

Development of Organizational Culture Scale

Ayesha Khan and Nadia Ayub

Institute of Business Management

The research was designed to develop an indigenous scale to measure the organizational culture and to examine its psychometric properties. The first phase involved developing items for the scale and conducting a pilot study. Initially, 73 items were generated through an in-depth review of the literature, with subscales identified as adaptability, strategy, commitment, engagement, and ethics. Two subject experts and two language experts were consulted for the Content Validity analysis, after which 45 items were extracted, excluding 28 items. A pilot study was then conducted among 437 working individuals from various organizations in Pakistan. In the second phase, 32 items were finalized after evaluating descriptive statistics, total correlations, exploratory factor analysis, and item correlations. This phase involved testing the reliability of the scale for which it was administered to 110 respondents. The psychometric properties were found to be satisfactory. For the final phase, the validity was measured by administering the scale to 100 working individuals. The convergent and divergent aspects of the scale were evaluated by comparing the scores obtained from OCS with the Employee Engagement Scale (Wilson, 2009) and Counterproductive Work Behavior (Spector et al., 2006). Based on these findings, the Organizational Culture Scale was developed as a reliable and valid instrument for assessing organizational culture

Keywords: Organization, culture, organizational culture, instrument, scale, organizational assessment, psychometric properties, human resource management

Organizational culture is a conclusive determinant in the efficiency, productivity, and long-term success of an organization in the contemporary organizational setting. Organizations are getting more and more pressured to perform better and be competitive, and empirical data have continuously pointed to the existence of organizational culture as a major determinant of the way employees

Ayesha Khan and Nadia Ayub, Department of Psychology, Institute of Business Management, Karachi, Pakistan.

Correspondence concerning this article should be addressed to Ayesha Khan, Department of Psychology, Institute of Business Management, Karachi, Pakistan. Email: ayeshay98@gmail.com

act and the organizations perform (Lund, 2003; Nham et al., 2020). Early original theorists argued that organizational culture is not just a social construction but a strategic resource that can be used to explain and even forecast economic performance in organizations (Hofstede, 1980; Ouchi, 1981; Hofstede & Bond, 1988; Kotter & Heskett, 1992; Magee, 2002). A cohesive and harmonious culture leads to improved coordination, motivation, and performance, and inept or poorly coordinated cultures reduce group productivity and adversely impact the economic outcomes (Idris et al., 2015; Eaton & Kilby, 2015). As a result, the creation and maintenance of an excellent organizational culture is still a burning managerial issue (Kenny, 2012).

Psychologically, the organizational culture is the organizational personality in terms of beliefs, values, norms, practices, and acceptable behaviors that teach the employees how to act and make decisions (Alvesson, 2012; Schein, 1991). It captures more timeless structures of values, principles, traditions, and working practices that are internalized over time and determine the way members interact and play their parts (Christensen et al., 2020; Zelkowski et al., 2023). This is because these common assumptions and behavioral norms are what the organization is and determine the pattern of communication, interpersonal relations, and work beliefs, which eventually shape the motivation and engagement of employees (Imran et al., 2021; Dewi & Sukarno, 2021). Empirical studies also show that the organizational culture is an important determinant of employee motivation, and shared values and norms lead to the development of commitment, cohesion, and elevated work attitudes (Ayalew et al., 2019; Kadir & Amalia, 2017; Rubel et al., 2020; Wang et al., 2020).

Besides culture, organizational structure is also relevant in the success of organizations, especially in complex, uncertain, and unstable environments. Organizational culture relates to structural systems, which define the arrangement of roles, authority, and communication, and interact with it to produce adaptive and performance outcomes (Seetharaman, 2020). Culture and structure are components of a system that builds organizational resilience and strategic performance.

Models and Types of Organizational Culture

There are a lot of theoretical frameworks which tried to categorize organizational culture using a variety of standards. Cultures were found with respect to open to change, task-oriented, bureaucratic, and competitive (Xenikou & Furnham, 1996), and corporate, participatory, mission, and bureaucratic cultures according

to environmental needs (Daft, 2015). According to Denison et al. (2004), three dimensions that were important in the case of organizational effectiveness are adaptability, mission, involvement, and consistency. Cameron and Quinn (2006) went further to classify organizational culture into clan culture, adhocracy culture, hierarchy culture, and market culture. Although these differences exist in terms of concepts, most of the scholars concur that organizational culture is a set of guidelines that influence the direction of an organization and how employees behave (Schein, 1991). Clear vision, shared values, supportive systems, and strong leadership are some of the important features of an effective culture that contribute to resiliency and sustainability of an organization (Coleman, 2013; Kotter & Heskett, 1992).

The importance of organizational culture is highly reported with respect to the level of employee morale, job satisfaction, commitment, performance, and turnover intent (Denison, 1990; Marcoulides & Heck, 1993; Fisher, 2000). Both theoretical and empirical literature prove that organizational culture is strongly correlated with organizational performance outcomes (Hartnell et al., 2011; Hartnell et al., 2019; Kim & Chang, 2019). Due to such a close connection, the analysis and management of organizational culture become one of the primary areas where managers and practitioners concentrate increased focus on enhancing performance and maintaining competitiveness (Chatman & O'Reilly, 2016). Organizational culture influences attitudes towards employees, as these attitudes will directly affect organizational success (Siehl & Martin, 1990). Top managers carefully acknowledge culture as a source of organizational value, and most of the leaders of the Fortune 1000 companies recognize culture as an important element affecting their performance and competitiveness (Graham et al., 2016). Organizations that might be in the same environment still form different cultural identities that would determine strategic priorities, as seen with companies like International Business Machines (IBM), Hewlett-Packard, and Apple (Schein, 2010).

Organizational Culture Scales and Existing Scales Measurement

As it is an important area, scholars have paid significant focus on quantifying organizational culture in terms of both qualitative and quantitative methods (Cooke & Rousseau, 1988; Schein, 1990; Lee & Yu, 2004). Qualitative and quantitative tools examine more profound assumptions and definitions, and common values and behavioral patterns, respectively (Gundry & Rousseau, 1994). Organizational culture has a number of standardized tools that are used to measure

culture. The Organizational Culture Inventory (OCI) puts a focus on the behavioral norms in various cultural styles (Cooke & Lafferty, 1987). The Focus Questionnaire measures the organizational orientations, which are flexibility and control (Van Muijen et al., 1999). The Japanese Organizational Culture Scale is a scale that embodies culturally entrenched management philosophies that are unique to the Japanese organizations (Tang et al., 2000). Details of values, beliefs, adaptability, and mission are in other tools like Organizational Culture Assessment (Reigie, 2001) and Denison Organizational Culture Survey (Denison et al., 2012).

Limitations of Existing Measures

Although the current organizational culture tools have their contributions, they have a number of limitations. Scales vary in the dimensions measured and words employed, thus it is difficult to compare studies across the scales (Chatman & Jehn, 1994; Delobbe et al., 2002). Also, some objections have been expressed about the psychometric soundness of most measures. As reviewed, a considerable fraction of organizational culture tools lacks sufficient data on reliability and validity (Ashkanasy et al., 2000; Jung et al., 2009). The contradictory report on predictive validity and internal consistency leaves construct validity and test-retest reliability unmentioned (Nieminen et al., 2012). Notably, the majority of the available instruments have been constructed and tested in Western and developed nations, where their generalizability to other cultures is limited.

Rationale for Scale Development

The mentioned limitation is especially relevant to developing countries like Pakistan, whose organizational settings are predetermined by the values of collectivism, hierarchies, and context-driven management behavior. Although the economic role of other sectors of the economy, including banking, manufacturing, and healthcare, has been increasing, there have been few empirical studies investigating the organizational culture in Pakistani organizations (Rashidi & Ghaedsharafi, 2015). It is recommended that organizations consider the non-Western view of organizational culture so that the cultural applicability and conceptual clarity are maintained (Gillespie et al., 2008; Mujeeb & Ahmed, 2011). In collectivist societies, like Pakistan, instruments developed in the West might not be sensitive to culturally relevant values, norms, and behavioral guidelines (Taras et al., 2013). In this regard, there is a definite requirement for a culturally based, psychometrically good, organizational culture scale that makes

sense and corresponds to the real world of Pakistani organizations. In this vein, the given proposal seeks to establish and test an Organizational Culture Scale that will be applied to the Pakistani context and give researchers and human resource practitioners a powerful instrument to measure organizational culture, shape managerial interventions, and improve the efficacy of the organization.

Objectives

The study objectives were as follows:

1. To recognize the significant factors and generate items for the Organizational Culture Scale.
2. To establish the psychometric properties of the Organizational Culture Scale
3. To establish the Organizational Culture Scale's reliability, content, convergent, and divergent validity.

Method

The present study was conducted in four phases.

Phase I: Exploring the Phenomena and Generating the Initial item Pool

In phase I, an item pool was generated for the development of the Organizational Culture Scale. For this purpose, two steps were followed; in the first step, the phenomena of organizational culture were identified by conceptualizing the construct. The construct was then conceptualized by the researcher after reviewing existing literature and theory on Organizational Culture, and a pool of items was generated for the development of the measure of organizational culture by adopting inductive and deductive approaches. In the second step, items were reviewed by 02 subjects and 02 language experts and finalized before empirical testing.

Literature Review

In the first step, an in-depth review of indigenous and international literature, which consisted of existing research and scales, was done on the phenomenon of organizational culture to generate appropriate and relevant items of the scale. Initially, 73 items were generated that measured adaptability, strategy, commitment, engagement, and ethics.

Content Analysis

The second step consisted of the content analysis in which the items were thoroughly reviewed by the researcher, subject experts (Organizational Psychologists), and language experts (English Language) for clarity and fidelity to the relevant construct, language comprehensibility, and redundancy. Each of the items was also assessed for its suitability to the relevant dimension of Organizational culture. This resulted in 45 items through content analysis. Additionally, the required corrections and modification which were suggested by the experts were incorporated into the scale.

Phase II: Conducting a Pilot Study and Exploratory Factor Analysis

Sample

The sample consisted of 437 working individuals from different organizations in Pakistan. Amongst the participants were 72.3% males and 27.7% females. The sample consisted of the majority of individuals of the age group 20-30 years (64.8%), 56.3% of management classification, and 32.5% of staff classification. The participants were from various fields; however, there were 33% of the employees were from the human resources department.

Procedure

The items developed were subjected to a review to remove the ambiguities in the scale. The target population was provided with the scale, which was composed of 45 developed items. To begin with, each respondent signed a consent form, and this was to ensure confidentiality according to research ethics. The participants were requested to complete a demographic questionnaire and OCS. The data were collected through face-to-face, paper-based, and online methods with the use of Google Forms according to the personal choice.

Exploratory Factor Analysis

In order to determine the internal consistency of the scale and delineate the cut-off points, the data obtained were subjected to item analysis. To this end, the descriptive statistics (mean and standard deviation), the overall correlations of the items (Pearson r), the factor analysis, and factor loadings of each of the subscales, and the subscale and total scale correlations were examined using the Statistical

Package of the Social Sciences Version 21 (SPSS 21). The items were narrowed, and their correlations among items and factor loadings were less than 0.40.

Phase III: Establishing the Reliability of OCS

This phase consists of measuring the reliability of the OCS and has two parts: one to establish internal consistency and the second to establish test-retest reliability.

Establishing the Internal Consistency

The reliability of a scale indicates how consistent that measurement is.

Sample

The sample consisted of 110 participants, amongst which 65.6% were males and 34.5% were females, and the majority of individuals were from the age group of 20-30 years of age. In addition, most of the employees were from the Human Resources Department (34.5%).

Procedure

The respondents were required to fill out a set of questionnaires, including a consent form, demographic information form, and the OCS. The consent form informed the participants of their rights to the study and ensured that their participation was voluntary. Data collection was made more efficient by allowing participants to fill out the survey on paper and online via Google Docs.

The data thus obtained were calculated to derive the OCS Cronbach alpha score, item subscale correlation, and Cronbach alpha scores of subscales. Alpha values were calculated using the Statistical Package of Social Sciences Version-21(SPSS-21) software.

Establishing Test-Retest Reliability

Sample

The sample consisted of 110 participants, amongst whom were 65.5% males and 34.5% females. The majority of individuals were from the age group of 20-30 years (65.5%). Most of the participants belonged to the human resources department.

Procedure

In order to determine the stability of the scales, the respondents were required to complete the questionnaire on two occasions separated by a period of two weeks. The correlation of the scores at the two times was then taken as a measure of stability ([Kimberlin & Winterstein, 2008](#)). The consent forms, demographic information

forms, and the questionnaire were given to the participants, and the issue of confidentiality was guaranteed, and the ethical rules were observed. The scale was checked with test-retest correlations, which were analyzed with the help of SPSS-21, and the alpha values were obtained to determine the reliability.

Phase IV: Establishing Validity

In general, validity refers to whether a measure or scale measures the variable or construct for which it was designed. Recent research and contemporary thinking suggest that content and criterion validity can be included and carried within the framework of construct validity (Cook & Beckman, 2006). Furthermore, if an instrument or scale effectively measures a construct, that relationship must be supported by evidence.

Sample

To evaluate the validity of the scale, the organizational culture scale (OCS) was administered to a sample of 131 working individuals. In this sample, 12.5% of participants were women and 73.7% were men, amongst them 54.6% were between 20 and 30 years old. Participants came from a wide range of departments and professions. The majority of them (30.9%) came from the human resources department. A convenient sampling method was used.

Research Instruments

Demographic Information Form. consists of questions about the participant's job department, age, gender, education, marital status, salary, current classification (management, human resources, or other), years of experience at the current company, and overall experience in years.

Employee Engagement Survey. was used to establish the convergent validity of the organizational cultural scale. The survey was developed by Karen Wilson (2009) and comprised eight items and three subscales: Conditions of significance, security, and availability. The scale questions should be answered on a 6-point Likert scale. The scale has reported a Cronbach's alpha of .798.

Counterproductive Work Behavior Checklist (CWB-C), developed by Spector et al. (2006), was used to establish the validity of the organizational culture scale. A short version with 10 items was used, including two subscales: targeting the organization and targeting people. The scale items are to be answered on a 5-point Likert scale. Cronbach's alpha for the scale averaged between 0.78 and 0.89 in previous studies.

Procedure

Firstly, the questionnaires were administered along with a consent form and a demographic information form. The consent form was used to assure the sample of the confidentiality of the data and information as well as the rights of the respondents. To facilitate the data collection process, questionnaires were also available online through Google Docs. SPSS was used to analyze the collected data. The validity of the scale was determined by Pearson Product-Moment Correlations.

Results

Table 1: *Descriptive Statistics and Item Correlations of Organizational Culture Scale (OCS)*

Item No.	M	SD	Pearson r	Sig	Item No.	M	SD	Pearson r	Sig
Item 1	4.34	.567	.412**	.000	Item 26	4.49	.514	.450**	.000
Item 2	4.15	.627	.402**	.000	Item 27	4.43	.514	.439**	.000
Item 3	4.40	.576	.502**	.000	Item 28	4.36	.601	.540**	.000
Item 4	4.25	.601	.447**	.000	Item 29	4.44	.506	.395**	.000
Item 5	4.25	.593	.388**	.000	Item 30	4.57	.576	.497**	.000
Item 6	4.25	.627	.552**	.000	Item 31	4.45	.512	.454**	.000
Item 7	4.41	.601	.542**	.000	Item 32	4.57	.522	.424**	.000
Item 8	4.31	.636	.591**	.000	Item 33	4.42	.508	.350**	.000
Item 9	4.31	.594	.525**	.000	Item 34	4.74	.520	.401**	.000
Item 10	4.24	.635	.501**	.000	Item 35	4.38	.601	.520**	.000
Item 11	4.34	.619	.630**	.000	Item 36	4.39	.614	.453**	.000
Item 12	4.32	.613	.561**	.000	Item 37	4.41	.601	.523**	.000
Item 13	4.37	.591	.541**	.000	Item 38	4.40	.600	.521**	.000
Item 14	4.28	.652	.606**	.000	Item 39	4.41	.515	.346**	.000
Item 15	4.27	.635	.493**	.000	Item 40	4.46	.543	.360**	.000
Item 16	4.30	.674	.578**	.000	Item 41	4.30	.601	.120*	.000
Item 17	4.26	.600	.555**	.000	Item 42	4.27	.647	.205**	.000
Item 18	4.32	.619	.592**	.000	Item 43	4.41	.613	.119*	.000
Item 19	4.38	.634	.533**	.000	Item 44	4.51	.556	.238**	.000
Item 20	4.38	.588	.488**	.000	Item 45	4.68	.492	.270**	.000
Item 21	4.55	.554	.508**	.000					
Item 22	4.34	.636	.551**	.000					
Item 23	4.42	.539	.479**	.000					
Item 24	4.45	.507	.361**	.000					
Item 25	4.43	.536	.510**	.000					

Note. **. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 1 represents the descriptive statistics and item-total correlations for the 45 items of OCS obtained from the pilot study. The items that were lower than .40 were removed from the scale. As a result, 11 items were discarded.

Exploratory Factor Analysis

Initially, a sample of 437 responses underwent factor analysis. Based on prior literature, a framework comprising five subscales (adaptability, strategy, commitment, engagement, and ethics) was developed. An initial item pool corresponding to each subscale was constructed. Subsequently, items with inter-item correlations below 0.4 were eliminated. Blind factor analysis with principal component extraction was then conducted to determine the number of factors in the real data. Following the initial run, 11 items were removed due to correlations lower than 0.40. The remaining 34 items underwent further factor analysis.

Table 2: *KMO and Bartlett's Test*

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.932
Bartlett's Test of Sphericity	Approx. Chi-Square	4115.198
	df	561
	Sig.	.000

Table 2 indicates the value for the KMO test for sample suitability, which is 0.93. This value is also in a reasonable range and is much higher than the minimum requirements. Bartlett's test for sphericity is also significant; it tests the overall significance of all correlations within the correlation matrix. Therefore, it was appropriate to apply the factor analytic model to the data.

Table 3: *Factor Loading for the Remaining 34 Items of the Organizational Culture Scale (OCS)*

Item No.	Items	Factor Loading	Eigen Value
1	I adapt well to the changes in the organization.	0.841	10.03
2	I am provided with adequate internal and external training to manage with change.	0.940	1.96
3	I adopt new and improved ways to get things done.	0.873	1.67
4	It is easy for me to manage with change.	0.952	1.37
5	My organization supports me during a transition from one method to another in overcoming difficulties.	0.724	1.25

Continued...

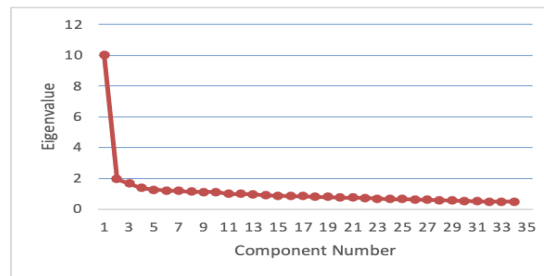
Item No.	Items	Factor Loading	Eigen Value
6	I am aware of the vision of the company.	0.903	1.20
7	The vision of the company motivates me to do better to achieve it.	0.776	1.19
8	I am provided with a clear mission that provides me with understanding and direction for work.	0.643	1.14
9	The leaders set realistic and ambitious goals for the employees.	0.919	1.12
10	I know and agree on the goals of the company.	0.586	1.10
11	The culture of my organization is clearly defined to me.	0.942	.992
12	I am clearly defined what the wrong or right ways of doing work are.	0.907	.979
13	The surety that I will keep working here gives me a sense of safety	0.535	.959
14	I feel at ease knowing that I will continue my job in the future	0.944	.897
15	I would love to grow my professional life in this organization	0.677	.868
16	I have the adequate resources to get the work done efficiently	0.923	.855
17	My roles and duties are valued in the organization	0.491	.840
18	Doing my job makes me feel accomplished	0.945	.801
19	I feel appreciated at work	0.965	.792
20	I have good relations with my co-workers	0.527	.751
21	I am satisfied with my work environment	0.940	.737
22	I am satisfied with my job	0.903	.729
23	Team members appreciate one another.	0.922	.681
24	When we work as a team, our performance is exceptionally great.	0.977	.660
25	We set goals and objectives as a team.	0.901	.654
26	Each group member is clear about what they have to do.	0.497	.637
27	I believe that cooperation is more important than competition.	0.867	.608
28	Our leaders collaborate with us just like a team member would.	0.953	.571
29	I like to share any new information or technique with my colleagues.	0.967	.563
30	I will recommend my company to my friends and family.	0.925	.533

Continued...

Item No.	Items	Factor Loading	Eigen Value
31	My company provides me with growth in my field.	0.840	.515
32	I contribute to achieving my organization's objectives.	0.946	.489
33	My organization makes long-term relationships.	0.952	.477
34	I trust my management.	0.931	.471

Table 3 shows the factor loadings for the remaining 34 items of the Organizational Culture Scale. According to Awang et al. (2015), for newly developed items, an acceptable factor loading is considered to be higher than 0.5. As seen in the table, Items 18 and 28 have factor loadings of 0.491 and 0.497, respectively, and were thus deleted, resulting in a total of 32 items for the Organizational Culture Scale (OCS).

Figure 1: Scree Plot from Exploratory Factor Analysis



The scree plot demonstrated a clear break after the first component, with eigenvalues leveling off thereafter. Although the second component exceeded the Kaiser criterion (eigenvalue > 1), the sharp decline suggests a dominant first factor.

Table 4: Factor Loading of the Subscales of Organizational Culture Scale (OCS)

Subscales	Loadings
Adaptability	.738
Strategy	.843
Commitment	.863
Engagement	.804
Ethics	.766

Table 4 shows the factor loading of the subscales of the Organizational Culture Scale obtained from the pilot study. The subscale of Commitment shows the highest loading.

Table 5: *Correlation between Subscales and the total of the initial Organizational Culture Scale (OCS)*

Subscale	Pearson r	Sig
Adaptability	.729	.000
Strategy	.857	.000
Commitment	.898	.000
Engagement	.767	.000
Ethics	.756	.000

Table 5 displays the correlations between the five subscales and the total score of 45 items of the Organizational Culture Scale (OCS) obtained from the pilot study. All subscales display a high positive correlation with the total.

Table 6: *Internal Consistency of Organizational Culture Scale (OCS)*

	Cronbach's Alpha	No. of Items
Organizational Culture Scale (OCS)	.918	32

Note. $n = 110$.

Table 6 displays the internal consistency of the Organizational Culture Scale (OCS). To measure the internal consistency of OCS, Cronbach's alpha was calculated. The Cronbach alpha score obtained for the OCS was 0.918 ($p < .001$; $n = 110$), which reveals a highly significant correlation.

Table 7: *Cronbach Alpha for Subscales of Organizational Culture Scale (OCS)*

	Cronbach's Alpha	No. of Items
Adaptability	.712	5
Strategy	.793	7
Commitment	.816	9
Engagement	.702	6
Ethics	.727	5

Note. $n = 110$.

Table 7 shows the internal consistency of all five subscales of the Organizational Culture Scale (OCS). The subscales Commitment and Strategy show very good internal consistency, whereas Adaptability, Engagement, and Ethics are close to 0.70, which is an acceptable level of consistency.

Table 8: *Test-Retest Reliability of the Organizational Culture Scale (OCS)*

Scales	Administration	Pearson's r
Organizational Culture Scale (OCS)	1 versus 2	.877**

Table 8 presents the test-retest reliability of the Organizational Culture Scale (OCS). The Pearson Product-Moment coefficient shows that the test-retest reliability of the Organizational Culture Scale (OCS) is highly significant ($r = 0.877$; $p < 0.05$; $n = 110$).

Table 9: *Convergent Validity among Scales (OCS)*

Scales		Pearson r	Sig
Employee Engagement Survey	Meaningfulness	.627**	.000
	Safety	.687**	.000
	Availability	.678**	.000

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Table 9 presents the convergent validity of the Organizational Culture Scale (OCS) with the Employee Engagement Survey (Wilson, 2009). It consisted of three subscales: meaningfulness, safety, and availability. Statistical analysis revealed a positive correlation between the Organizational Culture Scale and Meaningfulness ($r = 0.627$; $p < 0.01$; $n = 131$), Safety ($r = 0.687$; $p < 0.01$; $n = 131$), and Availability ($r = 0.678$; $p < 0.01$; $n = 131$).

Table 10: *Discriminant Validity among Scales (OCS)*

Scales		Pearson r	Sig
Counterproductive Work Behavior	Targeting the organization	-.393**	.000
	Targeting people	-.451**	.000

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Table 10 shows the discriminant validity of the Organizational Culture Scale (OCS) with Counterproductive Work Behavior (Spector et al., 2006). The results reveal negative correlations between both scales ($r = -.393, -.451$; $p < 0.01$; $n = 131$).

Discussion

The study aimed to create a reliable and valid Organizational culture (OCS) with 32 items measuring four subscales: Adaptability, Strategy, Commitment, Engagement, and Ethics. Each subscale has between five and nine items rated on a five-point Likert scale. The scale development followed a deductive approach, drawing from existing literature and concepts.

During item generation, simplicity and clarity were prioritized, ensuring ease of understanding across diverse backgrounds. Guidelines excluded slang, colloquialisms, and complex items while avoiding reverse-worded items (Harrison & McLaughlin, 1991). The decision to omit such items was based on evidence suggesting they may reduce reliability and introduce measurement errors (DiStefano & Motl, 2006; Quilty et al., 2006).

The response format chosen for the organizational culture was a five-point Likert scale, offering topics from "strongly disagree" to "strongly agree". This format allows for nuanced responses and frequency measurement. Initially, an item pool of 73 questions was generated. However, after the content validity analysis by two subject matter experts and two language experts, the number of items was reduced to 45. Following a pilot study with 437 respondents, items with correlations below 0.4 were discarded to ensure robustness. An exploratory factor analysis was then conducted to further refine the questionnaire. In literature, it is recommended that for factor analysis, a sample of 100 participants is considered poor, 200 is far, 300 is good, 500 is very good, and 1000 is considered excellent (Comrey & Lee, 1992).

The exploratory factor analysis aimed to refine the Organizational Culture Scale (OCS) by eliminating items with factor loadings below 0.50, resulting in a reduction from 45 to 32 items. Each of the five sub-scales - Adaptability, strategy, commitment, engagement, and ethics exhibited strong factor loadings, with 5 to 9 items per subscale, indicating their suitability for capturing essential dimensions for organizational culture (Denison & Mishra, 1995; Fey & Denison, 2003; Kotrba et al., 2012).

In this study, organizational culture is defined as employees' perception of shared customs, attitudes, and beliefs which are reflected in the organization's operations, treatment of employees and customers, and decision-making processes. The subscale of Adaptability highlights the need to interpret environmental signals in order to increase the survival and expansion of an organization

([Denison & Mishra, 1995](#)). Strategy determines the missions and objectives of an organization, and it directs the current behavior of an organization to where it should be in the future. Commitment evaluates the customer satisfaction and loyalty of the employees to the organization, whereas Engagement evaluates communication and teamwork that are essential to the accomplishment of tasks. Ethics assesses the accepted values of members that encourage a feeling of belongingness and accountability ([Kotrba et al., 2012](#)). Combined, these subscales give information about organizational culture.

When developing the Organizational Culture Scale (OCS), two types of reliability were created: internal consistency and test-retest reliability. Internal consistency refers to the consistency of the instrument and item ([DeVellis, 2003](#)). An alpha value that is above 0.70 has been widely recognized as a criterion of a newly developed scale ([Hinkin, 1998](#)). The internal consistency of the OCS is quite impressive, given the value of alpha of 0.914. Although Cronbach's alpha is typically pegged at 0.70, it is also acceptable to have a value of above 0.60 ([Taber, 2018](#)). Besides, it is necessary to evaluate the internal consistency of its subscales. To be flexible, alpha coefficient, strategy, engagement, and engagement were 0.711, 0.793, 0.816, 0.746, and 0.786, respectively. All these coefficients exceed the 0.60 mark, which is an indicator of satisfactory internal consistency levels.

The second type of reliability that is determined in the case of the Organizational Culture Scale (OCS) is the test-retest reliability, which determines the consistency of scores taken at different times. This entails the administration of the OCS twice in 15 days, and comparing the outcomes of the first administration to the second one. To discourage recall bias and make sure that the responses of the respondents are not influenced by the prior coefficients, the test-retest reliability was found to be 0.711-0.779, and it was found to be very consistent over time. The validity of a newly created scale should also be taken into consideration because this is a critical aspect of scale development, which is the preliminary step. Validity is a question of how well a certain instrument measures the construct it is supposed to measure ([Kimberlin & Winterstein, 2008](#)). Organizational Culture Scale (OCS) was tested on content validity using reviews by experts to make sure that it is consistent with the construct. [Cook and Beckman \(2006\)](#) suggest that a thorough study of measured content, which is accomplished by proper wording of items and involvement of experts in the subject matter, should be done.

Construct validity plays an important role in the development of a sound measure that will cover predictive, convergent, concurrent, and discriminatory validity ([Haynes et al., 1995](#)). Concurrent validity is

used to evaluate congruence in findings of two or more tests that are measuring similar constructs (Zheng & Jong, 2011). Convergent validity is concerned with testing the relationship of the measures that have the same construct (Cunningham et al., 2001). On the other hand, discriminant validity is used to assess the uniqueness of different measures and scales (Guo et al., 2008). The original set of 73 items was carefully revised and critiqued by two subject matter experts and two reviewers of the English language, as a result of which a narrowed pool of 45 items was obtained after content validity analysis. The Organizational Culture Scale (OCS) was taken against Karen Wilson's (2009) Employee Engagement Survey to determine convergent validity. The strong positive correlation between the OCS and the established scale attests to the fact that the OCS can measure organizational culture. The OCS was assessed according to discriminant validity in the correlation with Spector et al. (2006) Counterproductive Work Behavior Checklist (CWB-C). The low dependence between the OCS and CWB-C highlights the uniqueness of the OCS as compared to the counterproductive work behavior measures.

Limitations of the Study

The research had limitations such as failure to indicate the cities where the respondents reside, a small number of scales to analyze the validity, and not providing the confirmatory analysis. There was also an uneven distribution of the sample in different cities and sectors. The researchers of the future must maintain equal representation of the sample, compare its validity with other measures, and verify its model using confirmatory factor analysis. The scale could be translated into the Urdu language to increase the availability of the scale to the Urdu-speaking employees in Pakistan.

Implications

Organizational Culture Scale (OCS) is of great importance to the researchers and the companies as well, as it provides information on how culture influences the different aspects of the organization. It was developed in Pakistan, and in the country, there are distinct dynamics between a developing economy in Asia, and hence the relevance to similar populations in other countries. The psychometric properties of the scales have been evaluated in different demographics in Pakistan of different ethnicities, religions, genders, and age groups, meaning it can be applicable to different organizational settings. It is useful as it can conduct cross-cultural research and provide assessments to

organizations across the globe due to its power to overcome cultural boundaries.

Conclusion

The proposed study would focus on creating a valid and reliable measure of organizational culture that would be specific to the country of Pakistan, taking into account the role of religion, tradition, and customs in the workplace. Psychometric properties of the Organizational Culture Scale (OCS), such as internal consistency, test-retest reliability, and content validity, were strictly tested. The scale has five subscales, that is, Adaptability, Strategy, Commitment, and Ethics, which present the fundamental analysis of the organizational culture. The initial findings show that the rigor, validity, and reliability are promising, but additional studies are necessary to enhance the strength of the scale.

References

- Alvesson, M. (2012). *Understanding organizational culture* (2nd ed.). Sage.
- Alvesson, M. (2012). *Organizational Culture and Constructions of the Customer*. SAGE Publications Ltd.
- Ashkanasy, N. M., Broadfoot, L. E., & Falkus, S. (2000). Questionnaire measures of organizational culture. In N. M. Ashkanasy, C. P. M. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate*, (pp. 131-145). Sage.
- Ashkanasy, N. M., Wilderom, C. P., & Peterson, M. F. (2000). It has been 10 years since the publication. *Handbook of Organizational Culture and Climate*, 1.
- Awang, Z., Afthanorhan, A., Mohamad, M., & Asri, M. A. M. (2015). An evaluation of measurement model for medical tourism research: The confirmatory factor analysis approach. *International Journal of Tourism Policy*, 6(1), 29-45. <https://doi.org/10.1504/IJTP.2015.075141>
- Ayalew, M. M., Workineh, A. D., & Birega, M. A. (2019). Organizational culture and employee motivation: Evidence from Ethiopia. *International Journal of Organizational Analysis*, 27(5), 1359-1376.
- Cameron, K., & Quinn, R. E. (2006). Diagnosing and changing organizational culture (edición revisada). San Francisco, CA, EE UU.: Jossey-Bass.
- Chatman, J. A., & Jehn, K. A. (1994). Assessing the relationship between industry characteristics and organizational culture. *Academy of Management Journal*, 37(3), 522-553. <https://doi.org/10.5465/256699>

- Chatman, J. A., & O'Reilly, C. A. (2016). Paradigm lost: Reinvigorating the study of organizational culture. *Research in Organizational Behavior*, 36, 199-224. <https://doi.org/10.1016/j.riob.2016.11.004>
- Chatman, J. A., Polzer, J. T., Barsade, S. G., & Neale, M. A. (1998). Being different yet feeling similar. The influence of demographic composition and organizational culture on work processes and outcomes. *Administrative Science Quarterly*, 749-780. <https://www.jstor.org/stable/2393615>
- Cheung, S. O., Wong, P. S., & Lam, A. L. (2012). An investigation of the relationship between organizational culture and the performance of construction organizations. *Journal of Business Economics and Management*, 13(4), 688-704. <https://doi.org/10.3846/16111699.2011.620157>
- Christensen, T., Lægreid, P., & Røvik, K. A. (2020). *Organization theory and the public sector: Instrument, culture and myth*. Routledge.
- Coleman, J. (2013). Six components of a great corporate culture. *Harvard business review*, 5(6), 2013.
- Comrey, A. L., & Lee, H. B. (1992). Interpretation and application of factor analytic results. *Comrey AL, Lee HB. A first course in factor analysis*, 2, 1992.
- Cook, D. A., & Beckman, T. J. (2006). Current concepts in validity and reliability for psychometric instruments: Theory and application. *The American Journal of Medicine*, 119(2), 166-e7. <https://doi.org/10.1016/j.amjmed.2005.10.036>
- Cooke, R. A., & Lafferty, J. C. (1987). *Organizational culture inventory*. Human Synergistics.
- Cooke, R. A., & Lafferty, J. C. (1989). *Organizational culture inventory*. Plymouth, MI: Human Synergistics.
- Cooke, R. A., & Rousseau, D. M. (1988). Behavioral norms and expectations: A quantitative approach to the assessment of organizational culture. *Group & Organization Studies*, 13(3), 245-273. <https://doi.org/10.1177/105960118801300302>
- Cunningham, W. A., Preacher, K. J., & Banaji, M. R. (2001). Implicit attitude measures: Consistency, stability, and convergent validity. *Psychological Science*, 12(2), 163-170. <https://doi.org/10.1111/1467-9280.00328>
- Daft, R. L. (2015). *Organization theory and design* (12th ed.). Cengage Learning.
- Delobbe, N., Haccoun, R. R., & Vandenberghe, C. (2002). Measuring core dimensions of organizational culture: A review of research and development of a new instrument. *Unpublished manuscript, Universite catholique de Louvain, Belgium*, 1-23.
- Delobbe, N., Haccoun, R. R., & Vandenberghe, C. (2002). Measuring core dimensions of organizational culture: A review of research and

- development of a new instrument. *European Journal of Work and Organizational Psychology*, 11(1), 47-68.
- Denison Consulting. (2012). Denison Organizational Culture Survey Interpretation Guide.
- Denison, D. R. (1990). *Corporate culture and organizational effectiveness*. Wiley.
- Denison, D. R. (2012). Leading culture change in global organizations. *John Wiley & Sons*.
- Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organization science*, 6(2), 204-223. <https://doi.org/10.1287/orsc.6.2.204>
- Denison, D. R., Haaland, S., & Goelzer, P. (2004). Corporate culture and organizational effectiveness: Is Asia different from the rest of the world? *Organizational dynamics*, 33(1), 98-109.
- Denison, D. R., Nieminen, L., & Kotrba, L. (2012). Diagnosing organizational cultures: A conceptual and empirical review of culture effectiveness surveys. *European Journal of Work and Organizational Psychology*, 23(1), 145-161.
- Detert, J. R., Schroeder, R. G., & Mauriel, J. J. (2000). A framework for linking culture and improvement initiatives in organizations. *Academy of Management Review*, 25(4), 850-863. <https://www.jstor.org/stable/259210>
- DeVellis, R. F., Lewis, M. A., & Sterba, K. R. (2003). Interpersonal emotional processes in adjustment to chronic illness. *Social psychological foundations of health and illness*, 256-287.
- Dewi, I. P., & Sukarno, G. (2021). Motivation as a Mediation of the Relationship Between Organizational Culture and Work Environment, Impact on Employee Performance at Bank BJB Surabaya Branch Office. *International Journal of Entrepreneurship and Business Development*, 4(04), 587-595.
- Dewi, R. S., & Sukarno, G. (2021). The influence of organizational culture on employee performance. *International Journal of Business and Social Science*, 12(2), 45-52.
- DiStefano, C., & Motl, R. W. (2006). Further investigating method effects associated with negatively worded items on self-report surveys. *Structural Equation Modeling*, 13(3), 440-464. https://doi.org/10.1207/s15328007sem1303_6
- Eaton, D., & Kilby, G. (2015). Does your organizational culture support your business strategy? *Journal of Strategy and Management*, 8(3), 223-234.
- Fey, C. F., & Denison, D. R. (2003). Organizational culture and effectiveness: Can American theory be applied in Russia?. *Organization Science*, 14(6), 686-706. <https://doi.org/10.1287/orsc.14.6.686.24868>

- Fisher, C. D. (2000). Mood and emotions while working. *International Journal of Industrial and Organizational Psychology*, 15(2), 107-123. [https://doi.org/10.1002/\(SICI\)1099-1379\(200003\)21:2<185::AID-JOB34>3.0.CO;2-M](https://doi.org/10.1002/(SICI)1099-1379(200003)21:2<185::AID-JOB34>3.0.CO;2-M)
- Fisher, C. J. (2000). Like it or not... culture matters. *Employment Relations Today*, 27(2), 43-52.
- Gillespie, M. A., Denison, D. R., Haaland, S., Smerek, R., & Neale, W. S. (2008). Linking organizational culture and customer satisfaction: Results from two companies in different industries. *European Journal of work and Organizational Psychology*, 17(1), 112-132. <https://doi.org/10.1080/13594320701560820>
- Graham, J. R., Harvey, C. R., Popadak, J., & Rajgopal, S. (2016). Corporate culture: Evidence from the field. *Journal of Financial Economics*, 123(2), 1-33. <https://doi.org/10.1016/j.jfineco.2022.07.008>
- Gundry, L. K., & Rousseau, D. M. (1994). Critical incidents in communicating culture. *Journal of Applied Behavioral Science*, 30(1), 106-123.
- Guo, B., Aveyard, P., Fielding, A., & Sutton, S. (2008). Testing the convergent and discriminant validity of the Decisional Balance Scale of the Transtheoretical Model using the Multi-Trait Multi-Method approach. *Psychology of Addictive Behaviors*, 22(2), 288. <https://doi.org/10.1037/0893-164X.22.2.288>
- Harrison, D. A., & McLaughlin, M. E. (1991). Exploring The Cognitive Processes Underlying Responses to Self-Report Instruments: Effects of Item Context on Work Attitude Measures. In *Academy of Management Proceedings*, 1991(1), 310-314. Briarcliff Manor, NY 10510: Academy of Management. <https://doi.org/10.5465/ambpp.1991.4977169>
- Hartnell, C. A., Kinicki, A., Lambert, L. S., Fugate, M., & Doyle Corner, P. (2019). Do similar cultures foster similar outcomes? *Journal of Applied Psychology*, 104(3), 403-431.
- Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational effectiveness: A meta-analytic investigation. *Journal of Applied Psychology*, 96(4), 677-694.
- Haynes, S. N., Richard, D., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological assessment*, 7(3), 238. <https://doi.org/10.1037/1040-3590.7.3.238>
- Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational research methods*, 1(1), 104-121. <https://doi.org/10.1177/109442819800100106>
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Sage.
- Hofstede, G., & Bond, M. H. (1988). The Confucius connection. *Organizational Dynamics*, 16(4), 5-21.

- Idris, M. A., Dollard, M. F., & Tuckey, M. R. (2015). Psychosocial safety climate. *International Journal of Stress Management*, 22(2), 135-155.
- Idris, S., Wahab, R., & Jaapar, A. (2015). Corporate cultures integration and organizational performance: A conceptual model on the performance of acquiring companies. *Procedia - Social and Behavioral Sciences*, 172, 591-595. <https://doi.org/10.1016/j.sbspro.2015.01.407>
- Imran, F., Shahzad, K., Butt, A., & Kantola, J. (2021). Digital transformation of industrial organizations: Toward an integrated framework. *Journal of Change Management*, 21(4), 451-479. <https://doi.org/10.1080/14697017.2021.1929406>
- Imran, R., Fatima, A., Zaheer, A., Yousaf, I., & Batool, I. (2021). Organizational culture and performance. *Journal of Public Affairs*, 21(1), e2138.
- Jung, T., Scott, T., Davies, H. T., Bower, P., Whalley, D., McNally, R., & Mannion, R. (2009). Instruments for exploring organizational culture: A review of the literature. *Public Administration Review*, 69(6), 1087-1096. <https://doi.org/10.1111/j.1540-6210.2009.02066.x>
- Kadir, S. L. S. A., & Amalia, N. (2017). Organizational culture and employee motivation. *Journal of Management Development*, 36(7), 1023-1034.
- Kenny, G. (2012). Diversification: best practices of the leading companies. *Journal of Business Strategy*.
- Kenny, G. (2012). The importance of organizational culture. *Strategy & Leadership*, 40(2), 20-26.
- Kim, Y., & Chang, H. (2019). Organizational culture and performance. *Sustainability*, 11(21), 1-16.
- Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and reliability of measurement instruments used in research. *American Journal of Health-System Pharmacy*, 65(23), 2276-2284. <https://doi.org/10.2146/ajhp070364>
- Koberg, C. S., & Chusmir, L. H. (1987). Organizational culture relationships with creativity and other job-related variables. *Journal of Business Research*, 15(5), 397-409. [https://doi.org/10.1016/0148-2963\(87\)90009-9](https://doi.org/10.1016/0148-2963(87)90009-9)
- Kotrba, L. M., Gillespie, M. A., Schmidt, A. M., Smerek, R. E., Ritchie, S. A., & Denison, D. R. (2012). Do consistent corporate cultures have better business performance? Exploring the interaction effects. *Human relations*, 65(2), 241-262. <https://doi.org/10.1177/0018726711426352>
- Kotter, J. P. and Heskett, J. L. (1992), *Corporate Culture and Performance*, Macmillan, New York, NY.
- Lee, S. K. J., & Yu, K. (2004). Corporate culture and organizational performance. *Journal of Managerial Psychology*, 19(4), 340-359.
- Lund, D. B. (2003). Organizational culture and job satisfaction. *Journal of Business & Industrial Marketing*, 18(3), 219-236.
- Magee, K. C. (2002). The impact of organizational culture on economic performance. *Journal of Business and Economics Research*, 1(1), 1-12.

- Marcoulides, G. A., & Heck, R. H. (1993). Organizational culture and performance: Proposing and testing a model. *Organization science*, 4(2), 209-225. <https://doi.org/10.1287/orsc.4.2.209>
- Naicker, N. (2008). Organizational culture and employee commitment. *Journal of Industrial Psychology*, 34(2), 30-39.
- Naranjo-Valencia, J. C., Jiménez-Jiménez, D., & Sanz-Valle, R. (2011). Innovation or imitation? The role of organizational culture. *Management decision*.
- Nham, P. T., Pham, H. T., & Nguyen, N. T. (2020). Organizational culture and firm performance. *Management Science Letters*, 10(3), 553-562.
- Nham, T. P., Nguyen, T. M., Tran, N. H., & Nguyen, H. A. (2020). Knowledge sharing and innovation capability at both individual and organizational levels: An empirical study from Vietnam's telecommunication companies. *Management & Marketing*, 15(2), 275-301. <https://doi.org/10.2478/mmcks-2020-0017>
- Nieminen, L. R., Ko, I., Kotrba, L. M., & Denison, D. (2012). From Agree to Disagree: The Financial Impact of Manager and Non-Manager Culture Dynamics. In *Academy of Management Proceedings* (Vol. 2012, No. 1, p. 12714). Briarcliff Manor, NY 10510: Academy of Management. <https://doi.org/10.5465/AMBPP.2012.12714abstract>
- Nieminen, L., Kotrba, L., & Denison, D. (2012). Organizational culture and effectiveness. *European Journal of Work and Organizational Psychology*, 23(1), 145-161.
- Ntontela, B. (2009). Organizational culture and performance in the public sector. *Journal of Public Administration*, 44(2), 300-312.
- Ntontela, Z. A. (2009). *The Impact of Organizational Culture of Employees' Behaviour With in Tertiary Institutions in the Eastern Cape Region* (Doctoral dissertation, University of Fort Hare).
- O'Reilly III, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 34(3), 487-516. <https://doi.org/10.5465/256404>
- Ostroff, C., Kinicki, A. J., & Tamkins, M. M. (2003). Organizational climate and culture. *Comprehensive handbook of psychology*, 12, 365-402.
- Ouchi, W. G. (1981). *Theory Z: How American business can meet the Japanese challenge*. Addison-Wesley.
- Peters, T. J., & Waterman Jr, R. H. (1982). In Search of. *Of Excellence*, New York: Harper and Row.
- Piercy, N. F., Low, G. S., & Cravens, D. W. (2004). Examining the effectiveness of sales management control practices in developing countries. *Journal of World Business*, 39(3), 255-267. <https://doi.org/10.1016/j.jwb.2004.04.005>

- Pinxten, R., Verstraete, G., & Longman, C. (Eds.). (2004). *Culture and politics: Identity and conflict in a multicultural world* (Vol. 2). Berghahn Books.
- Quilty, L. C., Oakman, J. M., & Risko, E. (2006). Correlates of the Rosenberg self-esteem scale method effects. *Structural Equation Modeling*, 13(1), 99-117. https://doi.org/10.1207/s15328007sem1301_5
- Rashidi, M. M., & Ghaedsharafi, S. (2015). Organizational culture in developing countries. *International Journal of Management Sciences*, 5(4), 266-273.
- Rashidi, N., & Ghaedsharafi, S. (2015). An Investigation into the Culture and social actors representation in Summit Series ELT textbooks within van Leeuwen's 1996 framework. *Sage Open*, 5(1), 2158244015576054. <https://doi.org/10.1177/2158244015576054>
- Reigie, R. F., Compton, P. J., Utley, D. R., Swain, J. J., Meade, L. M., & Rogers, K. J. (2001). *Measuring Organic and Mechanistic Cultures*. *Engineering Management Journal*, 13(4).
- Robbins, S. P., & Judge, T. A. (2011). *Organizational behavior* (14th ed.). Upper Saddle River, NJ: Pearson.
- Rollins, T., & Roberts, D. (1998). Work culture, organizational performance, and business success: Measurement and management.
- Rubel, M. R. B., Kee, D. M. H., & Rimi, N. N. (2020). High commitment HR practices and employee motivation. *Global Business Review*, 21(5), 1-17.
- Rud, O. P. (2009). *Business intelligence success factors: tools for aligning your business in the global economy*, (Vol. 18). John Wiley & Sons.
- Rudelj, S. (2012). Model of the preferred organizational culture. *Strategic management*, 17(1), 27-41.
- Sackmann, S. A. (2006). Corporate Culture and Performance: Selected Methods for Assessing Corporate Culture. *Assessment, Evaluation, Improvement Success through Corporate Culture*, 6.
- Schein, E. H. (1990). Organizational culture. *American Psychologist*, 45(2), 109-119.
- Schein, E. H. (1991). *Organizational culture and leadership* (2nd ed.). Jossey-Bass.
- Schein, E. H. (1991). What is culture. *Newbury Park, CA: Sage*, 243-253.
- Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). Jossey-Bass.
- Schneider, B. (1980). The service organization: climate is crucial. *Organizational dynamics*, 9(2), 52-65.
- Scott, T., Mannion, R., Davies, H., & Marshall, M. (2003). The quantitative measurement of organizational culture in health care: A review of the available instruments. *Health services research*, 38(3), 923-945. <https://doi.org/10.1111/1475-6773.00154>

- Seetharaman, A. (2020). Organizational structure and performance. *Journal of Business Research*, 112, 1-10.
- Siehl, C., & Martin, J. (1990). Organizational climate and culture.
- Siehl, C., & Martin, J. (1990). Organizational culture. *Organizational Behavior and Human Decision Processes*, 45(1), 1-17.
- Sok, J., Blomme, R., & Tromp, D. (2014). Positive and negative spillover from work to home: The role of organizational culture and supportive arrangements. *British Journal of Management*, 25(3), 456-472.
- Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal?. *Journal of Vocational Behavior*, 68(3), 446-460.
- Staempfli, M., & Lamarche, K. (2020). Organizational culture and motivation. *Journal of Organizational Effectiveness*, 7(3), 245-260.
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in science education*, 48(6), 1273-1296.
- Tang, T. L. P., Kim, J. K., & Tang, D. S. H. (2000). Does attitude toward money moderate the relationship between intrinsic job satisfaction and voluntary turnover? *Human Relations*, 53(2), 213-245. <https://doi.org/10.1177/a010560>
- Taras, V., Caprar, D. V., Rottig, D., Sarala, R. M., Zakaria, N., Zhao, F., ... & Huang, V. Z. (2013). A global classroom? Evaluating the effectiveness of global virtual collaboration as a teaching tool in management education. *Academy of Management Learning & Education*, 12(3), 414-435. <https://doi.org/10.5465/amle.2012.0195>
- Taras, V., Rowney, J., & Steel, P. (2013). Half a century of measuring culture. *Journal of World Business*, 48(3), 329-340.
- Mujeeb, E., & Ahmad, M. S. (2011). Impact of organizational culture on performance management practices in Pakistan. *International Management Review*, 7(2), 52.
- Van Muijen, J. J., Koopman, P. L., & De Witte, K. (1999). Organizational culture. *Applied Psychology*, 48(4), 551-568.
- Viegas-Pires, M. (2013). Multiple levels of culture and post M&A integration: A suggested theoretical framework. *Thunderbird International Business Review*, 55(4), 357-370. <https://doi.org/10.1002/tie.21550>
- Wang, Y., Kim, S., & Rafferty, A. E. (2020). Employee motivation and organizational culture. *Journal of Organizational Behavior*, 41(3), 1-16.
- Warrick, D. D. (2017). What leaders need to know about organizational culture. *Business Horizons*, 60(3), 395-404.

- Weber, Y., & Tarba, S. Y. (2012). Mergers and acquisitions process: The use of corporate culture analysis. *Cross Cultural Management: An International Journal*. <https://doi.org/10.1108/13527601211247053>
- Weinzimmer, L. G., Franczak, J. L., & Michel, E. J. (2008). Culture-performance research: Challenges and future directions. *Journal of the Academy of Business & Economics*, 8(4), 152-162.
- Wilson, K. (2009). *A survey of employee engagement*. University of Missouri-Columbia.
- Xenikou, A., & Furnham, A. (1996). A correlational and factor analytic study of four questionnaire measures of organizational culture. *Human relations*, 49(3), 349-371. <https://doi.org/10.1177/001872679604900305>
- Zelkowski, J., DeNisco, S., & Stoddard, J. (2023). Organizational culture and performance. *Journal of Organizational Behavior Management*, 43(1), 45-60.
- Zheng, Y., & De Jong, J. H. A. L. (2011). Research note: Establishing construct and concurrent validity of Pearson Test of English Academic. *Pearson Education Ltd*. Retrieved March, 2, 2015.

Received 24 May 2024

Revision received 17 March 2026