

## The role of cultural intelligence of managers in promoting employees' collaboration

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### ABSTRACT

Collaboration can be a very challenging process precisely because it is a highly intense way of working, requiring new ways of thinking, behavior and ways of operating. Cultural Intelligence (CI) is an antecedent for collaboration. The primary goal of this survey is to investigate the relationship between cultural intelligence of managers and their employees' collaboration. This research is a descriptive-correlation study where 119 managers and 175 employees are selected by stratified random sampling from the Social Security organization managers and their workers. To measure cultural intelligence, the Iranian version of the cultural intelligence questionnaire is implemented and collaboration is measured using a questionnaire developed by the researcher. The Cronbach's alpha reliability coefficient respectively for cultural intelligence and collaboration questionnaires are 0.933 and 0.813, respectively, which are well above the minimum acceptable limit. Data collected using SPSS 19 and they are analyzed using LISREL 8.54 software packages. The results indicate a significant and positive relationship between cultural intelligence among managers and their employees' collaboration. As the relationship between motivational and behavioral CI dimensions and collaboration is also determined to be positive and significant. Based on demographic factors such as gender, age and education we cannot comment on the cultural intelligence of managers and employee's collaboration but having inter-cultural experiences has had a positive impact on the cultural intelligence of managers. Based on the findings obtained we can say that Cultural Intelligence is a key factor, influencing and determining for collaboration.

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## 1. Introduction

In the book titled “The Evolution of Cooperation” by Robert Axelrod (1984, p190) we read: “We are used to thinking about competitions in which there is only one winner. But the world is rarely like that. In a vast range of situations mutual cooperation can be better for both sides than mutual defection. The key to doing well lies not in overcoming others, but in eliciting their cooperation” (Thomson et al., 2008) and collaboration goes beyond cooperation or coordination (Thomson & Perry,

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2006) and strong relationship and high commitment between two or more people are normally needed (McDonald & Rosier, 2011). In the today's world, there are many issues such as globalization phenomenon, technological growth as well as economic and political, which have reformed nature of work and organizations have changed and different forms of collaboration have further prevailed and expanded, accordingly (Gibson & Dibble, 2008). Therefore, managers who can perceive complicated and changeable nature of collaboration are more geared up for collaboration as compared with those who just concentrate on individual objectives (Grisham, 2006). In addition, cross-cultural contexts are ranging from a local identity to an international/global one wherein diversity is further growing (Grisham, 2006). Under such conditions, individuals with various cultures may have various perceptions of their similar problems and difficulties based on their knowledge and cultural ideologies leading to misperceptions and conflict, which could appear as obstacles for collaboration (Chua et al., 2011) and to have a better perception and embarking on better cross-cultural cooperation we need to consider cultural differences.

Some people believe that a simple approach to overcome cultural differences and promote cross-cultural effectiveness is to learn more about the differences among cultures. In another words, effective performance of today's organizations is in need of cultural intelligence (Afkaneh, 2010). Some other studies indicate that individuals with higher cultural intelligence can better adjust themselves to the current complex and unpredictable situations (Livermore, 2011) and their capacities for having on productive collaboration will help them be responsive to the changes in the environment (Gibson & Dibble, 2008). Henceforth all managers need to become familiar with cultural intelligence to reach an effective organizational modeling for dealing with various challenges and generating better performance in their job (Sadeghian, 2011). Therefore, we need for further attention of the human resource managers for collaboration process (Asadnejad Rokni & Safari, 2009) and for this purpose cultural intelligence, as a whole new way of seeing the world and as a strong possibility will further promote our effectiveness in diverse cultural contexts (Livermore, 2011).

The relationship between two concepts as cultural intelligence and collaboration needs to be investigated more comprehensively especially in Iranian community. Therefore, the purpose of the present research is to address the main question facing us in this respect: Whether cultural intelligence can ensure collaboration or not? It is to be mentioned that within the Iranian multi-cultural society organizations and institutions are home to staff and personnel with different exquisite tribal and domestic cultural backgrounds (Kurd, Lor, Turk, Arab, Baluch, etc.). In addition, Iranian Social Security Organization, as one the biggest organizations in Iran, is no exception to this fact. Therefore, in this paper, we intend to investigate the role of cultural intelligence of the Social Security Organization managers in collaboration between their personnel.

## **2. Literature review**

### *2.1 Concept of collaboration*

Bollen et al. (1989), Carmines and Zeller (1983) and Long (1983a, 1983b) considered social science variables as obstruct concepts, which cannot be witnessed in the real world and errors repeatedly happen in their assessment. Collaboration is one of these concepts/constructs; the concept/contract that cannot defined and worked with given the fact that no consensus among the researchers as to its real meaning exists (Thomson, et al., 2007). The interesting point is that the cooperation between one organization and other organizations happens normally and not necessarily willingly; the cooperation that may not happen under normal circumstances (Kenny, 2012). The theoretical discussion on the collaboration construct was originally introduced by different researchers and different elements were mentioned on this concept (Garry, 1989, 1996, 2000; Huxham, 1996, 2005; Ring & Vendenvin, 1994; Helrigel et al., 1986; Thomson et al., 2007). Grey (1989, 1995) considered collaboration as a process wherein every individual views different perspective of a certain problem attempting to reach a

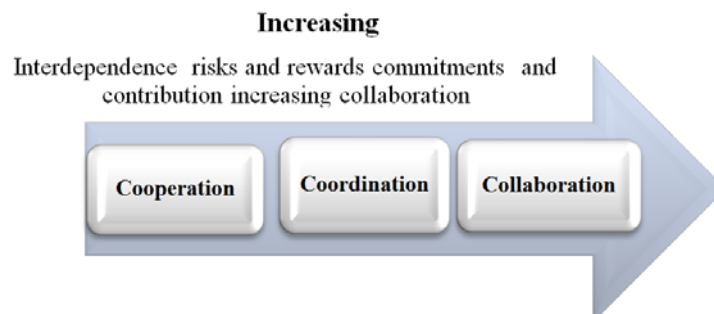
solution beyond his limited vision (Thomson & Perry, 2006). Table 1 displays the differences between the concepts as follows:

**Table 1**

Comparison between distinctions of coordination, cooperation & collaboration (Kenney, 2012)

Distinctions	Cooperation	Coordination	Collaboration
Definition	Can bring profit or loss to either party; The work environment is competitive; Relations between members is limited to their work and responsibilities. Static goals	By Organizing the different individual efforts for the sake of a common purpose; Members do not need to have relationships with others beyond their work. Static goals	In creating a product members have to reach agreement and it ensures profit for all; Competition is considered as an obstacle; Relationship between individuals go beyond their work and responsibilities. Dynamic goals
Precondition for success	Common goals; presence of more than one individual; mutual respect and trust; mutual understanding; and joint effort	Common goals; presence of more than one individual; it must be cleared who shall do what and when.	Common goals, dynamic processes; sense of belonging; open relationships; mutual trust and respect; supplementary skill; smart agility
Enabling factors	Proper tools; consultation and exchange of knowledge; transparency in responsibilities	Proper tools; problem solving mechanisms	Proper configuration of individuals; skills for promoting cooperation and operational cooperation
Freedom in doing work	Noticeable	At minimum level	Important and vital
Physical presence	Noticeable	At minimum level	Important and vital
The reason behind using	Mutual benefits with partnership in work	Avoidance of split and overlapping in work	Reach desirable outcome resulted from collective cooperation; the result that cannot be achieved from solitary work
Desirable outcome	Efficient outcome, saving time and costs	Efficient outcome	Efficient outcome; saving time and costs; innovation; excellent work; and collective work
Desirable use	Settling problems in complex environments and systems	Coordination among responsibilities, roles and programs in simple environments	Reach shared vision within complex environments and systems
Example	Marriage; public utility plan; helping flood affected peoples	Use of information technology; settling traffic problems	Brain storming; improvisation in theatre and music
Proper tools	Systemic thinking; analytical tools (root analysis)	Project management; time schedule; critical path method; Gantt Chart; operational list (who, where,...)	Inquiry and research; open-ended meetings; four fold operation ; dialogue; story telling

Some researchers have stated that cooperation and collaboration are different in terms of interactions, integration, commitment and complexity. Cooperation stands at the lowest part of the continuum and collaboration stands at the highest known with collective performance (Thomson & Perry, 2006). The continuum has been displayed in Fig. 1 as follows:



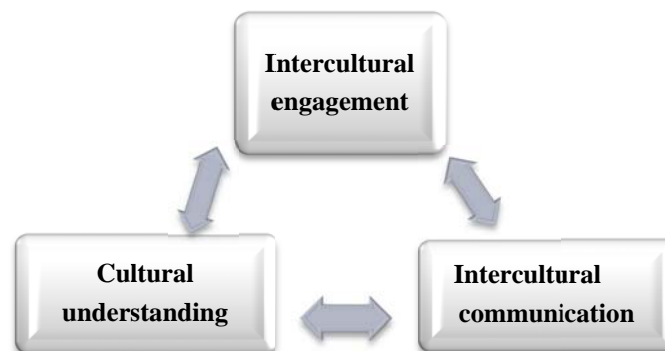
**Fig.1.** The collaboration continuum, based upon ARACY, 2009.  
McDonald & Rosier, 2011

The quality of a collaborative relationship often depends on some factors including trust, mutual respect, shared vision, frequent communication and flexibility. Identification of values and

characteristics of members of the group is the pre-requirement to a successful cooperation. In addition, by employing the conflict between individual and collective desires and maximizing of synergy between individual differences many organizations are able to make dynamic changes in their activities (Thomson et al., 2008) and specific abilities to adjust to such conditions and circumstances is called as the cultural intelligence.

## 2.2. Cultural intelligence

The Cultural intelligence concept, as a kind of intelligence, includes a set of individual capacities, which stands against personal desires and characteristics and it is different from other types of intelligence like general cognition and emotional intelligence. Some researchers like Earley and Ang (2003), Plum et al. (2008) have introduced this concept as a three-dimensional concept and others like Ang et al. (2007), Van Dyne et al. (2009), Livermore (2011), Ng et al. (2012), have considered it as a four-dimensional one. Earley and Ang (2003), employed the Sternberg multiple-intelligence, conceptualized the cultural intelligence based on meta-cognitive, cognitive, motivational and behavioral dimensions to be practiced in the environments with cultural diversity. Meta-cognitive intelligence is associated with the control of cognition, the processes individuals implement to acquire and understand knowledge and cognitive intelligence is associated with to a person's knowledge structures. Motivational intelligence is associated with the mental capacity to direct and sustain energy on a particular task or situation and recognize that motivational capabilities are critical to 'real world' problem solving. Dimensions of the cultural intelligence construct have been displayed in Fig. 2 as follows:



**Fig. 2.** The three dimensions of Cultural Intelligence

Plum, 2007, 2008

This model defines organizations as complex adaptive systems, which depends on a constant flow of information in all directions. It is not a hierarchical model where the top of the pyramid has the knowledge and the information to make decisions on behalf of others. In this framework, the firm is expected to learn to adapt and equality is assumed even though there are power differences between people depending on their role.

### 2.2.1. Cultural intelligence studies

There are large numbers of studies on assessment and measurement of cultural intelligence, which could be divided into three categories. The first one discusses the interdependence among variables like performance and intelligence and its components. The second one concentrates on the factors positively influencing intelligence and the last one concentrates on the performance and consequences of intelligence like job performance (Shaffer & Miller, 2008). Literature map of the cultural intelligence has been displayed in Fig. 3. In this figure, direct and indirect relationships of

this concept/construct with several concepts/constructs in Iran and other countries have been taken into account. The collaboration also is visible among such variables. While very limited number of researches has been accomplished on the relationship between cultural intelligence with collaboration in Iran. For the same purpose, the present research intended to investigate the cultural intelligence as well as effect of this important factor on collaboration.

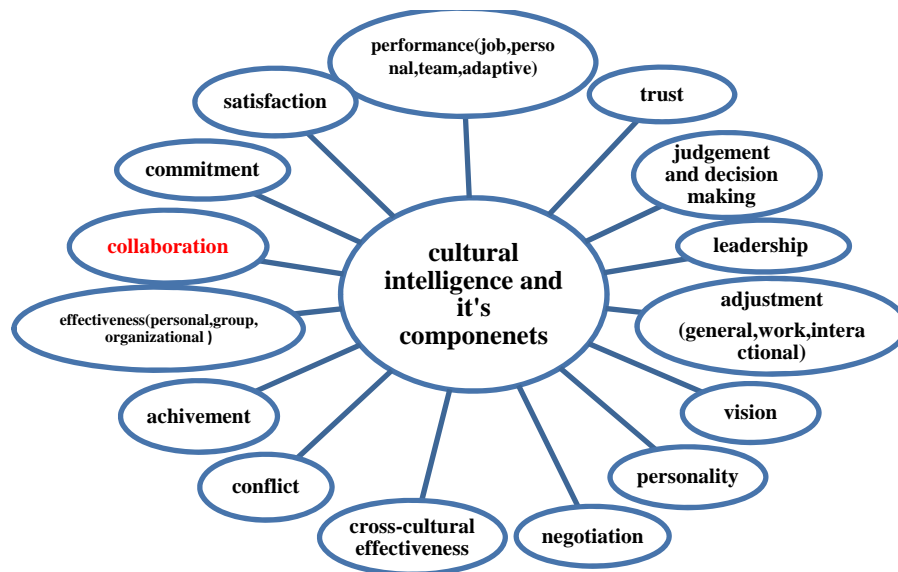


Fig. 3. Research map of the cultural intelligence

### 2.3. Collaboration and cultural intelligence

We need to accept that old way of thinking cannot produce any solution to the today challenges and cultural difficulties encountering the complex firms and we have to develop our way of thinking and produce new modelings (Plum, 2008). We, all, have been witnessing successful types of multicultural collaboration in various environments including consulting services, medical care and emergency, film making, relife efforts by peace activists, scientific researches, etc. As the result of these multicultural collaboration objective results are produced (Gibson & Dibble, 2008,). In Fig. 4, four categories of such an adjustment (from low effort and minor modification to high effort and substantial collaborative evolution) within a continuum are demonstrated.

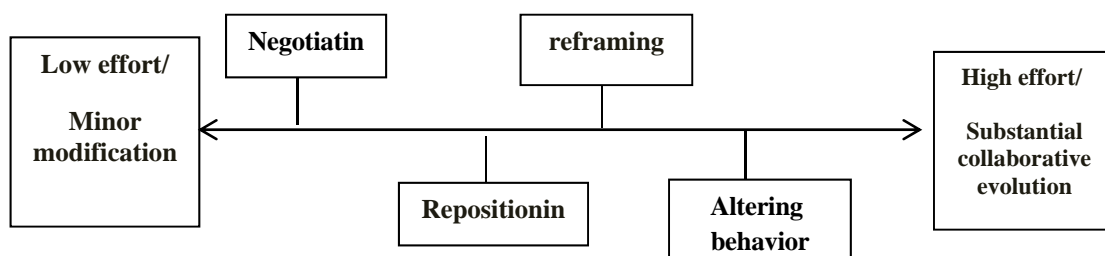
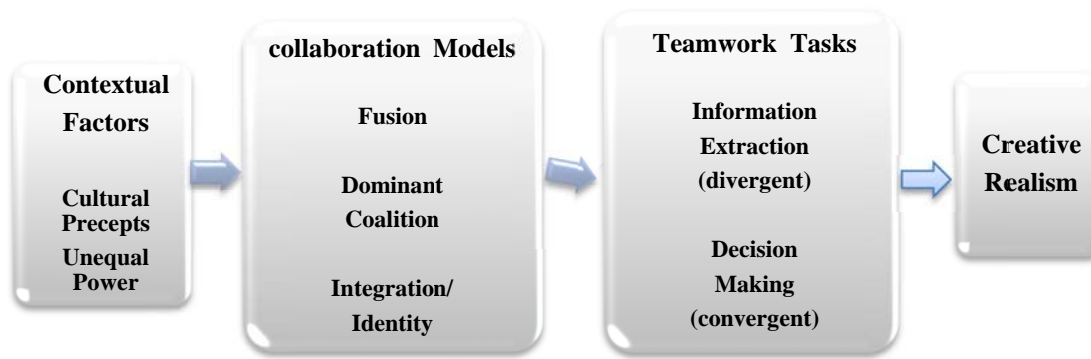


Fig. 4. Forms of Collaboration External Adjustment (Gibson & Dibble, 2008)

The most problematic form of adjustment is associated with the change in behavior of members of the cooperation team within a strange environment. This type of adjustment has to deal with the changes happen in the work processes, change of the work method, development of new roles, change in time schedule, time rescheduling of production and delivery process.

According to Janssens and Brett (2006) factors influencing creative realism in global teams are demonstrated in Fig. 5 as follows,



**Fig. 5.** Factors Influencing Creative Realism in Global Teams

Janssens & Brett, 2006, p131

As we can observe from Fig. 5, this framework provides guidelines to reduce process losses and produce creatively realistic decisions. This model of collaboration “fuses” or combines various cultural precepts for teamwork while maintaining the distinct flavor of various precepts and then implements this fused process of collaboration to address the tasks of information extraction and decision making (Green et al., 2005; Janssens & Brett, 2006). Chua et al. (2011), in three separate studies, investigated the effect of the meta-cognitive cultural intelligence on the growth of collaboration with mediation of affect-based trust as demonstrated in the following table:

**Table 2**

Results of three separate studies of Chua et al., 2011

	First research	Second research	Third research
Variables	Independent: meta-cognitive intelligence and international experience of manager Dependent: affect-based trust and creative collaboration of managers	Independent: meta-cognitive cultural intelligence Dependent: affect-based trust and new ideas sharing	Independent: meta-cognitive cultural intelligence Dependent: creative collaboration Mediator: affect-based trust
Community /sample	43 middle managers and those who were connected with the manager (observer with different cultures)	60 managers of high technological institutions in the private sector	Out of 118 two-member student groups (with different cultures and without any prior knowledge), 63 groups randomly came under affect-based trust conditions (10 minutes warm up) and the rest came under full control.

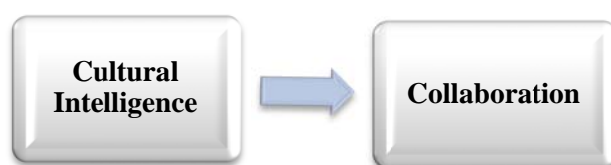
Outcome: Managers with higher meta-cognitive intelligence are more affect based on the collaboration context (first research); managers with less meta-cognitive intelligence are weaker in dealing with new ideas in the cross-cultural context (second research); and managers with higher meta-cognitive intelligence are stronger in sharing new ideas and more creative in their performance (third research) (Nielsen, 2004; Chua et al., 2011).

Primary hypothesis: There is significant relationship between cultural intelligence and collaboration.

### 3. Methodology

#### 3.1. Research conceptual model

In view of the researches already spoken of and definition produced by Plum (2010) implying that cultural intelligence (with cognitive, motivational and practical dimensions) is necessary for collaboration. Fig. 6 shows the proposed study of this paper.



**Fig. 6.** Conceptual Model, relationship between cultural intelligence and collaboration

### 3.2. The hypotheses of the survey

Based on the above-mentioned model hypotheses of the research were produced as follows:

Primary hypothesis: There is significant relationship between cultural intelligence of managers and employee's collaboration of the Social Security Organization.

First secondary hypothesis: There is significant relationship between cognitive cultural intelligence of managers and employee's collaboration of the Social Security Organization.

Second secondary hypothesis: There is significant relationship between motivational cultural intelligence of managers and employee's collaboration of the Social Security Organization.

Third secondary hypothesis: There is significant relationship between behavioral cultural intelligence of managers and employee's collaboration of the Social Security Organization.

### 3.3. Materials and methodology

In the matter of its nature, the present research is applied one and in the matter of methodology, it is considered as a survey research. For analysis of the information, the descriptive and inferential statistics as well as correlation analysis have been utilized.

#### 3.3.1. Community and sampling

The statistical community of the present research included managers and personnel of the general departments of the Social Security Organization from different parts of the country. Based on the sample size (sample volume) formula (Kukran) out of the 542 members of the statistical community (194 managers and 348 personnel) the sample volume was calculated in two categories of managers (132) and personnel (186) and samples of the research were selected based on stratified random sampling and the questionnaires, answered and submitted by 119 managers and 175 personnel, were analyzed accordingly.

#### 3.3.2. Research tool

The research tool for the present research included questionnaire. For measuring cultural intelligence of managers the (Iranian) cultural intelligence questionnaire, which consists of 16 questions in three dimensions of cognitive, motivational and behavioral cultural intelligence and the collaboration was measured and assessed by the researcher-made questionnaire (comprising 11 questions) that eleventh question is revers question.

#### 3.3.3. Validity and reliability of the questionnaires

For having a reliable assessment a pretest was organized with participating of managers and dependent personnel. For both questionnaires the Cronbach alpha coefficient (Cronbach > 0.7) was calculated implying high reliability of the questionnaires as displayed in Table 3.

**Table 3**

Reliability tests of the questionnaires, with Cronbach alpha coefficient

Cognitive cultural intelligence	Motivational cultural intelligence	Behavioral cultural intelligence	Collaboration
6 Questions	5 QUESTIONS	5 QUESTIONS	11 Questions
0.941	0.918	0.849	0.813

With the purpose of assessing validity of the cultural intelligence questionnaire, semantic validity of the words were confirmed by language and literature experts and in the collaboration questionnaire validity of the collaboration concept/construct was measured by use of LISREL software 8.54 and the measurement model (as displayed in Table 4).

**Table 4**

Content validity of the collaboration questionnaire

N	Question	T statistic	Significance
1	I extend active cooperation in identifying requirements and working priorities.	3.26	0.01
2	There exists much eagerness in me and my colleagues for finding new way of thinking, new behavior and new work method.	4.12	0.01
3	To become professional I discuss my ideas and thoughts with my colleagues.	6.41	0.01
4	To solve problems I will let others ask questions and present their solutions.	5.21	0.01
5	I respect other individuals' ideas (and coexist with them).	6.14	0.01
6	When I am needed I will spare no effort.	4.72	0.01
7	In making decisions and selecting solutions I will give priority to dialogue.	10.27	0.01
8	When I want to make decision and solve problems I take views of others into my serious attention.	11.99	0.01
9	I attach more value to collective work rather than individual one.	9.80	0.01
10	I have a good understanding of my responsibilities.	10.73	0.01
11	I think my job is more important than others(Rev).	10.01	0.01

Results indicated that the t-value calculated for each marker with latent variable of collaboration stood above 1.96 implying validity of questions of the questionnaire for measuring the concept at this stage.

#### 4. Results

Demographic Characteristics of samples were extracted as displayed in Table No.5 as follows:

**Table 5**

The frequency distribution of demographic variables

	Age variable	Gender	Education
Managers	63% 40-50 years old	82% Male	46.2% BA
Employees	43% 30-40 years old	64% Female	64% BA

In order to investigate normality of variables distribution the Skewness test also known as Koran test was employed. Table 6 has displayed the results as follows:

**Table 6**

Normality tests of research variables distribution based on Koran test

Latent variables of the model	Cognitive	Motivational	Behavioral	Collaboration
Chi-square value	1.034	1.320	1.246	1.615
Significance	0.104	0.075	0.085	0.058

According to Table 6 and given the significance level above 0.05 for all variables, normal distribution for all variables was confirmed. For calculating the effect of demographic variables on the research variables, mean tests were utilized and the results are displayed on Table 7 as follows:



**Table 7**

Results of the comparison of the average at demographic variable levels

Variables	Group	compare mean test	Statistic	Sig.	Result
Age	Managers cultural Intelligence	ANOVA	0.326	0.723	Not sig
	Employee's Collaboration	ANOVA	0.089	0.915	Not sig
Education	Managers cultural Intelligence	ANOVA	2.414	0.094	Not sig
	Employee's Collaboration	ANOVA	0.813	0.445	Not sig
Gender	Managers cultural Intelligence	Independent T.T	1.847	0.067	Not sig
	Employee's Collaboration	Independent T.T	0.598	0.551	Not sig
cross-cultural experience	Managers cultural Intelligence	Independent T.T	2.669	0.009	<b>sig</b>

\*\* Significance at error level of 5% with confidence level of 95%

The results indicated: On the variables of age and gender and education for both managers and the employees the significance level of statistic was above 0.050 therefore sufficient reason was not found to reject the null hypothesis. But the effect of cross-cultural experience for managers was meaningful ( $p=0.009$ ). For testing hypotheses and investigating intensity of relationship between variables of cultural intelligence and collaboration the Pearson Correlation Coefficient was employed the results of which has been displayed in Table No.8 as follows:

**Table 8**

Correlation between cultural intelligence of managers and employee's collaboration

(Number of managers = 119, number of employees = 175)

Latent variables	Total intelligence	Cognitive intelligence	Motivational intelligence	Behavioral intelligence
Employee's Collaboration	0.181	0.172	0.200	0.198
Significance Relationship	0.049 Confirmed	0.061 Non-confirmed	0.029 Confirmed	0.031 Confirmed

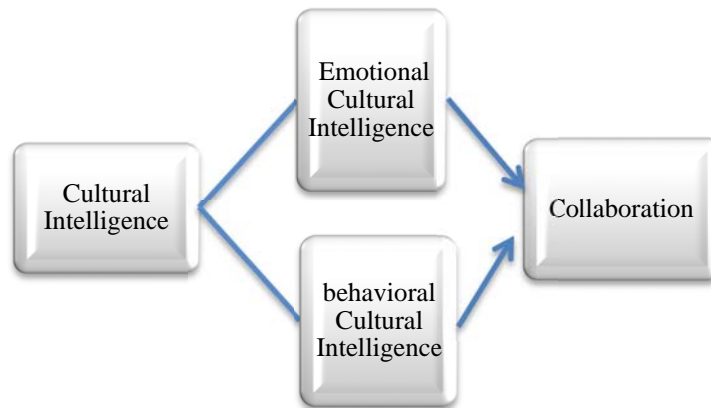
\*\* Significance at error level of 5% with confidence level of 95%

Table No.8 indicated that: Given significance level of below 5% in the relationship between total cultural intelligence, motivational cultural intelligence and behavioral cultural intelligence one side and collaboration on the other side there existed sufficient reason to reject the null hypothesis implying significance of such relationships. In other words, positive significant relationship between the total cultural intelligence and two motivational and behavioral dimensions of managers on one side and employee's collaboration on the other side was confirmed. In addition, the significance level value of the relationship between the cognitive cultural intelligence and the collaboration was found to above  $p>0.05$ . On the basis it was cleared that there existed no significant relationship between cognitive cultural intelligence and collaboration in this study.

## 5. Discussion

Collaboration is facing diverse challenges and opportunities including economic ones (inflation, assessment or stability of currency), political ones (government change, public unrest, military coup), technological ones (failure of a certain technology, modern technologies), the human resource related ones (access to specialized staff with low income) and finally cultural ones (different cultural values, prejudgments, cultural development,...) (Gibson & Dibble, 2008). It also can be admitted that one of the secrets behind the success of managers in containing organizational challenges is to give priority to cultural intelligence and its dimensions (Anbarestani, 2011). Vedadi et al. (2010) termed cultural intelligence as one of the most important indicators of the success of Iranian oil and gas industry' managers. In 1999 AllahVerdi specified that there existed positive significant relationship between motivational cultural intelligence and strategy cultural intelligence on one side and performance of bank governors of public and private banks in the city of Isfahan.

In the present research, based on the hypotheses test (as displayed in Table 8) the significant positive relationship between total cultural intelligence ( $p=0.049$ ) and its motivational ( $p=0.029$ ) and behavioral ( $p=0.031$ ) dimensions on one side and collaboration on the other side was confirmed and the research model as demonstrated in Fig. 8 was finalized.



**Fig. 8.** Research model, relationship between cultural intelligence and collaboration

Findings of the present research confirmed results of the previous researches. For example, the research carried out by Imai and Golfand (2010) specified that in the cross-cultural dialogue, total and motivational cultural intelligence can predict consistent behavior and behavioral cultural intelligence will give rise to cooperation-based strategies (Chua et al., 2011). Based on the findings of the present research existence of a significant relationship between cognitive cultural intelligence and collaboration ( $p=0.061$ ) was not confirmed that is on contrary to the findings of Kerani and Breth (2009). They claimed that individuals with high meta-cognitive cultural intelligence would achieve effective and creative cross-cultural collaboration through involvement in the multicultural combined working teams (Chua et al., 2011).

Also, results of the compare mean tests indicated that variables of education, age and gender did not influence on the cultural intelligence of managers and employee's collaboration ( $p>0.05$ ) implying that we cannot make judgment on the cultural intelligence of managers based on the said variables. These results actually were consistent with findings of the Livermore research implying that relationship between individuals' cultural intelligence and their adjustment and compatibility is much stronger than the relationship between their cultural intelligence and their age, gender, experience, place of residence or even their intelligence quotient (Livermore, 2011). In 2011 Sadeghian stipulated that demographic characteristics (like age, gender, education and managerial posts) do not affect their cultural intelligence that is to say cultural intelligence does not increase with higher education level although the need to further educate managers is undeniable (Sadeghian, 2011). This occurs while it seems that there is significant difference between managers with cross-cultural experience (working, living or studying irrespective of their place of residence) and those without cross-cultural experience ( $p=0.009$ ) in the matter of the cultural intelligence and cultural intelligence of managers with cross-cultural experience is much higher than other managers. These findings confirmed outcome of the research carried out by Crown in 2008 stipulating that education and employment in different cultures of cognitive and motivational dimensions would give rise to cultural intelligence and it is the best way for promoting of cultural intelligence and further involvement in cross-cultural interactions. Finally, the more duration and number of experience managers have within the work place. The more cultural intelligence for them will be produced (Deng & Gibson, 2008).

## 6. Conclusion

The present research as the first field study inspired by theoretical definition by Plum (2010) investigated the relationship between cultural intelligence and collaboration by use of the cultural

intelligence three dimensional model. Although based on its outcome the relationship between motivational and behavioral cultural intelligence on one side and collaboration was found to be significant ( $p < 0.05$ ) implying that having managers with motivational and behavioral cultural intelligence will give rise to further collaboration of the employee but this relationship between the cognitive cultural intelligence dimension and the collaboration was not confirmed ( $p > 0.05$ ). Therefore, it is suggested that in the future studies the restrictions of present research to be eliminated and the researches include possible recommendations in the relevant programs. Also the relationship between the cognitive dimension and even meta-cognitive cultural intelligence (fourth dimension) on one side and the collaboration on the other side is needed to be further investigated, because there is an assumption that knowledge of the cultural pre-assumptions of ours and others (meta-cognitive intelligence) would lead to promotion of collaboration (Chua et al., 2011; Zad et al., 2013). It is hoped that results of this effort will shed further light in the way of other beloved researchers opening a new window of opportunity for future studies and researchers in this respect.

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