

**STRUCTURAL COMPONENTS
OF ORGANIZATIONAL CULTURE
AND THEIR EFFECTS
ON ORGANIZATIONAL PERFORMANCE**

George A. Marcoulides*

Ronald H. Heck**

The purpose of this article is to develop a model of the components thought to comprise organizational culture and to estimate their effects on organizational performance. Organizational culture is hypothesized to consist of three interrelated dimensions: a sociocultural system of the perceived functioning of the organization's strategies and practices, an organizational value system, and the collective beliefs of the individuals working within the organization. Culture is operationalized by several latent variables: organizational structure and purpose, organizational values, task organization, climate, and individual values and beliefs. These variables, in turn, are hypothesized to affect organizational performance. Analysis of interview and questionnaire data from 392 individuals within 26 organizations confirms the fit of the proposed theoretical model to the data. Results are discussed in terms of their congruence with past research and implications for improving the management of organizations.

While research on organizational effectiveness has led to the formulation of theories about factors within an organization that can make a difference in performance, these relationships are more complex than originally thought. Organizational culture is one such

* George A. Marcoulides is a Professor of Management at the California State University at Fullerton.

** Ronald H. Heck is a Professor of Management at the University of Hawaii at Manoa.

factor that has received much attention in the organizational behavior literature (Amsa, 1986; Hofstede, 1986; Owens, 1987; Schein, 1990; Trice and Beyer, 1984). A common hypothesis is that if an organization possesses "strong culture," (i.e., exhibits a well-integrated and effective set of specific values, beliefs, strategies, and behavioral patterns), then it will perform at a higher level than an organization where these variables are only marginally integrated (Dennison, 1984).

Since the early 1980s, an extensive literature has developed on the topic of organizational culture, yet with no consensus about its definition (Hofstede *et al.*, 1990). As Hofstede *et al.* argue, most writers would probably agree that organizational culture is holistic, historically determined, socially constructed, and difficult to change. Beyond a literature that consists mostly of "pep talks, war stories, and some insightful case studies" (Hofstede *et al.*, 1990), no significant body of experimental research exists; instead, researchers have focused primarily on defining and describing the variables of organizational culture and outcomes.

Despite concern with improving performance outcomes by focusing on elements of organizational culture, identifying the specific parameters of this construct has been problematic. As Trice and Beyer (1984) have argued, previous research has tended to focus on single discrete elements of culture, while ignoring the multidimensional nature of culture, comprised as it is of several interrelated sets of variables. Another problem has been that researchers are still not sure whether the association between elements of organizational culture and performance reflect a "cause-effect" type of relationship (Saffold, 1988). There is presently little agreement, then, concerning what the concept of organizational culture means, how it should be measured, and how it may be related to organizational performance.

The development of theory to guide the definition and measurement of organizational culture, therefore, is of primary importance to improving organizational performance, especially because the variables

JOURNAL OF BUSINESS AND MANAGEMENT

thought to comprise culture have been postulated to be under the control of organizational leaders (Deal and Kennedy, 1982; Owens, 1987). Without valid and reliable measures of the critical components of organizational culture, statements about its importance and possible effects on performance will continue to be based on speculation, personal observations, and case studies (Uttal, 1983). As a result, leadership strategies and programs to promote organizational change will continue to be poorly planned, difficult to implement and evaluate, and subject to criticism and doubt.

The purpose of this study is to identify some important dimensions of organizational culture and to estimate their direct and indirect effects on levels of performance in a variety of organizations. Our analysis addresses three research questions:

First, can organizational culture be measured quantitatively on the basis of information about organizational processes provided by members? Similar to Hofstede *et al.* (1990), we hypothesized that at least some elements of organizational culture can be measured. Second, can a model be developed consistent with previous theory that estimates the effects of several dimensions thought to represent organizational culture? Our hypothesis was that through analytical techniques we could develop several dimensions of culture that would be consistent with previous research.

Third, can a model provide useful information about organizational processes thought to represent culture that helps us explain organizational performance across a variety of different organizations? We hypothesized that we could develop a model of organizational culture that would help us analyze an organization's performance at higher or lower levels.

This paper is divided into three sections. The first section presents a conceptualization of the model used to examine the effects of various components of organizational culture on performance outcomes. The

second section focuses on the methods used in gathering the data and presentation of the results. The final section discusses the implications of our findings for understanding how organizational culture may be a useful concept in improving the management of organizations.

“Without valid and reliable measures of the critical components of organizational culture...leadership strategies and programs to promote organizational change will continue to be poorly planned, difficult to implement and evaluate, and subject to criticism and doubt.”

Structural Components of Organizational Culture

Organizational culture has been defined as patterns of shared values and beliefs which over time produce behavioral norms that are adopted in solving problems (Hofstede *et al.*, 1990; Owens, 1987). Schein (1990) has also argued that culture is a body of solutions to problems which have worked consistently and are therefore taught to new members as the correct way to perceive, think about, and feel in relation to those problems. The sum of these shared philosophies, assumptions, values, expectations, attitudes, and norms bind the organization together. Organizational culture, therefore, may be thought of as the manner in which an organization achieves its specific goals.

Schein (1990) has argued that culture is thought to permeate the organization on at least three fundamental levels. At the surface, one may observe visible artifacts of the organization; that is, its structure,

JOURNAL OF BUSINESS AND MANAGEMENT

technology, rules of conduct, dress codes, records, stories, and rituals. Beneath this dimension is a second level, organizational values; and third, underlying assumptions about the nature of organizational reality that are deeper manifestations of values. Of course, investigating processes of culture at the latter level is more difficult, as these underlying assumptions can not be directly observed and measured. In this study, we attempt to measure some of the more visible aspects of organizational processes at levels one and two.

We also incorporated three interrelated subsystems of culture from the work of Allaire and Firsirotu (1984) into our model of organizational culture. The first is a sociocultural subsystem which is composed of the perceived functioning of formal organizational structures, strategies, policies, and management practices relative to the work structure in the organization that have been consistently successful so as to become organizationally established. This subsystem suggests an orientation toward the goals of the organization and how tasks must be organized to meet these goals. In managing the core technology of the organization, leaders help crystallize production goals, develop more certainty on how to achieve goals through effective decision-making, and formulate strategies to organize the work force to achieve goals (Thompson, 1967).

A second subsystem of culture is an organizational belief system that embodies the myths, values, and ideologies of the organization (Allaire and Firsirotu, 1984). Leaders attempt to influence the development of values and to define the organization's purposes. Bolman and Deal (1984) have noted the "mythological" roles often played by leaders as ceremonial heads of organizations in the effort to clarify role responsibilities, teach organizational values and promote the organization's mission. These symbolic behaviors may represent attempts to transmit organizational values at deeper levels of acculturation. Owens (1987) notes that one co-effect of the socialization of organizational values is organizational climate, or the

perceptions held by participants as to the nature of the organization's work environment.

A final subsystem of culture which we incorporated into our model is that of the collective individuals with their unique experiences, belief systems, goals, and personalities. As Hofstede *et al.* (1990) suggest, there appears to be a similarity in values and daily practices among people working within an organization. Hofstede *et al.* argue that these shared values reflect at least partially the influence of founders and significant leaders. This is because procedures of selection and socialization processes include organizational norms of behavior. Although the goal is to socialize employees into the organization, the process may not always affect individuals similarly. Thus, the employees in the organization may be viewed as another potential source of variation affecting organizational performance.

Conceptual Hypotheses

In this section our conceptual hypotheses of the individual components of the model that are thought to comprise organizational culture are presented as developed from previous literature. This helps highlight the variety of relationships that we united in one model.

Sociocultural Subsystem

H1: We hypothesize that organizational structure and purposes will directly affect organizational climate and the organization of tasks to achieve productivity goals.

Organizational Structure and Purposes (OS). At their most basic level, organizations are structured to achieve specific goals. Considerable work in organizational theory has been devoted to specifying the effects of visible aspects of the organization such as the hierarchical

JOURNAL OF BUSINESS AND MANAGEMENT

structure, technical complexity, patterns of communication, and goal orientations on the processes of administration (Heck and Marcoulides, 1989; Owens, 1987; Thompson, 1967). Owens (1987) further asserts that organizational structure and process may influence, at least indirectly, the achievement of organizational outcomes. What few studies exist in the literature suggest that some variables of structure such as size, complexity of administrative hierarchy, or presence of control mechanisms may impact upon administrative practices, worker attitudes, and levels of performance (Heck and Marcoulides, 1989). For our study, "purposes" are defined as attitudes and beliefs related to the organization's fundamental pursuits and goals to achieve desired results. "Structure" refers to the basic organizational anatomy (e.g., relative complexity of its hierarchical structure, types of communication patterns) used to achieve organizational goals.

H2: We hypothesize that task organization will affect employee perceptions of climate and also organizational performance.

Task Organization (TO). This construct suggests a variety of strategies, policies and behaviors used to organize and monitor the work structure of the organization in a manner that will maximize efficiency and performance. Such strategies include how members are recruited and selected, how they are supervised and evaluated, how they are compensated for their work, the extent to which management is supportive of labor, whether the organization utilizes effective decision-making processes and whether members have opportunities to pursue challenging work within the organization. Variables within this domain emphasize how the organization behaves over time as a result of its particular structure, purposes, and value and belief systems.

Organizational Value Subsystem

H3: We hypothesize that organizational values should affect the organization of tasks to achieve goals, employees' perceptions of the climate of the workplace and also their individual attitudes.

Organizational Values (OV). As Hofstede *et al.* (1990) have noted, the values of organizational founders and upper management often permeate the organization such that they are translated into the practices of people at lower levels. It can therefore be asserted that an organization's collective culture influences both the attitudes and subsequent behaviors of its employees, as well as the level of productivity it achieves. One would expect, therefore, a relatively high correlation between the stated (written and oral) practices, procedures, management strategies, recruitment procedures, and values of an organization and the attitudes and behaviors of its individual employees.

H4: Organizational climate is hypothesized to exert a positive influence on organizational performance.

Organizational Climate (OC). As Hofstede *et al.* (1990) have argued, "climate" is a term that has often been perceived as "culture," which has appeared in the American management literature. Owens (1987), however, has drawn some useful distinctions between the two terms which we applied in this study. Employees have a variety of perceptions about how well the work environment of the organization is functioning, including the quality of social interactions, the types of communication channels open to members, access to technology and resources, demands or stress placed upon employees, and recognition of their efforts.

In this study climate is being used as members' perceptions about a variety of these types of conditions in the organization, e.g., their satisfaction with the work environment. Thus, the term climate is used in a more narrow sense to describe employees' perceptions of "how things are" on a day-to-day basis. Climate, therefore, may be seen to change more readily — depending, for example, on the actions of management — than the entire system of variables comprising organizational culture. Part of the leader's role in managing this subsystem may include "buffering" the organization from outside

JOURNAL OF BUSINESS AND MANAGEMENT

influences so that goals may be attained, and constraining the sometimes divergent goals and decisions of individual employees (Thompson, 1967). In a study that has implications for the business community, Heck, Larsen, and Marcoulides (1990) found that:

- 1) leadership efforts aimed at organizing the task structure and
- 2) a positive climate in educational organizations was directly related to higher or lower organizational outcomes.

Individual Belief Subsystem

H5: We hypothesize that organizational values should affect employees' perceptions about organizational climate (how they view the workplace), and their individual attitudes and values.

H6: Individual attitudes will directly affect organizational performance.

Employee Attitudes and Goals (AT). Employees of an organization bring unique attitudes, values and goals to the workplace. While such attitudes and values are partially shaped by the organization as well as their national culture (Hofstede *et al.*, 1990), individuals may be thought of as possessing a wide range of perceptions about social, political and work-related issues. As Fuller *et al.* (1982) have argued, the concept of organizational efficacy suggests that leadership actions of management may to some extent be constrained by the sometimes divergent goals, attitudes and decisions of individual workers.

Testing the Proposed Model

Figure 1 presents the proposed theoretical model for organizational culture developed in the previous section. The outcome of interest is organizational performance (OP), measured in terms of capital,

marketing, and fiscal dimensions. The proposed model posits the existence of several latent variables which together comprise visible aspects of an organization's culture and, in concert, are believed to influence organizational productivity. Organizational structure and purposes (OS) and organizational values (OV) are seen as exogenous variables, in that their variability is determined by factors outside the model. Organizational climate (OC), task organization (TO), and individual attitudes (AT) are viewed as endogenous, in that their variability is determined by other variables in the model. The exogenous variables, therefore, are seen as indirectly affecting organizational performance through the endogenous variables in the model. This group of latent variables is viewed as loosely comprising the three subsystems of culture (sociocultural, organizational belief, and individual belief) suggested by Allaire and Firsirotu (1984).

Methods

Subjects

Three hundred and ninety-two participants were randomly selected from strata within 26 organizations. The organizations were randomly selected from recent regional directories listing all organizations in two geographic regions of the United States on the basis of type, size, earning and growth over a multi-year period. The geographic regions represented the Midwestern and Western parts of the United States. Because we were interested in developing a general model that would link components of organizational culture to performance, we hoped to sample a wide variety of organizations. In fact, the organizations varied along several important dimensions including output type (product or service), size (small, medium, or large), resource type (capital intensive or labor intensive), ownership (public or private) and objective (profit or nonprofit).

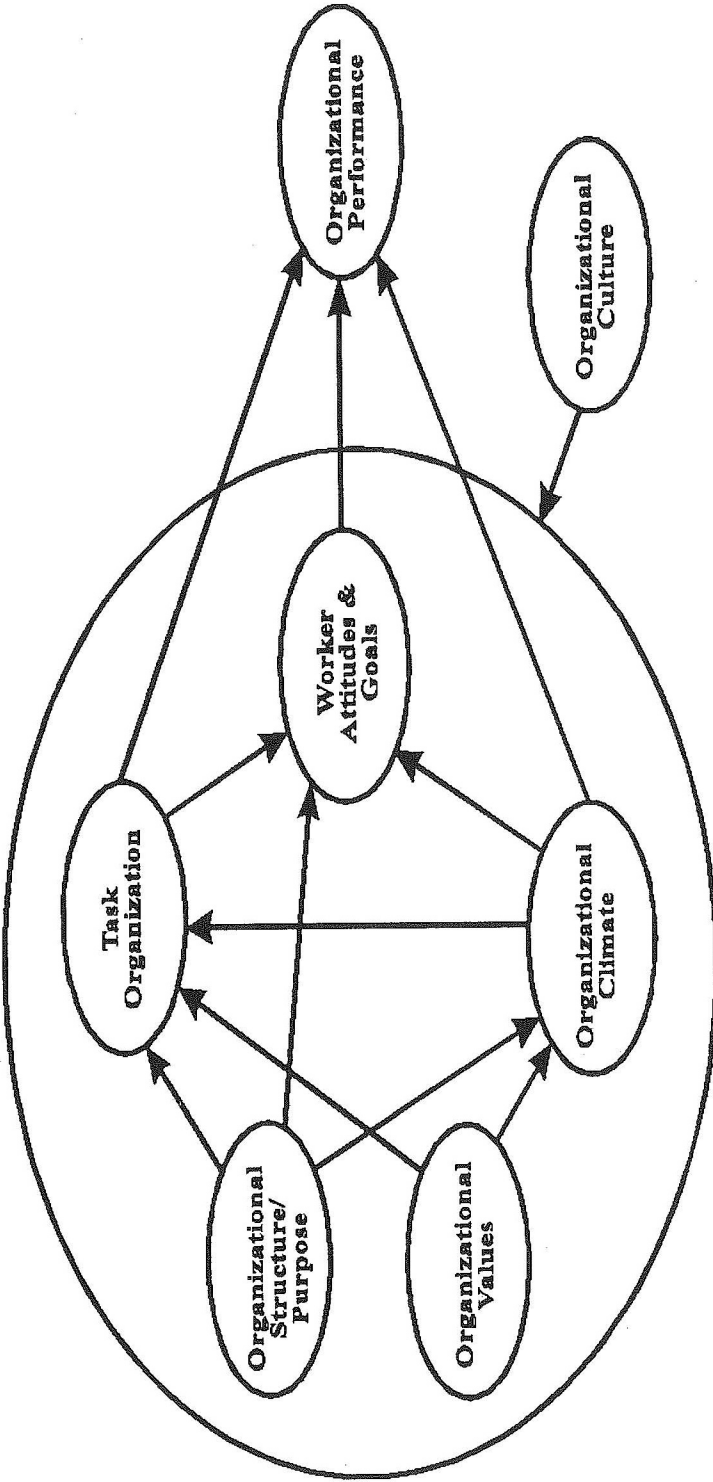


Figure 1: Proposed Model of Variables Influencing Organizational Performance

Instrumentation

The participants in this study responded to a structured interview and a follow-up standardized questionnaire (Cotlar, 1987). Each of these instruments included questions regarding the variables that measured the values, beliefs, attitudes and practices of the organization. Data about the indicators of organizational performance were collected from organizational records. The instruments each took approximately one-half hour to complete. Both instruments consisted of three sections: demographic characteristics of the respondent; descriptors about organizational variables relating to attitudes, beliefs, and practices; and personal preferences with respect to attitudes and ethics about life outside of and within the organization. Description of the observed variables grouped according to the latent variables they are posited to measure are provided in Appendix A. The observed variables are paraphrased from the original questionnaire and interview items used in the study.

Unit of Analysis

Recently, researchers (Heck *et al.*, 1990) have raised a variety of conceptual and methodological issues associated with measuring organizational variables, such as climate or culture, that we needed to consider in testing our model. Basically, these issues focus on whether such variables are in fact organizational properties, and therefore must be measured at the organizational level, or merely properties of the individuals who hold them. While some have argued that organizational culture is an organizational property and must be measured through aggregated data (e.g., Hofstede *et al.*, 1990), we feel that this analysis alone may blur structural and social differentiation that may give rise to "subcultures" within the organization. Models

measured at the individual level actually capture more intra-organization variability in terms of subjects' social background or subunit in which they work. While it is reasonable to examine inter-organization differences in organizational features, an analysis of intra-organization differences suggests the importance of different members' perceptions about these features. Nevertheless, few solutions have emerged, although the developing work on modeling multilevel relationships is promising. To address this conceptual and methodological problem, we undertook separate analyses of our proposed structural model at the individual level and the organizational level to determine if the structure of the models (i.e., number of latent variables, correlation between variables, directions of causality, residuals) would be similar.

Results

The proposed model was tested using LISREL VII (Joreskog and Sorbom, 1988). In the specification of the model, Lomax's (1982) recommendations were followed: parameters relating reference observed variables to underlying constructs were constrained to equal one (1.0), and the corresponding error measurement parameters for those variables were fixed at zero (0.0).

In Tables 1 and 2 (see Appendix B) we present the LISREL parameter estimates of the proposed model. These parameter estimates are indices that represent the simultaneous contribution of each observed and latent variable to the overall model. While these estimates provide important information about the structural components of organizational culture and their relationship to organizational performance, they do not provide any indication of the assessment of the fit of the hypothesized model to the actual data. Since we posited an *a priori* defined model to be tested, our primary

interest is in the model fit. Once the model fit is determined, the significance of the various parameter estimates can be ascertained. Without a significant model fit, however, we would have to reconceptualize our model.

Table 3 (see Appendix B) presents the criteria describing the fit of the model. The coefficient of determination (COD) for the individual level measurement model is 0.84 (.88, organizational level), suggesting a relatively strong relationship between the observed variables and the latent variables included in the model. This coefficient may be considered as a measure of the reliability for the whole measurement model, indicating how well the observed variables jointly serve as instruments for measuring the latent variables. Assessment of fit may also be determined by the goodness-of-fit index (GFI) and the Bentler and Bonnett normed (BBI). It is generally recognized that values close to or above 0.90 indicate a good model fit. For this model the individual level GFI is 0.86 (0.93, organizational level) and the BBI is 0.82 (.92), which indicate a reasonably good model fit. These indices are measures of the relative amount of variance and covariance in the data accounted for by the model under examination.

In contrast, the root mean square (RMS) residual is a measure of the average unexplained variances and covariances in the model. This index should be close to zero if the model fits the data well. For this model, the individual level RMS is 0.08 (0.06, organizational level), similarly indicating that very few of the variances and covariances are left unexplained. The estimates of the direct effects between variables were also tested through t ratios (the ratio of the estimate to its standard error), and all were found to be significant ($p < .01$). We would therefore consider that the proposed model (whether measured at the individual or the organizational level) fairly accurately accounts for the variability observed in the data. Although the parameter estimates from the two analyses can be compared, it should be

remembered that the organizational-level model was tested on a much smaller data set. Nevertheless, the results indicate that the structure of the model is remarkably similar across both levels of analysis even though the actual parameter values are not. The individual-level model appears to capture more of the variability inherent in the data set, probably because it allows for the measurement of greater individual differences. Whether these variables of organizational culture are estimated at the individual level or the organizational level in our study, they still converge on a similar view of those organizational processes that influence performance.

Discussion

In this article we proposed a model about how several issues concerning organizational culture could be summarized and their effects on organizational performance assessed. The model hypothesized that organizational structure/purposes and organizational values affected organizational climate and task organization. In turn, these mediating variables (along with organizational values) affect the individual attitudes and ethics of organizational members. Finally, the group of variables loosely comprising organizational culture affects performance. The structure of the model is similar whether measured at the individual or the organizational level. We are now able to assess more thoroughly the significance of the empirical validation of our proposed model. In this section we examine the degree to which our results are consistent with other research findings and offer some thoughts on the implications of these findings for improving organizational performance.

Most importantly, the model of organizational culture supported in this research establishes specific factors that managers can manipulate at the organizational level and estimated their relative effects on

organizational performance. The relatively high factor loadings of observed variables (i.e., parameter estimates) for organizational structure/purposes, organizational values, task organization and performance, as well as the coefficient of determination for the entire model, suggest that the observed variables are reliable indicators of the latent domains. It appears, therefore, that we have succeeded in our first research purpose to develop some measures of organizational culture.

"[S]ince...observable variables...are subject to leadership influence...an organization can improve performance by attempting to manage particular aspects of its culture."

Additionally, we have attended to the problem of causal ordering of the variables thought to comprise organizational culture (our second purpose), a problem that researchers have identified as a major limitation of previous research in this area. The model, therefore, provides a "snapshot" of the simultaneous contribution of observed and latent variables to the overall prediction of high or low organizational performance, and as such, provides some information about how processes of socially constructed realities may develop within organizations. For example, the model suggests these processes develop from organizational structure and purposes along with the organizational values of the leaders or founders.

The substantial direct effects between latent variables indicate that our original hypotheses were supported by the data (i.e., H1 to H6). To illustrate, we discovered large direct effects of organizational structure/purposes on the task organization processes (.78 & .71,

JOURNAL OF BUSINESS AND MANAGEMENT

individual and organizational). This suggests that how the members of the organization view its overall purpose as manufacturing or service (X3), how it is structured in terms of complexity of administrative hierarchy (X2), and its resource and communication flow patterns (X1), together are directly related to the manner in which the organization is organized to achieve its production goals. The latent variable of task organization also exercises a strong direct effect on the organization's productivity (.71 & .70). The most important contributors to this domain are the types of methods used to select new employees (Y1), the quality of methods used to evaluate employee performance (Y2), and the criteria and practices for remuneration (Y3). These variables indicate that selection practices, monitoring of performance, and incentives for performance are strongly related to organizational performance. Of secondary importance to predicting performance outcomes are decision-making practices (Y6) and providing opportunities for employees to pursue interesting and challenging work (Y7). The sum of these variables suggest a view of leadership that is oriented toward employees and is evaluation-based.

As expected, a substantial direct effect was discovered between organizational values and employees' perceptions about the climate of the organization in which they work (.88 & .83). All of the observed variables load very strongly on organizational values (.85 or above). In particular, placing emphasis on risk taking (X4), safety in the workplace (X5), productivity and efficiency (X6, X7), rapid response to marketing opportunities and image building (X8), and creating new outputs and improving existing ones (X9) are strongly related to employees' perceptions about their work environment. This latter construct is dominated by how employees view their organization's primary purpose (Y8), the quality of social interactions and perceived value placed on the individual members (Y10), employees' perceptions of the organization's use of available technology and adoption of new

ideas (Y11). In turn, climate shows a moderate direct effect (.34 & .33) on performance outcomes.

A final latent domain that must be considered in conceptualizing organizational culture is the attitudes, beliefs, and ethics of the workers who comprise the organization. The results of the study suggests that these attitudes may be strongly predicted from organizational values (.78 & .71) and moderately predicted from organizational climate (.38 & .39) and task organization (.30 & .34). In particular, this domain concerns a variety of attitudes and ethical beliefs employees hold about life within and outside of the organization. Our results, therefore, support Hofstede *et al.* (1990), who suggest that organizations tend to recruit people who fit with a particular set of values; that is, Hofstede *et al.* note that organizations within a specific country tend to differ more according to daily practices than by their values and beliefs. In turn, this latent domain exercises a strong direct effect on explaining organizational performance (.93 & .87).

Implications for Leadership of Organizations

The fit of the measurement model (i.e., the relationship between observed variables and latent factors) to the data supports the assertion that organizational culture is an interconnected web of processes which may be quantified (Hofstede *et al.*, 1990), and which may be to some extent under the direction of organizational leadership. With respect to our third research purpose, then, the overall fit of the structural model (relationships among latent factors) further implies that the information contained in the latent variables is useful in explaining an organization's performance at higher or lower levels. For example, the "shared vision" variables of risk taking and experimentation noted by Serge (1990) as critical to the development of a "learning" organization, are both prominent in defining

JOURNAL OF BUSINESS AND MANAGEMENT

performance levels in this study. The results of the study are therefore consistent with previous research that has suggested that variables associated with organizational culture are predictive of organizational performance (Peters and Waterman, 1982). As Bolman and Deal (1984) argue, effective organizations share a variety of attributes involving their cultures.

The results imply, therefore, that since the kinds of observable variables measured in this study are subject to leadership influence (e.g., methods of recruitment and retention, evaluation, decision-making processes, attitudes toward employees), an organization can improve performance by attempting to manage particular aspects of its culture. For example, within the domain of task organization, personnel management practices including recruitment procedures, methods of evaluation, and salary compensation are strongly associated with levels of organizational performance. Similarly, the high factor loadings for the observed variables within the domain of organizational values indicate that these variables are predictive of resulting levels of productivity. The observed variables include, for example, attitudes about risk taking and acceptance of occasional failure, an emphasis on productivity and efficiency, attitudes about marketing procedures, and strategies for research and development.

As Tierney (1988) notes, therefore, managers can utilize the concept of organizational culture to help solve specific organizational problems. As Tierney suggests, and our results support, an organization's culture is reflected in what is done, how it is done, and who is involved in these processes. Our findings therefore are similar to previous research that has suggested that the congruence of variables of organizational culture, that is, its structure and purposes, strategies for organizing work, climate, and problem solving methods, is predictive of high-performing companies. Specifically, the results suggest that an

accumulation of information about the variables comprising culture helps define resulting levels of performance outcomes.

Efforts directed toward the determination of the particular profile of organizational culture present in an organization may provide information about options that are available in managing the determinant variables. By investigating the variables identified in this study further, it may be possible to explain why some organizations are not performing at desired levels. The concepts presented in this research study represent an initial attempt to describe quantitatively various aspects of culture identified in previous theory and research on organizations. Expanding on this rudimentary beginning might be a profitable goal for future research.

JOURNAL OF BUSINESS AND MANAGEMENT

Appendix A: Observed Variables Included in the Model Grouped by the Latent Variables They Measure

Organizational Structure (OS): This construct reflects the structure and operational processes of an organization. As conceived in this study, the construct includes the relative size and complexity of the administrative hierarchy, as well as whether the organization is primarily a manufacturing or service-oriented one. The construct is measured by the complexity evident in the organization's resource and communication flow patterns (X1: Complexity), as measured by the extent of breadth and depth evident in the organization's hierarchy (X2: Sophistication), and the relative focus of the organization with respect to its output (X3: Product/Service Line).

Organizational Values (OV): This construct or latent variable (the terms can be used interchangeably) describes the principles, ideologies, and values that an organization holds as desirable in the practice of serving its clients. It is measured by the emphasis the organization places on risk-taking, and its acceptance of occasional failure as a result (X4: Risk), the emphasis the organization places on protecting its employees in the workplace (X5: Safety), the emphasis the organization places on productivity and efficiency (X6: Efficiency), on integrity and orderliness of performance (X7: Professionalism), on rapid response to expanding market opportunities and public image (X8: Marketing & Image), and on creating new outputs and improving existing ones (X9: Research & Development).

Task Organization (TO): This construct represents the typical strategies, policies, and actions used by the organization in achieving its production goals. The construct is measured by the diversity and intensity of methods used in selecting new employees (Y1: Selection), the quality and diversity of methods used in judging employee performance (Y2: Evaluation), the criteria and practices for

remuneration (Y3: Compensation), the extent that members are dedicated to performing their organizational roles (Y4: Performance), the extent that managers take personal interest in the welfare and performance of their employees (Y5: Mentoring) and utilize effective methods of selecting decisionmaking alternatives (Y6: Decision Making), and the extent that employees have opportunities to pursue interesting and challenging work (Y7: Challenge).

Organizational Climate (OC): This construct is described by the perceptions of workers about a variety of conditions concerning the work environment. It is measured by the awareness among employees of the nature of the organization's output as a blend of product and service (Y8: Industry Role), the opinion among employees of the ease with which communications and resources are transmitted among the organization's elements (Y9: Flow Mechanisms), the perceptions among employees of the quality of interactions and recognition within and across organizational levels, as well as how the needs of individuals are a concern to the organization (Y10: Organizational Life), the awareness among employees of the organization's use of available technology and adoption of new ideas (Y11: Technology), and the perceptions of how much the organization exerts pressures on individuals, yet is sensitive to the effect of stress (Y12: Stress).

Employee Attitudes/Goals (AT): This construct reflects the beliefs of employees about a variety of issues related to social, political and organizational concerns, some of which may be influenced by the organization, and some of which may be separately determined. In the present study, it is measured by the extent that employees resent recent organizational policies in acceptance of minorities (Y13: Prejudice/Tolerance), regard nationalism as important (Y14: Nationalism), regard common courtesy and punctuality as important work attributes (Y15: Social Amenities), regard dedication and commitment to the organization as important (Y16: Commitment), and

JOURNAL OF BUSINESS AND MANAGEMENT

perceive that management involves them in the decision-making process (Y17: Involvement).

Organizational Performance (OP): This construct reflects the extent of goal achievement in the organization's workforce, capital, marketing, and fiscal matters. It is measured by the extent of sales fulfillment, as measured by gross revenue relative to the value of the product (or service) line (Y18: Volume), the extent of penetration into the organization's potential customer base (Y19: Share), the extent of revenue surplus over expense resulting from organizational operations (Y20: Profit), and the extent of surplus in relation to risk, as measured by gross profit relative to assets and equity invested (Y21: Return).

APPENDIX B

Variable	Construct	Level of Analysis	
		Individual	Organizational
X1	OS	.90	.83
X2	OS	.87	.79
X3	OS	1.00	1.00
X4	OV	.96	.93
X5	OV	1.00	1.00
X6	OV	.95	.84
X7	OV	.85	.72
X8	OV	.96	.84
X9	OV	.88	.79
Y1	TO	.90	.81
Y2	TO	.72	.67
Y3	TO	.70	.79
Y4	TO	.41	.52
Y5	TO	.36	.37
Y6	TO	.45	.32
Y7	TO	.45	.54
Y8	OC	.90	.81
Y9	OC	.33	.27
Y10	OC	.94	.89
Y11	OC	.57	.63
Y12	OC	.30	.33
Y13	AT	.90	.87
Y14	AT	.24	.31
Y15	AT	.20	.18
Y16	AT	.22	.25
Y17	AT	.26	.28
Y18	OP	.90	.92
Y19	OP	.35	.43
Y20	OP	.90	.80
Y21	OP	.93	.84

See Appendix A for descriptions of constructs and variables.

TABLE 2

Parameter Estimates for Structural Equations of Constructs

	TO	OC	AT	OP
OS	.78	.50	--	--
	(.71)	(.43)		
OV	.23	.88	.78	--
	(.27)	(.83)	(.71)	
TO	--	.67	.30	.71
		(.63)	(.34)	(.70)
OC	--	--	.38	.34
	--	--	(.39)	(.33)
AT	--	--	--	.93
				(.87)

Values in parentheses are for organizational level

TABLE 3

Measures of Model Fit

Coefficient of Determination (COD)	0.84
	(0.88)
Goodness of Fit Index (GFI)	0.86
	(0.93)
Bentler & Bonnett Normed Index (BBI)	0.82
	(0.92)
Root Mean Square Residual (RMS)	0.08
	(0.06)
Values in parentheses are for organizational level	

REFERENCES

- Allaire, Y. and M. E. Firsirotu, "Theories of Organizational Culture," *Organizational Studies*, Vol. 5, No. 3 (1984), pp. 193-226.
- Amsa, P. "Organizational Culture and Work Group Behaviour: An Empirical Study," *Journal of Management Studies*, Vol. 23, No. 3 (1986), pp. 347-362.
- Bolman, L. and T. Deal, *Modern Approaches to Understanding and Managing Organizations*. San Francisco: Jossey-Bass (1984).
- Cotlar, M., *Profiles of Organizations*. College of Business Administration, University of Hawaii at Manoa (1987).
- Deal, T. and A. Kennedy, *Corporate Cultures*. Reading, MA: Addison-Wesley (1982).
- Dennison, D., "Bringing Corporate Culture to the Bottom Line." *Organizational Dynamics* Vol. 13, No. 2 (1984), pp. 5-22.
- Fuller, B., K. Wood, T. Rapaport, and S. Dornbusch, "The Organizational Context of Individual Efficacy," *Review of Educational Research*, Vol. 52, No. 1 (1982), pp. 7-30.
- Heck, R.H., and G. A. Marcoulides, "Examining the Generalizability of Administrative Personnel Allocation Decisions," *The Urban Review*, Vol. 21, No. 1 (1989), pp. 51-62.
- Heck, R.H., T. J. Larsen, and G. A. Marcoulides, "Instructional Leadership and School Achievement: Validation of a Causal Model," *Educational Administration Quarterly*, Vol. 25, No. 2 (1990), pp. 94-125.

JOURNAL OF BUSINESS AND MANAGEMENT

- Hofstede, G., "The Usefulness of the Organizational Culture Concept," *Journal of Management Studies*, Vol. 23, No. 3 (1986), pp. 253-258.
- Hofstede, G., B. Neuijen, D. D. Ohayv, and G. Sanders, "Measuring Organizational Cultures: A Qualitative and Quantitative Study Across Twenty Cases," *Administrative Science Quarterly*, Vol. 35 (1990), pp. 286-316.
- Joreskog, K.G., and D. Sorbom, *LISREL VII*, Mooreville, IN: Scientific Software (1988).
- Lomax, R. G., "A Guide to Lisrel-Type Structural Equation Modeling," *Behavior Research Methods & Instrumentation*, Vol. 1.4, No. 1 (1982), pp. 1-8.
- Marcoulides, G.A., "Structural Equation Modelling Techniques for Scientific Research," *Journal of Business and Society*, Vol. 2, No. 2 (1989), pp. 130-138.
- Owens, R., *Organizational Behavior in Education*. Englewood Cliffs, NJ: Prentice-Hall (1987).
- Peters, T. and R. Waterman, *In Search of Excellence: Lessons from America's Best-Run Companies*. NY: Harper & Row (1982).
- Saffold, G.S., "Culture Traits, Strength, and Organizational Performance: Moving Beyond 'Strong' Culture," *Academy of Management Review*, Vol. 13, No. 4 (1988), pp. 546-558.
- Schein, E. H., "Organizational Culture," *American Psychologist*, Vol. 45, No. 2 (1990), pp. 109-119.
- Tierney, W., "Organizational Culture in Higher Education," *Journal of Higher Education*, Vol. 59, No. 1 (1988), pp. 2-21.

Thompson, J., *Organizations in Action*. New York: McGraw-Hill (1967).

Trice, H.M., and J. M. Beyer, "Studying Organizational Cultures Through Rites and Ceremonials," *Academy of Management Review*, Vol. 9, No. 4 (1984), pp. 653-699.

Uttal, B., "The Corporate Culture Vultures," *Fortune* (October 1983), pp. 66-72.