Front. Bus. Res. China 2008, 2(2): 256–276
DOI 10.1007/s11782-008-0015-6

RESEARCH ARTICLE

ZHANG Mian, LI Hai, WEI Jun

Examining the relationship between organizational culture and performance: The perspectives of consistency and balance

Abstract Building on the Competing Values Framework (CVF), we investigated the relationship between organizational culture and performance. The perspective of consistency and that of balance were applied to examine the relationship. We tested our hypotheses on a sample of 270 companies in China, which resulted in two major findings. First, the consistency between organizational culture and external environment was found positively associated with organizational performance. Consistency was operationalized as a match between an organization's current culture and its preferred future culture. Second, balance of organizational culture was found positively correlate with organizational performance. A balanced culture was defined as one in which values of each of the CVF culture types are equally held.

Keywords organizational culture, organizational performance, consistency, balance

Translated and revised from *Kexuexue yu kexue jishu guanli* 科学学与科学技术管理(Science of Science and Management of S. & T.), 2007, 28(8): 140–148

ZHANG Mian (✉)
Department of Human Resource Management and Organization Behavior, School of Economics and Management, Tsinghua University, Beijing 100084, China
E-mail: zhangm6@sem.tsinghua.edu.cn

LI Hai
School of Business Administration, Beijing Normal University, Beijing 100875, China
E-mail: lihai@bnu.edu.cn

WEI Jun
School of Economics and Management, University of Science and Technology Beijing, Beijing 100083, China
E-mail: weijun@manage.ustb.edu.cn

摘要 在竞争价值观框架的基础上，研究企业文化与企业绩效关系，发现：首先，企业文化与内外部环境之间一致性越好，即现状文化和目标文化一致性越好，企业的人力资源开发水平和财务绩效都会越好；其次，对于成立时间较长的企业来说，企业文化越是均衡发展，即现状文化在四种类型的分布上越趋于均匀一致，企业的人力资源开发水平会越好。

关键词 企业文化，企业绩效，一致性，均衡性

1 Introduction

Organizational culture is defined as the most prominent values about how to conduct business and management, which has been gradually formed through organizational development (Cameron and Quinn, 1999). Weeks and Galunic (2003) argued that "firms are best thought of as cultures" (Weeks and Galunic, 2003). Since the 1980s, many scholars of management and organization studies have showed significant interests in the relationship between organizational culture and performance (e.g., Christensen and Gordon, 1999; Denison and Mishra, 1995; Fey and Denison, 2003; Gordon and DiTomaso, 1992; Kotter and Heskett, 1992).

Schein (1985) argued that organizational culture has two main functions, i.e., internal integration and external adaptation. Internal integration posits that organizational culture influences the behavior of organizational members (Schein, 1985). This behavioral influence exists because individuals behave in the ways that are consistent with their values, and organizational culture is a set of shared values. Therefore, the culture of an organization should create behavioral expectations that would direct the employees to behave in the ways that are consistent with its culture. Traditionally, scholars believe that organizations with strong culture perform better than those with weak cultures for the reason that strong culture creates behavior consistency (Deal and Kennedy, 1982; Schein, 1985; Wilkins and Ouchi, 1983).

The traditional argument that advocates strong culture met challenges after its popularity in 1980s. If members in an organization commonly believe in some underlying values while such values are obsolete with the changing environment, would a strong culture still have positive impact on the organization's performance? As Enz (1986) noted, if an organization's strong culture prevents it from adapting to the external environment, strong organizational culture would hinder rather than boost its performance. Furthermore, Kotter and Heskett (1992) argued that only having a strong organizational culture did not ensure better performance. Their empirical study alluded that the companies with both strong

culture and ability to adapt the external environment performed best. In sum, the most distinct disadvantage of traditional argument regarding strong culture ignored how organizational culture changes and interacts with its external environment.

Noticing the flaw in a mere advocating of strong culture, some scholars argued that the dynamically interactive process between organizations and environment was important for a better understanding of the linkage between organizational culture and performance (Quinn and Cameron, 1988; Denison, 1990; Gordon and DiTomaso, 1992). As Cameron and Quinn (1999) noted, "Change in organizations is pervasive because of the degree and rapidity of change in the external environment. The conditions in which organizations operate demand a response without which organization demise is a frequent result". Although they emphasized the importance of the dynamically interactive process, they did not conduct any empirical research. Drawing on the Competed Value Framework (CVF), they examined the relationship between specific culture domains and specific performance measures (e.g., Quinn and Spreitzer, 1991; Cameron and Freeman, 1991; Denison, 1990; Denison and Mishra, 1995; Fey and Denison, 2003). They found that the types of culture have impacts on performance. However, they did not empirically explore the interactive process between organizations and environment. Besides, their study was conducted in American education organizations. It remains unknown if their conclusion can be generalized to business organizations.

The purpose of this study is to delve deep into the relationship between organizational culture and performance by focusing on the dynamically interactive process. We argue that organizational culture is a hybrid of different types and justify the following two perspectives: consistency and balance. In short, the perspective of consistency posits that the match between an organization's culture and the external environment is positively correlated to its performance. Moreover, the perspective of balance postulates the balance of the different types of culture is positively correlated to organizational performance. The above two perspectives broaden the understanding of the relationship between organizational culture and performance. In the following section, we will decipher the theoretical background and advance our hypotheses.

2 Theoretical background and hypotheses

2.1 The competing values framework and organizational culture

After reviewing a large amount of literature, Campbell et al. (1977) designed a scale of organizational effectiveness. The scale comprising 39 indexes was

evaluated as the most integrative scale measuring organizational effectiveness (Quinn and Rohrbaugh, 1983). In an attempt to better understand the dimensionality of organizational effectiveness, Quinn and Rohrbaugh (1983) performed a multidimensional scale analysis of the relative similarity of the 39 popular effectiveness indexes. The resulting competing values framework (CVF) focuses on the competing tensions and conflicts inherent in any human system with the primary emphasis placed on the conflict between flexibility and control, and the conflict between the internal organization and the external environment.

Quinn and Kimberly (1984) have extended the CVF to assess organizational culture. They suggested that value orientations inherent in the framework can be used to "explore the deep structures of organizational culture, the basic assumptions that are made about such things as the mean to compliance, motives, leadership, decision making, effectiveness, values and organizational forms" (Quinn and Kimberly, 1984). The CVF of assessing organizational culture organizes and analyzes culture relative to two dimensions.If conceptualized in terms of one vertical axis, labeled structure (flexible to control) superimposed on a horizontal axis labeled focus (internal to external), four cultural domain quadrants are created.

The four types of cultural domain are as follows: clan (group), adhocracy (developmental), hierarchy (hierarchical), and market (rational). The clan culture corresponds to the quadrant identified with high flexible structure and an internal focus. Externally-focused emphasis on flexibility defines the adhocracy quadrant. Emphasis on internally-focused control defines the hierarchy quadrant. The market quadrant emphasizes externally-focused control. Generally, in the literature, each quadrant is considered separately and all developed measures focus on assessing culture relative to each of the "pure" types represented by the quadrants (e.g., Cameron and Freeman, 1991; Denison, 1990; Denison and Mishra, 1995; Quinn and Spreitzer, 1991). In other words, rather than assessing organizational cultures along the structure and focus dimensions, the focal interest here is the degree to which each of the four pure culture types is reflected.

CVF has emerged as perhaps the most popular approach to assess culture where the interest is on relating culture to organizational performance. One reason for the popularity of CVF is that it utilizes one of the few validated and relatively concise quantitative perspectives to assess culture. Quinn, Cameron and their colleagues established a scale titled Organizational Culture Assessment Instrument (OCAI) to measure organizational culture (Cameron and Freeman, 1991; Quinn and Spreitzer, 1991). OCAI assesses culture from the following aspects: dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphases and criteria of success. Each aspect has four items and each item corresponds to measuring each culture

domain. As for a certain organization, its culture is a hybrid of the four types. The culture of an organization can be illustrated as a profile shaped as a quadrangle (for a detail review, see Cameron and Quinn, 1999). Quinn and Spreitzer (1991) found that the OCAI has adequate convergent and discriminant validity.

2.2 Organizational culture and organizational effectiveness

Effectiveness is the extent to which an organization achieves its goal (Cameron, 1981). Empirical evidence shows that culture conceptualized by CVF has an impact on an organization's effectiveness (cf. Cameron and Freeman, 1991; Denison, 1984; Quinn and Spreitzer, 1991). In one of the explorations of the relationship between culture and effectiveness utilizing CVF, Denison (1984, 1990) used organization of work and decision-making practices as measures of group culture and found that organizations high on both (above the sample mean) had higher average return on investment than those organizations lower on both. This relationship was found for both current and future returns on investment. Cameron and Freeman (1991) examined the cultures of a large sample of universities and found that group cultures scored higher on student educational satisfaction, student personal development, faculty and administrator satisfaction, internal communication, and internal support.

While evidence exists to suggest that each culture domain may be related to effectiveness (e.g., Cameron and Freeman, 1991; Denison and Mishra, 1995; Quinn and Spreitzer, 1991), the group domain appears to be a more consistent predictor of effectiveness than the other three domains. Denison and Mishra (1995) explored the relationship between CEO perceptions of organizational culture and both subjective and objective effectiveness criteria. Cultures emphasizing group values correlated with flexibility, openness, responsiveness, and high levels of growth.

Quinn and Spreitzer (1991) added to the CVF literature with a study in which the relationship between culture and individual affective outcomes was analyzed. Their research analyzed culture via cluster analysis, in which a selection of representative cultural profiles was derived from the data. The cultural profiles described by emphasis in both the group and developmental quadrants were found associate with high levels of satisfaction with work, promotion, supervision, and life.

Although most studies utilizing CVF indicated that clan (group) type was positively associated with organizational effectiveness, we argue that a new approach should be taken to examine the relationship between culture and effectiveness. The influence of cultural types should have impact on organizational effectiveness in an integrative way because organizational culture

utilizing CVF is a hybrid of four cultural types. In other words, holistic approach should be used to explore the influence of organizational culture on effectiveness. However, such a holistic approach had been ignored by the literatures utilizing CVF. Some scholars have begun to realize the importance of holistic approach (Quinn, 1988; Quinn and Spreitzer, 1991; Tsui, wang and Xin, 2006). For instance, Tsui, Wang and Xin (2006) took such a holistic perspective to explore the relationship between organizational culture and performance. They first identified five dimensions of Chinese organizations' culture. Then, they did not study the influence of each dimension on performance. They used cluster analysis to classify the organizational culture and examined the relationship between classified culture and performance. In the following sections, we will continue to decipher the two holistic perspectives: consistency and balance.

2.3 Consistency of organizational culture and organizational performance

Organizational performance is a concept that can be used exchangeably with organizational effectiveness. The label of organizational performance is often used to indicate effectiveness of business units (Price, 1997). Financial indices are the most commonly used indices in the research on organizational performance. However, some researchers and practitioners argued that it was not accurate enough to use only financial indices to indicate performance (e.g., Kaplan and Norton, 1992, 1996). Kaplan and Norton (1992) identified two main shortcomings of the application of only financial indices: (1) they cannot cover all sides of organizational performance, and (2) they are usually time-lagged. We selected two kinds of performance indices in this study. One is perceived financial performance and the other is perceived human resource development. Here, financial performance indicates firm's well-being in finance related areas such as profitability, market share and expansion, and sales growth. Performance of human resource development reflects the degree to which an organization performs well through investing its human capital. Human capital is broadly defined as a firm's capability of attracting and retaining human talent, employees' morale and relationship with the management.

Consistency is defined as the extent to which elements in a system match each other (Quinn and Spreitzer, 1991). In this study, consistency refers to the extent to which organizational culture fits with its external environment. Enz (1986) posited that strong culture did not ensure good performance. When an organization can not adapt to changes in the external environment, its strong culture hampers its adjustment to the change, which in turn, results in the decay of the organization. Hence, it is logical to postulate that strong culture only exerts positive impacts on organizational performance under the condition in which

organizational culture fits external environment. Although scholars have noticed this (Enz, 1986; Quinn, 1988; Quinn and Cameron, 1988), there still lacks empirical evidence due to the difficulty of measuring the consistency between organizational culture and the external environment. In our view, culture types utilizing CVF make an empirical examination possible.

Consistency can be operated as the similarity between the profile of current culture and the profile of preferred future culture. The present culture is defined as the perception of what an individual thinks organizational culture is; the preferred future culture is defined as the perception of what an individual thinks organizational culture should be in order to achieve better performance in the future, or in other words, getting better adapted to the external environment. Cameron and Quinn (1999) emphasized the importance of the discrepancies between current culture and preferred future culture. They noted "By observing the areas of greatest discrepancies on the organization profile between the preferred future culture, and the current culture, a road map for change can be determined….Ultimately, discrepancy data may be the most powerful of all data provided by your culture profile if your agenda is to initiate change" (Cameron and Quinn, 1999). Due to turbulent changes in the environment, cultural change is necessary and initiated by environmental changes.

Although Cameron and Quinn (1999) emphasized the importance of the discrepancies between current culture and preferred future culture, they did not empirically explore the influence of the discrepancies on organizational performance. According to Cameron and Quinn (1999)'s theory of cultural change, if current culture and preferred future culture match, there is little need to initiate the cultural change. Because the preferred future culture reflects an individual's judgment on what is the ideal culture facilitating organizational performance in the future, we can infer that the higher the consistency between current culture and preferred future culture, the better the functions of internal integration and external adaptation. Moreover, the well running functions lead to a better performance.

All the reasons above lead us to advance the following hypotheses:

H1a: The consistency between current culture and preferred future culture positively associates with the organizational performance in human resource development.

H1b: The consistency between current culture and preferred future culture positively associates with the financial performance.

2.4 The balance of organizational culture and organizational performance

A balanced culture is one in which the values associated with each of the CVF culture domains are equally held. Quinn (1988) introduced the concept of

cultural balance within CVF and suggested that organizations with balanced cultures have a distinct advantage in managing environmental shifts.

Because organizations exist in dynamic environments, none of the four culture domains is likely to provide any organization with all of the values and assumptions that it needs to respond to the environment. In fact, the main contribution that CVF adds to the study of culture is the notion of paradoxical balance between these cultural extremes (Quinn, 1988). If an organization owns a balanced culture, then it has the values necessary to operate in all four quadrants as the environment dictates. The dynamic nature of organizational environments suggests that all organizations will have to operate in each quadrant at least during certain time period. Hence, having the culture necessary to handle each quadrant is essential. For example, the successful organization must be able to support personal development (clan culture value) and improve productivity (market culture value). The clan and market culture are opposites with the clan focusing on the internal organization and on flexibility, whereas market focuses on the external environment and control. Quinn argued that a successful organization is the one that can include each of these contradictory cultures and combine them into a cultural profile that meets all of their needs.

Quinn found support for the balance hypothesis in his study of individual managers. Managers whose management practices scored high on all of the four competing value quadrants were rated as being more effective by their subordinates than other managers. Additionally, Quinn and Spreitzer (1991) found that, in strongly balanced cultures, individuals report high levels of satisfaction with promotion and life and good physical health. Yeung, Brockbank, and Ulrich (1991) also found support for Quinn's (1988) balance hypothesis.

The theory goes on to predict that a balance of the four quadrants will produce the best results. Inherent is the idea that too much emphasis on any one cultural domain at the expense of the others can have a negative impact on the organization when the context demands behaviors and responses consistent with one of the non-emphasized domains; in essence, those neglected domains become "blind spots" for the organization. It is the tension between the demands of each of these culture domains that serves as the key to good performance, not the maximization of a subset of domains (Quinn, 1988).

Drawing on the above rationale, we propose the following hypotheses:

H2a: Organizations with well-balanced cultures will achieve higher levels of performance in human resource development than organizations with unbalanced cultures.

H2b: Organizations with well-balanced cultures will achieve higher levels of financial performance than organizations with unbalanced cultures.

3 Methods

3.1 Data

We used a survey approach and convenient sampling method to collect data. From April to December, 2006, surveys were distributed to trainees in six courses of Executive Development Program (EDP) in a university in Beijing, China. The trainees were top managers (presidents, vice-presidents, or chief secretaries of Communist Party committee) from a wide range of industries. Subjects were informed that the survey was one part of an academic study and their participation was absolutely voluntary. The confidentiality of completed surveys was guaranteed to all respondents. The authors distributed and collected surveys at the breaks of the courses. Ultimately, 270 valid surveys were returned and representative of different Chinese firms.

3.2 Measures

Types of organizational culture and its performance are needed to be measured. We used Organizational Culture Assessment Instrument, developed by Quinn and his colleagues, to measure organizational culture types. The consistency and balance of organizational culture can be calculated with the scores of organizational culture types. We adopted Kalleberg's (1996) scale to measure organizational performance. The measurement items are originally English. In order to ensure the accuracy of translation, the first author and two senior doctoral candidates in management conducted separate translation of these scales first, and then we compared and discussed each item carefully. Particular attention was paid to whether meanings of the English items correspond with those of the Chinese items.

3.2.1 Types of organizational culture

Respondents participating in the survey first rated current culture of their organizations. The OCAI comprises six dimensions and each dimension has four alternatives. It adopts ispative answering style, which is different from commonly used Likert style. The full points of each dimension are 100 and respondents were asked to divide 100 points across the four alternatives depending on the extent to which each alternative is similar to their organizations. Giving a higher number of points to one alternative indicates that the alternative is more similar to that of their organization. Respondents should ensure that the total rating points of the alternatives are 100 points.

After rating the current culture, the respondents were asked to rate their preferred future culture. The instruction for rating the preferred future culture is "if your organization is to become even more excellent in 3 to 5 years, if it is to become an outstanding example of high performance in 3 to 5 years, what should the culture be like?" This instruction provides respondents with a chance to make comprehensive judgments about what kind of organizational culture matches the internal and external environments in the upcoming years. Under the guidance of this instruction, respondents divided 100 points across the four alternatives of each dimension depending on the extent to which they preferred.

In order to illustrate how to use the scale, a dimension of the OCAI is shown in Table 1 as an example. Scoring the OCAI requires simple arithmetic calculation. For example, the final score of current clan culture is to add together all A responses in the Now column and divide by 6. Similarly, the final score of preferred future clan culture is computed through averaging scores for the A alternatives in the preferred column. All B responses represent adhocracy culture; all C responses represent market culture; all D responses represent hierarchy culture. Thus, all current and preferred cultural types can be computed in a similar way.

Table 1 An excerpt of the organizational culture assessment instrument

Dominant characteristics		Now	Preferred
A	The organization is a very personal place. It is like an extended family. People seem to know each other a lot.	20	30
B	The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.	20	30
C	The organization is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.	35	20
D	The organization is a very controlled and structured place. Formal procedures generally govern what people do.	25	20

Internal consistency coefficients (Cronbach Alphas) of current cultural types are as follows: clan (0.74), adhocracy (0.70), market (0.70), and hierarchy (0.72). The Cronbach Alphas of preferred cultural types are as follows: clan (0.85), adhocracy (0.70), market (0.61), and hierarchy (0.63). Although two alphas did not reach the common threshold level (0.70) proposed by Nunnally (1978), we reserved all measurement items due to the following two reasons. Firstly, Alphas can not be improved by deleting any specific items in the OCAI. Secondly, the OCAI is a well established scale and many empirical studies have shown strong evidence to support the validity of the scale.

3.2.2 The consistency of organizational culture

We used two methods to calculate the consistency score as follows: absolute difference and correlation. The method of absolute difference was calculated by three steps. First, the score of each type of preferred future culture was minus the score of current culture. Then, the absolute value of the result was calculated and we got four absolute differences. Last, we summed absolute differences. The final score is a holistic index indicating the total difference between the current culture and the preferred future culture. The bigger the absolute difference is, the worse the consistency.

The correlation score is achieved by calculating the correlation between the profile of current cultural type and the profile of preferred cultural type. The calculation method was often used by studies exploring person-organization fit (e.g., O'Reilly et al., 1991). The correlation score ranges from zero to one. The bigger the correlation score, the better the consistency.

3.2.3 The balance of organizational culture

Cluster analysis was performed to identify the organizations whose cultures could be considered balanced. This analysis described each of the cultural profiles that existed in the organizations. As recommended by Ketchen and Shook (1996), a two-stage clustering procedure was used. First, a hierarchical clustering technique was used to identify the number of clusters that existed in the data set. Based on the resulting dendrograms and changes in the agglomeration coefficient, this analysis suggested that two clusters were present in the data. Next, using the cluster means derived from the hierarchical clustering as the beginning points, a non-hierarchical cluster analysis was performed to refine the membership of the two clusters. We then performed ANOVAs on the clustering variables to demonstrate that the resulting clusters of organizations were truly distinct. The results of ANOVA analyses suggested that mean values of each of the four CVF culture domains were significantly different across clusters ($p<0.001$). The results of this analysis suggested that two clusters reflecting cultural balance existed in the sample. Cluster 1 ($n=216$) contained organizations with equally distributed scores on each culture domain (balanced) and the cluster 2 ($n=54$) contained uneven scores on each culture domain (unbalanced). Therefore, cluster membership was the measure of cultural balance used in the analyses.

3.2.4 Organizational performance

Organizational performance was assessed along the following two dimensions:

human resource development and financial performance. We chose the scale used in Kalleberg et al.'s (1996) National Organization Study and selected four items for each dimension. The respondents were asked: "How would you compare your organization's performance over the past three years to that of the other organizations that do the same kind of work?" The scale was a five point Likert-style measurement scale, ranging from much worse to much better. Respondent reported own subjective perception for each measurement item regarding his/her organization. Thus, all items were self-reported in a same survey.

Financial performance contained self-evaluation of profitability, marketing, growth in sales, and market share. Human resource development contained self-evaluation of ability to attract essential employees, ability to retain essential employees, relations between management and other employees, and employees morale. The reliabilities coefficient alpha of organizational performance was 0.87 for human resource development performance and 0.84 for financial performance. We conducted *CFA* to assess this measure. The fit indexes for one first-order factor fell within an acceptable range (*GFI*=0.91; *CFI*=0.95; *IFI*=0.95).

3.2.5 Controlling variables

Staff number, founding time and ownership type were used as control variables. Founding time was measured continuously and the average founding time was 107.2 months. Ownership type was classified as state-owned (*N*=101), private-owned (*N*=123) and joint-ventures/foreign-investments (*N*=44). Staff number was classified as 100 and below (*N*=31), 101–500 (*N*=66), 501–1000 (*N*=61), and 1001 and above (*N*=112). Such information was collected in order to control possible bias of firm size and other characteristics in examining the relationships among the constructs of our interest.

3.3 Data analysis

The OCAI uses a response scale in which individuals divide 100 points among alternatives. This is known as an ispative rating scale. The most prominent disadvantage of this scale is that responses are not independent. Normal correlation statistical analyses, which are based on the assumption of independent responses on each item, are usually not appropriate for analyzing this kind of data. However, some scholars have reviewed arguments for the appropriateness of some standard statistical techniques for this kind of data (Cameron and Freeman, 1991; Zammuto and Krakower, 1991). Because we used the composite index of consistency and balance rather than cultural types, the problems of high correlations among cultural types were alleviated. Hence, OLS

models were established to test our hypotheses.

Financial performance and human resource development level were used as dependent variables. Independent variables took two steps to enter the regression model. Firstly, control variables were added to the model. Secondly, the insistency and balance index were added to the model. Checks for linearity and multicollinearity were conducted. Standard F-tests for nonlinearity was employed to check the linear relationship between each independent and dependent variable. Particular attention was given to check multicollinearity and Variation Inflation Factors (VIF) indicated that there was no severe problem of multicollinearity which can change the significance of coefficients in OLS models.

4 Results

4.1 Descriptive statistics

Table 2 showed the results of descriptive information and simple correlations among variables in this study. As for the four current cultural types, the clan and the adhocracy types emphasizing flexibility and development were negatively correlated to the market and the hierarchy types emphasizing control and stability. Besides, the results revealed that the clan and the adhocracy types were positively related to performance indices. The hierarchy type was negatively associated with both financial performance and human resource development level while the market type was negatively related to human resource development level.

The simple correlations in Table 2 provided preliminary support to Hypothesis 1, 2. The consistency of organizational culture was related to human resource development level (r=–0.31, p<0.001, with difference score; r=0.39, p<0.001, with correlation score) and the consistency index computed by correlation method was also related to financial performance (r=0.12, p<0.05). The balance of organizational culture was related to both human resource development level (r=0.31, p<0.001) and financial performance (r=0.19, p<0.01).

4.2 Testing hypotheses

The multivariate regression analysis continuously used the following dependent variables: human resource development level and financial performance. Altogether eight OLS models were established and Table 3 illustrated the OLS results for each dependent variable. When human resource development level was regressed on the predictive variables and controlling variables, the regression coefficients of all the predictive variables were significant. The consistency of

Table 2 Means, standard deviations, and simple correlations

	Variables	*Means*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1	Ownership: State-owned	0.37	0.48												
2	Ownership: Private-owned	0.46	0.50	–0.71***											
3	Staff number	2.94	1.06	–0.04	0.29***										
4	Founding time	107.2	43.1	0.25***	–0.24***	–0.30***									
5	Clan: Current	24.17	5.31	0.17**	–0.24***	–0.12	0.09								
6	Adhocracy: Current	22.18	3.87	0.09	–0.18**	–0.14*	0.14*	0.33**							
7	Market: Current	28.02	4.73	–0.04	0.10	0.09	0.08	–0.54**	–0.24**						
8	Hierarchy: Current	25.47	6.45	–0.17**	0.22***	0.09	–0.23***	–0.61**	–0.68**	–0.13					
9	The consistency: Difference score	17.57	16.13	–0.05	0.16**	0.05	0.06	–0.53***	–0.31***	0.22***	0.47***				

(*To be Continued*)

(*Continued*)

	Variables	*Means*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
10	The consistency: Correlation score	0.34	0.38	0.10	–0.16**	–0.10	–0.16**	0.44***	0.08	–0.19***	–0.27***	–0.52***			
11	The balance membership	0.80	0.40	0.09	–0.15**	–0.11	–0.15**	0.66***	0.55***	–0.32***	–0.64***	–0.48***	0.21**		
12	HRD performance	3.81	0.72	0.11	–0.15*	–0.04	0.09	0.40**	0.18**	–0.15*	–0.33**	–0.39***	0.31***	0.31***	
13	Financial performance	4.25	0.55	–0.01	–0.04	0.09	–0.09	0.22**	0.19**	–0.02	–0.27**	–0.12*	0.11	0.19**	0.46**

Notes:

(1) Ownership is a dummy coded variable and joint-venture/foreign investment is the reference category; the balance of organizational culture is a dummy coded variable and unbalance membership is the reference category.

(2) Staff number was coded as 1:100 and below, 2:101–500, 3: 501–1000 and 4:1001 and above.

(3) *N* ranges from 262 to 270.

* $p<0.05$, ** $p<0.01$, *** $p<0.001$.

organizational culture had positive impact on human resource development level (β=–0.32, p<0.001, with difference score; β=0.26, p<0.001, with correlation score). It should be noted that higher difference score means worse consistency. Hence, the regression coefficient of the consistency computed by difference method was negative. The balance of organizational culture had positive influence on human resource development level (β=0.31, p<0.001). Therefore, Hypotheses 1a and 2a were supported.

Table 3 Results of OLS models

Variables	Human resource development performance				Financial performance			
	Model1	Model2	Model3	Model4	Model5	Model6	Model7	Model8
Controlling variables								
Ownership: state-owned	–0.01	0.06	–0.00	–0.00	–0.09	–0.06	–0.09	–0.08
Ownership: private-owned	–0.15*	–0.05	–0.10	–0.08	–0.15*	–0.11	–0.13*	–0.12
Staff number	0.03	–0.00	0.04	0.04	0.12	0.10	0.12	0.12
Founding time	0.06	0.00	0.06	0.05	–0.07	–0.10	–0.07	–0.06
ΔR^2	0.01				0.01			
ΔF	1.80				1.52			
The consistency index: Difference score		–0.38***				–0.13*		
ΔR^2		0.14				0.01		
ΔF		8.59				0.43		
The consistency index: Correlation score			0.30***				0.11+	
ΔR^2			0.08				0.01	
ΔF			4.56				0.39	
The balance index								
Balanced membership				0.31***				0.19**
ΔR^2				0.09				0.03
ΔF				4.99				3.08

Notes:

(1) Ownership is a dummy coded variable and joint-venture/foreign investment is the reference category; the balance of organizational culture is a dummy coded variable and unbalance membership is the reference category.

(2) + p<0.1, * p<0.05, ** p<0.01, *** p<0.001.

When financial performance was regressed on the predictive variables and controlling variables, the regression coefficients of all the predictive variables were also significant. The consistency of organizational culture computed by difference method showed positive impact on financial performance (β= –0.13, p<0.05). Although the consistency of organizational culture computed by

correlation method was associated with financial performance, the significance of the coefficient was weak (β=0.11, p<0.1). The balance of organizational culture had positive influence on financial performance (β=0.19, p<0.01). Hence, Hypotheses 1b and 2b were also supported.

5 Discussion

5.1 Theoretical implications

The relationship between organizational culture and performance has attracted increasing attentions among scholars and practitioners during the past two decades. Nevertheless, the empirical literatures on the topic tended to overwhelmingly study the internal integration function of organizational culture, leaving the role of cultural change in organizational performance an under-researched field. In this paper, we investigate the relationship between organizational culture and performance, taking interactive process between organizations and their environment into account. We argue that organizational culture is a hybrid of different types and justified the perspective of consistency and that of balance of organizational culture.

Our study extends the literature in the following aspects. Firstly, most scholars explored the influence of culture domains on performance (e.g., Cameron and Freeman, 1991; Denison and Mishra, 1995; Fey and Denison, 2003). For instance, Cameron and Freeman (1991) found the specific cultural type had impacts on organizational performance. However, we hold a holistic perspective on organizational culture and argue that organizational culture is a hybrid of different cultural types. In our view, it is meaningless to investigate the effect of each cultural type on performance because each of the four cultural types has its own advantages, which are beneficial to organizations. Organizational culture should be regarded as a holistic construct. When the relationship between culture and performance is explored, it is doubtful to "split" such a holistic concept into domains. In our opinion, cultural types exert their impacts in a synergic way.

Secondly, our findings reveal the importance of interactive process between organizations and their environment. The consistency of organizational culture has impacts on organizational performance. This finding illustrates that organizations should be sensitive to their external environment. As Barnard (1938: 6) noted, "At root the cause of the instability and limited duration of formal organizations lies in the forces outside. These forces both furnish the material which are used by organizations and limit their action. The survival of an organization depends upon the maintenance of equilibrium of complex character in continuously fluctuating environments". Although many scholars

accepted the importance of keeping equilibrium between organizations and environments, it is surprising to find that the literature made scarce efforts to explore the interactive process between organizational culture and the environment. In this paper, we utilize Quinn and his colleagues' theory of cultural change and justify organizational culture should adapt to external environment. If the current culture of an organization matches the preferred future culture, the current culture can boost organizational performance. However, if the current culture of an organization does not correspond with the preferred future culture, the current culture is obsolete and need to be changed. The perspective of consistency broadens our understanding about the relationship between organizational culture and performance.

Thirdly, because of the dynamic environment in which organizations are located, none of the four culture types utilizing CVF is likely to provide any organization with the values that it need to match its environment. The dynamic nature of organizational environment dictates that all organizations will have to operate in each quadrant at least some of the period. As Denison and Spreitzer (1991) noted, "An underlying assumption of the competing values model is the importance of balance. When one quadrant is overemphasized, an organization may become dysfunctional and the strength of the quadrant may even become weakness….The model stops short of the normative prescription that the most effective culture is one that has incorporated the characteristics of all four cultural types, but nonetheless recognizes that balance represents the capacity to respond to a wide set of environmental conditions". Quinn and Cameron (1988) also stated that a successful organization is a paradoxical one that can contain each of these contradictory cultures. On the basis of their theoretical arguments, we have further justified the perspective of balance. Our finding broadens the understanding of the relationship between organizational culture and performance.

5.2 Managerial implications

Our findings also have practical implications for top managers. Firstly, top managers should pay attention to the discrepancy between the current culture and the preferred future culture. By comparing the two profiles, top managers can judge the direction of cultural change. Accordingly, specific measures can be made to implement the cultural change. Cameron and Quinn (1999) provided practitioners who aim to diagnose and change organizational culture a practical and concise approach. For example, if an organization plans to increase clan type of culture, the organization can provide team building, internal communication, and participation opportunities to its employees.

Secondly, the perspective of balance sheds light on organizational culture building. Schein (1985) argued that organizational culture contained three levels, i.e., artifacts, espoused values, basic underlying assumptions. An organization emphasizing organizational culture often publishes a culture brochure compiling its espoused values. The culture brochure tends to contain all the advantages of four culture types. According to the perspective of balance, it is because balance is the ideal cultural profile. However, containing the ideal cultural profile does not ensure that an organization have achieved any advantages. Top managers should be sober and realize that it is inadequate to have espoused values. They should examine what their organization has already developed and what their organization lacks. Moreover, they should make measures to change and refine the culture of their organization.

5.3 Limitations and further directions

This paper has two main shortcomings, which nevertheless provide direction for future research. Firstly, the sample in our study was collected from the trainees in EDP programs. We assumed organizations that had sent their employees to EDP programs performed better than those that did not. Consequently, our sample may have represented only the well performing organizations in China. The sample homogeneity may also explain why a large proportion of companies (216 out of 270) had a balanced profile of organizational culture. In addition to sample homogeneity, this sample might contain some bias to a certain extent. If we want to extend the application of our findings, we shall collect more samples from Chinese enterprises. We would also need to collect information from multi-informants from each organization to obtain reliable and valid measures for the key constructs investigated in this study.

Secondly, common methods variance may exist and cause some bias because all of the variables were measured in a single survey questionnaire. Because all respondents were top managers who volunteered to participate in our research, the problem is alleviated to some extent. Future studies are needed to overcome such limitation. For example, we could invite experts who are familiar with organizations to evaluate performance, or we could use some objective measures for organizational performance. Clearly, more studies need to be conducted to examine the dynamic relationships among environment, organizational culture and performance.

Acknowledgements This work is supported by the National Natural Science Foundation of China (Grant No. 70402001) and the National Social Science Foundation (Grant No. 06CJY024) of China.

References

Banard I C(1938). The Functions of the Executive. Massachusetts: Harvard University Press
Cameron K S(1981). Domains of organizational effectiveness in colleagues and universities. Academy of Management Journal, 24(1): 25–47
Cameron K S, Freeman S J(1991). Cultural congruence, strength and type: Relationships to effectiveness. In: Woodman R W, Pasmore W(eds), Research in organizational change and development, Greenwich, CT: JAI Press
Cameron K S, Quinn R E(1999). Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework. New York: Addison-Wesley
Campbell J P(1977). On the nature of organizational effectiveness. In: Goodman P S, Pennings J M(eds), New Perspectives on organizational Effectiveness. San Francisco: Jossey-Bass Press
Christensen E W, Gordon G G(1999). An exploration of industry, culture and revenue growth. Organization Studies, 20(3): 397–422
Deal T E, Kennedy A A(1982). Corporate Cultures: The Rites and Rituals of Corporate Life. Massachusetts: Addison-Wesley
Denison D R(1984). Bringing corporate culture to the bottom line. Organization Dynamics, 13(1): 4–22
Denison D R(1990). Corporate Culture and Organizational Effectiveness. New York: John Wiley & Sons
Denison D R, Mishra A K(1995). Toward a theory of organizational culture and effectiveness. Organization Science, 6(2): 204–223
Enz C A(1986). Power and Shared Value in the Corporate Culture. Ann Arbor, MI: UMI
Fey C F, Denison D R(2003). Organizational culture and effectiveness: Can American theory be applied in Russia? Organization Science, 14(5): 686–706
Gordon G, DiTomaso N(1992). Predicting corporate performance from organizational culture. Journal of Management Studies, 29(6): 783–798
Kalleberg A L, Knoke D, Marsden P V, Spaeth J L(1996). Organizations in America. Thousand Oaks, CA: Sage Publications
Kaplan R S, Norton D P(1996). Using the balanced scorecard as a strategic management system. Harvard Business Review, 74: 75–85
Kaplan R S, Norton D(1992). The balanced scorecard: Measures that drive performance. Havard Business Review, (1): 71–79
Ketchen D, Shook C(1996). The application of cluster analysis in strategic management research: An analysis and critique. Strategic Management Journal, 17(6): 441–458
Kotter J P, Heskett J L(1992). Corporate Culture and Performance. New York: Free Press
Nunnally J C(1978). Psychometric Theory. New York: McGraw-Hill
O'Reilly 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
Price J L(1997). Handbook of organizational measurement. International Journal of Manpower, 18(4–6): 301–558
Quinn R E(1988). Beyond Rational Management: Mastering the Paradoxes and Competing Demands of High Performance. San Francisco: Jossey- Bass
Quinn R E, Cameron K S(1988). Paradox and Transformation: Towards a Framework of

Change in Organization and Management. Cambridge, MA: Ballinger
Quinn R E, Kimberly J R(1984). The management of transitions. In: Kimberly J R, Quinn R E(eds), New futures: The Challenge of Transition Management. New York: Dow Jones-Irwin, 298
Quinn R E, Rohrbaugh J(1983). A spatial of effectiveness criteria: towards a competing values approach to organizational analysis. Management Science, 29(3): 363–377
Quinn R E, Spreitzer G M(1991). The psychometrics of the competing value culture instrument and an analysis of the impact of organizational culture on quality of life. In: Woodman R W, Pasmore W(eds), Research in Organizational Change and Development. Greenwich, CT: JAI Press
Schein H E(1985). Organizational Culture and Leadership. San Francisco, CA: Jossey-Bass
Tsui A S, Wang H, Xin K S(2006). Organizational culture in China: An analysis of culture dimensions and culture types. Management and Organization Review, 2(3): 345–376
Weeks J, Galunic C(2003). A theory of the cultural evolution of the firm: The intra-organizational ecology of memes. Organizational Studies, 24(8): 1309–1352
Wilkins A L, Ouchi W G(1983). Efficient cultures: exploring the relationship between culture and organizational performance. Administrative Science Quarterly, 28(3): 468–481
Yeung A, Brockbank W, Ulrich D(1991). Organizational culture and human resource practices: An empirical assessment. In: Woodman R W, Pasmore W(eds). Research in Organizational Change and Development. Greenwich, CT: JAI Press
Zammuto R F, Krakower J Y(1991). Quantitative and qualitative studies of organizational culture. In: Woodman R W, Pasmore W(eds), Research in Organizational Change and Development. Greenwich, CT: JAI Press