Article

Construction of a Reliable and Valid Scale for Measuring Organizational Culture

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Abstract

A number of survey instruments measuring organizational culture can be found in the literature. Many of these have been reported to suffer from construct and methodology related weaknesses. Specifically, these have been found to either have insufficient theoretical basis or result in a narrow depiction of the multidimensional construct of organizational culture. In this article, the authors report the construction of a scale for measuring organizational culture that starts with a sound theoretical model to identify dimensions that comprehensively cover the content domain of organizational culture. Exploratory factor analysis has been used to extract seven factors. When interpreted, these factors align well with the starting theoretical model. The scale thus developed has been found to be internally consistent and demonstrates construct validity.

Keywords

Organizational culture, construction of scale, dimensions of culture, exploratory factor analysis

Introduction

Anyone who has delved into the literature on organizational culture is likely to draw one common conclusion—that the concept of culture has been subjected to a number of interpretations, not all of which are complementary or convergent. Whether this is a result of the diverse and divergent research goals pursued by different culture scholars, and therefore of their different assumptions, or if this is reflective of the complexity of the concept and, in part, our inability to fully comprehend it, can be a subject of debate. Francesco and Gold (2005) contend that the complexity of the culture concept makes it impossible for researchers to come up with a single universal definition of the phenomenon. In his book *Organizational Culture and Climate*, Udai Pareek (2006) concurs that various studies on organizational culture have used various definitions and terminology and there does not seem any common understanding about such terms. In fact, in their study of the culture of 20 organizations across

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two nations, Hofstede et al. (1990) maintain that there is no consensus among academics about the definition of culture.

This diversity in the way organizational culture construct is understood, interpreted and applied is especially striking if one samples the various survey instruments used in the literature for measuring culture. No two instruments are alike. No two instruments share a common theoretical basis. A number of them lack methodological and psychometric rigour. And those that do not, seem to result in a rather narrow view of culture. In this article we review a sample of the literature on survey studies of organizational culture in order to underscore the challenges that researchers face. We then report the construction of a scale for measuring organizational culture that has a sound theoretical basis while ensuring that justice is done to capture the essence of the concept of culture.

Organizational Culture

There are a number of perspectives and definitions for organizational culture in the literature. According to Pettigrew (1979, p. 574), organizational culture is 'the system of ... publicly and collectively accepted meanings operating for a given group at a given time ... (which) interprets a people's own situation to themselves'. Schein (1985, p. 9) has defined organizational culture as:

> a pattern of basic assumptions invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

Schwartz and Davis (1981, p. 33), contend that organizational culture is 'a pattern of beliefs and expectations shared by the organization's members' and it can make 'norms that powerfully shape the behaviour of individuals and groups in organizations'. Pareek (2006, p. 4) defines culture as 'the cumulative preference for some states of life over others (values), the predispositions concerning responses towards several significant issues and phenomena (attitudes), organized ways of filling time in relation to certain affairs (rituals), and ways of promoting desired behaviours and preventing undesirable ones (sanctions)'. According to Srivastava and Panda (2003), culture consists of two concurrent and interacting systems—the ideational system that includes beliefs, mores, norms and values of organization members; and the behavioural system that includes acceptable and desirable ways of responding to organizational contexts.

In spite of the multiple conceptions and definitions, the common thread running through these suggest that organizational culture is characterized by a system of shared beliefs, assumptions, values, norms, perspectives, behaviours and practices that have resulted from the need of a group of people to make meaning of their world and their own selves in relation to it. It is both a state and a process of collective social construction of meaning.

In its early avatar, the culture perspective as applied to organizations was meant to represent an ontological alternative to the more prevalent positivist–reductionist approach taken by most mainstream studies of organizational phenomena. The early promise held by the culture perspective, however, fell short of expectations in the years that followed its introduction as a formal subject (Denison, 1996). While the concept seemed to make more sense to practitioners and managers who seemed to have

been struck by the possible potential of culture as a 'driver' of organizational performance, researchers studying culture within the organizational context faced a number of epistemic challenges that were perhaps reflective of the complex nature of the culture concept. The field, as a result, has witnessed very diverse developments and moved in a number of directions that, although not completely disparate, are certainly distinct.

Much of the diversity of direction taken by different culture researchers can thus be traced to a fundamental question—what ends does one intend the research on culture to serve? On one hand, a number of authors have taken a functionalist approach with the aim to equipping organizations and their management with tools to manage organizational outcomes such as managerial effectiveness, employee retention and motivation and financial performance (Deal and Kennedy, 1982; Siehl and Martin, 1981). One criticism that these authors have encountered often is that contrary to the simplistic and monolithic view of culture adopted by them, the concept is believed to be much more complex and multidimensional. On the other hand, there are some authors who believe that culture is what an organization is and the two cannot be separated. To these authors, culture is not a variable but a 'root metaphor' (Smircich, 1983). Many of these authors study culture with the objective of understanding how it forms and transmits. They wish to understand the process of social construction and co-creation.

As a result, we find diversity in the research methods used as well as in the research agenda pursued by different culture researchers.

Measuring Culture—Epistemological Challenges

In the initial years culture researchers approached organizations with a view to observe, record and understand unique social contexts qualitatively. Their objective was to understand how these settings evolved. What was emphasized by these researchers was that each setting was unique; any attempt at making comparisons across organizations or at categorizing or generalizing would challenge the ontological moorings of culture.

According to Denison (1996), this initial approach and methodology resulted in some very significant contributions in the areas of socialization (Louis, 1980), symbolism (Alvesson and Berg, 1992; Pondy et al., 1983) and change (Frost et al., 1985, 1991). However, despite these fresh perspectives, culture research seemed to meander in no specific direction. Perhaps to invigorate the research efforts and enhance the scope of culture research, we have increasingly seen the employment of quantitative and survey methods in an attempt to compare findings, and curiously, even generalize those. Some examples are: Hofstede et al. (1990), Klein et al. (1995), Migliore et al. (1992), O'Reilly et al. (1991) and Schwartz (1994) among others. Most of these studies prescribed to the notion that culture is something that an organization has, as against something that an organization is.

This departure from the convention has, of course, attracted enough criticism from within the ranks. Traditional culture theorists have argued that culture is a deeper and a more complex concept to lend itself to measurement through surveys. There seems to be general consensus amongst culture researchers about the validity of Schein's (1985) multilayered model of culture. Researchers agree that survey methods and quantitative data capture are more amenable to measuring the shallower manifestations of culture (Rousseau, 1990)—observable aspects such as patterns of behaviour, practices, norms and attitudes. These methods may fail to capture the deeper aspects of culture such as deeply held values,

beliefs and assumptions. For these levels, culture researchers admit that more suitable methods would be observation, in-depth interviews, and self-analysis by organizational members (Ott, 1989; Schein, 1990).

However, what needs to be asked is whether the measured aspects of culture reflect the deeper aspects such as underlying assumptions and deeper values shared by organization members. In his commentary, Schein (2000) argues that questionnaire data more appropriately measure organizational climate than culture. Notwithstanding his argument, however, questionnaire-based data of shallower levels of organizational life may well reflect the underlying deeper aspects of culture, provided such a correlation is verified. This is certainly a possibility especially if it is a strong culture (Deal and Kennedy, 1982).

While the debate on the validity of using questionnaire methods for measuring culture continues, there are two comments that invite consideration.

First, in his bemoaning the fact that not much follow up has been done in the area of value orientations research pioneered by Kluckhohn and Strodtbeck (1961), and in an attempt to draw out a broader research scope for culture, Schein asserts that no questionnaire, no matter how well designed, could even come close to measuring some of the dimensions covered in this agenda. Interestingly, in the much cited work of Kluckhohn and Strodtbeck (1961) on value orientations of different cultural groups, the two used a 16-item questionnaire to collect data, albeit on a nominal scale. The instrument consisted of 16 situations (or, stories) with associated questions.

This is not to say that all questionnaires used for measuring culture are necessarily valid and that they can indeed measure the deeper levels. What can be inferred, though, is that questionnaire measures of culture have proved to be useful in many cases. Examples are Hofstede (1980) and Trompenaars and Hampden-Turner (1997).

The second observation that begs a mention is that research in the area of establishing linkages between values and attitudes, and between attitudes and behaviour has concluded that these linkages are not strong. In their research on such linkages, Dreezens et al. (2008) have concluded that values are not always predictive of attitudes and behaviour. This conclusion casts some doubts on the relevance of measuring attitudes, behaviours and perceptions in reflecting deeper held values. In other words, culture researchers using quantitative methods must exercise caution in reflecting upon and verifying whether the aspects measured by them really represent aspects of culture.

Measuring Culture—Operationalization Challenges

If there are multiple ways in which the concept of culture has been used in the literature depending on the ends that researchers want to achieve, then it is hardly surprising that there would be multiple ways in which the construct would be operationalized for measurement. Ashkanasy et al. (2000) did a review of the literature on questionnaire measures of organizational culture that were published between 1975 and 1992. They considered a set of 18 questionnaires and attempted to compare these in order to determine common bases for their classification into different types. While they did an admirable job, these questionnaires hardly shared anything in common except that a majority used a Likert-type interval scale for capturing responses. The attributes measured ranged from values to behaviours to beliefs. Only five of the reviewed instruments had been tested for reliability and construct validity. The authors' discussion on the instruments reveals multiple conceptualizations of culture that have very different and insubstantial theoretical bases.

Table 1. Organizational Culture Dimensions Considered by Various Studies [Reproduced from Wilderom et al. (2000)]

Reference	Organizational Culture Dimensions
Denison (1990)	(a) Involvement, (b) Consistency, (c) Adaptability, (d) Mission
Rousseau (1990)	(a) Team or satisfaction-oriented norms, (b) Security-oriented norms
Calori and Sarnin (1991)	Work-related values (12 dimensions) and management practices (17 dimensions)
Gordon and DiTomaso (1992)	(a) Strength of culture, (b) Adaptability, (c) Stability
Kotter and Heskett (1992)	(a) Strength of culture, (b) Strategy culture fit, (c) Adaptability
Marcoulides and Heck (1993)	(a) Organizational structure, (b) Organizational values, (c) Task organization, (d) Organizational climate, (e) Employee attitudes
Denison and Mishra (1995)	(a) Involvement, (b) Consistency, (c) Adaptability, (d) Mission
Petty et al. (1995)	(a) Teamwork, (b) Trust and credibility, (c) Performance improvement and common goals, (d) Organizational functioning
Koene (1996)	(a) Process vs. results orientation, (b) Employee vs. job orientation, (c) Professional vs. parochial orientation, (d) Open vs. closed culture, (d) Tight vs. loose control, (f) Normative vs. pragmatic

Source: Authors' findings.

In another study, Wilderom et al. (2000) undertook a detailed review of 10 empirical research studies that explored the linkage between organizational culture and organizational effectiveness/performance. In this case also we find that the way culture has been defined and operationalized in each of these studies varies greatly.

It is clear from Table 1 that there are many different ways in which the culture construct has been defined and measured by different authors. According to Wilderom et al. (2000), 'this variety of cultural characterizations ... is striking and reflects the equivocal nature of the construct of organizational culture'. Weber (2000) even goes on to say that 'due to the subjective and perceptual nature of culture, there may be an infinite variety of cultural dimensions'. Going by the literature on culture surveys and the large number of different questionnaires that have been used, he may well be justified in saying so. There exist as many sets of dimensions of culture as the number of different instruments. Further, there is no congruence among these.

As noted by Ashkanasy et al. (2000) in their review of literature, the organizational attributes measured by the instruments studied by Wilderom et al. (2000) are as various as the culture constructs and their dimensions. The items cover attitudes, norms, structure and processes, as also evaluation of organizational measures and actions. Further, given that the essence of culture lies in the process of the members' social construction of meanings and interpretations, one may legitimately question if these attributes truly reflect culture. We had noted earlier that culture researchers are bound to go different ways on their understanding and treatment of culture due to the difference in their agenda and goals. What is revealing, though, is that even when culture is treated as an internal organizational variable there is no consensus on its operationalization.

The other issue of relevance is the question of replicability of the scales across different organizations, industries and time. There are many instances of an existing instrument being retested for reliability or validity, or being modified or extended at a later date purely on the basis of its inadequacy in the first

place or due to problems of replicability. In his dissertation study, Koene (1996) used Hofstede et al.'s (1990) scale for measuring culture but failed to extract all the original dimensions.

Finally, according to Schein (2000), any of us intending to study organizational culture would perhaps start with some pre-existing mental conception of what we are seeking, which in turn will likely be shaped by our own predilection. Thus, when we set out to decide the content of our questionnaires we are forced to enumerate a finite set of dimensions and items and in the process may preclude factors that either do not occur to us or simply do not seem critical enough to be counted. This confines our 'domain of inquiry'. To add to this, in order to ensure psychometric robustness we often end up pruning the items further. As a result, the final questionnaire ends up containing a limited number of items that are supported by a narrow set of underlying dimensions. This, of course, does little justice to the construct itself which we all believe is much more comprehensive, multi-layered and multi-dimensional.

Our Study: Developing a Reliable and Valid Scale for Measuring Organizational Culture

The rest of the article describes the development of a new scale for measuring organizational culture by the authors. This scale was developed as a part of a bigger study aimed at linking organizational culture to organizational innovativeness, both of which are to be measured using separate scales. In developing the scale our endeavour was to be theoretically and methodologically sound. The respondent data was tested for reliability and sampling adequacy. Exploratory factor analysis was performed using SPSS to determine the factor structure.

Theoretical Framework and Generating the Item Pool

The question of where to start and how to capture the content of organizational culture while developing a questionnaire would be a critical concern for any researcher intending to use the survey method. This choice cannot be arbitrary; it must have adequate theoretical basis.

For our own purpose we have used the work of the anthropologists Kluckhohn and Strodtbeck (1961). In his commentary to the *Handbook of Organizational Culture and Climate* (edited by Ashkanasy et al., 2000), Schein rues the apparent neglect by culture researchers of Kluckhohn and Strodtbeck's work and the fact that it has not led to much further research. Their theory proposed that all societies seek to answer five universal and fundamental value-based questions—related to human nature, their relation with their surroundings, the nature of human activity, their relation with each other and their temporal orientation—and they do so in finite number of ways. While all solutions or answers to these questions are present in all societies, each society has its own preferred set of solutions to these questions. These solutions reflect their values and form the basis for cultural differences across societies.

Echoing a similar view, Pareek (2006) suggests that the five fundamental concerns facing all human societies, as enunciated by Kluckhohn and Strodtbeck (1961) may be true for organizational members too, and might be a comprehensive way to start looking at the scope of organizational culture.

These fundamental concerns facing all societies are summarized in Table 2, along with the possible range of outcomes both in the societal as well as organizational context. The culture dimensions corresponding to each concern have been included in the last column.

Table 2. Kluckhohn and Strodtbeck (1961) Model Applied to Organizational Context

Concerns/Orientations	Societal Context	Organizational Context	Culture Dimension
Human nature: What is the basic nature of people?	Ranging from good to evil	People can be trusted/ cannot be trusted	Trust Openness Constructive dissent
Man-nature relationship: What relationship does man share with nature?	Subordinated to nature; in harmony with nature; dominant over nature	Do situations control people? Human initiative, risk-taking behaviour	Action orientation Result orientation Experimentation
Temporal orientation: How do people relate to time?	Ranging from past to present to future orientation	Preserving past traditions; seeking new things to replace the old	Experimentation Risk taking
Activity: What is the best mode of activity?	From 'being' to 'becoming' to 'doing'	Result or achievement orientation	Result orientation
Social relations: What is the best form of social organization?	Ranging from hierarchical to individual centric	Emphasis on hierarchy and control versus consensus, versus autonomy	Participation Openness Constructive dissent Individualism

Source: Authors' findings.

Based on this model, we identified seven dimensions that we thought would adequately characterize organizational culture. These are given below.

1. Trust
2. Openness
3. Freedom to experiment
4. Individualism (versus collectivism)
5. Attitude towards constructive dissent
6. Participation
7. Result orientation.

We started with 10–12 items for each dimension, thus generating an initial pool of 76 items. These were independently reviewed by three experts—two from academia and one from the industry—for content validation, and screening for ambiguity, redundancy and lack of clarity. This process resulted in 39 items being finally retained with 5–6 items under each of the seven dimensions. In the final list, a number of items (about 50 per cent) had reverse-coding to avoid response set bias. Each item was a statement reflecting the respondents' behaviour, beliefs, evaluation or judgement. A 5-point interval scale was used, with 1 as 'strongly disagree' and 5 as 'strongly agree'.

Data Collection

These items were electronically sent to 390 potential respondents. For this round of our study since we were constructing a scale that would be further used for the parent study, these potential respondents

were identified on a convenience basis. However, we ensured that there was substantial diversity in the organizational level, industry and size and ownership of the organizations to which the respondents belonged. We received back a total of 109 responses of which 17 had to be discarded because of incomplete data.

Analysis of Data

IBM SPSS software was used for analysing the data. In a 5-point scale, in order to ensure adequate spread across all responses, any item with a standard deviation of less than 0.66 would have been weeded out. In this case, all items had standard deviation of greater than 0.66 (0.71–1.32).

The data was subjected to several iterative cycles of exploratory factor analysis. In each iteration, we examined the anti-image correlations. The item that had the least anti-image correlation was discarded and the process was repeated with the remaining items. With each iteration we checked the Kaiser–Meyer–Olkin (KMO) measure; our goal was to improve the KMO measure to at least 0.7.

We used the principal component analysis method of factor extraction. For rotation we used Varimax method with Kaiser Normalization. The factor correlation matrix showed that the inter-factor correlations were insignificant, and hence the use of Varimax method for rotation.

In this process, a total of 16 items were dropped to finally retain 23 items. The items were dropped primarily to strengthen the factor structure.

Sampling Adequacy

The KMO measure for these 23 items was 0.785 (see Table 3). The Bartlett's test of sphericity showed negligible significance level. Both these measures confirmed that the sample was adequate for performing exploratory factor analysis.

Factor Structure

With the retained set of 23 items, a total of eight factors explained 69.56 per cent of the cumulative variance. The Rotated Component Matrix was used to classify items under the 8 factors

Table 3. KMO and Bartlett's Test

Kaiser–Meyer–Olkin measure of sampling adequacy		0.785
Bartlett's test of sphericity	Approximately chi-square	746.138
	df	253
	Significance	0.000

Source: Authors' findings.

Table 4. Rotated Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
VAR00032	0.839							
VAR00031	0.798							
VAR00015	0.709							
VAR00010	0.505		0.434					
VAR00001		0.752						
VAR00011		0.594						
VAR00014		0.463						
VAR00013			0.796					
VAR00027	0.442		0.535					
VAR00016			0.509					–0.500
VAR00030			0.495					
VAR00036				0.770				
VAR00038				0.732				
VAR00018				–0.500				
VAR00006					0.841			
VAR00003					0.833			
VAR00004		0.410			0.414			
VAR00007						0.723		
VAR00008						0.709		
VAR00025							0.804	
VAR00026							0.666	
VAR00009				0.433			0.490	
VAR00028								0.717

Source: Authors' findings.

Notes: (i) Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
(ii) [a]Rotation converged in 11 iterations.

(see Table 4). Coefficients with absolute value below 0.4 were suppressed to get a matrix with cleaner factor loadings.

Although a total of eight factors explained 69.56 per cent of the cumulative variance, which is adequate, when we tried to interpret these factors with the help of the items that loaded on to these, we found that only seven factors accounted for 96 per cent of the items and the remaining 1 item had a relatively strong correlation (0.61) with one of the seven factors. So, finally only seven factors were retained.

Interpretation of Factors

The extracted factors, the items under each and the interpreted name for each are presented in Table 5. Although one gets a fair idea of what each factor entails by scanning the items, our interpretation of the factors is summarized here.

Table 5. Extracted Factors and Their Interpretation

	Participation
Item 31	Everybody is encouraged to participate in meetings
Item 32	In meetings we seek to understand everyone's viewpoint
Item 15	Members are prepared to challenge assumptions of the group
Item 10	Speaking out the truth, even if it is bitter, is encouraged
	Respect for the individual
Item 1	My boss trusts me to deliver on his/her expectations
Item 11	My supervisor believes that good ideas and solutions to problems can come from any member of the group
Item 14	My organization makes the best possible use of my intellectual capacity
	Attitude to risk
Item 13	If individuals in my organization make an error they will usually try to cover it up
Item 27	There are 'holy cows' that seldom get questioned
Item 16	Most members believe in maintaining status quo
Item 30	In our meetings most decisions are expected to be finally taken by the boss
Item 28	If I do not agree with my supervisor I feel comfortable voicing my views
	Action orientation
Item 36	In this organization a lot of discussions happen but very little seems to get done
Item 38	A number of projects are initiated with gusto and enthusiasm but they don't seem to get anywhere
Item 18	We believe in the precept—'nothing ventured, nothing gained'
	Trust
Item 6	Most people in my organization can be relied upon to keep their promises
Item 3	I believe that my colleagues are well-intentioned individuals
Item 4	I believe that my boss will treat me fairly while appraising my performance
	Openness
Item 7	The top management believes in communicating important news and events with organizational members across all levels
Item 8	Most senior members of my organization are approachable/accessible
	Power distance
Item 25	I believe that work related confrontations among members can lead to poorer group performance
Item 26	A confronting member in the group can stand to lose his/her social standing
Item 9	In group meetings most of the talking is done by the group supervisor

Source: Authors' findings.

1. Participation: organizational members are encouraged to participate, everyone's views are sought and members speak out their mind without apprehension.
2. Respect for the individual: egalitarianism; sense of equality.
3. Attitude to risk: do members tend to play safe, hide mistakes and maintain status quo?
4. Action orientation: do members direct their efforts in achieving results? Do they share the need for achievement of organizational goals?

5. Trust: what is the level of implicit trust among members?
6. Openness: extent of sharing and span of communication, approachability of seniors.
7. Power distance: hierarchy-based exercise of power; members avoid confrontation, especially with superiors.

Reliability Testing

The reduced set of 23 items was tested for reliability using Cronbach Alpha. The Cronbach Alpha was 0.862 for the 92 sets of responses. This shows a fair degree of internal consistency amongst the items and indicates that these represent a single construct—in this case that of organizational culture.

Construct Validity

More than 60 years ago, Guilford (1946) wrote, 'The factorial validity of a test is given by its loadings in meaningful, common reference factors. This is the kind of validity that is really meant when the question is asked: Does this test measure what it is supposed to measure?' According to Nunnally (1978), 'construct validity has been spoken of as ... factorial validity'.

It can therefore be concluded that the exploratory factor analysis results, together with the factors and their interpretation, and the reliability measure as reported here provide evidence of construct validity of the scale.

Discussion

The purpose of this article was to report the construction of a reliable and valid scale for measuring organizational culture. This constitutes a part of a bigger study that will explore linkages between organizational culture and organizational innovativeness. In this article we have discussed the challenges faced by researchers in operationalizing the construct of culture in the organizational context, and the consequent limitations of their scales and measurements.

In the literature, there is no dearth of scales for measuring organizational culture. Why then, one may ask, have we created another one? And more importantly, how is our scale different from the others?

We have already noted in this article, based on what has been reported in the literature, that most scales for measuring culture suffer from some drawbacks. A number of them suffer from construct and methodology related weaknesses (Wilderom et al., 2000). We have cited a number of cases that highlight these issues. Specifically, we would like to point to two primary issues that afflict most of the culture scales. First, few of these studies start with an acceptable theoretical foundation of culture. Most of the studies' starting point and, therefore, what constitutes the content domain gets dictated by the research objectives and personal predilections. Second, dictated by the requirements of psychometric rigour and parsimony, many of these end up with a limited number of dimensions providing a rather narrow perspective of culture. While these two issues may be interrelated, the consequent narrow depiction of culture fails to do justice to its multidimensional and somewhat complex nature, thus defying the very purpose with which we start in the first place—that of measuring it.

Table 6. The Extracted Dimensions in the Context of the Starting Theoretical Model

Concerns/Orientations	Organizational Context	Culture Dimension (Initial)	Culture Dimension (Post EFA)
Human nature: What is the basic nature of people?	People can be trusted/ cannot be trusted	Trust Openness Constructive Dissent	Openness Trust Respect for Individuals
Man-nature relationship: What relationship does man share with nature?	Do situations control people?; human initiative, risk taking behaviour	Action orientation Result orientation Experimentation	Action orientation
Temporal orientation: How do people relate to time?	Preserving past traditions; seeking new things to replace the old	Experimentation Risk taking	Attitude to risk Action orientation
Activity: What is the best mode of activity?	Result or achievement orientation	Result orientation	Action orientation
Social relations: What is the best form of social organization?	Emphasis on hierarchy and control versus consensus, versus autonomy	Participation Openness Constructive Dissent Individualism	Power Distance Participation Respect for individuals

Source: Authors' findings.

In this study we started with the broad theoretical framework given by Kluckhohn and Strodtbeck (1961). We identified possible cultural dimensions that could identify with each of the fundamental questions facing people in their organizational existence. These dimensions were: trust, openness, freedom to experiment, individualism (versus collectivism), attitude towards constructive dissent, participation and result orientation.

We feel justified in starting with this theoretical model of culture because the same has been recommended by both Schein (2000) as well as Pareek (2006), and more so because the model incorporates all possible orientations from which culture could be viewed.

There is enough evidence from our data that our scale is both reliable as well as valid. The exploratory factor analysis revealed a set of seven underlying factors or dimensions explaining close to 70 per cent of the total variance. These dimensions, however, are not identical to those that we started with. But, do they still agree with the theoretical model of Kluckhohn and Strodtbeck (1961)?

The dimensions extracted from the exploratory factor analysis have been placed in the context of the starting theoretical framework, alongside the initial dimensions we started with, in Table 6. The table shows that each of the extracted dimensions can be mapped to one or more of the five fundamental concerns of human societies.

We, therefore, conclude that in our endeavour to develop a scale for measuring organizational culture we have attempted to be theoretically and methodologically sound resulting in a reliable and valid scale that measures culture in terms of seven underlying dimensions.

References

Alvesson, M., & Berg, D.O. (1992). *Corporate culture and organizational symbolism*. New York: de Gruyter.

Ashkanasy, N.M., Wilderom, C.P.M., & Peterson, M.F. (Eds). (2000). *The handbook of organizational culture and climate.* Thousand Oaks, CA: SAGE.

Calori, R., & Sarnin, P. (1991) Corporate culture and economic performance: A French study. *Organization Studies*, *12*(1), 49–74.
Deal, T.E., & Kennedy, A.A. (1982). *Corporate cultures: The rites and rituals of corporate life*. Harmondsworth: Penguin Books.
Denison, D. (1990). *Corporate culture and organizational effectiveness*. New York: Wiley.
———. (1996). What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *Academy of Management Review*, *21*(3), 619–654.
Denison, D.R., & Mishra, A.K. (1995). Toward a theory of organizational culture and effectiveness. *Organization Science*, *6*(2), 204–223.
Dreezens, E., Martijn, C., Tenbult, P., Kok, G., & deVries, N.K. (2008). The missing link: on strengthening the relationship between values and attitudes. *Basic and Applied Psychology*, *30*(2), 142–152.
Francesco, A.M., & Gold, B.A. (2005). *International organizational behavior*. New Jersey: Pearson.
Frost, P., Moore, L., Louis, M., Lundberg, C., & Martin, J. (1985). *Organizational culture*. Beverly Hills, CA: SAGE.
———. (1991). *Reframing organizational culture*. Beverly Hills, CA: SAGE.
Gordon, G.G., & DiTomaso, N. (1992). Predicting corporate performance from organizational culture. *Journal of Management Studies*, *29*(6), 783–798.
Guilford, J.P. (1946). New standards for test evaluation. *Educational and Psychological Measurement*, *6*(4), 427–439.
Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: SAGE.
Hofstede, G., Neuijen, B., Ohayv, D.D., & Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*, *35*, 286–316.
Klein, R.L., Bigley, G.A., & Roberts, K.H. (1995). Organizational culture in high reliability organizations: An extension. *Human Relations*, *48*(7), 771–793.
Kluckhohn, F.R., & Strodtbeck, F.L. (1961). *Variations in value orientations*. Evanston, IL: Row, Peterson.
Koene, A.S. (1996). *Organizational culture, leadership and performance in context: Trust and rationality in organizations*. Maastricht: Datawyse.
Kotter, J.P., & Heskett, J.L. (1992). *Corporate culture and performance*. NY: Free Press.
Louis, M.R. (1980). Surprise and sense making: What newcomers experience in entering organizational settings. *Administrative Science Quarterly*, *25*, 226–251.
Marcoulides, G.A., & Heck, R.H. (1993). Organizational culture and performance: Proposing and testing a model. *Organization Science*, *4*(2), 209–225.
Migliore, R.H., Conway, A., Martin, R., & Stevens, R.E. (1992). *An analysis of Pan-Pacific Canadian organizational climate*. Paper presented at the Pan-Pacific conference. Calgary: Alberta.
Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
O'Reilly, C., Chatman, J., & Caldwell, D. (1991). People and organizational culture: A profile comparison approach to assessing person-environment fit. *Academy of Management Journal*, *34*(3), 487–518.
Ott, J.S. (1989). *The organizational culture perspective*. Pacific Grove, CA: Brooks/Cole.
Pareek, U. (2006). *Organizational culture and climate*. Hyderabad: ICFAI University Press.
Pettigrew, A.M. (1979). On studying organizational cultures. *Administrative Science Quarterly*, *24*(4), 570–581.
Petty, M.M., Beadles, N.A., Lowery, C.M., Chapman, D.F., & Connel, D.W. (1995). Relationships between organizational culture and organizational performance. *Physchological Reports*, *76*(2), 483–492.
Pondy, L., Frost, P., Morgan, G., & Dandridge, T. (1983). *Organizational symbolism*. Greenwich, CT: JAI Press.
Rousseau, D.M. (1990). Assessing organizational culture: The case for multiple methods. In B. Schneider (Ed.), *Organization climate and culture* (pp. 153–192). San Francisco, CA: Jossey-Bass.
Schein, E. (1985). *Organizational culture and leadership*. San Francisco: Jossey-Bass.
———. (1990). Organizational culture. *American Psychologist*, *45*(2), 109–119.
———. (2000). Sense and nonsense about culture and climate. *Handbook of organizational culture & climate*. CA: SAGE.

Schwartz, S.H. (1994). Beyond individualism/collectivism: New cultural dimensions of values. In U. Kim, H.C. Triandis, C. Kagitcibasi, S.C. Choi, & G. Yoon (Eds), *Individualism and collectivism: Theory, method, and applications* (pp. 85–119). Thousand Oaks, CA: SAGE.

Schwartz, H., & Davis, S.M. (1981). Matching corporate culture and business strategy. O*rganizational Dynamics*, *10*(1), Summer, 30–48.

Siehl, C., & Martin, J. (1981). *Learning organizational culture*. Working Paper, Graduate School of Business, Stanford University.

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly*, *28*(3), 339–358.

Srivastava, B.K., & Panda, M. (2003). Paradigm shift and dimensions of work culture: Implications for organizations. *Global Business Review*, *4*(2), 285.

Trompenaars, F., & Hampden-Turner, C. (1997). *Riding the waves of culture: Understanding diversity in global business* (2nd ed.). New York: McGraw Hill.

Weber, Y. (2000). Measuring cultural fit in mergers and acquisitions. *Handbook of organizational culture and climate*. Thousand Oaks, CA: SAGE.

Wilderom, C.P., Glunk, U., & Maslowski, R. (2000). *Handbook of organizational culture & climate*. CA: SAGE.