

ORGANIZATIONAL CULTURE IN U.S. CONSTRUCTION COMPANIES

Ela Oney-Yazic¹, David Arditi², Benjamin O. Uwakweh³
yazici@iit.edu¹, arditi@iit.edu², uwakwebo@email.uc.edu³
Visiting Scholar, Illinois Institute of Technology, USA¹
Illinois Institute of Technology, USA²
University of Cincinnati, USA³

ABSTRACT

Organizational culture has gained importance in the increasingly internationalized and globalized construction business. The dynamics of the construction business have become more dependent than ever on the cultural characteristics of construction companies. It has become clear that sustained profitability and high financial returns are not enough to survive and remain successful in highly competitive markets because there is considerable evidence of conflicts and misunderstandings caused by cultural differences. Consequently, firms need to understand their own and other firms' organizational culture and need to adjust their ways and traditions while conducting business with other firms, organizations or individuals with different cultural values.

Although there is a substantial amount of research demonstrating the importance of cultural issues in the construction industry, the divergence between countries is yet to be explored. This study is a part of an international project initiated by CIB's TG23 (Task- Group 23 of the International Council for Research and Innovation in Building and Construction), and aims to investigate the cultural features of U.S. construction companies. Data are collected by means of a questionnaire based on OCAI (Organizational Culture Assessment Instrument), a well-known and widely used measurement tool developed by Cameron and Quinn. The survey is administered to the top 400 contractors listed by *Engineering News-Record*.

Keywords: Organizational culture, OCAI, U.S. construction companies

1. INTRODUCTION

Culture is a multi-dimensional concept that can be applied to firms, industries or nations. A review of existing literature yields an array of definitions of culture. Smircich (1983) mentions that the concept of culture has been borrowed from anthropology, where there are more than 160 different definitions (Kroeber and Kluckhohn, 1952). By far one of the most widely accepted definitions is proposed by Schein (1985), who defines organizational culture as "*a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid, and therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems.*"

There are two major ways of linking culture and organization. In the comparative management literature, culture is treated as an independent variable and assumed to be a background factor, which affects organizations indirectly. On the other hand, recognizing organizations as “culture producers”, the second approach considers culture to be an “inter organizational” variable, leading to the idea of “corporate culture” (Smircich, 1983). This perspective stimulated a great deal of interest among researchers mostly focusing on strategic studies in organizations (Quinn, 1980).

A number of researchers investigated the relationship between organizational culture and company success (Deal and Kennedy, 1982; Schein, 1985), performance and competitiveness (Barney, 1986; Hoecklin, 1996), and organizational effectiveness (Denison and Mishra, 1995). Particularly after the 1990's, parallel to the paradigm shift in the management literature where the adaptation process gained more importance than ever due to increased globalization and internationalization, organizational change became the focus of many cultural studies. However, there still is a need for more empirical research for a complete understanding of organizational culture, and its influences on different organizational issues.

Cultural Studies in the Construction Industry

Particularly after 1990, the number of publications focusing on organizational culture has significantly increased in the Construction Management (CM) literature. The main reason for the growing interest can be explained by the internationalization of the construction markets. Although the construction industry is relatively domestic in nature compared with other industries (Strassman and Wells, 1988), there is substantial evidence of increased international trade in construction services (Loraine, 1992). It appears that organizational culture has gained importance because more construction companies are conducting business in international markets (Low and Shi, 2001).

In addition to the emphasis put on the internationalization of the construction business, several authors highlight the importance of the fragmented nature of the industry (Hillebrant, 2000). One of the reasons for adversarial relations between different stakeholders is considered to be the sensitivity of different project participants to cultural differences (Phua and Rowlinson, 2003). Adversarial relationships have in turn a negative impact on project performance. Moreover, a strong organizational culture is claimed to be an effective way to respond to the environment; thus achieving a superior performance (Deal and Kennedy, 1982). Considering the hyper-turbulent environment and fragmented nature of the construction industry; understanding and managing organizational culture is of particular importance in enhancing organizational performance (Ankrah and Langford, 2005).

The majority of the existing studies in the CM field mostly attempt to appropriate the theoretical models of the management literature, and focus on (i) the impacts of organizational culture on project goals (Liu and Fellows, 1999) and partnering performance (Latham, 1994); (ii) the cultural differences between various construction professionals (Ankrah and Langford, 2005; Rameezdeen and Gunarathna, 2003); (iii) organizational effectiveness (Zhang and Liu, 2006) and (iv) the cultural aspects of organizational change (Rowlinson, 2001). Despite the substantial amount of research demonstrating the importance of cultural issues in the construction industry, this

young and relatively immature literature is far from addressing all the dimensions of the issue such as cross-cultural characteristics of the construction industry.

This study is a part of an international project initiated by CIB's TG23 (Task Group 23 of the International Council for Research and Innovation in Building and Construction), concurrently ongoing in 15 different countries. The main stimulus for this paper is to investigate the cultural features of U.S. construction companies. The results of the study are expected not only to produce further empirical evidence which is needed to understand the organizational culture in the construction industry, but also to enable a comparison among the participating countries to the CIB-TG23.

2. RESEARCH METHODOLOGY

Diverse analytical approaches are proposed in the literature, that provide various classifications, describing a number of ideal cultures. These typologies are based on different dimensions of organizational culture, representing the areas of significant differences between the organizations being compared (Ankrah and Langford, 2005). One of the most commonly used typologies was developed by Hofstede (1997) based on four different cultural dimensions: (i) individualism/collectivism, (ii) power-distance, (iii) uncertainty avoidance, and (iv) masculinity / femininity. Covering over 100,000 respondents from 72 countries, Hofstede (1997) distinguished between four culture types: families, pyramids, markets, and machines. On the other hand, Handy (1993) identified the power, role, task and person typologies. More recently, based on the competing values framework, Cameron and Quinn (1999) introduced a different classification including the clan, hierarchy, market and adhocracy cultures. Cameron and Quinn (1999) opted to base their typology on six different dimensions: (i) dominant characteristics, (ii) organizational leadership, (iii) management of employees, (iv) organizational glue, (v) strategic emphases, and (vi) criteria for success.

Working with typologies is claimed to be problematic, since it is hard to label every real-organization with a single typology (Hofstede, 1997). Moreover there is little agreement on classifications of culture. Nevertheless, the use of these typologies is still considered to be appropriate practice in the study of organizations since these typologies make use of numerous relevant dimensions (Ankrah and Langford, 2005). In order to be compatible with the studies conducted in other countries participating in the CIB TG23 research, Cameron and Quinn's (1999) "Competing Values Framework" (CVF) as well as their measurement tool named "Organizational Culture Assessment Instrument" (OCAI) were adopted in this study.

The Competing Values Framework

The Competing Values Framework was originally developed to understand organizational effectiveness (Cameron and Quinn, 1999), and was later applied to explore different issues relative to organizations such as total quality management (Al-Khalifa and Aspinwall, 2001), leadership development and managerial styles (Martin and Simons, 2000); and finally organizational culture (Cameron and Quinn, 1999).

The Competing Values Framework determines two major dimensions and four main clusters (see Figure 1). The first dimension differentiates between organizational focus (internal versus external), while the second one indicates the preference about structure (stability and control versus flexibility and discretion). These two dimensions form four quadrants, each representing a different set of organizational culture indicators. Each quadrant is given a distinguishing label that denotes its most notable cultural characteristic, (1) clan, (2) adhocracy, (3) market, and (4) hierarchy cultures (see Cameron and Quinn, 1999 for detailed information about the framework).

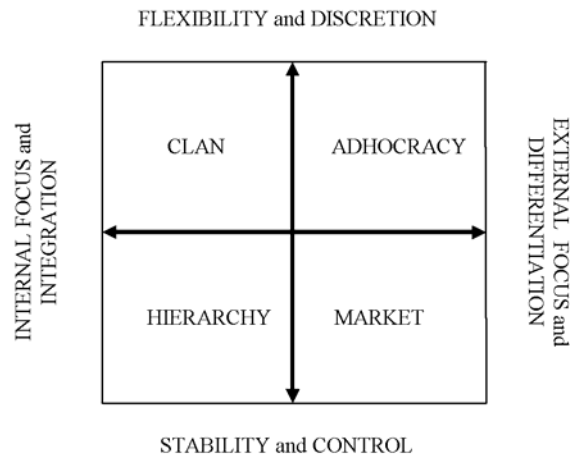


Figure 1. The Competing Values Framework (Adopted from Cameron and Quinn, 1999)

The *clan* culture is observed in family-type organizations. It concentrates on teamwork, employee-involvement programs, and corporate commitment to employees. This type of organization treats its customers as partners, and its employees as family.

The *adhocracy* culture is prevalent in dynamic, entrepreneur, and creative organizations where the major goal is to foster adaptability, flexibility and creativity. This kind of organization focuses on external positioning and is most responsive to hyper-turbulent environments, where change and uncertainty is typical; therefore innovativeness is assumed to be the key to success.

The *market* culture represents externally oriented organizations, which focus on transactions with suppliers, customers, regulators and so on. The core values that dominate these organizations are competitiveness and productivity, which can be achieved through a strong emphasis on external positioning and control.

The *hierarchy* culture is characterized by a formalized and structured workplace, where stability, predictability and efficiency are the long-term concerns.

In order to diagnose the dominant orientation of an organization, Cameron and Quinn (1999) developed an instrument known as “Organizational Culture Assessment Instrument” (OCAI), which consists of six different questions with four alternatives, which are relevant to the current orientation of the organization.

Data Collection and Analysis

The main objective of this research is to determine the cultural profile of U.S. construction companies. To achieve this objective, a questionnaire survey was conducted of the top 400 contractors listed by *Engineering News-Record* (ENR). The questionnaire was mailed to the executives of the construction companies along with a cover letter and a self-paid envelope. The total number of mailed and returned questionnaires was 400 and 31, respectively; giving an effective response rate of 8%.

The questionnaire is composed of three parts. The first part contains questions concerning the demographic characteristics of the respondents, such as job title and length of tenure with the company. The large majority of the respondents (90%) identified themselves as CEO, chairman, president, vice-president or vice chairman. The average number of years that the respondents had been with the company was 27 years.

The second part was designed to seek information about the characteristics of the companies, such as age, work volume, and type of work. The general characteristics of the responding construction companies are presented in Table 1.

Table 1. Characteristics of Responding Companies (N=31)

	Number of Companies	Percentage of Companies
Age (years)		
<30	7	23%
30-50	5	16%
>50	19	61%
Average Annual Work Volume (million US\$)		
<150	10	32%
150-249	11	36%
>250	10	32%

As it can be seen in Table 1, 61% of the responding construction companies have been in operation for more than 50 years, while the average age of the firms in the sample is 64 years. About 68% of the companies have an annual work volume of more than US\$150 million. The long-time existence and large annual dollar turnovers of the companies are not surprising since the mailing list was selected from the top firms in the U.S. construction industry.

Focusing on the organizational culture of the companies, the third part of the questionnaire was adopted from OCAI. It consists of 6 questions with 4 alternative statements representing the different types of organizational culture described in the preceding section. Respondents were asked to divide 100 points among different alternatives for each question. The overall cultural profile of an organization is then derived by calculating the average score of all statements representing the same cultural orientation. For reliability analysis, Cronbach's alpha values are computed for the culture types used in the study. The results indicate the fairness and suitability of the measurement tool (clan: 0.68, adhocracy: 0.70, market: 0.77, hierarchy: 0.67). The data were analyzed using the Statistical Package for the Social Sciences (SPSS) computer program.

3. FINDINGS AND DISCUSSION

The findings associated with this study are presented and discussed below, in line with the three comparison standards described by Cameron and Quinn (1999): (i) overall cultural profile of companies, (ii) strength of culture, and (iii) cultural congruence. Although there is a number of culture dimensions defined in the literature, this study is limited to these three issues since they are the most common ones treated in recent studies (Cameron, 2004).

Cultural Profile of the U.S. Construction Companies

The cultural profile of the companies refers to the overall culture plot of the companies in the sample. The scores assigned by each respondent to the four culture types indicate the extent to which these cultures are emphasized in the organization. In other words, the culture type with the highest score is considered to be the dominant culture in the organization.

Table 2 shows the distribution of organizational cultures in the 31 companies that participated in the study. The most frequent type of culture that dominates the organizations in the sample is “clan culture” (68%). As seen in Table 2, two companies in the sample were characterized by equally dominant cultures. These companies are classified as “companies with no dominant culture”. None of the companies were dominated by adhocracy, which represents innovative and pioneering organizations mostly operating in hyper-turbulent conditions (Cameron & Quinn, 1999).

Table 2. Distribution of Organizational Culture in U.S. Construction Companies

Organizational Culture	Number of Companies	Percentage of Companies
Clan	21	68%
Adhocracy	0	0%
Market	5	16%
Hierarchy	3	10%
No dominant culture	2	7%
Total	31	100%

The characteristics of clan type organizations are team-work, employee development, and commitment to employees. From this perspective, Cameron and Quinn (1999) underline that “*when rapidly changing, turbulent environments make it difficult for managers to plan far in advance and when decision making is uncertain, it was found that an effective way to coordinate organizational activity is to make certain that all employees share the same values, beliefs, and goal*”. Although the findings of our study uphold Cameron and Quinn’s (1999) claim that clan culture is prevalent among U.S. organizations, this perspective conflicts with the project-based nature of the construction industry, i.e., short-term organizations that rely on non-permanent workers (Ofori and Debrah, 1998). But there seem to be reasonable explanations to fill the gap between the specific characteristics of the construction industry and the predominant aspects of clan culture. For example, Hult et al. (2003) found in their study that large and old organizations, which also constitute the sample of our study, tend to focus on organizational learning and development of teamwork, which are also the characteristics of the clan culture. Also, long history and reasonably stable

membership, which is also the common profile of the respondents in our sample, is assumed to be necessary to produce social understandings by Schein (1981), in other words to develop clan characteristics. Moreover, the dominance of an internally-focused clan culture among U.S. construction companies supports Thomas et al.'s (2002) observation that an employee-focused internal orientation is commonly predominant in the construction industry because of the ad hoc nature of construction work.

Strength of Culture

“Strength” of culture is an ambiguous concept which can be defined in various ways. In the literature, strong cultures have been characterized with their homogeneity (Ouchi and Price, 1978), congruency (Schall, 1983), cohesiveness (Deal and Kennedy, 1982), and differentiation (Schein, 1985). In this study, in line with Cameron and Quinn (1999), strength of culture is defined by the score awarded to a specific type of culture, as calculated in Table 3. The other characterizations of the concept, such as homogeneity and congruency are discussed in the next section under “cultural congruence”.

As seen in Table 3, the strengths of different cultures were computed by calculating the respective average of the scores assigned by the respondents to each dimension of organizational culture.

Table 3. Average Scores of Dimensions of Organizational Culture (N=31)

Dimensions of Organizational Culture	Culture Types			
	Clan	Adhocracy	Market	Hierarchy
Dominant Characteristics of Organization	38.52	22.74	24.52	14.23
Organizational Leadership	29.52	27.58	22.26	21.61
Management of Employees	41.61	23.71	20.81	13.87
Organizational Glue	54.35	15.48	21.13	9.3
Strategic Emphases	38.23	19.19	20.16	23.06
Criteria for Success	33.23	13.39	27.42	25.97
Overall Organizational Culture Profile	39.24	20.35	22.71	17.96

As stated above, having a strong culture is assumed to be an indicator of not only a clear focus in the organization, but also of higher performance (Cameron & Quinn, 1999). The findings show that, in addition to its dominance, clan culture is significantly stronger than any other type with a mean score of 39.24, while the nearest score belongs to market culture (22.71) (see Figure 2).

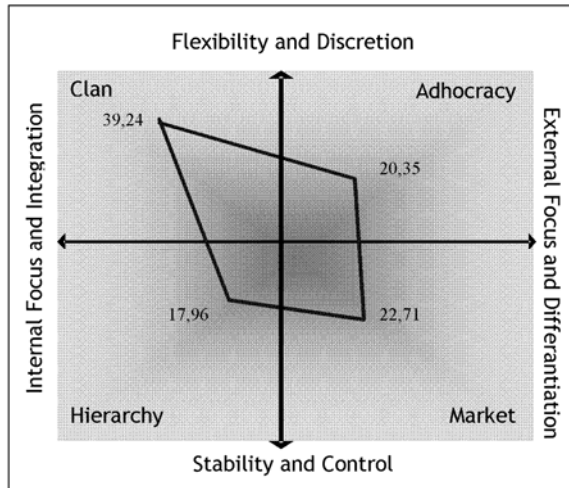


Figure 2. Overall Culture Profiles of U.S. Construction Companies

Cultural Congruence

Cultural congruence refers to the harmony among different cultural dimensions discussed above. According to Cameron and Quinn (1999), in a congruent organization, the overall culture of the organization and various aspects of it (criteria for success, leadership style, organizational glue, etc.) tend to indicate homogeneously the same cultural values. Having focused on the same values, congruent cultures are assumed to be high performing organizations (Cameron & Quinn, 1999). On the other hand, cultural incongruence stimulates differences in perspectives and strategies within the organizations, often indicating a need for change. Harris and Mossholder (1996) underline that this diagnosis is helpful for the proper allocation of resources among various culture dimensions.

As to the cultural congruence among the different dimensions of organizational culture in the sampled companies, it is found that all dimensions are strongly emphasized in clan culture which was found to be in the preceding two sections to be the most dominant culture in U.S. companies (see Table 3).

4. CONCLUSION

This study is focused on an empirical investigation of the organizational culture of U.S. construction companies. The results reveal that most U.S. construction companies are dominated by a strong clan culture, which is relevant to internally-focused organizations. In other words, the findings show that U.S. construction companies (i) operate like an extended family, (ii) have a leadership style generally associated with a facilitator, mentor or parent, (iii) emphasize teamwork, participation and consensus, (iv) have workers with a high level of commitment and loyalty, (v) emphasize human development, and (vi) define success on the basis of employee commitment and concern for people. It must be noted however that the results are based on information obtained only from few large enterprises operating in the U.S. construction industry, and may reflect the bias of organizational size and of a low rate response to the survey. Following this exploratory study, further work focusing on a

larger sample including organizations of different sizes could be helpful in drawing a more reliable cultural profile of U.S. construction companies.

The findings show that all dimensions of organizational culture are emphasized in clan culture indicating the existence of cultural congruence, which is supposed to be positively related to the organizational performance and success (Cameron and Quinn, 1999). The results also support Deal and Kennedy's (1982) work to some extent which claims that U.S. organizations have a strong culture which constitutes the driving force of their continued success. However further investigation is essential for a better understanding of the relation between the strength and congruence of culture and company success.

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