACT

The purpose of this study was to explore some of the interrelationships among 84 variables pertaining to company and formal organization characteristics, management attributes, incentive conditions, worker characteristics, personnel performance, and organizational functions in a sample of manufacturing firms. The correlations among the 84 variables were factor analyzed and the factors rotated to a simple structure.

Fourteen dimensions of organizational attributes and behavior were isolated and interpreted. The factors were interpreted as follows: I. Size of Organization; II. Economic Growth; III. Tardiness vs. Family Responsibility; IV. Pay-Skill Level; V. Personnel Tenure; VI. Ownership and Concern for Organizational Interests; VII. Work-force Reduction and Job Mechanization; VIII. Technical Personnel and Controls vs. Protection Against Human Liabilities; IX. Minority Group Composition; X. Improvement of Working Conditions; XI. Retail Sales Personnel and Authority Conflict Behaviors; XII. Community and Employee Support vs. Work Output Restriction; XIII. Personnel Selectivity; XIV. Allocations to Labor vs. Product Development.

The size of the firm was found to be a far greater source of variance than was the age of the firm. However,

neither size nor age was appreciably related to measures of personnel performance and organizational functioning. Personnel performance and organizational functioning varied with factors that could be controlled (e.g. recreation and savings-investment programs) rather than with the enduring and unalterable conditions of an organization such as size and age.

Management tenure and experience were completely independent of other management characteristics such as age, education, pay level, and incidence of promotions. Most important, management tenure and experience were conspicuously independent of other variables, especially those involving personnel performance and organization functioning.

In regard to incentives, pay level tended to be related to worker characteristics pertaining to skill and education and was independent of personnel performance and organizational functioning. Quite the opposite held true for recreation and savings-investment programs which were essentially independent of worker characteristics, but related to a number of personnel performance and organizational functioning variables.

Following the pattern of management attributes, employee tenure was independent of other worker characteristics, especially those involving skill and education. Moreover, all the worker characteristics mentioned above were completely independent of personnel performance measures. A striking

feature of worker characteristics was that they seemed to involve rather independent loyalties or commitments to various organizations or social groups. Furthermore, each one of these loyalties or commitments tended to be related to unique personnel behaviors.

Productivity, job aversion, and theft were mutually independent behaviors. However, job aversion behaviors split up into a number of independent components, each one being associated with unique conditions within the organization. Productivity was found to have no simple relationships with other variables.

A number of independent dimensions of organization functioning could be interpreted in terms of what group of organizational "participants" benefit or are effected one way or another by the organization. The interdependence of personnel performance and organization functioning was noticeably absent in many respects.

Probably the most significant aspect of this investigation is its demonstration of the complex relationships that can be expected to exist between various organizational attributes and behaviors. As more variables are taken into consideration, relationships among the original variables become altered and take on new significance.

INTRODUCTION

In recent years much theory and consequent research on organizational behavior has been evident. However, March and Simon (1958) point out that the writings about organizations are scattered and diverse, and that the literature discloses large discrepancies between hypotheses and evidence. While the literature contains many assertions, there is little data to back them up.

Approaches to Organization Theory

Organizational theory is the focus of several disciplines and conceptual schemes. Bowen (1957) remarks that the business enterprise is subject to economic, sociological, and psychological analysis. Likewise, March and Simon (1958) note that organization theory and related empirical data stem from the following sources: the writings of executives and administrators, the scientific management movement, sociologists, social psychologists, political scientists, and economists. While all the aforementioned framework have particular advantages, the present investigation was mainly concerned with examining organizational behavior from a social psychological viewpoint as expressed by theorists such as March and Simon (1958), Haire (1959), Likert (1959), Argyris (1960), Bass (1960), and McGregor (1960).

Haire (1959) comments that we find not only different

approaches to the problem, but also different views as to the nature of the problem. For example, Argyris (1960) and Likert (1959) emphasize motivational aspects while Marschak (1959), Rapaport (1959), and Cyert and March (1959) focus on decision-making. Others such as Cartwright (1959) utilize mathematical theory, e.g., graph theory. Whyte (1959) uses an interaction approach while Bass (1960) conceptualizes organizational behavior through a broad behavioristic approach. Research on this topic had traditionally been carried out through laboratory investigation, field experiments, and the intraorganizational approach.

Laboratory Studies

Laboratory investigations of the relationship between communication structure and task performance in groups have been conducted by Bavelas (1950), Leavitt (1951), Shaw (1955), and more recently by Mulder (1960). Bass (1961) has demonstrated differences in effectiveness between simulated organizations involving overlapping committee and line-staff structures. Research is currently in progress at Louisiana State University employing simulation of certain organizational features in the laboratory in order to investigate some of the problems where persons in specified roles (middle management) have to fulfill both the needs of their respective superiors and subordinates--the problem of the "man in the middle." Kennedy (1959) and Hoggatt (1959) have

argued for the use of business games to study organizational decision-making. Although little laboratory research has been directed toward the investigation of industrial organizations per se, much laboratory research which has been conducted on small groups may be considered to have relevance to the process and perhaps particularly the unprogrammed activities of groups that occur in formal organizations. The results and implications of the numerous research studies of small groups have been summarized by Bass (1960) and Cartwright and Zander (1960).

Field Experiments

Field experiments are characterized by the actual manipulation of variables rather than just by survey and correlational analysis. Coch and French (1948) have carried out field experiments involving the effect of various types of supervision on worker performance. In general, field experiments involving organizations, especially those involving the manipulation of major variables, are quite scarce for the obvious reason of interference in organizational procedure.

Intraorganizational Studies

The intraorganizational approach has been utilized by Shartle (1956), McGregor (1960), Rubenstein (1960), Argyris (1960), and Tannenbaum, Wechsler, and Massarik (1961). These researchers' attempt to support their hypotheses by survey and correlational analysis of personnel variables

within organizations, analysis of unit (e.g. departmental) operations, participant observation and interview findings. Examples of the correlational method, which is by far the most common intraorganization approaches are illustrated by Baumgartel and Sobel (1959) in an investigation of the correlates of absenteeism, and by Kerr (1950) who correlates labor turnover with 24 other variables.

It should be noted that field experiments also are intraorganizational in nature. However, the generality of the findings of such experimentation and knowledge of the factors influencing the experimental variables is largely unknown. It is apparent that successful experimentation of this kind would be unlikely if attempted in organizations which were not particularly hospitable to psychological consultants and their research efforts.

Most of the current literature of research on real-life organizations has been provided by the intraorganizational approach. Such research typically involves the investigation of one or a small number of firms. Frequently, one sub-unit rather than the whole organization is examined, as exemplified by the study of Katz, Macoby, and Morse (1951) in their investigation of supervision in a specific office situation. The possibility of generalizing from such studies has been necessarily curtailed because there has been no sampling of organizations, of time periods, or control over the relevant organizational variables which would

explain the circumstances under which relationships do or do not occur.

Organizational Sampling Surveys

An approach which is considered more appropriate for the objectives of organizational study and which overcomes many of the mentioned limitations involves the use of sampling surveys whereby data can be gathered from a large number of organizations. Palmer (1961) examined 35 organizational survey variables pertaining to organizational conditions and personnel performance for a sample of 188 manufacturing firms in a southern metropolitan region. An analysis resulted in eight orthogonal rotated factors. The factors were identified as follows: Retirement Welfare, Cooperation with Survey, Size of Work Force, Thrift Benefits, Cost of Sickness vs. Use of Machinery, Job Aversion (e.g. lateness, turnover, grievances, and complaints), Insurance Benefits and, finally Product Theft vs. Discounts on Product.

Examination of the rotated factors indicated no support for Revans' (1958) notion that less favorable performance is associated with larger firms. Palmer's (1961) analysis also disclosed that productivity, job aversion, and theft were mutually independent behaviors and further that job aversion behavior was unrelated to any positive incentive conditions investigated. Each of these independent behaviors was found to be related to different organizational conditions.

The Present Study

The purposes of the present study were as follows:

- 1) the isolation of various independent dimensions of organizational behavior and attributes (the identification of major sources of variance among companies) and the general relationship among variables;
- 2) discussing the dimensions in relation to current theory and research, especially with reference to Palmer's findings;
- 3) examining the relationships between organizational effectiveness, personnel performance and the extracted factors; determining the characteristics of the factors related to personal performance and organizational effectiveness.

Using Palmer's (1961) factor resolution as a guide to some of the factors, it was expected that similar as well as new factors would be uncovered in the present investigation. The comparable factors were hypothesized to differ in that more variables were expected to load on the factors extracted in the present investigation thereby changing, at least to some extent, the interpretation. Previously unidentified factors were expected because of the inclusion of more and diverse variables.

The determinants of organizational behavior are so numerous that any one research project could only hope to explore but a fraction of them. Shartle (1956) pointed out that a variety of external factors (i.e., cultural milieu, economic and social conditions) influence and interact with the internal organizational conditions with which the present analysis was concerned. Supporting Shartle's

observation, Bowen (1957) enumerated a comprehensive list of variables that influence organizational behavior.

With these thoughts in mind, the present investigation was concerned with a factor analysis of a limited number of variables. The areas investigated were as follows: company and formal organization characteristics, management attributes, incentive conditions, worker characteristics, personnel performance, and organizational effectiveness. The specific variables subsumed under each of these categories are presented in Appendix A.

It should be noted that the grouping of the variables under these six classifications is somewhat arbitrary in that some of the variables could be subsumed under more than one heading. It seems appropriate at this point to discuss briefly each classification with respect to the rationale involved in selecting the particular variables to be examined. In general, the criteria for selection were as follows: 1) relevance or importance as indicated by current theory and research, 2) facilitating factor identification by including Palmer's (1961) factor markers, 3) assessability of the information, and 4) objectivity of recording the data. It is important to realize that not all the variables considered in this study were selected to define factors and provide factor saturations, but that some of them were included as controls so that specified influences such as size and age of firm could be recognized

and partialled out.

Sixteen of Palmer's (1961) factor marker variables were included in the present investigation in order to extend factorial validation and the analysis of interrelationships. These 16 factor marker variables are identified in Table 3. The inclusion of more variables will as a rule increase factor identification. Consequently, Palmer's (1961) factors may be better determined and qualified in the presence of a broader range of variables. Also, in this manner, the extent of factorial invariance can be examined.

Company and Formal Organization Characteristics. Size tends to be the most important consideration here and is defined by a large number of the variables included in this section. March and Simon (1958) and Revans (1958) support the notion that personnel performance is better in smaller organizations. However, Palmer's (1961) analysis suggested that size per se had no demonstrable relationship with personnel performance.

Organization structure attributes, such as extent of departmentation, scalar stratification within management, and employee-foreman ratio, were included because there is some speculation regarding their influence on personnel performance and organizational effectiveness. In laboratory investigations Bavelas (1950), Leavitt (1951), and Shaw (1955) have shown relationships between formal communication

channels and task effectiveness.

In regard to vertical structure, Worthy (1950) refers to the unique case of Sears, Roebuck and Company which he describes as broad or flat in contrast to the tall or vertical structures generally found. Interestingly enough, there are only four levels of supervision between the president and the salespeople in this organization of approximately 110,000 employees. Consequently, the principle of span of control was violated and decentralization was increased. According to Urwick (1944), violation of the span of control reduces efficiency. In contrast, Haire (1959) points out that the assumptions underlying the span of control are tenuous and open to investigation. The employee-foreman ratio gives us a rough indication of the size of work groups which is hypothesized to be related to various efficiency measures of group performance. Marriot (1951) states that in an automobile manufacturing concern productivity per worker decreased as size of work-group increased.

Management Attributes. The variables in this section tend to cluster around experience, education, age, and monetary reward for management. There is little doubt that these factors affect executive behavior which in turn should be related to personnel performance and especially organizational effectiveness. The importance of executive behavior in relation to effectiveness has been emphasized by Shartle

(1956) and is given further support by the large expenditures in time, money, and effort devoted to management development by a large number of firms.

Incentive Conditions, Benefits, and Programs. The role of financial incentives in maintaining and promoting task performance was widely incorporated into the early classical organization theory. Here it was assumed that work was unpleasant and performance could only be maintained by monetary reward. Although financial incentives in relation to task performance have tended to be over-emphasized (Likert, 1959; Argyris, 1960; and McGregor, 1960), it is highly probable that incentive structure is an important characteristic of organizations especially in relation to certain aspects of personnel performance (Viteles, 1953).

A large number of the variables considered here comprise various fringe benefits. The importance of fringe benefits is attested by the fact that in some instances fringe benefits comprise upwards to 20% of total wages paid and also by their importance as judged by employees and unions.

The remaining variables attempt to measure pay level, pay differentials, worker comfort, and incidence of advancement. McGregor (1960) believes that pay differentials can be a constant source of trouble; and Ghiselli and Brown (1948) suggest that whenever management introduces programs

to increase worker comfort, safety, and satisfaction, such programs lead in the long run to higher profits.

Worker Characteristics. Much theory and research has been concerned with the human element, especially the relationship between characteristics of the work group and measures of personnel performance. The variables included here attempted to define the following characteristics of the worker: skill level, age, ethnic and religious background, education, unionization, and sex. Morse (1953) found a negative relationship between skill level and voluntary turnover. March and Simon (1958) hypothesize lower turnover among minority groups while Myers and MacLauren (1943) present evidence for high turnover for males than for females. Van Zelst (1954) presents evidence that accident rates decrease with age. Blau (1957) suspects that the lack of work groups on the assembly line might result in stronger union identification and higher turnover and absenteeism. In one respect, these variables can be looked upon as providing general measures of personnel homogeneity whose importance in relation to effective group behavior has been emphasized by Likert (1958) and Bass (1960).

Personnel Performance. Personnel performance, along with organizational effectiveness, are usually thought of as two groups of criterion measures. Thorndike (1949) regards them as intermediate and ultimate criteria respectively.

Personnel performance measures have been traditionally used as criteria in industrial studies investigating their relationship with other factors in the industrial complex. The previous section contains examples of such relationships.

The personnel performance measures center around such indices as accidents, turnover, grievances, lateness, production, equipment maintenance, advancement requests, theft, work stoppage, and management-worker conflict. Palmer's (1961) analysis indicated job aversion (lates, turnover, grievances, etc.), production, and theft to be mutually independent work behaviors. He interpreted these results in support of Herzberg, Mausner, and Synderman's (1961) two-component hypothesis that productivity tends to be associated with positive incentives while job aversion may be related to independent dissatisfiers. Palmer's (1961) analysis did not disclose what these dissatisfiers were. Castle (1956) found support of the theory that one factor contributes to the cause of accidents and desire to withdraw from the work situation. In a review of the literature, Brayfield and Crockett (1955) found no consistent relations among measures of production, absences, and voluntary turnover. It will be interesting to examine the organization conditions associated with these hypothesized independent cluster of personnel performance. Part of the rationale for including performance measures is their expected facilitation in identifying "Important" correlates of personnel and

organizational functioning.

Organization Effectiveness. Bass (1952) and others have proclaimed that the ultimate criteria of organizational worth should be expanded to include the worth of the organization both to the worker and society as well as its worth in terms of productivity and profits. This was kept in mind in the selection of variables to measure organizational effectiveness. An attempt was made to include various measures of growth (a number of which are related to economic growth in one way or another), contributions to society, efficiency, and attractiveness. Support for including some of the variables purporting to measure effectiveness is given by Dent (1959) who through executive interviews concluded that the aims of management were, in part, to make money, pay dividends, grow, and stay ahead of competitors.

Again, it is of interest to examine the dimensions that are related to organizational effectiveness. Of particular interest are the relationships disclosed between the two classes of measures concerned with personnel and organizational functioning.

PROCEDURE

Questionnaire

A multiple choice questionnaire containing 84 items pertaining to the six areas of organizational attributes and behavior discussed previously was developed and pretested on a sample of local manufacturers. The 84 variables grouped under the six categories are presented in Appendix A.

Sample Survey

A representative sample of 2,938 manufacturing firms residing throughout the continental United States was developed. The number of firms selected from each state was based on the proportion of manufacturing in the respective states according to the 1961 U.S. Statistical Abstracts. However, within each state the firms were drawn at random from the appropriate state directory of manufacturers. With each questionnaire was sent an explanatory covering letter, a postage-paid return envelope, and two IBM mark-sense cards for recording answers as detailed in the appendix. Each company was offered a free summary report if they desired one. The participating firms were assured that all information would be kept confidential.

Reliability of Reports

A sample of 200 original respondents was retested in

order to check the consistency of answering the items. This second request, again conducted by letter, asked companies to help in verifying the accuracy of our records. A copy of this letter may be found in Appendix E.

Nonresponse

A random sample of 300 nonrespondents was requested by letter in order to gain an indication of the direction of nonresponse bias. A copy of the letter directed to the nonrespondents can be found in Appendix F. Originally it was intended that differences in the proportions between follow-up and original respondents would be computed and a bias scale constructed from these differences correlated with the loadings on each factor. But due to the small response (28) of the follow-up sample, the procedure was modified. The direction and magnitude of the differences in the proportions (based on median cuts of the original distribution) between follow-up and original respondents were visually examined for relationships with both the significant loadings on each factor and the six categories of organizational attributes and behavior.

Data Analysis

For this analysis it was assumed that linear regressions accounted for a major proportion of the variance, even though some regressions would be expected to involve more complex functions. Accordingly, Pearson linear product moment

correlations were utilized to compute the intercorrelations between the 84 variables. Where some respondents reported no information for some questions, correlations among the variables were based upon the number of cases common to each pair of variables. The N for the correlations ranged from 66 to 232. However, the majority of the correlations were based on an N of 180 or more and in only four instances were the correlations based on an N of less than 100.

The 3,486 correlations were subjected to a principal components analysis (Hotelling, 1933) and rotated to nearly orthogonal, simple structure by the varimax method (Kaiser, 1958). The decision to stop factoring was based upon the diminishing contributions to the total variance of the successively extracted factors.

RESULTS

Returns

Eight percent (234) of the 2,938 questionnaires were returned. The distribution of the returns, classified according to type of product manufactured and geographical location, are shown in Tables 1 and 2 respectively. Appendix A discloses the frequency distribution of the options selected for each of the 84 items. The low percentage of returns is attributed in part to the length of the questionnaire, the reluctance to reveal certain information, and the low pulling power of a general appeal by letter.

Reliability of Reports

Thirteen percent (26) of the 200 firms retested for consistency responded. On this basis reliability coefficients were computed. The reliability for each item is shown in Table 3. The average reliability coefficient for the 84 variables was .73. Under Spearman-Brown assumptions for a sample approximately 9 times as large, the average reliability was .96. It should be noted that the reliability coefficients were not altogether adequate measures of the consistency of reporting. The proportion of agreement was quite high, but because of little or no variance in one or both of the distributions a number of the corresponding

TABLE 1

RETURNS BY PRODUCT CLASSIFICATION^a
(N=234)

Product Class	Percent of Returns	Percent in Actual Population ^b
Fabricated Metals	16.7	7.7
Food	13.7	14.8
Non-Electrical Machinery	10.3	not available
Printing and Publishing	7.7	11.3
Stone, Clay, and Glass	7.7	not available
Primary Metals	6.0	2.2
Lumber	5.6	14.5
Chemical and Allied	5.6	3.9
Furniture	3.8	3.6
Apparel	3.4	10.9
Electrical Machinery	3.0	not available
Miscellaneous	3.0	5.1
Textiles	2.6	2.8
Paper and Allied Products	2.1	1.7
Petroleum	2.1	.4
Leather	2.1	1.7
Transportation Equipment	1.7	1.9
Rubber and Plastics	1.7	1.3
Scientific and Control Instruments	.9	1.1
Tobacco	.4	.2
TOTAL	100	

^aThis is the standard industrial classification as given by the Bureau of the Budget in 1957.

^b. These percentages are based on the U.S. Statistical Abstracts (1961).

TABLE 2
RETURNS BY GEOGRAPHIC LOCATION
(N=234)

Geographic Location	Percent of Returns	Percent in Actual Population ^a
New England	8.1	8.6
Middle Atlantic	16.2	28.7
East North Central	26.9	20.6
West North Central	8.9	6.6
South Atlantic	11.5	10.6
East South Central	3.0	4.5
West South Central	5.2	5.7
Mountain	4.7	2.3
Pacific	15.3	12.3

^aThese percentages are based on the U.S. Statistical Abstracts (1961).

TABLE 3

RELIABILITIES FOR ORIGINAL RESPONDENTS AND PROPORTIONS FOR
ORIGINAL AND NONRESPONDENT RETURNS^a

Variable	Reliability For Original Respondents	Proportion Above Median For Originals (N=234)	Proportion Above Median For Non-Respondents (N=28)
<u>Company and Formal Organi- zation Charac- teristics</u>			
1. Age of firm	86 ^b	47	57
2. Number of employees*	99	50	46
3. Community population	98	46	54
4. Quality control methods*	25	71	64
5. Production for inventory vs. order	60	24	39
6. Retail sales personnel	73	58	57
7. Product distri- bution	91	58	75
8. Management per- sonnel	59	58	57
9. Employee-foreman ratio	60	54	50
10. Management levels	61	45	39
11. Departments	74	44	68
12. Staff	67	58	64
13. Research and development personnel	68	65	68

TABLE 3 Cont'd.

Variable	Reliability For Original Respondents	Proportion Above Median For Originals (N=234)	Proportion Above Median For Non-Respondents (N=28)
<u>Management Attributes</u>			
14. Management payment plans	75	64	57
15. Management tenure	87	47	64
16. Sub-management tenure	88	50	36
17. Managerial ex- perience	69	48	43
18. Management pay differential	57	56	64
19. Management stockholders	86	53	54
20. Management education	87	58	61
21. Management pay level	75	55	43
22. Management age	78	60	75
23. Committee meet- ings	90	61	75
24. Management Pro- motion from within	97	52	75
<u>Incentive Conditions, Programs, and Bene- fits</u>			
25. Plant worker pay level	85	47	46
26. Office worker pay level	67	50	54
27. Community pay rates	80	52	57
28. Recreational facilities*	71	34	32

TABLE 3 Cont'd.

Variable	Reliability For Original Respondents	Proportion Above Median For Originals (N=234)	Proportion Above Median For Non-Respondents (N=28)
29. Pay differential for production workers	51	43	33
30. Pension program*	83	30	32
31. Group Insurance*	100	81	75
32. Savings-invest- plan*	58	15	07
33. Sick pay*	100	82	79
34. Discount*	93	51	57
35. Cost of fringe benefits	73	53	64
36. Pay increases	61	49	57
37. Promotions	65	58	46
38. Working con- ditions	80	52	50
<u>Worker Characteristics</u>			
39. Stockholders	71	30	21
40. Hourly paid workers	64	63	57
41. Employees trav- elling 10 or more miles to work	81	50	46
42. Catholic employ- ees	96	48	57
43. Machine operator	85	55	57
44. American-born white Christians	87	37	43
45. Union members*	96	62	79
46. High school graduates	81	43	46
47. Worker tenure	88	41	50
48. Male workers	82	52	35
49. Workers married with 2 or more children	80	47	35
50. Skilled laborers	75	50	50
51. Worker age	91	59	68
52. Negro Employees	84	61	64

TABLE 3 Cont'd.

Variable	Reliability For Original Respondents	Proportion Above Median For Originals (N=234)	Proportion Above Median For Non-Respondents (N=28)
<u>Personnel Performance</u>			
53. Machine down time	77	45	36
54. Accidental damage to plant or equipment	63	57	61
55. Strikes, etc.	00	88	93
56. Substandard production*	77	60	57
57. Absentees*	58	51	46
58. Grievances*	79	68	57
59. Turnover*	55	61	61
60. Lates (p.m.)*	88	66	61
61. Theft*	24	66	61
62. Superior- subordinate con- flicts	45	78	75
63. Accidents	90	54	54
64. Discharges	78	58	46
65. Lates (a.m.)*	89	65	54
66. Promotion re- quests	92	65	57
67. Pay requests	58	49	54
68. Personality problems	67	59	71
<u>Organizational Function</u>			
69. Jobs eliminated	84	63	72
70. New products	86	50	43
71. Civic contribu- tions	71	47	32
72. Selection ratio	89	50	39
73. Customer com- plaints	74	55	54
74. Dividends (in- crease or de- crease)	67	50	57
75. Applicants (increase or decrease)	62	49	50

TABLE 3 Cont'd.

Variable	Reliability For Original Respondents	Proportion Above Median For Originals (N=234)	Proportion Above Median For Non-Respondents (N=28)
76. Sales volume (in- crease or decrease	55	58	46
77. Profit/net worth	96	54	36
78. Employees (in- crease or decrease	90	45	39
79. Profits (increase or decrease)	70	53	47
80. Investment in ex- pansion (increase or decrease)	71	45	36
81. Work force reduction	67	59	71
82. Management civic office holders	06	53	75
<u>Survey Controls</u>			
83. Synopsis desired	14	99	100
84. Time to complete questionnaire	19	50	64

^aThe proportions for both original and nonrespondents are based upon cuts made at the median of the original distribution. The proportions presented are those lying above the median in the direction of the smaller options.

^bDecimals are omitted.

*These variables were factor markers in Palmer's (1961) analysis.

reliability indices were low.

Nonresponse Bias

Information was obtained from 9 percent (28) of the 300 nonrespondent companies in the call-back sample. Table 3 compares the response of each item for these 28 companies with the original 234 respondents. The proportions arrived at were based on median cuts made on the distributions of the original returns. Those proportions shown in Table 3 are the proportions above the median (the lower numbered options). No statistical analyses were performed, but visual inspection of the direction of the differences in proportions seemed to indicate that original respondents tended to give more favorable reports in regard to personnel performance, incentive conditions, and various attributes of both workers and management such as skill, education, and tenure. Original respondents tended to give somewhat less favorable reports of economic growth. Consequently, some bias has probably influenced those factors whose variance was primarily contributed to by the above mentioned sources. However, the extent of the influence of nonresponse bias was not disclosed.

Factors

The Pearson product moment correlations between the 84 variables, the final rotated factor matrix, and the factor intercorrelation matrix are deposited with the Louisiana

State University Library. Table 4 shows the significant loadings (.30 or greater) on all factors grouped according to the previously presented classification scheme. Some of the loadings in Table 4 are reflected for consistency so that the positive sign of a loading indicates the presence of higher magnitudes of a variable. The rotated factors are presented in descending order of common factor variance accounted for. The percentage of common variance accounted for by each factor is shown in Table 4.

The first 14 unrotated factors extracted accounted for 54 percent of the total variance. Factor I accounted for 16.6 percent of the total variance while Factor XIV only contributed 1.8 percent of the total variance. In general, the examination of the 84 Lambdas suggests much specificity in the original intercorrelation matrix. After these 14 factors were rotated, it was found that Factor I accounted for 26.7 percent of the common variance while the remaining 13 factors contributed from 7.9 to 3.8 percent of the common variance. The rotated factors were nearly orthogonal, the correlations between factors ranging from .00 to .35. However, only two of the 91 intercorrelations were above .20.

In interpreting and discussing the factors, it should be kept in mind that the results of the present study need not necessarily agree with investigations conducted within companies and that furthermore it is impossible to answer questions pertaining to temporal or casual relationships

FACTOR STRUCTURE OF ORGANIZATION

Company and Formal Organization Characteristics		Management Attributes		Incentive Conditions, Benefits, and Programs	
I. <u>Size of Organization (27%)^a</u>					
2. Employees (NO.)	.92	24. Promotions from within (NO.)	.87	35. Cost of fringe benefits	.59
11. No. of departments	.73	20. College graduates (NO.)	.75	30. Pension	.52
9. Employee - foreman ratio	.70	22. Age (NO. 50 yrs. of age or older)	.71	36. Pay increases (%)	.38
10. No. of vertical levels	.67	23. Committee meetings (NO.)	.65	37. Promotions (%)	.36
13. Research & development personnel (NO.)	.56	21. Pay over 15,000 (NO.)	.62	31. Group insurance	.35
7. Product distribution	.47	18. Pay differential	.60	28. Recreational facilities	.34
1. Age of firm	.31	19. Stockholders (NO.)	.59	33. Sick pay	.32
II. <u>Economic Growth (8%)</u>					
III. <u>Tardiness vs. Family Responsibility (7%)</u>					
				34. Discount (%)	.38
IV. <u>Pay - Skill Level (7%)</u>					
				25. Plant workers earning over \$400 (NO.)	.79
				26. Office workers earning over \$350 (NO.)	.76
				31. Group insurance	.32
				35. Cost of fringe benefits	.32
V. <u>Personnel Tenure (7%)</u>					
1. Age of firm	.58	15. Tenure	.84		
		17. Experience	.47		
		16. Submanagement tenure	.41		
VI. <u>Ownership and Concern for Organizational Interests (5%)</u>					
		19. Stockholders (NO.)	.30		
VII. <u>Workforce Reduction and Job Mechanization (5%)</u>					
5. Production for inventory vs. order	-.43			34. Discount (%)	-.34
VIII. <u>Technical Personnel and Controls vs. Protection Against Human Liabilities (5%)</u>					
12. Staff (%)	-.67			31. Group insurance	.41
4. Quality control	-.57				
IX. <u>Minority Group Composition (5%)</u>					
3. Community population	.33				
X. <u>Improvement of Working Conditions (4%)</u>					

Worker Characteristics			Personnel Performance		Organizational Function		
s	.59	39. Stockholders (%)	.32	57. Absentees (NO.)	.76	69. Jobs eliminated (NO.)	.65
	.52	45. Union members (%)	.36	63. Accidents (NO.)	.67	73. Customer complaints (NO.)	.44
	.38			64. Discharges (NO.)	.58	75. Applicants (% increase)	.33
	.36			58. Grievances (%)	.49		
	.35			54. Damage to plant (\$)	.48		
s	.34			68. Personality problems (NO.)	.46		
	.32			55. Strikes, etc. (NO.)	.43		
				61. Theft (NO.)	.34		
				66. Promotion requests (%)	.30		
		51. Age (No. 40 yrs. of age or older)	.36			79. Profits (% increase or decrease)	.87
						76. Sales (% increase or decrease)	.81
						78. Employees (% increase or decrease)	.73
						74. Dividends (% increase or decrease)	.63
						77. Profit/net worth	.47
						75. Applicants (% increase or decrease)	.44
						80. Expansion (% increase or decrease)	.44
	.38	49. Married and 2 children (NO.)	.41	60. % lates (p.m.)	.86	71. Civic support (\$)	.33
				65. % lates (a.m.)	.71		
				67. Pay requests (%)	.40		
				58. Grievances (%)	.37		
				56. Substandard production (%)	.31		
				53. Machine down time	.30		
	.79	50. Skilled laborers (%)	.58				
		48. Male (%)	.36				
	.76	46. High school graduates (%)	.36				
		45. Union members (%)	.33				
	.32	41. Travel 10 or more miles to work (%)	.32				
s	.32						
		47. Tenure	.73	59. Turnover (%)	.32		
		51. Age	.51				
		39. Stockholders (%)	.40	54. Damage to plant and equipment (\$)	-.52	73. Customer complaints (NO.)	-.36
				67. Pay requests (%)	.51		
				53. Machine down time	-.46		
	-.34	39. Stockholders (%)	.33			81. Reduced work force (NO.)	.75
						69. Jobs eliminated (%)	.45
						74. Dividends (% increase or decrease)	.38
	.41	46. High school graduates (%)	-.42			82. Management civic contributions (No. of office holders)	-.32
						Survey control	
						83. Synopsis desired	-.32
		52. Negroes (%)	.77				
		44. American-born white christians (%)	-.77				
		43. Machine operators (%)	-.35				

III. Tardiness vs. Family Responsibility (7%)

34. Discount (%) .38

IV. Pay - Skill Level (7%)

25. Plant workers earning over \$400 (NO.) .79
26. Office workers earning over \$350 (NO.) .76
31. Group insurance .32
35. Cost of fringe benefits .32

V. Personnel Tenure (7%)

1. Age of firm .58
15. Tenure .84
17. Experience .47
16. Submanagement tenure .41

VI. Ownership and Concern for Organizational Interests (5%)

19. Stockholders (NO.) .30

VII. Workforce Reduction and Job Mechanization (5%)

5. Production for inventory vs. order -.43

34. Discount (%) -.34

VIII. Technical Personnel and Controls vs. Protection Against Human Liabilities (5%)

12. Staff (%) -.67
4. Quality control -.57

31. Group insurance .41

IX. Minority Group Composition (5%)

3. Community population .33

X. Improvement of Working Conditions (4%)

Research and development personnel (NO.) .33

38. Improvement of working conditions (\$) .75

XI. Retail Sales Personnel and Authority Conflict Behaviors (4%)

6. Retail sales force (NO.) .70
7. Product distribution -.31

XII. Community and Employee Support vs. Work Output Restriction (4%)

7. Product distribution .32
16. Submanagement tenure .31

28. Recreational facilities -.41
32. Savings investment -.39

XIII. Personnel Selectivity (4%)

27. Community pay rates .36

XIV. Allocations to Labor vs. Product Development (4%)

36. Pay increases (%) .44

^aThe percentage enclosed in the parentheses after each factor indicates the percentage of common variance accounted for.

49. Married and 2 children (NO.)	.41	60. % lates (p.m.)	.86	71. Civic support (\$)	.33
		65. % lates (a.m.)	.71		
		67. Pay requests (%)	.40		
		58. Grievances (%)	.37		
		56. Substandard production (%)	.31		
		53. Machine down time	.30		
50. Skilled laborers (%)	.58				
48. Male (%)	.36				
46. High school graduates (%)	.36				
45. Union members (%)	.33				
41. Travel 10 or more miles to work (%)	.32				
47. Tenure	.73	59. Turnover (%)	.32		
51. Age	.51				
39. Stockholders (%)	.40	54. Damage to plant and equipment (\$)	-.52	73. Customer complaints (NO.)	-.36
		67. Pay requests (%)	.51		
		53. Machine down time	-.46		
39. Stockholders (%)	.33			81. Reduced work force (NO.)	.75
				69. Jobs eliminated (%)	.45
				74. Dividends (% increase or decrease)	.38
46. High school graduates (%)	-.42			82. Management civic contributions (No. of office holders)	-.32
				<u>Survey control</u>	
				83. Synopsis desired	-.32
52. Negroes (%)	.77				
44. American-born white christians (%)	-.77				
43. Machine operators (%)	-.35				
		56. Substandard production (%)	.33		
		62. Superior-subordinate conflict (NO.)	.49		
		61. Theft (NO.)	.44		
43. Machine operators (%)	.31	55. Strikes, etc. (NO.)	.36	71. Civic support (\$)	-.53
		56. Substandard production (%)	.31	75. Applicants (% increase or decrease)	-.37
				82. Management civic contribution (No. of office holders)	-.31
42. Catholics (%)	-.38	66. Promotion requests (%)	.43	72. Selection ratio	-.69
48. Hourly workers (%)	.65			70. New products (NO.)	-.36

among the variables included in this investigation.

It seems appropriate at this point to discuss some of the considerations adhered to in the interpretation of the factors. The majority of the items were defined in terms of either absolute numbers or percentages. Therefore, in most instances, only measures based on percentages can be meaningfully related to size and other variables associated with size. It was expected, for example, that larger firms would have a greater number of absentees. In general, the magnitude, range, and order of the loadings were considered in the interpretation of the factors. When a factor was characterized by one or a few high loadings and a number of small loadings, the higher loadings were given more emphasis in the interpretation. Also, when the factor structure was such that the majority of the loadings were of the same magnitude, each loading was given equal attention in the interpretation.

In discussing the factors some attention was focused on the negative as well as the positive implications of various factors. Relationships that were conspicuously absent were pointed out.

Factor I. Size of Organization. The variables that load significantly on Factor I seem to be indicative of the size of the organization. Larger firms are able to offer more in the way of recreation, retirement, and insurance

programs than smaller firms. Furthermore, larger firms offer more opportunities for promotions and pay increases.

There is an interesting implication in the relationship between size of firm, percentage of employees owning stock, and the percentage of union members. In line with the March and Simon (1958) analysis, the implication is that in larger firms there tends to be a greater incidence of overlapping roles. In this instance, the overlapping is between the role of union member and the role of plant owner. Moreover, these roles are in conflict with one another in that aims of the union are in many instances contrary to the aims of the owner.

The volume of personnel behaviors such as absenteeism, accidents, discharges, behavior problems, and theft is highly related to size as would be expected on the basis of item definitions. However, there is no evidence to indicate that these performance measures are disproportionately related to size lending no support to Revans' (1958) conclusion that generally less favorable performance is associated with size. It should be noted that job aversion behaviors such as lates and turnover were completely independent of size.

As expected, company and formal organization characteristics such as number of departments, number of vertical levels, and number of personnel in research and development were highly related in a positive direction to size due again to item definitions. The same is true of the following

management attributes: number of stockholders, number of college graduates, number over 50 years of age, number promoted from lower levels within, and number earning over \$15,000 per year.

Larger firms experience more strikes, etc. and a higher percentage of worker grievances than do smaller firms. A partial explanation for this relationship might be found in the increased union activity in the larger firms.

The structure of this factor also suggests that larger firms tend to be more attractive to job seekers as indicated by the percentage increase in applicants. This observation lends support to March and Simon (1958) who contend that larger firms are more visible and therefore more likely to attract applicants.

Factor II. Economic Growth. This factor is characterized by growth primarily in the economic sphere of industrial functioning. The rather low relationship between employee age and the cluster of growth variables implies that firms with older workforces experience less economic growth.

It is important to note that organizational growth is independent of size, management education and experience, employee skills and performance, and all the other organizational variables considered. It would seem highly probable, because of the many internal conditions examined here, that conditions external to the organization play a substantial

role in the organizational growth of a business enterprise.

Factor III. Tardiness vs. Family Responsibility. The positive pole of Factor III is substantially related to the incidence of morning and afternoon lates and the negative pole moderately related to the percentage of employees who are married with two or more children. This observation suggests that workers with family responsibilities are less likely to exhibit irresponsibility on the job at least in respect to reporting late.

This factor is somewhat similar to Palmer's (1961) Job Aversion factor in that aversive behaviors (primarily lates) accounted for the majority of the factorial variance. However, Palmer (1961) found turnover and absences loading on the same factor as lates while the present analysis disclosed them independent of lates. This discrepancy was probably due to the increased coverage of variables and their resultant influence on the decomposition of the performance variables.

Factor IV. Pay-Skill Level. Various incentive conditions (primarily pay level) and worker characteristics (skill, sex, and education) covary together contributing essentially all of the factorial variance to this factor. This factor exemplifies the common observation that jobs requiring education and skill are more highly rewarded than

those that do not. Except for the population of the firm's community, these two clusters are markedly independent of variables in the remaining classifications. Especially interesting is the lack of relationships between these particular incentive conditions and worker characteristics, and measures of personnel performance and organizational effectiveness, which tends to support contentions by Likert (1959), Argyris (1960), and McGregor (1960) that financial incentive conditions in relation to task performance have tended to be overemphasized. An implication here is that money buys skills, but not necessarily better performance.

Factor V. Personnel Tenure. The observation that both management and worker tenure are highly interdependent supports the notion that, in general, firms have attractions which transcend all levels of employment. Besides the expected inverse relationship with turnover, tenure is conspicuously independent of all other considerations. It is of particular interest to note that tenure is independent of incentive conditions, particularly those involving retirement benefits which would be expected to be especially effective in prolonging tenure. A complication arises here in that it is not known whether this turnover is primarily voluntary or involuntary in origin. The common notion that firms comprised of older workforces experience less turnover is given some support.

FACTOR VI. Ownership and Concern for Organizational Interests. The negative pole of this factor reflects dissatisfaction with pay, lack of concern for plant and equipment, and customer dissatisfaction, while the positive pole reflects personal involvement of both management and employees as evidenced by stock ownership. The significant result here is that stock ownership is related to those performance measures that involve direct cost reduction or maintaining the goodwill of the clientele. A valuable conclusion to be drawn from this factor is that employees with ownership roles cooperate toward some important goals by essentially protecting their own investments. Relationships such as that found for this factor have important implications for labor relation policies. For example, management might try through various means (e.g. stock purchase plans) to encourage their employees to invest in their firm's stock. This factor is significant in that stock ownership fosters behaviors that are not associated with any other type of personnel benefit or remuneration.

Factor VII. Workforce Reduction and Job Mechanization. This factor suggests that firms manufacturing for inventory are more likely to reduce their workforce and number of jobs as a consequence of automation or mechanization. Production for inventory rather than for other makes it possible to schedule and stabilize production thereby taking advantage

of the economies of mechanization. The low loading of dividends indicates an interesting tendency toward increased dividend payments as labor displacement takes place.

Factor VIII. Technical Personnel and Controls vs. Protection Against Human Liabilities. One pole of this factor emphasizes the use of technical specialists and procedures while the other pole indicates the presence of group insurance programs. The interpretation of this factor is not clear cut. One interpretation might be that organizations attempt to insure themselves against contingencies that cannot be coped with by technological specialists. Another suggested interpretation is that technical personnel and controls along with insurance are two ways of handling two kinds of problems: technology and technical specialists for monitoring controllable productive processes; and insurance for controlling the unpredictable liabilities of personnel disability. This factor is somewhat similar to Palmer's (1961) Costs of Sickness vs. Use of Machinery factor which was characterized by the presence of health provisions and quality control methods.

Factor IX. Minority Group Composition. This factor primarily reflects the presence of minority groups in the working force. The extent of minority group composition (primarily Negroes) tends to be inversely related to the percentage of machine operators in the workforce and

positively related to the size of the community in which the firm is located. Except for the above relationships, the presence of minority groups in the workforce is independent of any other variables. Noticeably absent are relationships between minority groups and various personnel performance measures, especially turnover which March and Simon (1958) hypothesize to be lower among minority groups. Also, contrary to what might have been expected, the extent of minority group composition was not found to be related to such worker characteristics as education and skill level, and incentive conditions such as pay level and the presence of fringe benefits.

Factor X. Improvement of Working Conditions. Improvement of working conditions loads substantially on this factor while substandard production and the number of people involved in research and development load slightly in the same direction. This factor pattern is not clear cut, but it is possible that the existence of substandard production has in part prompted research and development and the improvement of working conditions.

Factor XI. Retail Sales Personnel and Authority Conflict Behaviors. The incidence of theft and superior-subordinate conflict is more frequent in those firms characterized by larger retail sales forces and local product distribution. It is quite possible that a large number of

superior-subordinate conflicts revolve around theft situations. Palmer's (1961) finding that amount of product discount was inversely related to the incidence of theft was not disclosed in the present analysis, but his finding that theft was an independent dimension of behavior was confirmed.

Factor XII. Community and Employee Support vs. Work Output Restriction. The general picture is that of an organization which offers benefits to employees through recreation and savings-investment programs, and to the local community through monetary contributions and management participation in charitable and civic organizations. Organizations fulfilling this description experience fewer work stoppages and less substandard production relative to other firms. Such organizations are also more likely to experience an increased percentage of applicants. This factor is interesting because it is one of the few factors to suggest a direct relation between personnel benefits and productivity, although the magnitude of the relationship is low.

Factor XIII. Employee Selectivity. The implication here is that firms paying better wages enjoy a more favorable selection ratio. Also, such firms are characterized by a higher incidence of promotion requests and a lower percentage of Catholic workers.

Factor XIV. Allocations to Labor vs. Product Development. Firms that are composed of hourly workers are more likely to grant pay increases and less likely to introduce new products in their product line. It should be noted that new product means products new to a particular firm but not necessarily new to industry at large. Although the meaning of this factor is not clear, one suggestion is that investment is made in worker wages rather than in the development of new products.

DISCUSSION

In this section, the factor structure for each one of the six categories of organizational attributes and behavior will be presented. The parentheses following each dimension enclose the factor from which the particular dimension was drawn. Also, some of the more significant cross relationships among these six categories will be examined. The primary purpose here is to discuss some relationships and implications that were not brought out by the interpretation of the individual factors in the result section.

Company and Formal Organization Characteristics

This category is composed of the following eight relatively independent dimensions: size of organization (I), community population (IV), age of firm (V), production stabilization (VII), technological services and controls (VIII), research and development (X), retail sales force (XI), and product distribution (XII).

The most important consideration here is the relative independence of the size and the age of organizations. While size is related to those personnel behaviors (grievances, promotion requests, and strikes, work stoppages, etc.) which are hypothesized to be union inspired as part of the

bargaining strategy and not necessarily a resultant of size per se, age, on the other hand, is independent of all personnel behaviors except for turnover. In general, neither size nor age is appreciably related to personnel performance.

Except for size being related to an increase in applicants (attractiveness or visibility), both size and age are independent of organizational functioning. The important implication of this observation along with the previous one is that personnel performance and organizational functioning do not covary substantially with the enduring and unalterable conditions of an organization (age and size), but vary with factors that can be manipulated such as the presence of recreation and savings-investment programs.

It is interesting to note that while size of company is related to the presence of a number of incentive conditions and attributes, age of company is relatively independent of their presence.

In general, although both size and age are both considered to be important characteristics of organizations, size is by far the source of more variance than age. Size is related to a number of variables in every category while age, outside of tenure, is independent of most all the other variables. The suggestion arises that size is a factor of far greater importance than age.

Management Attributes

The management attributes investigated in the present study were quite homogeneous in that two factors accounted for essentially all of their variance. Three independent aspects of this category were disclosed. They are volume of management characteristics (I), management tenure (V), and management stock ownership (VI).

The data suggest that management tenure and experience are completely independent of other management characteristics such as age, education, pay level, and incidence of promotions. Because the management characteristics of age, education, pay level, and incidence of promotions are inextricably related to size, no unique and clearcut relationships among them and other variables can be ascertained. However, it can be readily seen that management tenure and experience are conspicuously independent of other variables, especially those involving personnel performance and organizational functioning. The implication seems to be that management tenure and experience in themselves are relatively unimportant as far as the personnel or organization behaviors measured in this study are concerned.

The only management attributes that have relationships with personnel performance and organization functioning are management stock ownership and submanagement tenure and in these instances the complexity of the factors (VI and XII) concerned render any interpretation difficult. In one of

these instances stock ownership presumably reflecting interest in the organization was found to be inversely related to the incidence of machine down time, accidental damage to plant and equipment, pay requests, and customer complaints. These relationships were explained in the result section on the basis of stock owners protecting their own investments by cooperating toward certain organizational goals. In the other instance, Factor XII disclosed some rather low and ambiguous relationships among submanagement tenure and a few personnel performance and organizational function variables. By and large, the low magnitude and high complexity of the relationships between management attributes and other variables suggest that management variables offer not even a partial explanation of the characteristics and behaviors of organizations.

Incentive Conditions, Benefits, and Programs

One would not suspect that incentive conditions, benefits, and programs are so far removed from being undimensional in nature. That they are not undimensional is attested by their breaking up and scattering over nine different factors. For the most part, eight relatively independent aspects of incentive conditions, benefits and programs present themselves. They are fringe benefits (I), discounts (III), financial incentives (IV), insurance benefits (VIII), improvement of working conditions (X), recreation

and savings-investment programs (XII), community pay scale (XIII), and pay increase (XIV).

Pay level tends to be related to worker characteristics pertaining to skill and education, and is independent of personnel performance and organizational functioning. Quite the opposite holds true for recreation and savings-investment benefits which are essentially independent of worker characteristics, but related to a number of personal performance (substandard production, and incidence of strikes, work stoppages, etc.) and organizational effectiveness (monetary civic support, management office holders, and increase in applicants) variables in the expected manner. Consequently, the importance of fringe benefits in the maintenance of performance is given some support. Also, as mentioned earlier, the notion of Likert (1959) and others that financial incentives have tended to be overemphasized in their facilitation of personnel performance was partially confirmed. As in Palmer's (1961) analysis, each one of the dimensions of incentive conditions, benefits, and programs is associated with different types of personnel behaviors.

In addition to the relationships mentioned above, discount was positively related to the incidence of lates; improvement of working conditions was positively related to the amount of substandard production and the incidence of strikes, work stoppages, etc.; and community pay rates

positively related to the incidence of promotion requests. The author offers no explanation as to why discounts should be positively related to the incidence of lates. The latter two groups of relationships were given consideration in the result section.

In summarizing, incentive conditions, benefits, and programs are multidimensional and the personnel behaviors with which they are associated are also multidimensional. Most important, however, is the observation that the linkages between these conditions and behaviors are unique.

Worker Characteristics

Worker characteristics scatter themselves over 12 factors. However, union and ownership roles (I), employee age (II), family responsibility (III), skilled labor (IV), employee stockholders (VII), high school education (VIII), minority group membership (IX), Catholic affiliation (XIII), and hourly paid workers (XIV) were found to be relatively independent of one another.

Following the pattern of management attributes, employee tenure is independent of other worker characteristics, especially those involving skill and education. In both cases, tenure is unrelated to any identifiable organization attributes or conditions.

Employee tenure, age, skill, and education are completely independent of personnel performance. Consequently, no support is given to Morse (1953) who found a negative

relationship between skill level and voluntary turnover or to Van Zelst (1954) who presented evidence that accident rates decrease with age. Moreover, there was no evidence for higher turnover among males than females (Myers and MacLaurin, 1943) and for lower turnover among minority groups (March and Simon, 1958).

Although union membership was associated with grievances, strikes, work stoppages, etc., it was not related to any other personnel performance measures, especially those of an aversive nature lending no support to the view that unions serve to sublimate discontent into union activity (Chapple and Sayles, 1961). Also, in agreement with Palmer (1961), various benefits (recreation, savings-investment, group insurance, and discounts) were found not to be in the exclusive possession of unionized firms.

A striking feature of worker characteristics is that they seem to involve rather independent loyalties or commitments to various organizations or social groups. Among these are loyalty toward the union, commitments to the family, loyalty to the firm, membership in the church, minority group membership, and responsibility to the firm through stock ownership. Moreover, each one of these loyalties or commitments seem to be related to unique personnel behaviors that seem to fulfill at least partially the requirements or demands of the group or organization concerned; unions are related to strikes, grievances, and

promotion requests; family responsibility is associated with reporting to work on time; employee tenure is inversely related to turnover; stock ownership is inversely related to the incidence of machine down time, damage to plant and equipment, and pay requests; and membership in the Catholic church is inversely related to concern for promotion. All of the above relationships provide support for March and Simon's (1958) multiple role concept.

Personnel Performance

Union behaviors (grievances, promotion requests, and strikes, work stoppages, etc.) (I), lates (III), turnover (V), plant and equipment care (VI), substandard production (X), authority conflict (XI), output restriction (XII), and promotion requests (XIII) were found to be relatively independent aspects of personnel behavior. The present finding that productivity, job aversion, and theft are mutually independent behaviors is in agreement with Palmer (1961). However, Palmer (1961) found job aversion behaviors to be rather unitary while in the present study aversive behaviors split into a number of independent components. For example, strikes, lates, and turnover were found to be independent of each other. These are distinct ways of avoiding the job and each seems to be related to unique conditions within the organization. Strikes are related to the presence of unions; turnover is associated with employee age and tenure; and tardiness covaries with family responsibility.

Productivity loads slightly on three different factors and has no simple relationships with other variables.

Theft, on the other hand, seems simply to be related to the presence of a retail sales force where opportunities for theft would seem to best present themselves.

A general implication about behaviors is that almost all performance measures are associated with some group loyalty or commitment. These relationships were detailed in the discussion of worker characteristics.

Organizational Functioning

The data suggest at least seven relatively autonomous aspects of organizational functioning. They are increase in applicants (I), economic growth (II), customer complaints (VI), workforce reduction (VII), management civic activity (XII), selectivity (XIII), and product development (XIV). A trend emerges here in that a number of these dimensions can be spoken of in terms of what group of organizational "participants" benefit or are effected one way or the other by the organization--the public (management civic support), the consumer (customer complaints), the employee (workforce reduction), the stockholder (economic growth of dividends, etc.) or the applicant (selectivity, percentage increase in applicants). An interesting implication arising here is that not only are each of these groups affected independently of one another but also the conditions associated with the

functioning of these groups tend to be mutually independent and unique. In short, organizational policies designed to benefit one group (i.e. the stockholder) will not necessarily benefit other groups (i.e. the customer or the employee).

The interdependence of personnel performance and organizational functioning is noticeably absent in many respects. For example, one might expect personnel performance to covary with economic growth, and workforce reduction, but this is not supported by the present analysis. The few, complex, and invariably low relationships between performance and organization functioning were discussed previously in the results section, the most significant being a positive relationship between substandard production, machine down time, and customer satisfaction. An inverse relationship between work output restriction and civic activity was also disclosed.

The Complexity of Organizational Attributes and Behavior

The multitude of relationships disclosed in this investigation are complex and in many instances unique in that there is no theory or evidence with which to make comparisons. The discrepancies that do exist between the present study and other investigations can be partially explained by the fact that other investigations were conducted within companies, and the present study was conducted between

companies. Even when company comparisons are made on the same or similar variables, discrepancies commonly occur (Brayfield and Crockett, 1955). Another difficulty is that the variables utilized in this study might be measuring something different than what the theorists are talking about. It is extremely difficult to quantify some of the constructs that are considered important by various theorists (e.g. morale). Indeed, the theorists themselves are not certain what they mean by such concepts.

Some difficulty in interpretation was brought about by the fact that all of the factors were loaded by variables from at least two categories. The majority of the factors were of a three category complexity and in two instances variables from all six categories saturated a factor.

Probably the most significant aspect of this investigation is its demonstration of the complex relationships that can be expected to exist between various organizational attributes and behaviors. Typically, investigations have been concerned with a relatively few number of variables such that complex relationships were automatically ruled out. As more variables are taken into consideration, relationships among the original variables become altered and take on new significance. This is partially exemplified by comparing the results of the present investigation with those of Palmer's (1961).

SUMMARY AND CONCLUSIONS

The purpose of this study was to explore some of the interrelationships among 84 variables pertaining to company and formal organization characteristics, management attributes, incentive conditions, worker characteristics, personnel performance, and organizational functions in a sample of manufacturing firms. The correlations among the 84 variables were factor analyzed and the factors rotated to a simple structure.

Fourteen dimensions of organizational attributes and behavior were isolated and interpreted. The factors were interpreted as follows: I. Size of Organization; II. Economic Growth; III. Tardiness vs. Family Responsibility; IV. Pay-Skill Level; V. Personnel Tenure; VI. Ownership and Concern for Organizational Interests; VII. Work-force Reduction and Job Mechanization; VIII. Technical Personnel and Controls vs. Protection Against Human Liabilities; IX. Minority Group Composition; X. Improvement of Working Conditions; XI. Retail Sales Personnel and Authority Conflict Behaviors; XII. Community and Employee Support vs. Work Output Restriction; XIII. Personnel Selectivity; XIV. Allocations to Labor vs. Product Development.

The size of the firm was found to be a far greater source of variance than was the age of the firm. However,

neither size nor age was appreciably related to measures of personnel performance and organizational functioning. Personnel performance and organizational functioning varied with factors that could be controlled (e.g. recreation and savings-investment programs) rather than with the enduring and unalterable conditions of an organization such as size and age.

Management tenure and experience were completely independent of other management characteristics such as age, education, pay level, and incidence of promotions. Most important, management tenure and experience were conspicuously independent of other variables, especially those involving personnel performance and organization functioning.

In regard to incentives, pay level tended to be related to worker characteristics pertaining to skill and education and was independent of personnel performance and organizational functioning. Quite the opposite held true for recreation and savings-investment programs which were essentially independent of worker characteristics, but related to a number of personnel performance and organizational functioning variables.

Following the pattern of management attributes, employee tenure was independent of other worker characteristics, especially those involving skill and education. Moreover, all the worker characteristics mentioned above were completely independent of personnel performance measures. A striking

feature of worker characteristics was that they seemed to involve rather independent loyalties or commitments to various organizations or social groups. Furthermore, each one of these loyalties or commitments tended to be related to unique personnel behaviors.

Productivity, job aversion, and theft were mutually independent behaviors. However, job aversion behaviors split up into a number of independent components, each one being associated with unique conditions within the organization. Productivity was found to have no simple relationships with other variables.

A number of independent dimensions of organization functioning could be interpreted in terms of what group of organizational "participants" benefit or are effected one way or another by the organization. The interdependence of personnel performance and organization functioning was noticeably absent in many respects.

Probably the most significant aspect of this investigation is its demonstration of the complex relationships that can be expected to exist between various organizational attributes and behaviors. As more variables are taken into consideration, relationships among the original variables become altered and take on new significance.

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APPENDIX A
Item Distributions

SURVEY OF MANUFACTURERS

Company and Formal Organization Characteristics

1. How old is your firm?
1. 0-5 years	5.6
2. 6-10	9.4
3. 11-15	17.5
4. 16-25	13.2
5. 26-40	19.7
6. 41-60	19.2
7. 61-100	11.5
8. Over 100 years old	3.0
* N. A.	.9
2. How many employees are currently in your firm?
1. 1-2	2.1
2. 3-5	9.0
3. 6-10	17.1
4. 11-25	20.9
5. 26-50	17.5
6. 51-150	16.2
7. 151-300	6.8
8. 301-1000	7.3
9. Over 1000	2.1
N. A.	.9
3. Approximately what is the population of the community in which your firm is located?
1. 0-5000 inhabitants	16.2
2. 5,001-15,000	12.0
3. 15,001-30,000	6.4
4. 30,001-50,000	9.8
5. 50,001-100,000	13.2
6. 100,001-500,000	15.0
7. Over 500,000	24.8
N. A.	2.5
4. How is production quality controlled?
1. Judgment of an inspector	68.8
2. Mechanical, electrical, statistical, or other methods	28.2
N. A.	3.0
5. Does your firm PRIMARILY manufacture one or a few standard products for inventory only or produce various products based on customer orders?
1. Produce for inventory only	23.5
2. Produce for orders	75.2
N. A.	1.3
6. How many retail sales personnel selling directly to consumers do you have?
1. None	44.9
2. 1-3	23.5
3. 4-6	10.3
4. 7-15	3.4
5. 16-30	.9
6. Over 30	1.7
7. No information	15.3
7. What is the territory that BEST describes the area over which your products are distributed? (Check ONE only)
1. Local	26.9
2. State-wide	7.3
3. Regional (home state and adjacent states)	23.1
4. National	28.6
5. International	13.2
N. A.	.8
8. How many management personnel (supervisors and above) do you have?
1. 1	12.8
2. 2	20.5
3. 3-4	24.4
4. 5-10	20.9
5. 11-20	7.7
6. 21-50	8.1
7. 51-100	2.1
8. Over 100	1.7
N. A.	1.7
9. In plant, on the average, how many employees per foreman are there? (Express as total plant employees/number plant foremen.)
1. 0-2	14.1
2. 3-6	20.5
3. 7-10	19.2
4. 11-15	15.4
5. 16-20	13.7
6. 21-30	7.3
7. Over 30	3.4
8. No information	6.0
10. Proceeding up the chain of command from foreman to president or top executive of your firm, how many supervisory or management levels are there? (Include in your count the levels of president and foreman.)
0. All supervision performed by manager-owner	19.2
1. Foreman and top executive only	26.1
2. 3	18.4
3. 4	13.7
4. 5	8.1
5. 6	5.1
6. 7	2.1
7. 8	1.3
8. 9	1.7
9. No information	4.3
11. How many rectangles (separate departments or divisions, e.g. plant engineering, industrial relations, office of controller, office of president, etc.) are there on your firm's organization chart, how many rectangles would there be if you drew one up?
- (#11 continued on next page)

*No Answer

11. (Continued)
	%
0. No information	27.4
1. 1	6.4
2. 2	9.8
3. 3	16.7
4. 4-5	17.5
5. 6-10	15.8
6. 11-15	1.7
7. 16-20	2.1
8. 21-30	.4
9. Over 30	2.1
12. At present, about what percentage of your firm's total employed are involved in personnel management, quality control, purchasing, production control, maintenance, product and process design, controller-ship, market research, and time and motion study? (Total all people that work in these areas and express as a percentage of total employed.)
	%
1. None	15.0
2. 1-2%	15.4
3. 3-5%	11.1
4. 6-10%	14.5
5. 11-15%	10.3
6. 16-25%	14.1
7. 26-40%	5.1
8. Over 40%	4.3
9. No information	10.2
13. How many technical or professional people with primary job responsibilities in research and development do you have?
	%
1. None	59.4
2. 1	11.5
3. 2	5.1
4. 3-5	8.1
5. 6-10	3.4
6. 11-15	.4
7. Over 15	2.1
8. No information	9.8
- Management Attributes
14. In general, how is your management personnel paid?
	%
1. Owner's share of profits	13.2
2. Paid on a salary basis	50.0
3. Straight salary plus share of profits	29.9
4. Salary plus commission	4.7
5. Salary plus commission and share of profits	1.7
N. A.	.4
15. At present, what is the average tenure for management (supervisors and above) in your firm?
	%
1. 1-3 years	6.0
2. 4-6 years	11.5
3. 7-9 years	12.0
4. 10-12 years	17.5
5. 13-16 years	9.0
6. Over 16 years	29.9
7. No information	13.6
16. What is the average length of time your present management personnel has spent at sub-management levels (below supervisory level)? (Include time spent at sub-management levels in other firms as well as within your own firm.)
	%
1. 0-2 years	12.8
2. 3-5 years	12.4
3. 6-8 years	24.4
4. 9-12 years	13.2
5. 13-16 years	6.8
6. 17-20 years	1.7
7. Over 20 years	3.4
8. No information	25.2
17. What is the average amount of time that your present management (supervisors and above) has had in managerial experience at supervisory levels or above? (Include experience gained in other firms as well as within your own firm.)
	%
1. 0-5 years	14.5
2. 6-8 years	13.2
3. 9-12 years	19.2
4. 13-15 years	11.1
5. 16-20 years	14.1
6. Over 20 years	11.5
7. No information	16.2
18. What is the approximate difference between the pay for general manager and average pay at the level of supervisor?
	%
1. \$1-\$500	11.5
2. \$501-\$2,000	10.7
3. \$2,001-\$4,000	14.5
4. \$4,001-\$8,000	18.4
5. \$8,001-\$10,000	7.7
6. \$10,001-\$20,000	6.8
7. Over \$20,000	2.6
8. Have no supervisors	21.8
N. A.	6.0
19. How many of your management personnel (supervisors and above) are company stockholders?
	%
0. No information	9.0
1. Company has no stock	25.6
2. None	17.9
3. 1	12.8
4. 2	12.4
5. 3	6.8
6. 4-5	5.1
7. 6-10	3.0
8. 11-20	2.1
9. Over 20	5.1

20. How many of your present management personnel (supervisors and above) have a college degree?
	%
1. None	38.0
2. 1	19.7
3. 2	10.7
4. 3	9.4
5. 4-5	6.8
6. 6-10	5.1
7. 11-20	2.6
8. Over 20	3.8
9. No information	3.8
21. How many of your present management personnel (supervisors and above) earn \$15,000 or more dollars per year?
	%
1. None	54.7
2. 1	14.5
3. 2	11.1
4. 3	6.0
5. 4-5	3.0
6. 6-10	2.6
7. 11-20	1.3
8. Over 20	1.3
9. No information	5.5
22. How many of your present management personnel (supervisors and above) are 50 years of age or older?
	%
1. None	34.2
2. 1	24.8
3. 2	15.8
4. 3	9.8
5. 4-5	6.0
6. 6-10	2.1
7. 11-20	2.6
8. Over 20	1.3
9. No information	3.4
23. In the 6 month period (Jan. 1, 1961 through June 30, 1961), approximately how many pre-scheduled (formal) committee meetings were held in which 2 or more of your management personnel participated?
24. How many of your present management personnel (supervisors and above) were promoted to these positions from lower positions in your firm?
	%
0. No information	7.7
1. None	32.9
2. 1	11.1
3. 2	11.1
4. 3-4	14.1
5. 5-6	6.8
6. 7-10	5.6
7. 11-25	5.6
8. 26-40	1.7
9. Over 40	3.4
25. Not counting management and office workers, about what percentage of your firm's present plant workers earn \$400 or more per month?
	%
1. 0-10%	32.9
2. 11-20%	9.4
3. 21-35%	8.1
4. 36-50%	7.3
5. 51-65%	5.6
6. 66-80%	9.8
7. Over 80%	21.4
N. A.	5.5
26. Not counting management and plant workers, about what percentage of your firm's present office workers earn \$350 or more per month?
	%
1. 0-10%	32.9
2. 11-20%	6.4
3. 21-35%	6.0
4. 36-50%	6.8
5. 51-65%	8.5
6. 66-80%	8.5
7. Over 80%	24.8
N. A.	6.0
27. When you compare jobs in your company with comparable jobs in other companies in your community, how in general do your pay rates compare?
	%
0. More than 16% below	3.8
1. 11-15% below	3.4
2. 6-10% below	4.7
3. 1-5% below	6.0
4. Same	34.2
5. 1-5% above	26.8
6. 6-10% above	8.5
7. 11-15% above	5.6
8. Over 16% above	4.7
9. No information	7.3
28. Are company sponsored recreational opportunities or facilities offered to employees (e. g. parties, sports, dinners, etc.)?
	%
1. yes	33.3
2. no	65.8
N. A.	.8
29. At the present time, what is the pay differential between the lowest and highest job classification for hourly-paid line production workers?
	%
1. 0-\$.25 per hr.	17.9
2. \$.26-\$.50 per hr.	24.4
3. \$.51-\$.80 per hr.	17.9
4. \$.81-\$1.15 per hr.	12.0
5. \$1.16-\$1.50 per hr.	12.0
6. \$1.51-\$2.00 per hr.	8.1
7. Over \$2.00 per hr.	5.1
N. A.	2.6

30. Do you have a pension program?
	%	pressed as a percentage of the total payroll?	made during this period?
1. yes	29.5	1. 0-2½% of total payroll	1. 0-2% 25.6
2. no	70.5	2. 2½-5% 16.7	2. 3-5% 13.7
		3. 5-10% 14.1	3. 6-10% 11.5
		4. 11-15% 10.3	4. 11-15% 6.0
		5. Over 15% 16.7	5. 16-20% 3.0
		6. No information 20.1	6. Over 20% 13.7
			7. No information 26.5
31. Does your company offer group insurance, such as life, hospitalization, and the like?
	%
1. yes	80.8
2. no	18.8
N. A.	.4

32. Do you have a company sponsored savings or investment plan?
	%
1. yes	15.4
2. no	84.6

33. Do you pay salaried employees who are absent due to non-occupational injury or sickness?
	%
1. yes	79.9
2. no	17.1
N. A.	2.9

34. Approximately what discount do you allow employees on purchases of company products?
	%
1. None	18.4
2. 1-5%	5.1
3. 6-10%	6.8
4. 11-25%	16.7
5. 26-40%	9.8
6. Over 40%	10.3

35. On the average over the past 5 years or since establishment if your firm is less than 5 years old, what have been the costs of fringe benefits ex-

36. About what percentage of your firm's total personnel received pay increases during the year 1960?
	%
1. None	9.8
2. 1-25%	18.8
3. 26-50%	9.4
4. 51-70%	6.4
5. 71-80%	3.0
6. 81-90%	7.3
7. 91-100%	42.3
8. No information	3.0

37. About what percentage of your total personnel received promotions during the years 1959 and 1960?
	%
1. None	39.7
2. 1-2%	16.2
3. 3-5%	12.0
4. 6-10%	12.8
5. 11-20%	4.7
6. 21-30%	1.7
7. Over 30%	4.3
8. No information	13.0

38. For the years 1956 through 1960, or since establishment of your firm if less than 5 years old, how much money has been invested in the improvement of working conditions (e.g. illumination, temperature, humidity, etc.) and the improvement of convenience or recreational facilities (e.g. rest, recreation, and dining rooms, etc.) expressed as a percentage of profits

Worker Characteristics

39. Not counting management, approximately what percentage of your firm's total personnel currently own stock in your firm?
	%
1. Firm has no stock	28.2
2. None	48.7
3. Less than 1%	5.1
4. 1-2½%	4.7
5. 2½-5%	2.1
6. 5-15%	4.7
7. 15-30%	0.0
8. Over 30%	3.4
N. A.	3.0

40. At present, about what percentage of your total employed are paid on an hourly basis?
	%
1. 0-20%	9.4
2. 21-40%	5.1
3. 41-60%	14.5
4. 61-80%	32.9
5. Over 80%	37.2
N. A.	.9

41. What percentage of your firm's total present employed travel 10 or more miles to work?
	%
1. 0-5%	30.8
2. 6-10%	9.0
3. 11-15%	8.1
4. 16-20%	9.8
5. 21-25%	9.4
6. 26-35%	7.3
7. Over 35%	17.9
8. No information	7.6

42. Not counting management, about what percentage of your firm's employees are Catholic in religious affiliation?
1. 0-5%	30.8
2. 6-10%	4.3
3. 11-15%	4.7
4. 16-20%	5.6
5. 21-30%	4.3
6. 31-40%	6.4
7. 41-60%	8.5
8. Over 60%	6.0
9. No information	29.5
43. Approximately what percentage of your present work-force is composed of machine operators?
1. 0-5%	24.8
2. 6-10%	9.0
3. 11-20%	9.0
4. 21-30%	9.4
5. 31-50%	15.4
6. Over 50%	29.1
N. A.	3.4
44. Not counting management, about what percentage of your present working force is composed of American-born White Christians?
1. 0-40%	10.3
2. 41-65%	5.1
3. 66-75%	4.3
4. 76-80%	1.3
5. 81-85%	3.4
6. 86-90%	4.3
7. 91-95%	7.3
8. 96-100%	51.7
9. No information	12.4
45. Approximately what percentage of your present employees are union members?
1. Have no union	61.1
2. Less than 20%	2.1
3. 21-40%	2.6
4. 41-60%	5.1
5. 61-80% 8.1
6. 81-90% 6.4
7. Over 90% 13.2
N. A. 1.3
46. Not counting management, what percentage of your firm's present employees have completed high school?
1. None	1.7
2. 1-10%	5.6
3. 11-20%	3.8
4. 21-35%	7.3
5. 36-60%	24.4
6. Over 60%	45.3
7. No information	11.9
47. Not counting management, what percentage of your firm's present employees have been with your firm 5 or more years?
1. 0-20%	14.1
2. 21-40%	7.7
3. 41-60%	18.4
4. 61-80%	26.9
5. 81-100%	29.9
6. No information	1.7
48. Not counting management, about what percentage of your firm's present employees are male?
1. 0-40%	12.8
2. 41-70%	13.7
3. 71-80%	9.8
4. 81-85%	5.6
5. 86-90%	9.8
6. 91-95%	12.8
7. 96-100%	35.0
N. A.	.4
49. Approximately what percentage of your firm's present employees are married and have two or more children?
1. 0-50%	24.8
2. 51-75%	22.2
3. 76-85%	13.2
4. 86-90%	10.3
50. At present, approximately what percentage of your plant workers are skilled laborers? (i.e. craftsmen and highly skilled manual workers who have completed apprenticeships or extensive training programs)
1. 0-5%	23.9
2. 6-10%	5.1
3. 11-15%	7.3
4. 16-25%	6.8
5. 26-40%	6.0
6. 41-60%	14.5
7. 61-80%	13.2
8. Over 80%	20.5
9. No information	2.6
51. Not counting management, approximately what percentage of your present employees are 40 years of age or over?
1. 0-20%	18.4
2. 21-40%	17.9
3. 41-50%	22.6
4. 51-60%	14.1
5. 61-70%	9.0
6. 71-80%	7.3
7. Over 80%	7.3
8. No information	3.4
52. About what percentage of your total employed are Negroes?
1. none	56.0
2. 1-2%	12.0
3. 3-5%	5.1
4. 6-10%	7.3
5. 11-20%	3.0
6. 21-40%	1.3
7. 41-60%	3.0
8. Over 60%	2.6
9. No information	9.8

Personnel Performance

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62. (continued)			3. 1-1½%	2.6	5. 4-5	4.7
	%		4. 1½-2%	4.3	6. 6-7	.4
1. None	71.8		5. 2-3%	2.1	7. 8-15	1.7
2. 1	11.5		6. 3-5%	2.1	8. Over 15	0.0
3. 2	5.1		7. 5-8%	2.1	9. No information	7.7
4. 3	2.1		8. Over 8%	4.7		
5. 4-5	.4		9. No information	9.0	<u>Organization Function</u>	
6. 6-10	.0					
7. Over 10	.0					
8. No information	9.0					
63. For the years 1959 and 1960 how many of your employees have been involved in an accident requiring first aid or hospitalization?			66. On the average for the years 1959 and 1960, what percentage of your employees submitted requests for promotions?		69. For the years 1956 through 1960, how many jobs were eliminated by the introduction of labor-saving devices?	
	%			%		%
1. None	20.1		0. None	42.3	0. Firm is less than 5 years old	14.1
2. 1	12.4		1. Up to 1%	22.2	1. None	48.7
3. 2	9.0		2. 2-3%	8.1	2. 1	5.1
4. 3	10.3		3. 4-5%	4.7	3. 2	4.3
5. 4-5	13.2		4. 6-10%	3.8	4. 3-5	9.4
6. 6-7	6.0		5. 11-20%	.9	5. 6-10	5.6
7. 8-15	5.1		6. 21-40%	.9	6. 11-15	1.3
8. Over 15	15.4		7. Over 40%	.9	7. 16-30	1.3
9. No information	8.5		8. No information	16.2	8. Over 30	3.4
64. For the years 1959 and 1960 how many of your employees were discharged because of incompetence, dishonesty, negligence or other reasons that made them unfit for employment?			67. On the average for the years 1959 and 1960, what percentage of your employees submitted request for pay raises?		70. For the years 1951 through 1960 or since establishment if your firm is less than 10 years old, how many completely new products have been put on the market? Do not count simple alterations of previous lines; count only products new to your firm.	
	%			%		%
1. None	39.7		0. None	16.2	1. 0	31.2
2. 1	15.0		1. 0-1%	17.5	2. 1	6.4
3. 2	11.1		2. 2-3%	15.0	3. 2	12.0
4. 3	9.0		3. 4-5%	6.4	4. 3-4	15.4
5. 4-5	7.3		4. 6-10%	9.0	5. 5-6	6.8
6. 6-7	4.7		5. 11-20%	5.1	6. 7-10	5.6
7. 8-15	3.0		6. 21-40%	4.7	7. 11-15	3.0
8. Over 15	3.4		7. Over 40%	12.4	8. 16-25	.4
9. No information	6.8		8. No information	13.7	9. Over 25	7.3
65. On an average day in 1960, about what percentage of your employees reported late at the start of the workday?			68. For the years 1956 through 1960, how many employees were known to have been persons with mental illness, criminal offenses, or addictions (e.g. alcohol or drugs?) (Count persons who have left the firm in this period and also those who are now employed.)		71. For the years 1956 through 1960, how much was contributed to the support of various community and civic affairs including charity? (Express as a percent of	
	%			%		
0. None	26.5		1. None	51.3		
1. 0-½%	38.0		2. 1	11.5		
2. ½-1%	8.5		3. 2	9.4		
			4. 3	3.0		

(#71 continued on next page)

71. (Continued)
profit made in this period.)
	%
1. 0- $\frac{1}{2}$ %	22.2
2. $\frac{1}{2}$ -1%	17.1
3. 1-1 $\frac{1}{2}$ %	8.1
4. 1 $\frac{1}{2}$ -2%	4.7
5. 2-3%	8.5
6. 3-6%	9.8
7. 6-12%	7.3
8. Over 12%	2.1
9. No information	20.1
72. For the years 1956 through 1960, on the average, approximately what has your firm's selection ratio been? (If your firm is less than 5 years old, use ratio since establishment.)
NOTE: Selection ratio equals No. selected from among total applicants/total No. of applicants
	%
1. 0-.10	26.5
2. .11-.20	9.8
3. .21-.30	5.1
4. .31-.40	3.8
5. .41-.50	3.4
6. .51-.65	.4
7. .66-.80	3.8
8. .81-1.00	1.7
9. No information	45.3
73. For the years 1956 through 1960, or since establishment if your firm is less than 5 years old, about how many of your customers have complained of or returned defective merchandise?
	%
1. None	17.1
2. 1	5.6
3. 2	3.4
4. 3-5	15.8
5. 6-10	12.8
6. 11-20	5.6
7. 21-50	4.7
8. Over 50	9.0
9. No information	26.0
74. What was the percentage increase or decrease in dividends paid by your firm for the years 1956-1960 over the previous 5 years, 1951-1955?
	%
0. Firm is less than 10 years old or there is no information available	44.0
1. Over 40% decrease	5.6
2. 21-40% decrease	3.0
3. 11-20% decrease	.9
4. 1-10% decrease	3.0
5. No increase or decrease	29.1
6. 1-10% increase	5.1
7. 11-20% increase	3.8
8. 21-40% increase	3.0
9. Over 40% increase	2.6
75. What was the percentage increase or decrease of applicants for the years 1956-1960 over the previous 5 years, 1951-1955?
	%
0. Firm is less than 10 years old or there is no information available	45.3
1. Over 40% decrease	1.7
2. 21-40% decrease	.4
3. 11-20% decrease	1.3
4. 1-10% decrease	4.3
5. No increase or decrease	24.8
6. 1-10% increase	7.7
7. 11-20% increase	5.1
8. 21-40% increase	2.6
9. Over 40% increase	6.8
76. What was the percentage increase or decrease in your firm's sales volume for the years 1956-1960 over the previous 5 years 1951-1955?
	%
0. Firm is less than 10 years old or there is no information available	17.1
1. Over 40% decrease	4.7
77. For the years of 1956 through 1960, or since establishment if your firm is less than 5 years old, approximately what has your profit been in this period, expressed as a percentage of your average net worth in this period?
	%
1. 0-5% of net worth	28.2
2. 6-10%	24.8
3. 11-20%	12.4
4. 21-35%	5.6
5. 36-65%	2.6
6. Over 65%	1.7
7. No information	24.8
78. What was the percentage increase or decrease in the number of your employees for the years 1956-1960 over the previous 5 years 1951-1955?
	%
0. Firm is less than 10 years old or there is no information available	17.1
1. Over 40% decrease	4.7

(#78 continued on next page)

78. (Continued)	%	1. Over 40% decrease	2.6	<u>Survey Controls</u>	
2. 21-40% decrease	5.1	2. 21-40% decrease	.9	83. Do you wish to receive a complimentary copy of a synopsis of the survey findings?	%
3. 11-20% decrease	3.4	3. 11-20% decrease	1.7	1. no	6.4
4. 1-10% decrease	15.0	4. 1-10% decrease	1.3	2. yes	91.5
5. No increase or decrease	15.0	5. No increase or decrease	13.2	N. A.	2.2
6. 1-10% increase	15.0	6. 1-10% increase	16.2		
7. 11-20% increase	9.4	7. 11-20% increase	10.3		
8. 21-40% increase	5.6	8. 21-40% increase	9.4	84. About how many man-hours did it take to complete this questionnaire?	%
9. Over 40% increase	9.8	9. Over 40% increase	18.4	1. 0-1	47.9
				2. 1-2	36.8
79. What was the percentage increase or decrease in your firm's profits for the years 1956-1960 over the previous 5 years 1951-1955?	%	81. In the last 10 years, or since establishment of your firm if less than 10 years old, to what extent has mechanization or automation reduced your potential workforce relative to if these changes were not initiated? (Do not include replacement of old machinery.)	%	3. 2-3	6.8
0. Firm is less than 10 years old or there is no information available	27.8	1. Not at all	57.3	4. 3-4	2.6
1. Over 40% decrease	6.0	2. 0-5%	13.2	5. Over 4	1.7
2. 21-40% decrease	4.7	3. 6-10%	7.7	N. A.	2.1
3. 11-20% decrease	1.7	4. 11-15%	1.3		
4. 1-10% decrease	12.8	5. 16-25%	3.0		
5. No increase or decrease	11.1	6. Over 25%	6.0		
6. 1-10% increase	17.5	7. No information	11.5		
7. 11-20% increase	8.1	82. About what percentage of your management personnel hold one or more offices in various civic and charitable organizations?	%		
8. 21-40% increase	3.4	1. None	17.1		
9. Over 40% increase	6.8	2. 1-5%	26.1		
		3. 6-10%	8.5		
80. What was the percentage increase or decrease in your firm's investment in expansion for the years 1956-1960 over the previous 5 years 1951-1955?	%	4. 11-25%	8.7		
0. Firm is less than 10 years old or there is no information available	26.1	5. 26-40%	6.8		
		6. 41-60%	5.1		
		7. 61-80%	3.8		
		8. 81-100%	13.2		
		9. No information	11.1		

APPENDIX B

Organization Questionnaire
(Front side)

Organization Questionnaire

<p>1. How old is your firm?</p> <p>1. 0-5 years 5. 26-40 2. 6-10 6. 41-60 3. 11-15 7. 61-100 4. 16-25 8. Over 100 yrs. old</p> <p>2. How many employees are currently in your firm?</p> <p>1. 1-2 6. 51-100 2. 3-5 7. 101-300 3. 6-10 8. 301-1000 4. 11-25 9. Over 1000 5. 26-50</p> <p>3. Approximately what is the population of the community in which your firm is located?</p> <p>1. 0-5000 4. 30,001-50,000 2. 5,001-15,000 5. 50,001-100,000 3. 15,001-30,000 6. 100,001-500,000 4. 50,001-100,000 7. Over 500,000</p> <p>4. For the years 1956 through 1960, how many jobs were eliminated by the introduction of labor-saving devices?</p> <p>0. Firm is less than 5 years old 1. None 6. 11-15 2. 1 7. 16-30 3. 2 8. Over 30 4. 3-5 9. No information 5. 6-10</p> <p>5. How is production quality controlled?</p> <p>1. Judgement of an inspector 2. Mechanical, electrical, statistical, or other methods</p> <p>6. Does your firm PRIMARILY manufacture one or a few standard products for inventory only or produce various products based on customer orders?</p> <p>1. Produce for inventory 2. Produce for orders</p> <p>7. How many retail sales personnel selling directly to consumers do you have?</p> <p>1. None 5. 16-30 2. 1-3 6. Over 30 3. 4-6 7. No information 4. 7-15</p> <p>8. What is the territory that BEST describes the area over which your products are distributed? (Check ONE only)</p> <p>1. Local 2. State-wide 3. Regional (home state and adjacent states) 4. National 5. International</p> <p>9. Not counting management and office personnel, about what percentage of your firm's present plant workers earn \$400 or more per month?</p> <p>1. 0-10% 5. 51-65% 2. 11-20% 6. 66-80% 3. 21-35% 7. Over 80% 4. 36-50%</p> <p>10. Not counting management and plant workers, about what percentage of your firm's present office workers earn \$350 or more per month?</p> <p>1. 0-10% 5. 51-65% 2. 11-20% 6. 66-80% 3. 21-35% 7. Over 80% 4. 36-50%</p> <p>11. When you compare jobs in your company with comparable jobs in other companies in your community, how in general do your pay rates compare?</p> <p>0. More than 10% below 1. 11-15% below 6. 6-10% above 2. 6-10% below 7. 11-15% above 3. 1-5% below 8. Over 16% above 4. Same 9. No information 5. 1-5% above</p> <p>12. Are company sponsored recreational opportunities or facilities offered to employees (e.g., parties, sports, dinners, etc.)?</p> <p>1. Yes 2. No</p> <p>13. At the present time, what is the pay differential between the lowest and highest job classification for hourly-paid line production workers?</p> <p>1. 0-\$25 per hour 2. \$26-\$50 per hour 3. \$51-\$80 per hour 4. \$81-\$110 per hour 5. \$116-\$150 per hour 6. \$151-\$200 per hour 7. Over \$200 per hour</p> <p>14. Do you have a pension program?</p> <p>1. Yes 2. No</p> <p>15. Does your company offer group insurance, such as life, hospitalization, and the like?</p> <p>1. Yes 2. No</p> <p>16. Do you have a company-sponsored savings or investment plan?</p> <p>1. Yes 2. No</p> <p>17. Do you pay salaried employees who are absent due to non-occupational injury or sickness?</p> <p>1. Yes 2. No</p> <p>18. Approximately what discount do you allow employees on purchases of company products?</p> <p>1. None 4. 11-23% 2. 1-5% 5. 24-40% 3. 6-10% 6. Over 40% 7. Product is of "unfinished" nature and not ready for consumer use</p>	<p>19. Not counting management, approximately what percentage of your firm's total personnel currently own stock in your firm?</p> <p>1. Firm has no stock 2. None 3. Less than 1% 4. 1-2 1/2% 5. 3-5% 6. 6-15% 7. 16-30% 8. Over 30%</p> <p>20. On the average over the past 5 years or since establishment if your firm is less than 5 years old, what have been the costs of fringe benefits expressed as a percentage of the total payroll?</p> <p>1. 0-2 1/2% of total payroll 2. 2 1/2-5% 3. 5-10% 4. 11-15% 5. Over 15% 6. No information</p> <p>21. About what percentage of your firm's total personnel received pay increases during the year 1960?</p> <p>1. None 5. 71-80% 2. 1-25% 6. 81-90% 3. 26-50% 7. 91-100% 4. 51-70% 8. No information</p> <p>22. About what percentage of your total personnel received promotions during the years 1959 and 1960?</p> <p>1. None 5. 11-20% 2. 1-25% 6. 21-30% 3. 26-50% 7. Over 30% 4. 51-70% 8. No information</p> <p>23. At present, about what percentage of your total employees are paid on an hourly basis?</p> <p>1. 0-20% 4. 61-80% 2. 21-40% 5. Over 80% 3. 41-60%</p> <p>24. What percentage of your firm's total present employed travel 10 or more miles to work?</p> <p>1. 0-5% 5. 21-25% 2. 6-10% 6. 26-35% 3. 11-15% 7. Over 35% 4. 16-20% 8. No information</p> <p>25. Not counting management, about what percentage of your firm's employees are Catholic in religious affiliation?</p> <p>1. 0-5% 6. 31-40% 2. 6-10% 7. 41-60% 3. 11-15% 8. Over 60% 4. 16-20% 9. No information 5. 21-30%</p> <p>26. Approximately what percentage of your present work force is composed of machine operators?</p> <p>1. 0-5% 4. 21-30% 2. 6-10% 5. 31-50% 3. 11-20% 6. Over 50%</p> <p>27. Not counting management, about what percentage of your present working force is composed of American-born White Christians?</p> <p>1. 0-10% 6. 66-80% 2. 11-20% 7. 81-90% 3. 21-30% 8. 91-100% 4. 31-40% 9. No information 5. 41-50%</p> <p>28. Approximately what percentage of your present employees are union members?</p> <p>1. Have no union 5. 61-80% 2. Less than 20% 6. 81-90% 3. 21-40% 7. Over 90% 4. 41-60%</p> <p>29. Not counting management, what percentage of your firm's present employees have completed high school?</p> <p>1. None 5. 36-60% 2. 1-10% 6. Over 60% 3. 11-20% 7. No information 4. 21-30%</p> <p>30. Not counting management, what percentage of your firm's present employees have been with your firm 5 or more years?</p> <p>1. 0-20% 4. 61-80% 2. 21-40% 5. 81-100% 3. 41-60% 6. No information</p> <p>31. Not counting management, about what percentage of your firm's present employees are male?</p> <p>1. 0-40% 5. 86-90% 2. 41-70% 6. 91-95% 3. 71-80% 7. 96-100% 4. 81-85%</p> <p>32. Approximately what percentage of your firm's present employees are married and have two or more children?</p> <p>1. 0-50% 5. 91-95% 2. 51-70% 6. 96-100% 3. 76-85% 7. No information 4. 86-90%</p> <p>33. At present, approximately what percentage of your plant workers are skilled laborers? (i.e., craftsmen and highly skilled manual workers who have completed apprenticeships or extensive training programs)</p> <p>1. 0-5% 6. 41-60% 2. 6-10% 7. 61-80% 3. 11-15% 8. Over 80% 4. 16-25% 9. No information 5. 26-40%</p>	<p>34. Not counting management, approximately what percentage of your present employees are 40 years of age or over?</p> <p>1. 0-20% 5. 61-70% 2. 21-40% 6. 71-80% 3. 41-50% 7. Over 80% 4. 51-60% 8. No information</p> <p>35. About what percentage of your total employed are Negroes?</p> <p>1. None 6. 21-40% 2. 1-2% 7. 41-60% 3. 3-5% 8. Over 60% 4. 6-10% 9. No information 5. 11-20%</p> <p>36. For the years 1956 through 1960, or since establishment if your firm is less than 5 years old, how much money has been invested in the improvement of working conditions (e.g., illumination, temperature, humidity, etc.) and the improvement of convenience or recreational facilities (e.g., rest, recreation, and dining rooms, etc.) expressed as a percentage of profits made during this period?</p> <p>1. 0-2% 5. 16-20% 2. 3-5% 6. Over 20% 3. 6-10% 7. No information 4. 11-15%</p> <p>37. In general, how is your management personnel paid?</p> <p>1. Owner's share of profits 2. Paid on a salary basis 3. Straight salary plus share of profits 4. Salary plus commission 5. Salary plus commission and share of profits</p> <p>38. For the years 1951 through 1960 or since establishment if your firm is less than 10 years old, how many completely NEW products have been put on the market? Do not count simple alterations of previous lines; count only products new to your firm.</p> <p>1. 0 6. 7-10 2. 1 7. 11-15 3. 2 8. 16-25 4. 3-4 9. Over 25 5. 5-6</p> <p>39. For the years 1956 through 1960, how much was contributed to the support of various community and civic affairs including charity? (Express as a percent of pre-tax income in this period.)</p> <p>1. 0-1/2% 6. 3-8% 2. 1/2-1% 7. 6-12% 3. 1-1 1/2% 8. Over 12% 4. 1 1/2-2% 9. No information 5. 2-3%</p> <p>40. For the years 1956 through 1960, on the average, approximately what has your firm's selection ratio been? (If your firm is less than 5 years old, use ratio since establishment.)</p> <p>NOTE: Selection ratio equals No. selected from among total applicants/total No. of applicants</p> <p>1. 0-10 6. 51-65 2. 11-20 7. 66-80 3. 21-30 8. 81-100 4. 31-40 9. No information 5. 41-50</p> <p>41. For the years 1956 through 1960, or since establishment if your firm is less than 5 years old, about how many of your customers have complained of or returned defective merchandise?</p> <p>1. None 6. 11-20 2. 1 7. 21-50 3. 2 8. Over 50 4. 3-5 9. No information 5. 6-10</p> <p>42. What was the percentage increase or decrease in dividends paid by your firm for the years 1956-1960 over the previous 5 years, 1951-1955?</p> <p>0. Firm is less than 10 years old or there is no information 1. Over 40% 6. 1-10% increase 2. 21-40% decrease 7. 11-20% increase 3. 11-20% decrease 8. 21-40% increase 4. Over 40% 9. Over 40% decrease</p> <p>43. What was the percentage increase or decrease of applicants for the years 1956-1960 over the previous 5 years, 1951-1955?</p> <p>0. Firm is less than 10 years old or there is no information 1. Over 40% 6. 1-10% increase 2. 21-40% decrease 7. 11-20% increase 3. 11-20% decrease 8. 21-40% increase 4. Over 40% 9. Over 40% decrease</p> <p>44. What was the percentage increase or decrease in your firm's sales volume for the years 1956-1960 over the previous 5 years, 1951-1955?</p> <p>0. Firm is less than 10 years old or there is no information 1. Over 40% 6. 1-10% increase 2. 21-40% decrease 7. 11-20% increase 3. 11-20% decrease 8. 21-40% increase 4. Over 40% 9. Over 40% decrease</p>
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(Continued on Reverse Side)

APPENDIX B Cont'd.

Organization Questionnaire
(Back side)

APPENDIX C

IBM Mark Sense Cards

Card 1 (front side)

Question No.	Card 1—Side 1									9
1	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
16	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
21	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
22	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
23	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
24	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
25	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
26	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

ANSWER CARD

(Continued on Reverse Side)

APPENDIX C Cont'd.
IBM Mark Sense Cards

Card 1 (back side)

Question No.	Card 1—Side 2									9
27	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
28	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
29	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
30	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
31	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
32	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
33	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
34	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
35	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
36	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
37	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
38	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
39	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
40	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
41	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
42	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
43	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
44	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
45	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
46	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
47	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
48	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
49	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
50	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
51	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
52	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

ANSWER CARD

(Continued on Card 2, Side 1)

APPENDIX C Cont'd.

IBM Mark Sense Cards

Card 2 (Front side)

Question No. Card 2—Side 1 9

ANSWER CARD

53	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
54	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
55	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
56	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
57	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
58	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
59	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
60	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
61	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
62	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
63	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
64	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
65	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
66	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
67	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
68	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
69	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
70	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
71	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
72	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
73	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
74	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
75	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
76	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
77	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
78	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

(Continued on Reverse Side)

APPENDIX C Cont'd.

IBM Mark Sense Cards

Card 2 (back side)

Question No.	Card 2—Side 2	9
79	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
80	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
81	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
82	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
83	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
84	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
85	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
86	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
87	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
88	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
89	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
90	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
91	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
92	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
93	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
94	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
95	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
96	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
97	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
98	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
99	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
100	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
101	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
102	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
103	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	
104	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)	

ANSWER CARD

APPENDIX D

Covering Letter for Initial Survey

OFFICE OF ORGANIZATION RESEARCH
Psychology Department
Peabody Hall
Louisiana State University
Baton Rouge 3, Louisiana

January 22, 1962

Dear Sir:

We are requesting your cooperation in conducting a nationwide survey to determine various characteristics of industrial firms. The enclosed questionnaire is comprised of questions concerning various personnel policies, management and worker characteristics as well as general characteristics (e. g., age of firm, number of employees) of industrial firms.

Enclosed with the questionnaire are two answer cards. For each question on the questionnaire, select the one option that best describes your firm and fill in the appropriate box on the answer cards with a soft No. 1 or No. 2 lead pencil like this (●). The transferring of your answers to the answer cards will both facilitate data analysis and allow you to keep the questionnaire for reference purposes. If you are a branch of a larger firm, then please report data for your branch only. Please answer all questions and return the two answer cards to us in the return envelope.

We will be glad to send you, within a few months, a synopsis of the findings from the first survey which is to be comprised of the returns from 3,000 manufacturing firms throughout the continental United States. If you desire a synopsis, please indicate so by checking the yes option of the appropriate item (next to last item on the questionnaire).

Your cooperation in returning the questionnaire will be greatly appreciated and you can rest assured that the data pertaining to your particular firm will be held in strict confidence. The synopsis is to be composed of summary tabulations which will in no way identify individual firms.

Sincerely yours,

George J. Palmer, Jr.

George J. Palmer, Jr.
Director

Enclosures:

APPENDIX E

Covering Letter for Reliability Sample

OFFICE OF ORGANIZATION RESEARCH
Psychology Department
Peabody Hall
Louisiana State University
Baton Rouge 3, Louisiana

March 15, 1962

Dear Sir:

We have received your reply to our survey and appreciate very much your cooperation in this matter.

Before we tabulate our returns, we are checking to make sure that our records are correct and complete for all companies which have replied to our survey. In order to facilitate this checking, we would like to ask for your cooperation by your answering again the enclosed questionnaire from your own records. Please circle the correct answer on the enclosed printed questionnaire and kindly return it to us in the return envelope.

As we have indicated before, all of this information will be held in the strictest confidence. The summary report, which we will send to all cooperating firms, will contain only summary tabulations which will in no way identify individual firms.

This cross check on our information will help us to establish the accuracy of information to be included in our report to you. It will be appreciated if you will please return this questionnaire to us as soon as possible so as to assure the timeliness of the report.

Cordially,

George J. Palmer, Jr.

George J. Palmer, Jr., Ph.D.
Industrial Psychologist
Director

GJP:ds

Enclosures

APPENDIX F

Covering Letter for Follow-up Sample

OFFICE OF ORGANIZATION RESEARCH
Psychology Department
Peabody Hall
Louisiana State University
Baton Rouge 3, Louisiana

March 15, 1962

Dear Sir:

About six weeks ago you received a request to cooperate in a survey of American manufacturing firms. We hope that you will be able to cooperate with us and answer the questionnaire which was sent to you. It is our desire to have a large and representative sample of American companies in this survey so as to make the information more generally useful.

We are enclosing for your convenience an additional copy of the questionnaire which you may answer simply by circling the correct answer and returning this in the enclosed envelope.

As we have indicated before, all of this information will be held in the strictest confidence. The summary report, which we will send to all cooperating firms, will contain only summary tabulations which will in no way identify individual firms.

It will be appreciated if you will please return this questionnaire to us as soon as possible so as to assure the timeliness of the report. If you have already returned our questionnaire, please disregard this reminder.

Cordially,

George J. Palmer, Jr.

George J. Palmer, Jr., Ph.D.
Industrial Psychologist
Director

GJP:ds

Enclosures

VITA

George Henry Dunteman was born September 10, 1935, in Little Falls, New York. In June, 1957, he received the degree of Bachelor of Arts in sociology from Saint Lawrence University, Canton, New York. In June, 1959, he was awarded the degree of Master of Science in applied psychology from Iowa State University, Ames, Iowa. He entered Louisiana State University in September, 1959, and became a candidate for the degree of Doctor of Philosophy.

EXAMINATION AND THESIS REPORT

Candidate: George Henry Dunteman

Major Field: Psychology

Title of Thesis: ORGANIZATIONAL CONDITIONS AND BEHAVIOR IN 234 INDUSTRIAL
MANUFACTURING ORGANIZATIONS

Approved:

George J. Palmer, Jr.
Major Professor and Chairman

Max Goodrich
Dean of the Graduate School

EXAMINING COMMITTEE:

Roland L. Lye

Paul R. Butler

Lawrence Mann, Jr.

Ed H. Dilbeck

Date of Examination:

15 June 1962