

ORGANIZATIONAL CLIMATE AND THE ADOPTION OF NEW EXPORT MARKETING TECHNIQUES BY EXPORTERS IN A TRAINING SETTING

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INTRODUCTION

Together with other measures to accelerate their export growth, many less developed countries have in recent years looked to the use of training as a means to upgrade the marketing skills of their exporters. Many institutions have been specifically set up and a great deal of human and financial resources allocated for this purpose. However, the problem always exists that some of the participating firms adopt more of the techniques thus introduced than others. But there is lack of an efficient and systematic explanation for these differing results of training. Even where some explanations do exist, they are mostly concerned with training methods, such as modes and aids used in training, scheduling, size of training group, and so on. Little, if any, attention was paid to what operates inside the "black box" of the trainee or customer of the training service.

In a larger research project recently completed by the author¹, three sets of exogenous variables were suggested in a causal model aimed at attempting a satisfactory answer to the question cited above. They are: (1) the characteristics of the individual participant; (2) the characteristics of the firm participating in the training; and (3) the organizational climate within the firm in question. They were derived basically from a general theory of organizational behavior suggested by Sells.²

One of the significant points of this study lies in its inclusion of a social-psychological variable, organizational climate, in the predictable function. It deals with the properties and influences of the internal environment of an organization, expressed in a molar rather than molecular manner. As commented by Litwin and Stringer, this concept has been used, implicitly or explicitly, by different schools of organizational theories, such as, for example, Weber's struc-

tural system, Simon's decision system, and Likert's social system, models.³ In contrast, in an integrated model of organizational behavior created by Litwin and Stringer, it was used as an intervening variable, "mediating between organizational system factors and motivation tendencies." It is therefore speculated that the impact of the organizational climate would work through the kind of motivation it has aroused among a firm's members upon the adoption of new export marketing techniques.

The purpose of this article is to give a brief report on this part of the research findings and their implications.

THE CONCEPT OF ORGANIZATION CLIMATE

The concept of organizational climate represents an outgrowth of the McClelland-Atkinson model of motivation. In its sketchy form the model consists of the following major points:⁴

1. All adults carry around with them the "potential energy" to behave in a variety of ways.
2. Whether they behave in these ways depends on: (a) the strength or readiness of the various motives a person has; and (b) the situational characteristics and opportunities presented.
3. The characteristics or stimuli presented by the situation determine, in large part, which motives will be aroused and what kind of behavior will be generated.

While *motives* as acquired in one's childhood are relatively enduring and stable, the *situation* varies greatly in the real world, thus giving the latter factor greater impact upon one's behavior. The motives thus aroused then lead to some specific patterns of behavior, such as the adoption of innovation. This line of thought has also been supported by Havelock⁵,

"Any attempt at changing significant attitudes in order to facilitate the adoption of innovations or new knowledge must be prepared to work on a deeper more individual and motivational level...." "This is due to the fact that important attitudes usually are closely tied into an individual's aspirations, desires, and so on. That is, his motivation."

The concept of organizational climate, as defined by Taguri, "is a relatively enduring quality of the internal environment of an organization that (1) is experienced by its members, (2) influences their behavior, and (3) can be des-

cribed in terms of the values of a particular set of characteristics (or attributes) of the organization"⁶ It is thus a good tool to describe the *total* effect of the environment. This latter point renders itself more managable and useful than the more molecular situation variables originally proposed by McClelland and Atkinson; it makes possible the characterization of the total situation influence of various environments, so that they may be mapped and categorized.

Dimensions of Organizational Climate and Their Relationships with Innovation

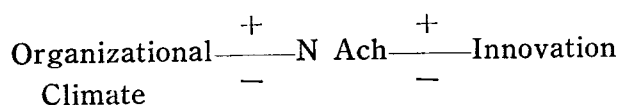
One of the major contributions made by Litwin and Stringer seems to be that they have made explicit the differing effects of organizational climate on three motives, namely, achievement, affiliation, and power. For instance, among the nine dimensions of organizational climate identified by them, they have, based on existing research and theories, strived to make specific inference as to their influence on the achievement, or N Ach, in the following manner⁷:

Arousal effect: responsibility, reward, risk, support, standards, conflict;

Reduction effect: structure;

No effect: identity

Interested reader might refer to Appendix A of this paper for a detailed discussion of the definitions of these dimensions and their inferred relationships with N Ach. Suppose the motivation for achievement is a facilitator for innovation, it follows that the same relationships would hold between organization climate and innovation just as well. In other words, the relationships among these variables might be depicted as follows:



RESEARCH METHODOLOGY

Conceptual Framework

To guide the research design, a conceptual framework was devised aimed at describing the training situation as we are interested. Based on a general linkage model of knowledge dissemination and utilization suggested by Professor

Ronald G. Havelock and others at the University of Michigan⁸, each participating firm is treated as a "user subsystem" which receives potentially useful information from a "resource subsystem", the training institution. It is further assumed that each participant serves as the "gatekeeper" of his own firm in the sense that he controls and processes the flow of information before it gains entry into the organization⁹.

Against such a framework, it is further assumed that the intention of the participant in adopting the new marketing techniques he has learned in a training plays a key role in the firm's ultimate adoption of those techniques. In other words, this intention variable is treated for our present purpose as an intermediate variable between organizational climate and the resulting adoption variable conceptualized as "innovativeness" of the firm in question. Both variables will be further discussed later.

Research Setting

Beginning in early 1971, a five-year Export Marketing Training Program has been underway at the Center for Public and Business Administration Education (CPBAE), National Chengchi University, Taipei, Taiwan. The program is sponsored by the Board of Foreign Trade, Ministry of Economic Affairs, a governmental agency with the responsibility of overseeing and promoting Taiwan's foreign trade in accordance with the national targets set for this sector of the economy. The purpose of the program is to upgrade the knowledge and techniques of local exporters with respect to export marketing and promotion. In 1972, National Taiwan University, another leading institution in higher education, was added to the program and, together with CPBAE, served as a vehicle to carry out the actual training tasks.

The content of training at both institutions is quite comparable and similar in substance. For some courses, they even share the same instructors. Without counting the number of hours spent for teaching foreign languages in the NTU program, the two programs run about 90 for CPBAE and 120 hours for NTU. Since the beginning, the training classes at CPBAE have been able to operate smoothly, each lasting about six weeks. One immediately followed the other with a preparation period between, of course. However, the NTU program was held only once and lasted more than six months because of the large number of language courses it contained. It has not been resumed in 1973.

Any firm operating in Taiwan is entitled to send its employees to the train-

ing classes. There is no strict qualification on education or other requirements, but graduation from secondary school is expected. A nominal fee is charged for each participant which is generally paid by the employer. Throughout the period, the number of applicants has far exceeded that which can be accommodated at both institutions. The demand is so overwhelming that some of the classes have been run with more than one hundred participants.

Generally speaking, the training program is considered to be quite successful. This is reflected not only in the large number of applications received throughout the period, but particularly in the low rate of absenteeism among the participants. There has also developed quite close relationships between instructors and some participants which have remained long after the training is over.

Sampling and Data Collection

The scope of this study is assumed to comprise all small and medium-sized firms in Taiwan currently engaged in export business. But one central qualification should be emphasized, that is, they must have participated voluntarily in any of the training we assume here.

From a complete list of the participants of the training classes during 1972, two hundred and twenty firms were selected which did not include those firms not currently engaged in exports, and those owned and operated by foreigners. Where one firm had sent more than one employee to the training program, the most influential one in the organization was selected.

Both personal interview and mailed survey techniques were utilized. In order to facilitate the causal inference to be made, particular attention was paid to the time sequence at which different sections of the complete questionnaire would be asked. That was, some information was collected just before the training started or during the first week; some was collected immediately after the conclusion of the training; the remainder were collected until about one month after the end of the training. This feature of research design amounted to what has been sometimes called as "before-and after design" in a social experiment.¹⁰

Of the several sections of data, only the one connected with organizational climate was collected via mail. This exception was made deliberately because, first of all, it was just too lengthy to hold the patience of a respondent to answer fifty questions for this portion of the questionnaire in a single interview. secondly, by using a mailed questionnaire the respondent did not have to make

many critical judgements on his employer in the face of a stranger. Unfortunately this supposed improvement in the quality of responses was obtained at a great price paid in the rate of returns. For the other sections of the questionnaire, we obtained 184 completed interviews, only 72 for this part.

Research Instruments

In the questionnaire, several conceptual variables needed to be operationalized. Among them, the three involving organizational climate, intention to adopt of the individual participant, and the innovativeness of a firm warrant a more detailed description here.

Organizational climate. The revised Litwin and Stringer's scales of organizational climate were first translated into Chinese. They were subject to a field test as to applicability in Taiwan before adopted in the present study. The results is reported in Appendix B of this paper. They consist of fifty items of multiple choice of Likert-type. Scores of each item ranging from 1 to 4 are to be added in clusters according to the constructs they are assumed to represent. In the present case the fifty items were grouped into nine dimensions of the organizational climate as formulated by Litwin and Stringer. Therefore, each subject firm has nine sums of scores, one for each dimension. In addition, a scale of "general attitude toward the firm" was constructed from eleven items out of the fifty. The scale represents the result of a factor analysis of a set of data collected in a preliminary study in Taiwan. Altogether, therefore, there are ten dimensions of organizational climate.

All respondent firms were classified into four categories for each dimension depending on the scores earned for this particular dimension. They were coded accordingly as 1, 2, 3, or 4, representing an increasing amount of the property concerned. For example, a code 4 for structure means that the firm in question is highly structured, and so on. In this sense, the resulting code values are ordinal in nature.

Intention to Adopt. The intention of the participant to adopt new export marketing techniques has been defined as the predisposition of the participant to apply the innovation in his job behavior. Presumably, such intention is evidenced by his explicit expression of willingness to adopt. However, to augment this piece of evidence, two more items were also included as indicators of such intention. They are: his degree of comprehension of the techniques likely to be adopted and his need for further information concerning their practical applica-

tions. It is believed that as two important concomitant conditions, these two items would add considerable validity to one's answer as to his willingness to adopt. An intention scale was developed based on these items but not elaborated here.

Innovativeness. Almost 60 per cent of the diffusion research have focused on the "innovativeness" of the adopter as the dependent variable of study. One of the popular definitions of "innovativeness" is "the propensity of an individual or an unit of analysis, to try and to use new and novel ideas."¹¹ This concept is considered to be more general than the term "innovator", as the latter refers only to the trial and use of one specific idea or product. One can, accordingly, say that one individual or a firm has more or less innovativeness than others in a social system. And in most cases, it is the time-of-acceptance of the innovation by a given adoption unit in relation to others in the social system which has been usually used as operational criterion of its innovativeness.¹²

A different set of operational indicators was, however, used here in constructing an innovativeness index of the participating firms in training. Those firms which have adopted more of the training content into practice are considered more innovative than others which have adopted less. It is not the "time-of-acceptance" criterion to be used as an operational measure of the concept¹³. A score of innovativeness was devised which consisted of four items, namely, (1) direct application of new marketing techniques to the job behavior; (2) application to other employee's or unit's job because of the participant's suggestion; (3) effect of the training on the participant's job assignment after returning from training; and (4) effect on the participant's post-training information-seeking behavior. It is considered by the author that this index of innovativeness should have a richer meaning than adoption in the narrow sense; it is able to cover the adoption behavior of the participant himself as well as others in the organization, at present and also at a future date. Both intention and innovativeness indice have been tested and found satisfactory as to their internal consistency. And they are treated as interval data in the analysis.

ANALYSIS AND FINDINGS

Data thus collected have been analyzed in the following manner: First, each dimension of the organizational climate was tested as to its relationship with the assumed dependent variables, i.e., intention and innovativeness, by

ANOVA procedure. Second, those dimensions found to bear significant relationships were retained and put through a stepwise multiple regression analysis to determine the extent to which they are able to account for the variation of the dependent variable collectively. The results of these analyses are summarized below.

Organizational Climate and Intention to Adopt

Only two out of the ten dimensions were found to have significant relationships with the participant's intention to adopt. (Table 1)

TABLE 1
Summary Results of Analysis of Variance on the
Intention-to-adopt Scores of Participants Categorized
by Their Perceived Organizational Climate

Dimensions of Organizational Climate	F Statistics	Significant Value
Responsibility	.23	.87
Reward	.56	.64
Risk	5.82	.00***
Support	.79	.50
Conflict	3.25	.03**
Identity	.54	.65
Structure	.38	.77
Warmth	.02	.99
Standards	1.46	.23
General attitude toward the firm	1.02	.39

***p < .01

**p < .05

They are risk and conflict. In addition, a further scrutiny of the data reveals that four other dimensions seem to show a very weak arousal effect, i.e., responsibility, support, standards, and general attitude toward the firm. Another dimension, warmth, shows an equally weak but opposite relationship with the intention criterion. All these findings, in general, are consistent with what Litwin and Stringer originally theorized in connection with motivation for achievement;

those dimensions which were assumed to have arousal effects on motivation for achievement were also found to be positively related to one's intention to adopt innovations, and vice versa. Therefore, a general proposition may be drawn from these findings that people's intention to adopt is significantly related to their motivation for achievement.

To go a step further to probe the functional form the relationships between intention scores and each of the two significant dimensions might take, the correlation ratios (E-square) were computed and the hypothesis of linearity tested.

TABLE 2

The Correlation Ratio (E^2) and Test of Linearity
(F-statistics) for Dimension of Organizational
Climate Identified to be Significantly Related
to the Adoption Measures

Dimension of Organizational Climate	With Intention		With Innovativeness	
	E^2	$F_{k-2, n-k}$	E^2	$F_{k-2, n-k}$
Risk	.202	5.261***	.155	4.681***
Conflict	.124	4.571**		

*** $p < .01$ ** $p < .05$

In Table 2, we found that the hypothesis of linearity was rejected at .01 and .05 level of significance for risk and conflict, respectively.

To solve this problem of non-linearity, dummy variables were introduced in the ensuing regression analysis. That is, by decomposing the variable in question into several dummy terms, the number of which was equivalent to the number of levels for the original variable. A given participant can only fall into one, and only one, of those dummy terms; it was assigned one for that term and zero for the rest. In the present case, each of the risk and conflict dimensions consists of four levels, and was therefore decomposed into four dummy terms in the regression analysis.

The results of the stepwise regression are shown in Table 3,

TABLE 3

Summary Results of Stepwise Regression for Adoption
Variables on Selected Dimensions of
Organizational Climate as Explanatory Variables
(Significant Level Used for Deletion=.10)

Adoption Variable and Selected Summary Statistics	Dimensions of Organizational Climate Selected and Their Regression Coefficients
Intention to Adopt	Risk (level 2)* (-1.41)
R = .51	Risk (level 3)* (.88)
R ² = .26	Conflict (level 3)* (1.17)
SE =1.70	
SV = .0001	
Constant=9.90	
Innovativeness	Risk (level 3)* (1.03)
R = .36	
R ² = .13	
SE =1.27	
SV = .0016	
Constant=6.18	

* dummy variable term

R=multiple correlation coefficient; R²=multiple coefficient of determination;
SE=standard error of estimate; SV=significant value of F-statistics.

It seems that not all levels with respect to these two dimensions are significantly related to the intention scores. For risk, it seems that it does matter whether or not people feel that their organizations are relatively less risk-taking (level 2) or more risk-taking (level 3), but not for answers in the two ends of the scale. As indicated by the signs of the respective regression coefficients, the intention to adopt is lower for those whose answers rest with level 2 and higher with level 3. This is completely in agreement to what we expected. On the other hand, whether or not people answered in the level 3 that their organizations were relatively open to conflict resolution has a significant influence on their intention to adopt, but whether or not they answered in the other three levels has no significance.

Altogether, the climate variables as selected explained about 26 percent of the variation of the intention scores, and have a value of .51 in terms of their multiple correlation coefficient with the latter scores. Again, the relationship is significant at a very stringent level.

Organizational Climate and Innovativeness

When attention is turned to the relationships between the organizational climate and a firm's innovativeness, only one dimension, risk again, is found to be significant. (Table 4)

TABLE 4
Summary Results of Analysis of Variance on the
Innovativeness Scores of Firms Categorized
by Organizational Climate Perceived

Dimension of Organizational Climate	F Statistics	Significant Value
Responsibility	.33	.80
Reward	.30	.83
Risk	4.29	.00***
Support	.82	.49
Conflict	1.89	.14
Identity	.04	.99
Structure	1.25	.30
Warmth	.29	.83
Standards	1.09	.39
General attitude toward the firm	.31	.82

*** $p < .01$

Generally speaking, the relationships shown here are very similar to those found between organizational climate and the participant's intention. For instance, the linear relationship cannot be assumed. (Refer to Table 2) Furthermore, the regression analysis shows that one dummy term of the risk dimension, level 3, contributes the entire capacity to explain this climate variable in terms of the variation of innovativeness scores. This is about 13 per cent of the total varia-

tion. The relationship is still considered to be statistically significant at .01 level. (Table 3)

Conclusion

By using the instrument developed by Litwin and Stringer, this study was able to relate ten dimensions of the climate to both the participant's intention to adopt and the firm's innovativeness. Significant results emerged from the analysis as reported above. In both situations, the risk dimension of the climate, or the extent to which a participant feels that his firm is willing to take a modest risk, tends to increase the participant's intention to adopt and his firm's innovativeness. Here the word, modest, is added intentionally because, according to the analysis, when people come to feel that their firms are willing to take an extremely high risk or are extremely averse to taking high risks, no clear relationship could be identified.

In addition, the participant's intention to adopt is also found to be dependent upon the conflict dimension of the organization climate of his firm, that is whether or not he feels that the management of his firm is willing to listen to opinions disagreeing with their own and to try to resolve them in an open manner.

DISCUSSION AND IMPLICATIONS

In essence, the theory of organizational climate as formulated by Litwin and Stringer seems to be more a theory of individual behavior in an organizational setting than a theory of organizational behavior. It attempts to explain how environmental conditions affect an individual's behavior through the arousal of his certain motives. What has been really measured here is the subjective perceptions of only one member of a particular firm. The problems remain as to: how would other members in the same organization feel about the climate of the organization? Could they perceive the same as the one whose perception has been sought? Even if they perceived about the same, how would that interact with the personal characteristics of each member?

Litwin and Stringer seem not to have answered these questions directly, but they do seem to imply that a relatively homogeneous climate can be achieved through the managerial efforts of the organization.¹⁴ Then what one member perceives of the climate of his own organization might be, to a considerable

extent, relevant for other members of the organization as a whole.

But, cautioned Forehand, to carry the above line of thinking to an extreme in trying to describe an organization in terms of some overall labels is at odds with the concept of climate "as an interaction between the organization and the person."¹⁵ Pace suggests that we approach the task of characterizing environments in relation to some criterion measure. In this manner, the resulting characterizations would be limited to those aspects of the environment related to the criterion, and other aspects of the environment in general would be by-passed.¹⁶ This is essentially the same approach we have been following here; the criterion measure used is the innovativeness of a firm in adopting new export marketing techniques.

Implications

The recent trend in training literature tends to move from an individual approach to training to the total organization approach.¹⁷ Therefore, a set of organizational climate variables was added to our model and confirmed by the data to be significant to the innovativeness of a firm. This general finding seems to have important implications for all parties concerned. The effectiveness of training does not depend upon the training per se, but also depends on the environment in which the new ideas or skills have to be accepted and utilized. If a firm is extremely risk averse and top management tend to be autocratic or tend to dislike different opinions from their own, then the chance that any new techniques will be adopted is greatly minimized.

Therefore, the success of the training hinges to a considerable extent upon how a firm is managed and its leadership style. This leads to a larger program of management development in the industries concerned. If we go a step further, it should be recognized that the time and efforts thus spent is, from a long-run point of view, only a part of a even larger program of modernization in business and society. Presumably, as a society becomes increasingly modernized, people tend to be more open and receptive to new ideas or methods. Business firms in general will also become more willing to take calculated risks and be more democratic. Within such a changed environment, the adoption of innovation would no doubt be hastened in all sphere of human life. But this is already outside the scope of this study.

APPENDIX A
Dimensions of Organizational Climate: Definitions and
their Inferred Relationships with Achievement
Motivation*

Responsibility

This dimension concerns the extent to which a member of an organization feels that he should make his own decision as to the right approach to the tasks assigned to him; supervision in the organization is mainly a matter of setting guidelines. Generally speaking, people with high need for achievement prefer to work in an environment with higher responsibility.

Reward

The extent to which a member of an organization feels that he will be rewarded for doing a good job is known as reward. Reward also can be defined that in the organization the rewards and encouragement one usually receives outweigh threats and criticisms. It is generally believed that a climate with a higher emphasis on reward than on punishment will have the effect of lessening one's fear of failure, thus arousing his achievement motivation and innovation.

Risk

This dimension is concerned with the extent to which a member of an organization feels that the management is willing to take calculated risks and challenging tasks; or they put emphasis on playing it slow, safe, and sure. It has been found that a person with higher motivation for achievement prefers to take modest risk. Therefore, if the climate of an organization permits one to take some course of action with a modest risk involved, his motivation for achievement would be enhanced; otherwise, if the climate rests with either extremes of this dimension, such motivation would be lessened.

* In preparing this appendix, the author has gratefully taken advantage of the works by Litwin and Stringer as cited in footnotes of this article.

Support

This dimension concerns the extent to which a member of an organization feels that he can expect assistance and encouragement from both his superiors and colleagues in the organization for accomplishing his work assignments. As far as this climate of support also helps reduce one's fear of failure, it would arouse his motivation for achievement and induce his behavior in this direction. Likert, for instance, has called it "a supportive atmosphere," as one of the most important conditions for his ideal organizational system. So has McGregor, according to his "Y theory."

Conflict

The extent to which a member of an organization feels that management in his organization is willing to accept disagreements, even if with one's superiors, is known as conflict. Lawrence and Lorch advanced the theory that the way of handling conflicts in an organization reflects how effectively a complex organization has been integrated. Other scholars, such as Blake and Mouton, also considered that the best way to solve conflict is to render the matter open. First, it would increase the flow of related information among different individuals or units. Secondly, it would also increase the speed of evaluation feedback. Therefore, it was contended that to make conflict open would arouse one's motivation for achievement.

Identity

Identity is the extent to which a member of an organization feels a sense of belonging to the organization; how much he values his membership of it. Theoretically, a climate with strong identity does not itself directly induce motivation for achievement. As mentioned previously, Litwin and Stringer originally hypothesized a neutral effect for this dimension of climate one need for achievement, or N Ach. But they later revised this hypothesized relationship as being positive on the basis of empirical data.

Structure

This dimension is concerned with the extent to which a member of an organization feels that the organization has been formalized as to procedures, rules, regulations, and so on. An organization that is highly structured, it is argued,

would have the effect of suppressing the challenging and incentive nature of any job. For example, McGregor believed that a traditional organization has a kind of "demotivation effect" mainly because it is in most cases highly structured.

Warmth

Warmth is the extent to which a member of an organization feels a friendly atmosphere prevailing in the organization. This dimension was first thought by Litwin and Stringer to be similar to the dimension of support in their original formulation of organizational climate scales. But they found later that the climate of warmth has a reduction effect on people's motivation for achievement in two separate groups, i.e., graduate students and managerial personnel.

Standards

The dimension of standards is the extent to which a member of an organization feels that the organization places importance on the accomplishment of its goal and on one's performance. Rosenthal performed an experiment to show the relationship between standards and individual motivation and concluded that a higher standard expected of people would have the effect of increasing their motivation for achievement.

General Attitude toward the firm

This dimension was not included in Litwin and Stringer's scales of organizational climate, but is added here as a result of the field test of the scales in Taiwan. This has been explained in this article. Basically, the general attitude of a person toward the organization in which he is working is determined by a dimension of favorableness to the organization. To a considerable extent this dimension overlaps the dimension of identity which we have already discussed as it included all four items of the latter's scale, together with seven items from other dimensions. It was expected that people with more favorable attitudes toward their firms would tend to have a higher intention to adopt new export-marketing techniques which are useful to the firms, or vice versa.

APPENDIX B

**A Field Test of the Applicability of Litwin
and Stringer's Scales of Organizational
Climate Administrated in Taiwan**

In ealy 1972, a sample of 800 business employees mainly in the rank of middle management of local firms was selected from a list of names which had been compiled from the files of participants in various training organizations in Taipei. A translated questionnaire of organizational climate from one originally developed by Litwin and Stringer at Harvard (see Appendix B. Part VII) was mailed to each of them. A total of 364, or 45.5 percent of the sample, replied, a very high rate of return for a mail survey when a rather lengthy questionnaire is used. An analysis of the data collected showed the following results.

1. Consistency of the Climate Scales

Scale	Number of Items in Scale	Number of Items Clustering*	Mean Inter- Correlation
Structure	8	5 (5)+	.33 (.31)+
Responsibility	7	5 (4)	.32 (.23)
Reward	6	4 (4)	.26 (.42)
Risk	5	4 (3)	.24 (.29)
Warmth	5	4 (3)	.35 (.33)
Support	5	0 (2)	.26 (.37)
Standard	6	3 (2)	.15 (.21)
Conflict	4	1 (2)	.27 (.19)
Identity	4	4 (3)	.56 (.49)

* This column describes the number of items on a scale that correlate most highly with another item on the same scale (as opposed to correlating most highly with an item on another scale).

+ Figures in parentheses in both columns are comparable results obtained by Litwin and Stringer's study. Sete George H. Litwin and Robert A. Stringer, Jr., *Motivation and Organizational Climate* (Boston: Division of Research, Graduate School of Business Administration, Harvard University. 1968), P. 207.

2. Intercorrelation of Climate Scales (Independence)

	1	2	3	4	5	6	7	8	9
1. Structure		.30 (.18)*	.25 (.24)	.17 (.18)	.26 (.28)	.24 (.34)	.20 (.38)	.22 (.38)	.37 (.31)
2. Responsibility			.26 (.50)	.19 (.50)	.24 (.46)	.27 (.47)	.22 (.42)	.33 (.30)	.39 (.51)
3. Reward				.17 (.48)	.22 (.54)	.25 (.49)	.18 (.29)	.24 (.39)	.34 (.56)
4. Risk					.15 (.41)	.16 (.43)	.14 (.49)	.18 (.44)	.22 (.42)
5. Warmth						.26 (.57)	.19 (.22)	.20 (.31)	.39 (.69)
6. Support							.18 (.22)	.24 (.48)	.35 (.59)
7. Standard								.21 (.34)	.31 (.41)
8. Conflict									.37 (.35)
9. Identity									

* Figures shown in parentheses are comparable results obtained by Litwin and Stringer's study. See Litwin and Stringer, op. cit., p. 208.

3. Factor Analysis

The data were further analyzed by the principal component procedure of factor analysis. Eleven factors were extracted from the fifty items and altogether accounted for 49.23 percent of the variation. However, the first factor alone accounted for 28.71 percent, with none of the remaining ten factors able to account for more than 6 percent of the variation.

For this first factor, designated as "general attitude toward the employer," the eleven items which have the highest factor loading are listed below (with corresponding values of the factor loading shown in the parentheses):

- (1) Supervision in this organization is mainly a matter of setting guidelines for your subordinates; you let them take responsibility for the job. (.65)
- (2) One of the problems in this organization is that individuals won't take responsibility. (-.75)
- (3) In this organization people are rewarded in proportion to the excellence of their job performance. (.68)
- (4) There is a lot of warmth in the relationships between management and workers in this organization. (.66)

- (5) Management makes an effort to talk with you about your career aspirations within the organization. (.66)
- (6) People in this organization don't really trust each other enough. (-.66)
- (7) We are encouraged to speak our minds, even if it means disagreeing with our superiors. (.71)
- (8) People are proud of belonging to this organization. (.79)
- (9) I feel that I am a member of a well functioning team. (.72)
- (10) As far as I can see, there isn't very much personal loyalty to the company. (-.70)
- (11) In this organization people pretty much look out for their own interests. (-.71)

FOOTNOTES

1. Paul S. C. Hsu, "The Adoption of New Export Marketing Techniques by Exporters in Taiwan: A Causal Model," unpublished doctoral dissertation, the University of Michigan, 1974.

2. S. B. Sells, "Toward A Taxonomy of Organization," in W. W. Cooper, H. J. Leavitt, and M. W. Shelly II, *New Perspectives in Organization Research* (New York: John Wiley & Sons, 1964), pp. 515-532.

3. George H. Litwin, "Climate and Behavior Theory," in Renato Taguri and G.H. Litwin, eds., *Organizational Climate* (Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1968), pp. 56-57.

4. George H. Litwin and Robert A. Stringer, Jr., *Motivation and Organizational Climate* (Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1968), p. 110.

5. Ronald G. Havelock with Alan Guskin, et al., *Planning for Innovation* (Ann Arbor, Mich.: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, The University of Michigan, 1969), 4: 23.

6. Renato Taguri, "The Concept of Organizational Climate," in Taguri and Litwin, op. cit., p. 25.

7. Litwin and Stringer, op. cit., p. 84.

8. Havelock, op. cit.

9. Kurt Lewin, *Forces Behind Food Habits and Methods of Change*, Bulletin No. 108 (Washington, D.C.: National Research Council., 1943); James G. March and Herbert A. Simon, "Communication," in James H. Campbell and Hal W. Hepler, eds., *Dimensions in Communication: Readings*, 2d ed. (Belmont, Calif.: Wadsworth Publishing Co., 1970), pp. 71-80.

10. Abraham Kaplan, *The Conduct of Inquiry: Methodology for Behavioral Science* (San Francisco: Chandler Publishing Co., 1964), pp. 164-165.
11. H. A. Presser, "Measuring Innovativeness Rather Than Adoption," *Rural Sociology*, 34 (December 1969): 514.
12. Elihu Katz, Martin L. Levin, and Herbert Hamilton, "Traditions of Research on the Diffusion of Innovation," *American Sociological Review*, 28 (April 1963): 240.
13. Charles F. Carter and Bruce R. Williams, "The Characteristics of Technically Progressive Firms," *Journal of Industrial Economics*, 7 (March 1959): 87-104.
14. Litwin and Stringer, op. cit., p. 44.
15. Garlie A. Forehand, "On the Interaction of Persons and Organizations," in Renato Taguri and G. H. Litwin, eds., op. cit., pp. 65-82.
16. C. Robert Pace, "The Measurement of College Environments," in Taguri and Litwin, eds., op. cit., pp. 129-147.
17. Bernard M. Bass and James A. Vaughan, *Training in Industry: The Management of Learning* (Belmont, Calif.: Wadsworth Publishing Co., 1966), p. 8; Daniel Katz and Robert J. Kahn, *The Social Psychology of Organization* (New York: John Wiley & Sons, 1966), p. 39.