CULTURE AND ORGANIZATIONAL CULTURE IN THE CONSTRUCTION INDUSTRY: A LITERATURE REVIEW

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Abstract: The effectiveness and competitive advantage of an organization/project can be enhanced when its members possess an understanding, respect, acceptance, and capacity to manage cross-cultural differences. Ignoring or failing to manage such differences may lead to many problems in the project (e.g., project delays and productivity decrease). In fact, international/transnational projects involving participants from diverse political, legal, economic, and cultural backgrounds are on the rise. Hence, firms should be cross-culturally competent and capable of managing in contrasting cultural factors. However, a recent study conducted in 2013 by the Construction Industry Institute (CII) reported that one of the major concerns of construction professionals is a widespread lack of understanding of foreign cultures, ethnicities, and languages. The aim of this paper is to present a comprehensive review of the literature on cultural aspects in the construction industry so as to identify the knowledge gaps and to suggest recommendations for future research. To do so, the authors have identified and compared major studies on cultural factors. From the comparison, the authors have identified the categories that are considered the most central to understanding cultural differences; they are, “group attachment and relations,” “authority and status,” “uncertainty and rules,” “gender roles and assertiveness,” and “time and future orientation.” The authors also summarize the current research topics in culture in construction and recommend ideas for future research into culture as it pertains to a construction context.

1 INTRODUCTION

Globalization has led to construction companies performing more work around the globe. As the construction industry globalizes, it is becoming increasingly important to understand the impact of cultural and linguistic differences on performance (Comu, Unsal, and Taylor 2011). The emergence of more international/transnational projects has given rise to the involvement of participants from diverse political, legal, economic, and cultural backgrounds. Consequently, scholars are focusing on understanding the less tangible management aspects of construction projects, such as building trust and an organizational culture. Managing organizations and projects and handling dispute negotiation involves individuals and their beliefs, so cultural differences have a significant influence on management success (Hofstede 1983). This is in addition to the environment of the host country, which has an effect on the operation of the construction project. Thus, for contracting parties to function effectively, it is critical that they be aware of others’ expectations and priorities (Chan and Tse 2003).
Understanding, respecting, accepting, and managing cross cultural differences effectively in construction projects can enhance the organization/project’s effectiveness and provide a competitive advantage, while ignoring or failing to manage cultural differences may lead to many problems in the project, such as project delays and decreases in productivity (Kivrak, Ross, and Arslan 2008). Arising from a failure to properly manage cultural differences are such problems as expatriates’ culture shock, unfamiliar local work style, different negotiation style, different professional standards and construction codes, and codes of conduct and ethical standards (bribery and corruption), causing many ethical and moral dilemmas (Hall and Jaggar 1997). However, a recent study conducted by the Construction Industry Institute (CII) (2013) reported that one of the major concerns of construction professionals is the lack of understanding of foreign cultures, ethics, and languages. Thus, there is a need to study and better understand culture in construction.

The aim of this paper is: 1) to present a comprehensive literature review on cultural aspects in the construction industry, and 2) to identify the knowledge gaps and suggest recommendations for future research. After addressing its research methodology, this paper presents the findings from the literature review on culture on construction projects. The findings include 1) definitions of culture, 2) cultural factors, and 3) research on culture. Later, the paper summarizes, in the Conclusions and Recommendations section, what was learned from the analysis and recommendations for future research.

2 RESEARCH METHODOLOGY

This study was conducted through four steps: 1) obtaining and screening the literature, 2) identifying major studies on cultural factors and comparing them, 3) summarizing the current research topics in culture in construction, and 4) identifying the gaps of knowledge and proposing recommendations for future research. First, the literature was obtained from peer-reviewed publications (journal articles or conference proceedings) on culture and on organizational cultures in construction. The authors reviewed and analyzed over 60 peer-reviewed publications from major construction engineering and management journals, including the American Society of Civil Engineers (ASCE) Journal of Construction Engineering and Management, the Journal of Management in Engineering, Computing in Civil and Building Engineering, and the International Journal of Management in Engineering. The authors screened the literature unrelated to construction since the wide-ranging topic of culture is addressed in a variety of disciplines. This literature review, conducted between 2013 and 2014, covered studies published between 1983 and 2014. Although the review is not exhaustive, it provides a comprehensive basis for understanding culture and organizational culture in construction.

Second, to get a firm grasp on the two topics, the authors defined culture and organizational culture. Based on the aforementioned literature review, the authors identified, summarized, and compared four of the most remarkable and most commonly referenced studies that introduced cultural factors—Hofstede (1983), Trompenaars and Woolliams (1999), Schwartz (2004), and Brodbeck, Chhokar, and House (2007). From the comparison analysis, the authors identified the five categories most central to understanding cultural differences.

Third, the authors identified and summarized current research topics on culture in construction. Those are 1) cultural factors and differences, 2) organizational culture, 3) culture diversity and its impact, and 4) culture effect on contractual arrangements. This step was needed to identify the knowledge gaps and suggest recommendations for future research. Based on these findings, the authors provide recommendations for future research in the Conclusions and Recommendations section.

3 CULTURE

Many scholars consider culture to be one of the major issues affecting the management of international construction projects. The contextual environment of the host country greatly impacts the operation of the construction project. Thus, to be able to function effectively, it has become important for professionals involved in international projects with participants from different cultural backgrounds to comprehend others' expectations and beliefs (Chan and Tse 2003; Hall and Jaggar 1997). However, this
comprehension seems to be somewhat limited in the construction industry (Hall and Jaggar 1997). Before the authors move into presenting the current research topics on culture in construction, it is important to start by introducing the definition and factors of culture as agreed upon by many scholars.

3.1 Defining Culture and Organization Culture

According to many scholars, one of the most complicated words in the English language is culture, as it touches on many topics and processes. Complex and divergent in its applications (Hall and Jaggar 1997), the word is defined differently, according to the research field where it is studied. Culture describes the social system that a group of people create in which they share common rules, norms, values, beliefs, perspectives, practices, and rituals (Chan and Tse 2003). In the construction industry, culture is about “the characteristics of the industry, approaches to construction, competence of people, and the goals, values and strategies of the organizations they work in” (Kivrak, Ross, and Arslan 2008).

The dictionary (Guralnik and Friend 1960) defines organization culture as “the integrated pattern of human behavior that includes thought, speech, action, and artifacts and depends on man's capacity for learning and transmitting knowledge to succeeding generations.” Three of the many definitions of organizational culture found in the literature are as follows: 1) “A pattern of basic assumptions invented, discovered or developed by a given group as it learns to cope with its problems of external adaptation and internal integration that has worked well enough to be considered valid and to be taught to new members as the correct way to perceive, think and feel in relation to these problems” (Schein 2010). 2) “An organization’s culture reflects assumptions about clients, employees’ mission, products activities and assumptions that have worked well in the past and which get translated into norms of behavior and expectations about what is legitimate, desirable ways of thinking and acting” (Laurent 1983). 3) “The values and beliefs that govern behavior in an organization” (Maloney and Federle 1991).

3.2 Cultural Factors

The literature review revealed a plethora of culture-type categorizations. For example, Wallach (1983) categorized culture organizations as bureaucratic, innovative, and supportive; Liu, Shuibo, and Meiyung (2006) categorized organizational culture in terms of risk-taking and power centralization. Culture type was also categorized in terms of factors or dimensions. These factors map the cultural differences in terms of values and practices embraced by the organization (Ankrah and Langford 2005; Liu, Shuibo, and Meiyung 2006). The defined factors (dimensions) form a continuum that allows a framework for analysis and management of cultural differences (Hall and Jaggar 1997).

3.2.1 Four Major Studies on Cultural Factors

Four of the most remarkable and most commonly referenced studies that introduce cultural factors (or “dimensions” as Hofstede and several other scholars often used this term) are Hofstede (1983), Trompenaars and Woulliams (1999), Schwartz (2004), and Brodbeck, Chhokar, and House (2007). First, Hofstede (1983), by studying the national cultures of 50 countries, introduced culture’s four independent factors: 1) individualism/collectivism, 2) power distance, 3) uncertainty avoidance, and 4) masculinity/femininity. Hofstede’s factors are considered the most extensively used in many management and organizational behavior studies. Smith (2006) referred to Hofstede’s factors as being a decades-long landmark for subsequent researchers.

Second, Trompenaars and Woulliams (1999) studied 40 countries to explore how every culture determines the solution to problems arising from relationships with other people, the passage of time, and from the environment. They identified how values differ between cultures, grouping them into seven factors—1) universalism-particularism, 2) individualism-communitarianism, 3) diffuse-specific, 4) affective-neutral, 5) achievement-ascription, 6) attitudes to the environment, and 7) attitudes to time (Trompenaars and Woulliams 1999). According to Trompenaars and Woulliams (1999), every culture distinguishes itself from others by the solutions it chooses to certain problems.
Third, based on data collected from many countries, Schwartz (2004) defined three bipolar cultural factors that represent alternative solutions to three main problems confronting all societies. The factors are 1) embeddedness versus autonomy, 2) hierarchy versus egalitarianism, and 3) mastery versus harmony.

Last, the Global Leadership and Organizational Behavior Effectiveness (GLOBE) Research Program conducted a study over 11 years on 1,000 organizations in 62 countries to investigate cultural factors that affect leadership and organizational practices (Brodbeck, Chhokar, and House 2007). These researchers grouped the 62 societies into 10 societal clusters. They established nine cultural factors that make it possible to capture the similarities and/or differences in norms, values, beliefs, and practices among different societies.

Other miscellaneous factors proposed by other researchers include: unemotionality, depersonization, subordination, conservatism, isolationism, and antipathy; holographic and ideographic; constructive, passive/defensive and aggressive/defensive; involvement, consistency, adaptability and mission; organizational values, task organization, organizational climate and employee attitudes; leadership, structure, innovation, job performance, planning, communication, environment, humanistic workplace, development of individual and socialization on entry; time, space, human relationships, human activities, and human nature (Ankrah and Langford 2005; Liu, Shuibo, and Meiyung 2006).

3.2.2 Comparison between the Four Studies on Cultural Factors

A comparison of the four studies summarized above shows that certain factors are central to understanding cultural differences (Table 1). These factors have been grouped here into seven categories based on similarity. Those are: 1) “group attachment and relations,” 2) “authority and status,” 3) “uncertainty and rules,” 4) “gender roles and assertiveness,” 5) “time and future orientation,” 6) “emotions,” and 7) “caring for others.” The comparison revealed that the first three categories were covered by all four studies, the fourth through sixth categories were covered by three studies, the fifth was covered by two studies, and the sixth and seventh were covered by one study each.
Table 1: Comparison of various cultural factors

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<tbody>
<tr>
<td>Group attachment and relations</td>
<td>Individualism/collectivism</td>
<td>Individualism/communitarianism</td>
<td>Embeddedness/autonomy</td>
<td>Collectivism I: (Institutional)</td>
</tr>
<tr>
<td>Authority and status accorded</td>
<td>Power distance</td>
<td>Achievement/ascription</td>
<td>Hierarchy/egalitarianism</td>
<td>Power Distance &amp; Performance Orientation</td>
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<tr>
<td>Uncertainty and rules</td>
<td>Uncertainty avoidance</td>
<td>Inner-directed/outer-directed Universalism/particularism</td>
<td>Mastery/harmony</td>
<td>Uncertainty Avoidance</td>
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<tr>
<td>Gender roles and assertiveness</td>
<td>Masculinity/femininity</td>
<td>Specific/diffuse</td>
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<td>Gender Egalitarianism &amp; Assertiveness</td>
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<td>Time and future orientation</td>
<td>Long-term orientation</td>
<td>Sequential/synchronic time</td>
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<td>Future Orientation</td>
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<td>Emotions</td>
<td>Affective/neutral</td>
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<td>Human Orientation</td>
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<td>Caring for others</td>
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The first category “group attachment and relations,” dealing with group versus individual, was addressed by all four studies and enjoyed the greatest popularity in cross-cultural studies. Brodbeck, Chhokar, and House (2007) divided this category into two sub-factors—one concerned with the institution and the other with the in-group collectivism. The second category “authority and status accorded,” which deals with unequal distribution of power and how success is achieved, was also addressed by all four studies. Brodbeck, Chhokar, and House (2007) addressed “power distance” in one factor that deals with how power is equally distributed and addressed the “status accorded” in the “performance orientation” factor that deals with how performance and excellence are encouraged. Trompenaars and Woolliams (1999) addressed the willingness to accept power distances, which the authors partially reflected in this category, in the “achievement/ascription” factor.

All four studies discussed the third category “uncertainty and rules,” which deals with uncertainties and setting rules to regulate them. Hofstede (1983), Trompenaars and Woolliams (1999), and Brodbeck, Chhokar, and House (2007) all addressed uncertainty and the significance of rules, while Schwartz (2004) dealt with managing uncertainty only.

The fourth category “gender roles and assertiveness” was discussed by three studies—Hofstede (1983), Trompenaars and Woolliams (1999), and Brodbeck, Chhokar, and House (2007). The authors located Trompenaars and Woolliams' (1999) “specific/diffuse” factor under the assertive category as it is related to masculinity and femininity where masculinity is more assertive and aggressive (facts) versus the more caring (relationship) femininity.

The fifth category of “time and future orientation” was discussed also by three studies—Hofstede (1983), Trompenaars and Woolliams (1999), and Brodbeck, Chhokar, and House (2007). However, their view of time seems somehow different. While Hofstede (1983) and Brodbeck, Chhokar, and House (2007) viewed the time aspect in terms of how people plan their future, look at their present and past, Trompenaars and Woolliams (1999) dealt with specific events and tasks relative to time. The last two
factors, covered by one study each, are 1) “emotions” - the affective/neutral by Trompenaars and Wooiliams (1999) and 2) “caring for others” - the humane-orientation by Brodbeck, Chhokar, and House (2007).

From the comparison above, this paper identifies five categories most central to understanding cultural differences. These five deal with “group attachment and relations,” “authority and status,” “uncertainty and rules,” “gender roles and assertiveness,” and “time and future orientation.”

3.3 Research in Culture in Construction

The current research topics on culture in construction are identified and summarized to identify the knowledge gaps and suggest recommendations for future research. Those topics are: 1) cultural factors and differences, 2) organizational culture, 3) culture diversity and its impact, and 4) culture effect on contractual arrangements. The corresponding researchers, presented in Table 2, are categorized by research topic.

<table>
<thead>
<tr>
<th>Topics of Research</th>
<th>Authors</th>
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<tr>
<td>Cultural Factors and Differences</td>
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<tr>
<td>a. Culture Type and Factors</td>
<td>Horii, Levitt, and Jin (2005) and Riley and Clare-Brown (2001)</td>
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<tr>
<td>b. Cultural Differences in Different</td>
<td>Ozorovskaja, Voordijk, and Wilderom (2007); Tsai and Chi (2009); and Naoum, Alyousif, and Atkinson (2014)</td>
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<tr>
<td>Geographical Locations</td>
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<tr>
<td>Organizational Culture</td>
<td>Maloney (1989); Maloney and Federle (1991); Ozorhon et al. (2008); Ankrah and Langford (2005); Ankrah, Proverbs, and Debrah (2009); Fong and Kwok (2009); and Brunetto, Xerri, and Nelson (2014)</td>
</tr>
<tr>
<td>Cultural diversity and its impact</td>
<td>Javernick-Will and Levitt (2009); Miller et al. (2000); Chan and Tse (2003); Rahman and Kumaraswamy (2004); Fong and Lung (2007); Kivrak, Ross, and Arslan (2008); Barkema et al. (1997); Mahalingam and Levitt (2007); Comu, Unsal, and Taylor (2011); and (2000)</td>
</tr>
<tr>
<td>Cultural Effect on Contractual Arrangements</td>
<td>Chan and Tse (2003); Gad, Shane, and Strong (2010); and Gad and Shane (2012)</td>
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3.3.1 Cultural Factors and Differences

Several studies on different cultures were identified. Horii, Levitt, and Jin (2005) examined and characterized cultural differences into two factors: cultural values and cultural practices. The former refers to an individual’s preferences in decision making and the latter refers to the cultural norms for adopting specific coordination mechanisms to control organizations and tasks. Interestingly, other than studies on cultural factors, Riley and Clare-Brown (2001) investigated the culture found in construction companies by comparing it to that found in manufacturing companies. They held that, as the culture in construction significantly differed to that in manufacturing industries, substantial modifications were needed in adopting tools or practices from other sectors.

In addition to studies on types and factors of culture, several studies were identified that focused on cultural differences in different geographical locations. Ozorovskaja, Voordijk, and Wilderom (2007), by comparing Lithuanian and Dutch construction firms, identified significant differences in leadership and cultures. Tsai and Chi (2009) investigated the influences of Chinese cultural orientations and conflict management styles on construction dispute-resolving strategies using Hofstede’s cultural factors. Naoum, Alyousif, and Atkinson (2014) identified the impact of national culture on the management practices of construction projects in the United Arab Emirates.
3.3.2 Organizational Culture

Organizational culture constitutes one of the major topics in culture research. This study identifies numerous researchers who have conducted studies on organizational cultures. Maloney (1989) claimed that once an organizational culture has been established and strongly maintained, it greatly reduces uncertainty, leading to higher performance along with the organization’s members’ higher satisfaction level. To investigate organizational culture and to determine its relationship with other organizational variables, Maloney and Federle (1991) used a framework developed by Quinn (1988) that was applied to an examination of organizational culture in educational institutions conducted by Cameron (1982). Ozorhohon et al. (2008) examined the effect of cultural similarity/difference relative to the national and organizational characteristics of partner companies on international joint ventures. They argued that the differences in organizational culture have a greater impact on international joint ventures’ performance than differences in national and host country culture. They also highlighted the importance of culture in international joint ventures noting that the cultural distance between the partners has a significant impact on alliance performance.

Later, Ankrah and his colleagues conducted several studies on organizational cultural differences by comparing architects and contractors’ organizational cultures (Ankrah and Langford 2005) and by investigating factors influencing the culture of a construction project organization (Ankrah, Proverbs, and Debrah 2009). Similarly, Fong and Kwok (2009) characterized and evaluated the composition of organizational culture, the strategic approach for knowledge flow, and the success of knowledge management systems at different hierarchical levels of contracting organizations. They identified that what was favored at both project and organization levels in contracting firms were the clan culture, the culture of honest communication, respect for people, trust, and cohesive relationships. Most recently, Brunetto, Xerri, and Nelson (2014) identified the impact of perceived organizational support and leader-member exchange on organizational culture within asset management organizations and the positive impact of organization culture and employee engagement.

3.3.3 Culture Diversity and Its Impact

Individuals and organizations in a project have different values, beliefs, and norms (Hofstede 2001; Kogut and Singh 1988) and among project participants, this cultural diversity can impact knowledge transfer (Javernick-Will and Levitt 2009; Miller et al. 2000) relationships in a contract (Chan and Tse 2003; Rahman and Kumaraswamy 2004), and trust developments (Fong and Lung 2007). A number of studies have scrutinized cultural diversity and its impact on a project. For example, Kivrak, Ross, and Arslan (2008) studied the effect of cultural diversity on construction management practices to the success of a project by interviewing senior managers in the United Kingdom. However, a consensus has yet to be reached on whether cultural diversity impacts project performance positively or not. Barkema et al. (1997) claimed that cultural diversity decreases project performance and Mahalingam and Levitt (2007) argued that cultural diversity leads to increased transaction costs both in monetary and efficiency terms. Comu, Unsal, and Taylor (2011) also observed cultural diversity to have a negative impact on initial performance; however, projects with cultural and linguistic diversity achieved better adaptation performance on average. Miller et al. (2000) contended that, in the long term, the benefits of cultural diversity can be achieved due to greater creativity, better problem solving ability, and a more comprehensive approach to problem solving.

3.3.4 Culture Effect on Contractual Arrangements

Chan and Tse (2003) explored the characteristics of international construction activities and discussed cultural contexts to establish a groundwork on the impact of cultural issues on contractual arrangements, conflict on international construction activities, and the selection of dispute resolution mechanisms for international construction projects. They contended that international construction projects are more prone to disputes compared to domestic projects. They attribute the disputes to cultural clashes and inappropriate contract arrangements. Recently, Gad, Shane, and Strong (2010) reviewed different dispute resolution methods employed and suggested the effects of culture on the selection of dispute resolution methods in international construction contracts (Gad and Shane 2012).
This analysis provides useful insights into the importance of the social science aspects in a "human-based" industry such as construction. The literature review has revealed an increasing trend in construction management research on culture in construction. The findings suggest that cultural aspects of construction deserve greater research attention as they can enhance the organization/project's effectiveness and provide a competitive advantage. Based on the literature review, this study has identified, and then compared, major studies on cultural factors. Four of the most remarkable and most commonly referenced studies that introduced cultural factors are: Hofstede (1983), Trompenaars and Woonliams (1999), Schwartz (2004), and Brodbeck, Chhokar, and House (2007). From a comparison of these four, this study has identified five categories it considers the most central to understanding cultural differences. These five deal with "group attachment and relations," "authority and status," "uncertainty and rules," "gender roles and assertiveness," and "time and future orientation." This study has also summarized the current research topics on culture in construction. These are 1) cultural factors and differences, 2) organizational culture, 3) culture diversity and its impact, and 4) culture effect on contractual arrangements.

Accordingly, research gaps and ideas for future research into culture in construction area include the following:

- global study on the effects of culture on contracts negotiation and formation, selection of dispute resolution methods, and disputes occurrence
- best practices and critical success factors for dealing with cultural diversity in international projects
- cultural differences in construction projects in South America, East Asia, Africa, and Middle East

References


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