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The influence of cross-cultural communication on stakeholder management process in international construction projects: turkish stakeholders' perpective

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Abstract

The purpose of this study is to investigate the influence of cross-cultural communication (CCC) on stakeholder management process (SMP) in international construction projects from the Turkish stakeholders' perspective. The research is based on a survey of Turkish stakeholders (contractors, consulting engineers, insurance brokers, and financial advisors) operating internationally. The useable survey comprised 141 individual responses from 205 distributed, giving a response rate of 68.78 percent. Structural equation modelling (SEM) is proposed as an effective tool to investigate the relations between various factors of cross-cultural communication and stakeholder management process and data regarding the Turkish stakeholders have been used to demonstrate its applicability. The results demonstrate that "Communication behaviours" and "Communication strategies" proved to be strongly significant and positively related to SMP, whereas "Communication barriers" have significantly negative effect on SMP. Research findings may encourage the principles and practices of CCC between the stakeholders to be adequately recognized and understood by the international contracting firms operating abroad. Although findings reflect the Turkish stakeholders' perspectives, it is believed that the parameters identified in this study can further be used as a benchmark to conduct similar studies in other countries. Managers of international contracting firms can develop a Cross-cultural Communication Statement (OCQS) to assess, report, and develop cross-cultural communication between stakeholders of a multi-cultural project environment.

Keywords: *Rebar, Communication, Culture, Turkish stakeholders, International project.*

1. Introduction

As the construction industry adapts to trends in globalization and project networks collaborate inter-culturally, network participants are bound to encounter a distinct set of conflicts due to differences in national culture [1, 2, 3, 4]. The measure of how cultural boundary spanners impact global project network performance has been qualitatively examined through constructs such as success and failure [5], through their boundary spanning capabilities [6] or through their ability to increase collaboration effectiveness [7]. Previous research from Levina and Vaast [8] as well as Di Marco *et al.* [7] suggests that cultural boundary-spanned networks might initially outperform multicultural project networks due to improvements in collaboration effectiveness. Much of the extant literature on cross-cultural collaborations suggests that researchers focus on the barriers and conflicts associated with cultural differences [3, 8] as opposed to the business opportunities.

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The owner organization design (cross-functional and cross-professional coordination) is a key factor on stakeholder management process in international construction projects [9]. Integrating projects objectives with strategic view, managers should design project organization on the basis of every project characteristics, establish good communication and cross-functional coordination mechanism, create unity and cooperation partnership culture in the project process. As the central status of construction project management, the owner organization is determined by factors such as owner management model, human resource, characteristics and scale, project structure, contract structure, etc. To acquire commitment from business leader and obtain enough resources in the project implementation process, a project leading team including primary and senior manager would be essential. The organizational framework is a dynamic resource integration process rather than an unchanged stationary one. So after established, it must continuously be improved during project process.

In construction project settings, the formation of relationships with different stakeholders is particularly interesting and interacting with stakeholders is perhaps one of the most important activities for the project management. This interaction includes how the project

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chooses to organize the flow of resources and information between the project and different stakeholders. Many different relationships exist in projects and this 'network of relationships' can grow into very complex patterns [10]. Claiming that a relationship exists between two parties does not mean that some particular types of interaction will always occur or should even occur. Every relationship is unique in its content, the dynamics in how it evolves and in how it affects the parties involved. The relationship between a construction project and its stakeholders can have many different forms and characteristics. To understand the relationships between the actors, it is necessary to consider what makes the relationships interesting. The question is not only whether A and B are related, but more importantly, how they are related [11]. There is a need for increased research efforts in understanding influential factors that affect managing cultural complexity and communication in multicultural project teams. Due to the demand of international construction projects involving multicultural project teams, there is a growing trend towards discussing cross-cultural complexity more openly within the construction industry [12].

The research setting for this particular study is unique because the influence of cross-cultural communication on stakeholder management process is not well known to most contracting firms operating abroad in construction industry. Furthermore, the lack of explicit focus on cross-cultural communication and stakeholder management process within international construction contracting services results in their unique characteristics not being adequately recognized and understood, creating the risk of inappropriate policy and corporate prescription being formulated on the basis of incorrect assumptions. The aim of this paper is to contribute to this underdeveloped area of cross-cultural communication and stakeholder management in international contracting services within the construction industry. This study represents an analysis of the relationship between cross-cultural communication and stakeholder management process in international construction contracting. Few studies focused on dimensions of cultural differences on communication behaviours and their impact on for multicultural construction project team performance. Nevertheless, none of the studies examine the relationship between cross-cultural communication and stakeholder management process in international construction industry.

The structure of this article is as follows: first, the literature about CCC constructs, stakeholder management process success factors have been reviewed. Second, influence of cultural differences on stakeholder relationships has been synthesized. Third, research hypotheses have been developed. Finally, the hypotheses have been tested using data collected from a questionnaire survey.

2. Theoretical Background

2.1. Cross-cultural communication

Communication problems will emerge as one of the most significant contemporary challenges facing construction project managers in an increasingly international construction market [13]. Effective communication is necessary because it is the ultimate means by which behaviour is modified, change is effected, knowledge is acquired and shared, and goals are achieved [14, 15].

Loosemore and Muslmani [13] investigated the degree of sensitivity which UK nationals have towards the Arabic culture, within the environment of an international construction project. The aim was to predict potential communication problems which could reduce the efficiency of construction activity. In essence, the results indicated low levels of sensitivity to Arabic values and to an Arab's concept of time, and clear insensitivities to the importance of the Arabic language and an Arab's attitude towards uncertainty. They concluded that there was a case for greater attention to cultural initiation programmes by UK construction companies wishing to operate efficiently in the Persian Gulf. Pheng and Leong [16] examined the key concepts in cross-cultural management as well as key functions in construction project management with specific reference to China. A real life case study of the New Chinese Hotel project in China was presented to show how the interaction between cross-cultural management and construction project management can affect the outcome of a Project.

Thorne and Saunders' [17] study on socio-cultural embeddedness of individuals' cross-cultural ethical reasoning in organizations, integrated the two models by Hofstede [18] and Trompenaars [19] to formulate a framework useful for cross-cultural project management. Tone et al. [15] investigated the impact of CCC on construction project management systems in Samoa. International project management requires an effective process to ensure effective CCC between all stakeholders. The problematic context of communicating in multicultural project teams raises questions as to how project managers and clients can go about overcoming the structural and cultural conditions and constraints which define its operation, in order that it can develop an infrastructure that facilitates more effective communication in the future of international construction industry [12].

2.2. Stakeholder management process in international projects

Many scholars agree that stakeholders are people/organizations involved in and have an interest in the project. Project Management Institute (PMI) [20] describes stakeholders as individuals and organizations that are actively involved in the project, or whose interests may be affected as a result of its execution or completion.

Yang et al. [21] recently identified gaps in the scope of previous studies on stakeholder management. Four gaps regarding critical success factors, stakeholder management process, methods for stakeholder management and stakeholder relationship management were identified: (1) a

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comprehensive list of the factors affecting the success of stakeholder management has yet to be fully developed; (2) a systematic framework for stakeholder management needs to be further developed; (3) a range of practical approaches that can be used for stakeholder management has yet to be consolidated; and (4) most studies focus only on issues of promotion of the relationships themselves, but few focus on analysing the impact on the project resulting from those stakeholder relationship networks.

Construction industry is increasingly recognizing the need for improved stakeholder engagement, seeing it as a means to reduce risks and increase opportunity. Construction projects can involve a diverse range of stakeholders and the success of the project depends very much on fulfilling their needs and expectations. It is important, therefore, to identify and recognize project stakeholders and develop a rigorous stakeholder management process. Scholars studying the construction sector [22, 23, 24] have realized that stakeholder involvement is important to project outcomes, and recognition of the concept of stakeholder management has grown in recent years. A consequence of the growth of interest in stakeholder management has been a simultaneous expansion of different perspectives of stakeholder research [25]. Project stakeholders may influence projects either positively or negatively and therefore the assessment of stakeholder influence is an important task for project managers to enhance the likelihood of project success [26].

Jergeas et al. [27] used interviews to identify "communication with stakeholders and setting of common goals, objectives and project priorities" as two aspects bringing improvements to the management of stakeholders. Bourne and Walker [28], Newcombe [23], and Pryke [29] used the term "network of relationships" in their studies, because they believe a construction project takes place in a non-linear, complex, iterative and interactive environment, in which the impact of stakeholders cannot be easily identified. Bakens et al. [30] point out that the key to good stakeholder management is effective communication. Aaltonen et al. [31] state that the key issue in project stakeholder management is management of the relationships between the project team and its stakeholders. Other studies, Karlsen [32], Olander and Landin [33] confirm that "communication" is an important critical success factor and they also show that the relationship bet ween the project team and stakeholders is important. As further support, Rowlinson and Cheung [34] consider that the success of stakeholder relationship management is contingent upon a well-defined communication strategy, supported by structured facilitation of relationship activities.

3. Conceptualization of the Research Model and Hypotheses

3.1 Operationalization of the measurement constructs

In this study, a research model is presented and empirically tested. Fig.1 depicts a model that includes four key constructs, "Communication behaviours", "Communication strategies", "Proactive measures to improve cross-cultural communication", "Communication barriers", and the instrumental communication outcome "Stakeholder management process". The measurement constructs used in the empirical study and hypotheses of the structural equation model are discussed. The following measures were constructed based on operational definitions developed from the literature review.

3.1.1. Communication behaviours

Key dimensions of cultural differences on communication behaviour have been emphasized in Ochieng and Price's [12] study which examines the cultural factors that influence communication and explores how communication can be made effective in multicultural project environments. These dimensions are establishing clear lines of responsibility, instituting team effectiveness (collectiveness), establishing trust, implementing honesty, encouraging respect for others, introducing cultural empathy, and implement value management techniques. Ochieng and Price [12] pointed out that the understanding of the behavioural dynamics of multicultural project teams in construction is still in its infancy. Although project teams from different cultures may well bring different perspectives and styles, the necessary conditions, likely consequences and overall performance implications are yet to be universally accepted.

3.1.2. Communication strategies

Communication strategies offer support for a culturally appropriate communication management process that incorporates the cultural strategy, the business strategy and the human resources strategy. Choosing the most appropriate strategy is integral to successful communication. This has direct implications for the delivery of successful project outcomes and for establishing and harnessing relationships necessary for international operations. There is the need for specific competency skills to ensure effective communication within the project host culture. These competencies include clear and effective problem-solving strategies, awareness and sensitivity, understanding new language and local customs and collaboration. New competencies include knowledge transfer from locals to expatriates in contrast to traditionally held perspectives of knowledge transfer only flowing from expatriate practitioners to locals. An organization must have a global perspective and be willing to modify communication strategies that are appropriate within the context of host cultures-'Think globally, Act locally' [15].

In Bourne's [35] study, the Stakeholder Circle methodology provides a means for the project team to identify and prioritise a project's key stakeholders, and then to develop an appropriate engagement strategy and targeted communication plan to ensure that the needs and expectations of important stakeholders are understood and managed [36]. All communication is potentially a two-way

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process, with the receiver (if there is one) providing feedback to the sender on whether the message is understood. The effectiveness of communication within an organisational setting is contingent upon the structures protocols and procedures which define the ways in which information is channelled. An important corollary of the informal network which emerges in organisations and projects concerns the communication of humour amongst and between participants. This is important as it helps establish camaraderie in interpersonal relationships [37].

3.1.3. Proactive measures to improve cross-cultural communication

Practical proactive measures are products of experience, and this has direct implications for the management processes necessary for successful international project implementation which are facilitated by effective communication, in anticipation of future assignments. There is the need for project managers to think proactively and to apply culturally sensitive and appropriate strategies that involve locals to gain a sense of project 'ownership'. There is the need to upgrade skills and to ensure that projects include capacity building components so that knowledge and technology transfer is not just realized but also sustainable. There is the need for the communication management process to be dynamic enough to accommodate environmental factors, stakeholders' needs, organizational objectives and personal expectations and aspirations [15]. There are particular and important concerns for construction stakeholder management strategy on international development projects in which stakeholders belong to different cultures, political risks, and demanding local constraints. For example, the foreign managers have to first build trust and create good relationship with the local employees. It is also essential to study the politics and bureaucracy of local government. It is possible that local government follows excessively bureaucratic procedure for government approvals [36].

3.1.4. Communication barriers

According to Huczynski and Buchanan [38], there are five principal barriers to effective communication within the organisational setting which can be generalised as Power differences, Gender differences, Physical surroundings, Language, and Cultural diversity. There remain many barriers to effective communication grounded in the fragmentation of the industry's procurement and production processes, the increasingly diverse nature of the sector's labour market and the nuances of human behaviour, which together render common understanding of meaning very problematic within, the construction project environment. The barriers to effective cross-cultural communication have direct implications for the achievement of successful project outcomes. Identifying factors that impinge on effective communication are integral to the management process necessary for success in an international project environment. The barriers support the notion that cultural differences affect communication. Different and competing values, beliefs and expectations affect the flexibility and application of appropriate management strategies [39]. Success depends on how well practitioners control the extent of influence and how they manage competing needs and associated risks.

3.1.5. Stakeholder management process

According to Jergeas et al. [27] and Cleland [40], efficient management of the relationship between the project and its stakeholders is an important key to project success. In many projects, management of stakeholders lacks strategies, plans, and methods. Stakeholder management is often characterized by spontaneity and causal actions, which in some situations are not coordinated and discussed within the project team. The result of this practice is often an unpredictable outcome. To meet this challenge, several stakeholder management methods and guidelines have been introduced. These guidelines include the execution of the management functions of planning, organizing, motivating, directing, and controlling the resources used to cope with stakeholders' strategies [41].

Karlsen [41] developed a six-step stakeholder management process. These steps are: identification of potential stakeholders, analyzing stakeholders in relation to selected issues, communication of the stakeholder assessment to both the management and the project members, developing implementation strategies for dealing with stakeholders, and following-up the strategies and actions that have been implemented. Using a comparative study, Olander and Landin [33] identified five factors within the stakeholder management process that could bring about different project outcomes. These factors are: "analysis of stakeholder concerns and needs; communication of benefits and negative impacts; evaluations of alternative solutions; project organization; and media relations". Yang et al. [42] identified critical success factors associated with stakeholder management in construction projects, and explored their ranking and underlying relationship. In this study, Karlsen's six-step stakeholder management process has been adopted for analyzing the influence of cultural differences on stakeholder relationships.

3.2. Research hypotheses and model

Review of the literature indicates that there are significant positive and negative relationships between the cross-cultural communication constructs and stakeholder management process. The relationship between the dependent variable, stakeholder management process, and the independent variables of the cross-cultural communication constructs will be identified to explain the theory underlying these relationships and to describe the direction of the relationships. Fig. 1. illustrates the conceptualized research model in which all the main constructs are shown together with the hypothesized

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relationships among them. In this context the following hypotheses are put forward:

H1. Communication behaviours have significantly positive effect on stakeholder management process.

H2. Communication strategies have significantly positive effect on stakeholder management process.

H3. Proactive measures to improve cross-cultural communication have significantly positive effect on stakeholder management process.

H4. Communication barriers have significantly negative effect on stakeholder management process.

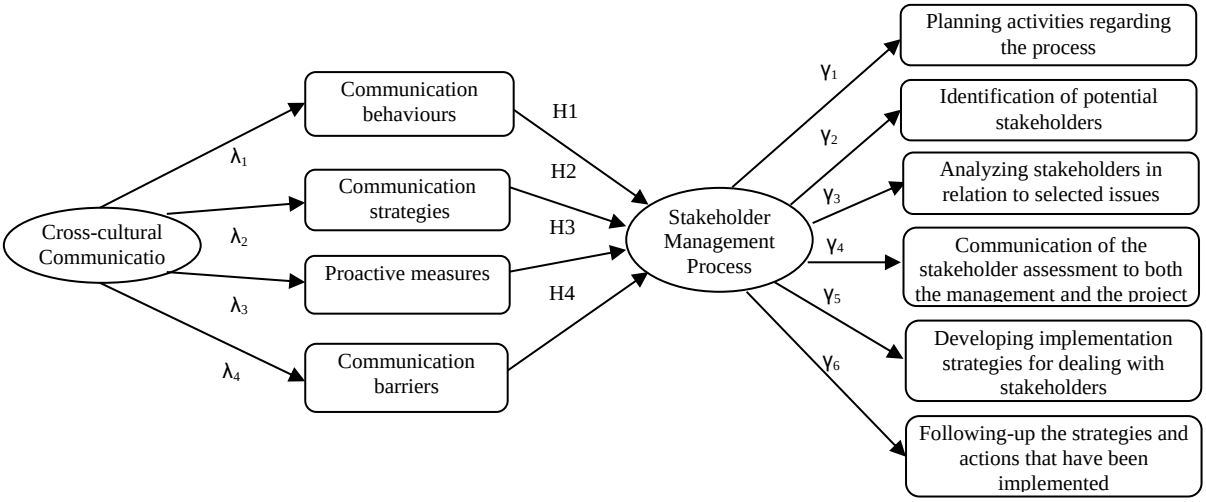

Fig. 1 Hypothesized model

4. Research Framework Methodology

4.1. Measures

The constructs and variables used to operationalize the research were developed following the generally accepted guidelines of reliability and validity for multiple-item measures. A literature review was conducted for the concepts of the constructs, on the basis of which variables of the constructs were developed.

"Communication behaviours" construct includes seven variables aiming to capture the perceptions from the respondent about the extent to which creating the right enabling behaviours to facilitate the communication process is practiced between the stakeholders such as establishing clear lines of responsibility, instituting team effectiveness (collectiveness), building trust within stakeholders, implementing honesty, encouraging respect for others Introducing cultural empathy, and adding value within the stakeholders. "Communication strategies" construct contains eight variables aiming to measure the extent of organizations rethinking their approaches for networking and building relationships, reinforcing procedures and follow-up strategy development, and organizational change for adaptability, flexibility, and continuous improvement. "Proactive measures to improve cross-cultural communication" includes five variables aiming to measure the extent to which an organization adopts a culturally sensitive and localized approach, practices cultural training and initiation, implement change in work culture, ethics and practices, encourages and motivates skills upgrading and capacity building. "Communication barriers" construct seven variables aiming to measure the extent of barriers to effecting communication such as conflicting cultural values, unclear channels of communication, language difficulties, resisting change, organizational mishaps, poor leadership, and poor negotiation skills. The instrumental communication outcome "Stakeholder management process" includes six variables aiming to measure the extent to which planning activities regarding the process, identification of potential stakeholders, analyzing stakeholders in relation to selected issues, communication of the stakeholder assessment to both the management and the project members, developing implementation strategies for dealing with stakeholders, and following-up the strategies and actions that have been implemented.

4.2. Sampling and data collection

The lists of stakeholders within the construction sector operating internationally was obtained from the Turkish Contractors Association (TCA), Association of Turkish Consulting Engineers and Architects (ATCEA), Association of Turkish Building Material Producers (ATBMP), Association of the Insurance and Reinsurance Companies of Turkey (AIRCT), and the Banks Association of Turkey (BAT). The list consisted of 205 member organizations. The sample includes relatively medium to large companies. This study involves the perspectives of Turkish stakeholders (contractors, consulting engineers, insurance brokers, and financial advisors) operating internationally (on overseas). The perspectives of the local stakeholders (e.g. clients and publics administrations) of host country to whom the Turkish stakeholders communicate for contracting services have not been considered within the scope of this study, but planned to be taken into account for future studies.

The empirical data was collected through a questionnaire survey, which was administered to the firms

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registered to the TCA, ATCEA, ATBMP, AIRCT, and BAT. During the survey, all these firms operating internationally (205 member organizations) were contacted and asked to participate in the study. They were then fully informed of the research objectives, that the research was a strictly scientific and confidential and that their anonymity was assured. A total of 141 different firms participated in the survey, and 141 completed questionnaires (one respondent from each firm) were received, giving a high response rate of 68.78%. This indicates that the sampling procedure was effective and the respondents perceived the research to be relevant and worthwhile. The respondents were asked to rate the extent of their agreement with each statement based on a five point Likert scale of 1 (strongly disagree) to 5 (strongly agree). Contact personnel in the firms for the questionnaire survey were either the top management or senior management; therefore, the level of knowledge of these individuals was expected to produce responses that were valid of the survey results. The respondents were project managers, sales managers, consulting engineers, insurance brokers, financial advisors and respondents had these formal titles in their firms. Out of 141, 46 of the respondents were project managers representing 32.62% of the sample, 30 of the respondents were sales managers representing 21.28% of the total sample, 26 respondents were consulting engineers representing 18.44%, 25 respondents were insurance brokers representing 17.73%, and the remaining 14 respondents were financial advisors representing 9.93%.

The hypotheses were examined using data collected in the questionnaire survey. The questionnaire was developed on the basis of a thorough literature review.

The questionnaire consisted of 33 statements involving the variable items of the cross-cultural communication constructs, and stakeholder management process. In the questionnaire, each variable item is used for measuring the extent to which the firms' dynamic cultural influences affecting the stakeholders' relationships within the international project organization. All the variable items in the questionnaire have been adapted from empirical studies cited earlier. This method increases the reliability and validity of the survey items. The question items for the above mentioned constructs are provided in Appendix.

5. Analysis and Results

LISREL 8.8 statistical software package was used to test the hypothesized model shown in Fig. 1. The Descriptive statistics and Pearson correlation were calculated first, after which the structural equation model (SEM) was analyzed. SEM approach bridges theoretical and empirical knowledge to allow a better understanding of the real world. This analysis establishes causal relationships among the latent variables and observed variables. The model specifies how latent variables or hypothetical constructs depend upon or are indicated by the observed variables. Fig. 2. illustrates the results of hypothesized model used in this work, which represent the standardized structural coefficients. The magnitude of the coefficients of the variables reflects their relative importance.

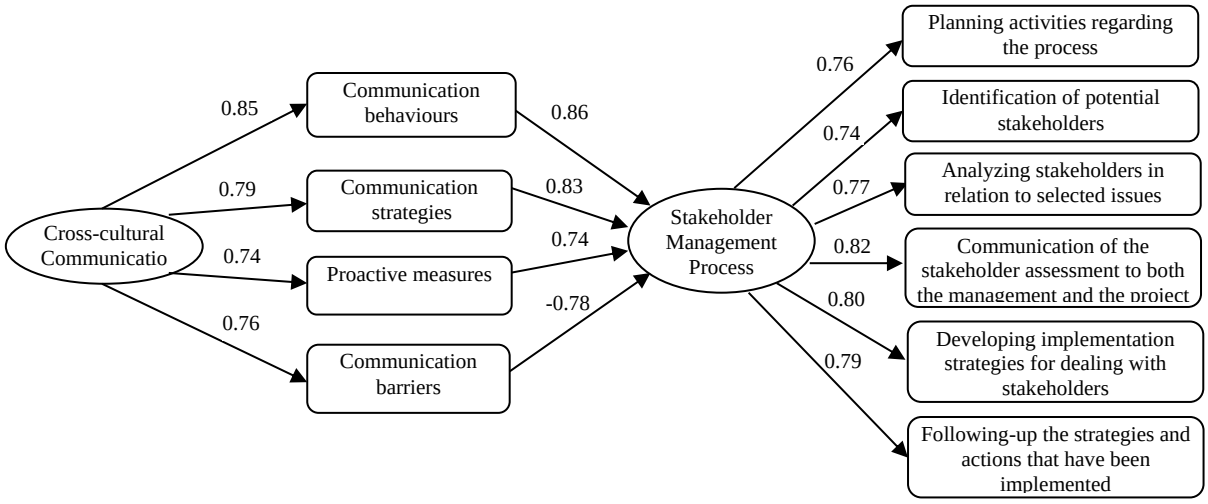

Fig. 2 Results of structural equation model

5.1 Descriptive statistics and correlation analysis

Table I. shows the means and standard deviations as well as the interfactor correlation matrix for the study variables with the aim of valuating the significance level of the relationships exist. The correlation analysis highlights the relationships among the independent, and dependent variables examined in this research. All the constructs are interrelated and focus on "Stakeholder management process". The significance of relationship can be expressed by a ρ-value. When ρ-value is <0.05, the relationship between the two sets of ratings is considered as significant. Examination of the correlation matrix shows that there are significant positive and negative linear associations among factors representing the variables such as "Communication behaviours", "Communication strategies", and "Stakeholder management process".

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Table I Descriptive statistics and Pearson Correlation analysis

Variables	Mean	S.D	1	2	3	4	5
1. Communication behaviours	5.02	0.78	1.000				
2. Communication strategies	4.93	0.82	0.520***	1.000			
3. Proactive Measures	5.11	0.87	0.528***	0.521***	1.000		
4. Communication Barriers	4.99	0.85	0.505**	0.510**	0.515***	1.000	
5. Stakeholder management process	5.13	0.80	0.532***	0.530***	0.511**	-0.521***	1.000

*ρ < 0.1, **ρ < 0.05, ***ρ <0.01, n=141

5.2. Factor analysis and reliability

Factor analysis was used to determine the key dimensions in the variables of the Cross-cultural communication constructs. The variables of the CCC constructs were empirically tested and validated by principal component factor analysis. Summary of the results is shown in Appendix. Overall and individual measures of sampling adequacy were computed to assess the appropriateness of the data for factor analysis. Values greater than 0.5 are considered acceptable. The reliability for each of the extracted factors is established by checking these factors for internal consistency using Cronbach's alphas. Cronbach's alpha (α) is based on the average correlation between variables within each factor where a value of 0.7 is the minimum acceptability value. Examination of the Cronbach's values revealed that all of the reliability coefficients α for the constructs listed in Appendix have acceptable levels of reliability. Some constructs were more reliable than others. The constructs "Communication behaviours", Communication strategies", and "Communication barriers" have the highest reliability coefficients α with values 0.891, 0.863, and 0.818 respectively.

5.3. SEM analysis

The hypothesized model illustrated in Fig. 2. presents the results of the relationships between the exogenous and endogenous variables. The model illustrates the hypothesized relationships among the CCC, and SMP. The sample (n = 141) was used to test the hypothesized relationships. The hypothesized model was tested using statistics indicating acceptable model fit, and was demonstrated to have a significant chi-square statistic (χ^2=173.15 with df=95; ρ < 0.01). The goodness-of fit indices (GFI), adjusted goodness-of-fit index (AGFI), normed fit index (NFI), and comparative fit index (CFI) values exceed the cut-off value of 0.90, demonstrating that the hypothesized model has statistically significant model fit.

5.4. Goodness-of-fit test

The results of goodness-of fit indices, GFI, AGFI, NFI, and CFI exceed the threshold value of 0.90 and the hypothesized model revealed good fit. A ratio of model fit statistics based on degree of freedom below 3 indicates adequate model fit (χ^2/ df = 1.823). RMSEA value reached an acceptable value of 0.049. Specifically, the GFI, CFI, AGFI, NFI, and NNFI values reached an acceptable value of 0.9 (0.912, 0.923, 0.904, 0.917 and 0.919, respectively). The hypothesized model in Fig. 2. thus can be classified as closely fitting the data. Table II. lists the results of the goodness-of fit measures of the hypothesized model.

Table II Parameter estimates for structural equations model

Hypothesized model	Parameter coefficient	t-value
Construct relationship		
H1: Communication behaviours → Stakeholder management process	0.86***	5.54
H2: Communication strategies → Stakeholder management process	0.83***	5.23
H3: Proactive Measures → Stakeholder management process	0.74***	4.67
H4: Communication Barriers → Stakeholder management process	-0.78***	4.78
Fit Indices: χ^2=173.15, df=95, χ^2 / *df* = 1.823, GFI=0.912, CFI=0.923, AGFI=0.904, NFI=0.917, NNFI=0.919, RMSEA=0.049		
*ρ < 0.1, **ρ < 0.05, and ***ρ < 0.01.		

"Insert Table II."

5.5. Hypothesis test

To test Hypotheses 1 through 4, the hypothesized model was tested using LISREL 8.8, where the paths between the CCC constructs; communication behaviours and stakeholder management process (H1), communication strategies and stakeholder management process (H2), proactive measures and stakeholder management process (H3), communication barriers and stakeholder management process (H4) were estimated. The hypotheses regarding the relationships were tested based on the associated t-statistics. T-values exceeding 1.65 or 1.98 or 2.576 were considered significant at the 0.10, 0.05, and 0.01 levels, respectively. CCC constructs; communication behaviours, communication strategies, proactive measures, communication barriers, all have significantly and positively influenced (ρ < 0.01) the organizational PI with values respectively (H1= 0.86, t-

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value = 5.54, H2= 0.83, t-value = 5.23, H3= 0.74, t-value = 4.67, H4= 0.78, t-value = 4.78). Thus, Hypotheses 1–4 were supported. Table II. lists the results of the parameter estimates of the hypothesized model. Considering the standardized parameter estimates, the results show that four hypothesized relationships were classified as significant. Table III. lists the standardized structural coefficients of the variables, CCC and stakeholder management process, representing the magnitudes that reflect their relative importance of the relationships. "Communication behaviours" holding the highest significance of the relationship reveals that one of the critical components of managing cross-cultural communication is the creation and development of effective cross cultural collectivism, trust, and empathy in leadership, and adding value within the stakeholders. "Communication strategies" holding the second highest significance of the relationship shows that the application of appropriate strategies to deal with cultural differences between stakeholders is crucial to communication management in international projects.

Table III Parameters and relationships

Variables	Item	Parameter	Standardized structural coefficient
Cross-cultural Communication	CCC1	λ_1	0.85***
	CCC2	λ_2	0.79***
	CCC3	λ_3	0.74***
	CCC4	λ_4	0.76***
Stakeholder Management Process	SMP1	γ_1	0.76***
	SMP2	γ_2	0.74***
	SMP3	γ_3	0.77***
	SMP4	γ_4	0.82***
	SMP5	γ_5	0.80***
	SMP6	γ_6	0.79***

***$\rho < 0.01$.

6. Discussion

Considering the above findings, all the hypotheses on the reliability and validity is supported and each of the CCC independent and dependent variables from both a theoretical and statistical perspective form solid constructs. There is support in the literature that the proposed hypotheses have implementation constructs and measurement items that cover these dimensions. The proposed hypotheses have validity since they measure the theoretical constructs that they were designed to measure. The constructs of the CCC were structured by component factor analysis. Factor loadings are shown in Appendix, and were well accepted.

Communication problems emerge as one of the most significant contemporary challenges facing construction project stakeholders in an increasingly international construction market [15]. Effective communication between the stakeholders is a vital component in the process of building and maintaining relationships, and is essential for maintaining the support and commitment of all stakeholders. Project success is linked to the strength of the relationships created by effective, regular, planned, and ad hoc communication with all members of the project's stakeholder's community [28, 40].

Based on mutual trust between the stakeholders, open communication is characterized by open exchange of information [43]. In addition to open exchange of information, effective communication facilitates the exchange of ideas and visions, which can result in fewer misunderstanding and stimulate mutual trust [44]. By comparison, two-way communication is more effective and should be encouraged, which can maximize understanding and minimize misinterpretation [45]. Communication networks and more flexible management of relationships are keys to resolving problems and creating success in the dynamic and ever-changing environment of the project [28].

National culture influences the diffusion of stakeholder management principles and practices within multinational corporations [46]. Both the management and the project members should get an idea of who the stakeholders are and how they can affect the project. Such a common understanding of the situation is also important in regard to development of strategies for dealing with the stakeholders. By performing the stakeholder management process, the project team will be better prepared for possible adverse stakeholder action [41].

The dynamics of international project groups by grasping the strategies project leaders set up to cope with cultural diversity. In addition, the project groups have multiple forms, stakes and constraints [47]. In some of them, the project is physically located in one site and members meet one another on a daily basis while in others, the project team is virtual, their members being dispatched in different units. In some project teams, members share the corporate culture and objectives while other projects gather individuals from different companies. Finally, the pressure towards results varies considerably according to the very nature of the task. Chevirier [47] depicted three kinds of cross-cultural practices emerged from the comparative study of European project groups: (1) drawing upon individual tolerance and self-control, (2) entering into a trial-and-error process coupled with relationship development and (3) capitalizing on transnational corporate or professional cultures. An alternative method consists in joint and patient the construction of cross-cultural patterns based upon a

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structured examination of the cultural sense-making processes of project members. The strategies to cope with cross-cultural differences are themselves culture bound approaches. Both the approaches to cope with cultural barriers (individual adjustments, occupational cultures, cultural mediator ...) and the concrete solutions identified (procedures to make decision, to carry out operations or to control the work) are culture bound. Cross-cultural management in international projects is contingent.

7.1 Managerial Implications

This study has produced significant outcomes that can not only improve the knowledge of cross-cultural communication management and feed into implementation of stakeholder management process frameworks, but also offers useful and specific guidelines for project management practice. Managers of international contracting firms can develop a Cross-cultural Communication Statement (OCQS) for stakeholder management within their firm. The CCCS will be an instrument to assess, report, and develop cross-cultural communication between stakeholders of a multi-cultural project environment.

Table IV A Sample of an international contracting firm overall CCCS for stakeholder management in a multi-cultural project environment

Cross-cultural communication capabilities	Communication barriers	Stakeholder management process	Communication tool
Introducing cultural empathy	Unclear channels of communication,	Communication of the stakeholder assessment to both the management and the project member	Meetings
Instituting team effectiveness (collectiveness)	Resisting change, and	Developing implementation strategies for dealing with stakeholders,	Reports
Adding value within the stakeholders	Organizational mishaps	Analyzing stakeholders in relation to selected issues	Issue resolution
Feedback/ open two-way communication			Change requests
Comprehensive communication plan			
Networking and build relationship			
Culturally sensitive and localized approach			
Change in work culture, ethics and practices			

Table IV shows illustrates a sample of an international contracting firm overall CCCS for stakeholder management in a multi-cultural project environment. The CCCS clearly shows the relationships between cross-cultural communication capabilities, communication barriers, stakeholder management process and communication tool. Cross-cultural communication capabilities involve introducing cultural empathy, instituting team effectiveness (collectiveness), adding value within the stakeholders, feedback/ open two-way communication, comprehensive communication plan, networking and build relationship, culturally sensitive and localized approach, and change in work culture, ethics and practices. Communication barriers involve unclear channels of communication, resisting change, and organizational mishaps. Stakeholder management process involve communication of the stakeholder assessment to both the management and the project member, developing implementation strategies for dealing with stakeholders, and analyzing stakeholders in relation to selected issues. Communication tool involve meetings, reports, issue resolution, and change requests. The publication of this CCCS can attract the attention of potential stakeholders including multi-cultural team members and creates additional firm value. Thus a contracting firm cross-cultural communication operating abroad can be improved by stakeholders' interest in a forward, dynamic, and innovative enterprise with a keen eye for new developments. The CCCSs can also contribute to better dialogue and, thus, to an improved knowledge transfer among present and future stakeholders. The CCCS claims that the firm can set its own targets for which indicators are to be improved and, thus, the firm will challenge it to achieve even better results in the following years. At the integrative level, the focus must be on communicating the vision for the project and ensuring that the resources allocated are adequate for meeting the espoused objectives. At the strategic level, the emphasis is on communicating achievable targets and goals and defining the boundaries around which the project will be broken down. Tactical management requires the individual tasks to be conveyed to the project participants in such a way as their individual contribution remains congruent with the overall project objectives and implementation plan defined

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at the Integrative and Strategic levels. The ability of the construction project manager to switch between these different communication functions defines it as one of the most demanding roles within the industry [37].

7.2. Limitations and future research

This study also has limitations that offer prime opportunities for future research. The first and major limitation is that the sample used for the survey is limited in size. Second, focusing only on the managerial perspective and not considering the other stakeholders' view is also limited in its nature. Third, limited number of constructs was assessed in the survey. Different aspects of CCC, different stakeholders' management processes, and different communication tools should enhance the generalizability of findings based on the overall consistency of demonstrated relationships. Finally, the sample of the current study consisted of managers working in Turkish contracting firms operating abroad. Future studies should include global managers working in different host countries to further validate our findings in wider and broader contexts.

8. Conclusion and Recommendations

This particular study has several key contributions and strengths. The findings contribute to the fields of knowledge on stakeholder management implementation, by addressing the complexity of cross-cultural communication principles and practices within international construction projects of the multinational organizations. These principles and practices of CCC between the stakeholders are encouraged to be adequately recognized and understood by the international contracting firms operating abroad.

This study analyzes the influence of CCC on SMP in international construction projects. CCC structure within stakeholders incorporates four constructs: Communication behaviours, communication strategies, proactive measures to improve cross-cultural, and communication barriers. Using SEM method for analysis, the study explores how these constructs affect the international diffusion of stakeholder engagement in construction projects.

This study provides empirical evidence for the importance of the influence of CCC constructs on SMP. The results show that each of these variables has a different role and significant positive and negative impact on the SMP. Pearson correlation coefficient indicates that most of the independent variable constructs had significant positive and one of the variable construct had negative correlation with each other. Considering these research findings, all hypotheses, testing the reliability and validity, and the positive and negative influence of CCC constructs on SMP, are supported. In particular, it is shown as a causality path where communication barriers have significantly negative effect on SMP.

Relationship assessment revealed that one construct – communication behaviours – was indicated to be strongly significant and has positive effect on SMP. Stakeholders are temporarily brought together via projects and interact on an individual and group level using a variety of communication tools and media. Interaction affects the relationships between the actors and ultimately colours their ability to work together successfully. Cross-cultural communication is a challenging job in international project management. Communicating across cultures is often difficult. Misunderstanding the counterparts in a global workplace will definitely affect the project achievements negatively. The loss of appropriate communication can greatly destroy the establishment of mutual trust and confidence inside the stakeholders. Stakeholder management involves appropriate communication which involves the use of diverse channels to supply relevant information. The most effective method of ensuring adequate communication with stakeholders is to develop a communications management plan that outlines the project's periodic meetings or other methods of communicating project data to the stakeholder [36].

An international project environment and its stakeholders can be viewed as a network in which the actors interact with each other and exchange information, resources, and results. If stakeholder management is not adequately addressed in the project, this can mean unexpected problems and uncertainty to the project caused by stakeholders [41]. Stakeholder management enhances greater competency in relational issues and minimises risks therein. In order to achieve a successful project outcome, the project manager must be adept at managing the interests of multiple stakeholders throughout the entire project management process [48]. Stakeholder management principles are applied in every phase of a project. All the stakeholders are identified at the onset and further assessment exercises are carried out throughout the project. This is to identify the stakeholders or interest group which might develop in the course of carrying out the project [36].

Appendix. Factor Analysis and Reliability Test

Construct	Item	Variables	Factor Loading	Cronbach α
Communication behaviours	CB1	Establishing clear lines of responsibility	0.774	
	CB2	Instituting team effectiveness (collectiveness)	0.853	
	CB3	Building trust within stakeholders	0.817	
	CB4	Implementing honesty	0.758	0.891
	CB5	Encouraging respect for others	0.745	
	CB6	Introducing cultural empathy	0.892	
	CB7	Adding value within the stakeholders	0.826	

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Communication strategies	CS1	Evaluative and informative approach	0.756	
	CS2	Feedback, open two-way communication	0.852	
	CS3	Networking and build relationship	0.773	
	CS4	Reinforce procedures and follow-up	0.742	0.863
	CS5	Comprehensive communication plan	0.819	
	CS6	Balanced and manageable teams	0.717	
	CS7	Adaptability, flexibility and continuous improvement	0.794	
	CS8	Humor and diplomatic approach	0.725	
Proactive Measures	PM1	Culturally sensitive and localized approach	0.734	
	PM2	Cultural training and initiation	0.644	
	PM3	Change in work culture, ethics and practices	0.716	0.784
	PM4	Encourage and motivate	0.618	
	PM5	Skills upgrading and capacity building	0.687	
Communication Barriers	CB1	Conflicting cultural values	0.853	
	CB2	Unclear channels of communication	0.745	
	CB3	Language difficulties	0.661	
	CB4	Resisting change	0.713	0.818
	CB5	Organizational mishaps	0.686	
	CB6	Poor leadership	0.617	
	CB7	Poor negotiation skills	0.624	
Stakeholder Management Process	SMP1	Planning activities regarding the process	0.627	
	SMP2	Identification of potential stakeholders	0.711	
	SMP3	Analyzing stakeholders in relation to selected issues	0.775	
	SMP4	Communication of the stakeholder assessment to both the management and the project members	0.863	0.874
	SMP5	Developing implementation strategies for dealing with stakeholders	0.821	
	SMP6	Following-up the strategies and actions that have been implemented	0.796	

References

[1] Chan EHW, Tse RYC. Cultural considerations in international construction contracts, Journal of Construction Engineering and Management, 2003, No. 4, Vol. 129, pp. 375-381.

[2] Chen P, Partington D, Qiang M. Cross-cultural understanding of construction project managers' conception of their work, Journal of Construction Engineering and Management, 2009, No. 6, Vol. 135, pp. 477-487.

[3] Mahalingam A, Levitt R. Institutional theory as a framework for analyzing conflicts on global projects, Journal of Construction Engineering and Management, 2007, No. 7, Vol. 133, pp. 517-528.

[4] Nayak N, Taylor J. Offshore outsourcing in global design networks, Journal of Management in Engineering, 2009, No. 4, Vol. 25, pp. 177-184.

[5] Cheah CYJ, Garvin MJ, Miller JB. Empirical study of strategic performance of global construction firms, Journal of Construction Engineering and Management, 2004, No. 6, Vol. 130, pp. 808-817.

[6] Hong HJ. Bicultural competence and its impact on team effectiveness, International Journal of Cross Cultural Management, 2010, No. 1, Vol. 10, pp. 93-120.

[7] Di Marco MK, Taylor JE, Alin P. Emergence and role of cultural boundary spanners in global engineering project networks, Journal of Management in Engineering, 2010, No. 3, Vol. 26, pp. 123-132.

[8] Levina N, Vaast E. Innovating or doing as told? Status differences and overlapping boundaries in offshore collaboration, MIS Quarterly, 2008, No. 2, Vol. 32, pp. 307-32.

[9] Sun J, Zhang P. Owner organization design for mega industrial construction projects, International Journal of Project Management, 2011, No. 7, Vol. 29, pp. 828-833.

[10] Karlsen JT, Græe K, Massaoud MJ. The role of trust in project-stakeholder relationships: a study of a construction project, International Journal of Project Organization and Management, 2008, No. 1, Vol. 1, pp. 105-118.

[11] Mouritsen J, Thrane S. Accounting, network, complementarities and the development of inter-organizational relations, Accounting, Organizations and Society, 2006, No. 3, Vol. 31, pp. 241-275.

[12] Ochieng EG, Price ADF. Managing cross-cultural communication in multicultural construction project teams: The case of Kenya and UK, International Journal of Project Management, 2010, No. 5, Vol. 28, pp. 449-460.

[13] Loosemore M, Muslmani HSAl. Construction project management in the Persian Gulf: inter-cultural communication, International Journal of Project Management, 1999, No. 2, Vol. 17, pp. 95-100.

[14] Howes R, Tah JHM. Strategic Management Applied to

[DOI: 10.22068/IJCE.13.2.179]

International Construction, Thomas Telford, London, 2003.
[15] Tone K, Skitmore M, Wong JKW. An investigation of the impact of cross-cultural communication on the management of construction projects in Samoa, Construction Management and Economics, 2009, No. 4, Vol. 27, pp. 343-361.
[16] Pheng LS, Leong CHY. Cross-cultural project management for international construction in China, International Journal of Project Management, 2000, Vol. 18, pp. 307-316.
[17] Thorne L, Saunders SB. The socio-cultural embeddedness of individuals' ethical reasoning in organizations (cross-cultural ethics), Journal of Business Ethics, 2002, No. 1, Vol. 35, pp. 1-14.
[18] Hofstede G. Cultures Consequences, Sage Publishing, Beverly Hills, CA, 1980.
[19] Trompenaars A. Riding the Waves of Culture: Understanding Cultural Diversity in Business, Brealey, London, 1993.
[20] Project Management Institute (PMI), A Guide to the Project Management Body of Knowledge (3rd ed.), Project Management Institute Inc., PA, 2004.
[21] Yang J, Shen GQ, Ho M, Drew DS, Xue X. Stakeholder management in construction: An empirical study to address research gaps in previous studies, International Journal of Project Management, 2011, Vol. 29, pp. 900-910.
[22] Cole RJ. Building environmental assessment methods: redefining intentions and roles, Building Research & Information, 2005, No. 5, Vol. 33, pp. 455-467.
[23] Newcombe R. From client to project stakeholders: a stakeholder mapping approach, Construction Management and Economics, 2003, No. 9/10, Vol. 22, pp. 762-784.
[24] Olander S, Landin A. Evaluation of stakeholder influence in the implementation of construction projects, International Journal of Project Management, 2005, No. 4, Vol. 23, pp. 321-328.
[25] Friedman AL, Miles S. Stakeholders Theory and Practice, Oxford University Press, Oxford, 2006.
[26] Cleland DI, Ireland LR. Project Management: Strategic Design and Implementation (5th ed), McGraw-Hill, New York, 2007.
[27] Jergeas GE, Williamson E, Skulmoski GJ, Thomas JL. Stakeholder management on construction projects, International Transactions, 2000, Vol. 12, pp. 1-5.
[28] Bourne L, Walker DHT. Visualizing stakeholder influence-two Australian examples, Project Management Journal, 2006, No. 1, Vol. 37, pp. 5-22.
[29] Pryke SD. Projects as networks of relationships in: S. Pryke, H. Smyth (Eds.), The Management of Complex Projects: A relationship Approach: Blackwell, UK, 2006, pp. 213-235.
[30] Bakens W, Foliente G, Jasuja M. Engaging stakeholders in performance-based building: lessons from the performance-based building (PeBBu) network, Building Research & Information, 2005, No. 2, Vol. 33, pp. 149-158.
[31] Aaltonen K, Kujala J, Oijala T. Stakeholder salience in global projects, International Journal of Project Management, 2008, No. 5, Vol. 26, pp. 509-516.
[32] Karlsen JT. Forming relationships with stakeholders in engineering projects, European Journal of Industrial Engineering, 2008, No. 1, Vol. 2, pp. 35-49.
[33] Olander S, Landin A. A comparative study of factors affecting the external stakeholder management process, Construction Management and Economics, 2008, No. 6, Vol. 26, pp. 553-561.
[34] Rowlinson S, Cheung YKF. Stakeholder management through empowerment: modelling project success, Construction Management and Economics, 2008, No. 6, Vol. 26, pp. 611-623.
[35] Bourne L. Project Relationship Management and the Stakeholder Circle, Doctor of Project Management, Graduate School of Business, Melbourne, RMIT University, 2005.
[36] Chinyio E, Olomolaiye P. Construction Stakeholder Management, Blackwell Publishing, 2010.
[37] Dainty A, Moore D, Murray M. Communication in Construction: Theory and Practice, Taylor and Francis, 2006.
[38] Huczynski A, Buchanan D. Organizational Behaviour: An Introductory Text (4th Edn), Essex, Prentice Hall, 2001.
[39] Laroche L. Managing Cultural Diversity in Technical Professions, Butterworth-Heinemann, Amsterdam, Boston, 2003.
[40] Cleland DI. Project Stakeholder Management, Project Management Journal, 1986, No. 4, Vol. 17, pp. 36-44.
[41] Karlsen JT. Project stakeholder management, Engineering Management Journal, 2002, No. 4, Vol. 14, pp. 19-24.
[42] Yang J, Shen GQ, Ho M, Drew DS, Chan APC. Exploring critical success factors for stakeholder management in construction projects, Journal of Civil Engineering and Management, 2009, No. 4, Vol. 15, pp. 337-348.
[43] Hong-Minh SM, Barker R, Naim MM. Identifying supply chain solutions in the UK house building sector, European Journal of Purchasing and Supply Management, 2001, No. 1, Vol. 7, pp. 49-59.
[44] Cheng EWL, Li H, Love PED. Establishment of critical success factors for construction partnering, Journal of Management in Engineering, 2000, No. 2, Vol. 16, pp. 84-92.
[45] Chen WT, Chen TT. Critical success factors for construction partnering in Taiwan, International Journal of Project Management, 2007, No. 5, Vol. 25, pp. 475-484.
[46] Veser M. The Influence of Culture on Stakeholder Management: Social Policy Implementation in Multinational Corporations, Business and Society, 2004, No. 4, Vol. 43, pp. 426-436.
[47] Chevrier S. Cross-cultural management in multinational project groups, Journal of World Business, 2003, Vol. 38, pp. 141-149.
[48] Sutterfi eld JS, Friday-Stroud SS, Shivers-Blackwell SL. A case study of project and stakeholder management failures: Lessons learned, Project Management Journal, 2006, No. 5, Vol. 37, pp. 26-35.

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