Organizational entrepreneurship predictions based on components of cultural intelligence Ang's four factors

Aazam Nakhaei1, Faride Hadavi2, Aboalfazl Farahani3, Mahdi Talebpour4 and Esmaeel Abbasnejad5

1. Payame Noor University, PO BOX 19395-3697, Tehran, IRAN
2. Khwarizmi University, Karaj, Iran.
3. Payame Noor University, PO BOX 19395-3697, Tehran, IRAN
4. Physical Education Department, Ferdowsi University of Mashhad, Mashhad, Iran
5. Education 3rd District Mashhad, Pasdaran Street, Mashhad, Iran

Corresponding Author email: aazamnakhaie@yahoo.com

ABSTRACT: The present study was conducted to analyze the relationship between entrepreneurship and cultural intelligence components Ang's four factors (cognitive, meta-cognitive strategies, behavior). For this purpose, 273 managers and experts of sport and youth department were selected as sample. Subjects filled two questionnaires: cultural intelligence (Ang et al, 2004) and organizational entrepreneurship (Margaret Hill, 2003). Results showed: Dimensions of cultural intelligence (cognitive, meta-cognitive strategies, behavior) Suitable for predictor of Organizational entrepreneurship and amount of correlation coefficient \( R^2 = 0.193 \) show approximately 19% change in Organizational entrepreneurship model is explained.

Keywords: components of cultural intelligence, organizational entrepreneurship

INTRODUCTION

Rapid revolutions in science and technology in world and transforming sport to an industry has encountered sport authorities with new challenges that passing them needs creative approaches and methods. The role of entrepreneurship and entrepreneurs is very important. Entrepreneurship can provide economic growth, change lifestyle and create occupational opportunities for all members of society through discovering and developing chances related to sport (Naeeji and Abbassalizade, 2011). Achieving this goal and using its benefits needs the identification of related factors for organizational entrepreneurship in sport.

Societies are facing wide international revolutions and modern organizations could not merely mock what has done in the past for success but they must search new opportunities which are concealed from competitors. Typically, what can direct organizations toward these opportunities is the innovation of entrepreneurs in all levels. Sport is one of areas which has transformed along with other economical, social and technological aspects and these changes necessitates entrepreneurship in sport (Barry, 2011).

Sport is developing and transforming in our country. 70 million population of Iran have various needs which change every year and it is a great market for sport that in one hand can create jobs and on the other hand, it can increase gross national production which this in turn can create suitable investments for entrepreneurship. Since entrepreneurship is an indispensable part of sport which creates competitive advantage for individuals and organizations involved with sport and has considerable share in success and improvement of sport organizations, identifying related factors to entrepreneurship is necessary, because it helps policy-makers and researchers to present suitable solutions for developing these factors and more persons move toward establishing new businesses and creating jobs for unemployed people.

Various researches have shown that entrepreneurs have certain characteristics. Some researchers consider intelligence as basis of entrepreneurship and criticized numerous researches about entrepreneurship
because of ignoring intelligent human agent (Rhee and White, 2007) since intelligence are the best predictor of job performance [10].

In Gardner theory there is a combination of different intelligences in all individuals but in each of them there is a stronger intelligence and intelligence moves them toward certain tasks and jobs. and the sign of intelligence is that individual can adapt himself with various environment (Zhou et al, 2012).

This is important when entrepreneurship is done in complex cultural environment, since even in the case of correct and timely identification of opportunities, entrepreneurship without resolving cultural barriers will not succeed[23] and because cultural diversity is present everywhere, entrepreneurs must have capabilities which help them in correct cognitive, behavioral and value understanding. This is important in organizations like sport department which must have creative mechanisms for preserving and continuing survival in dynamic environments. Cultural intelligence is a new field of intelligence which has relations with various work environments and helps individuals to know how others think and how they react to behavioral patterns; therefore, it decreases inter-cultural communication barriers and gives power of cultural diversity management (Butler, 2005)

Therefore, cultural intelligence is the success key in modern world because the main core forming cultural intelligence is the power of individuals with social groups in interaction with social groups and individuals [14]. Therefore, regarding dynamic environment of sport and necessity of entrepreneurship in it and cultural intelligence importance for adapting in complex cultural conditions researcher has selected this subject for study and tries to answer this questions that: Is components of cultural intelligence can predict organizational entrepreneurship? What size is contribution of each dimension in predicting organizational entrepreneurship?

Which one are a better predictor variable for dimensions for entrepreneurship? If there is a relationship between components of culture intelligence and organizational entrepreneurship in Sports ministry managers has provided mechanisms to Firstly, the selection of individuals, In addition to, according to specific laws, Amount of Cultural Intelligence Consider the cultural intelligence to good use of opportunity and good management in the sport in a culturally diverse society Secondly, given that this type of intelligence can be developed through education and the promotion Amount of entrepreneurship to increase.

Theoretical framework and background

Organizational entrepreneurship: In 1985, pincot has coined organizational entrepreneurship and this term has entered in organizations which seek opportunities, new tasks and emphasize on services and new products (Soon - Van Dyne et al, 2007).

In fact, conditions of modern organizations are so that solving problems and bottlenecks needs new solutions and different resources and without doubt one of the most important resources is initiative, creativity, innovation and entrepreneurship. Entrepreneurship is one of the most important development factors for creating jobs and economic growth (Barry, 2011) Therefore; it is important to understand the conditions under which entrepreneurship flourishes (Timothy, 2009).

Entrepreneurship researches recognized entrepreneur as organizer of new investment (Yi-chun et al, 2012), and believed that the key factor in entrepreneurship is the entrepreneur (Butler, 2005) because entrepreneurs look at change phenomenon as an usual phenomenon and they are always searching change, react to it and exploit it as an opportunity (Soon - Van Dyne et al, 2007).

Cultural intelligence

Cultural intelligence was first presented by Irlee and Ang from London business school. They defined cultural intelligence as capacity for learning new patterns in cultural interactions and presenting behavioral answers to patterns. They believed that in encountering new cultural opportunities we hardly can find familiar sings which are suitable in communication. Ang et al(2009) in their paper about cultural intelligence emphasize that this concept reflects power of individual for action and efficient management. (Rhee and White, 2007) Their definition from cultural intelligence was in response to questions that in system in which organizational space and work is influenced by globalization it is necessary to understand why some people act differently in various cultural fields and in response to these questions they raise cultural intelligence discussion and define cultural intelligence as an ability for understanding and creating suitable set of opportunities in which cultural distinctions are vital. Later groups of academia from US, England and Asia have defined cultural intelligence as a systematic evaluation of an individual for encountering individuals from different cultures (Butler, 2005) Many researchers introduce cultural intelligence an individual's ability for efficient fulfilling of duties in different cultural condition (Rhee and White, 2007) and understanding people theoretically and practically gives a framework and language for identifying differences and invest them not tolerating or ignoring those (Mueller, 2000). It is measuring one's ability for interacting with new social environment (Zhou et al, 2012).
Center of cultural intelligence has introduced a four-factor model for measuring cultural intelligence which tries to measure abilities with four factors: meta-cognition, cognitive, motivation and behavior which are used in this study and include:

Cognitive cultural intelligence: this dimension shows understanding from cultural similarities and differences and indicates general knowledge and intellectual and cognitive maps of an individual from other cultures. Cognitive aspect of cultural intelligence includes identifying economic and legal systems, social interaction norms, religious ideas, aesthetic evaluations and language of other cultures.

Meta-cognition cultural intelligence means that how a person understands inter-cultural differences and processes that people use for achieving cultural knowledge. This happens when people judge their thought processes. Cultural intelligence strategy includes establishing as strategy before inter-cultural conflicts, studying assumptions during conflict and balancing mind maps in the case of difference in real experiences.

Motivational cultural intelligence indicates tendency toward testing other cultures and interaction with people from different cultures. This motivation includes internal values for multi-cultural interactions and self-confidence which allows one to behave effectively in different cultural situations.

Behavioral cultural intelligence: this behavior includes verbal and non-verbal behaviors which are suitable for dealing with different cultures. Cultural intelligence behavior is a set of flexible responses that are used in different conditions and have capacity for reforming and balancing in a certain interaction or condition. (Zhou et al, 2012)

Cultural intelligence and organizational entrepreneurship: cultural complexities in social and business levels are one of threatening factors in entrepreneurship. It must be noted that because of frequent threats in early steps of creating an organization there is need for sympathy and common understanding between beneficiaries while increasing cultural, ethnic and race diversity increases integrity of group (Rhee and White, 2007) and many entrepreneurs avoid development of entrepreneurship because of inability for working with other cultures and societies (Yi-chun et al, 2012). Because if these difficulties in entrepreneurship in various cultural settings, especially in organizations which must find creative mechanisms for survival in dynamic environment, entrepreneurs should have abilities which help them in correct understanding of cognitive, behavioral and value dimensions of others and this understanding is a significant feature of cultural intelligence. Although there is not a study which directly investigates relationship between cultural intelligence and organizational entrepreneurship in managers and employees of sport ministry, but some related researches support this relationship which are briefly mention:

Jiang and park (2012) conducted a study for studying self-efficacy of decision-making are mediator for professional relations of entrepreneurship with emotional intelligence and cultural intelligence on a sample of students in China and Korea. Results showed that in all dimensions of emotional and cultural intelligence self-efficacy in decision-making has considerable relation with professional goals and regression analysis indicated that self-efficacy in decision-making has a balancing role in relation between emotional and cultural intelligence and entrepreneurship goals. (Zhou et al, 2012).

Heranz and Dilara (2008) studies effects of demographic factors on creating economic firms in different cultures. They studied 156575 entrepreneurs in 42 countries which has recently initiated their business. Their results showed that age, education and professional experiences have considerable effect in these activities (Rhee and White, 2007) Results of other study about relationship between demographic features(age, Education Level) and entrepreneurship showed that by increasing age entrepreneurship decreases and people with higher education and experience have higher performance (Rhee and White, 2007).

Chan Lin et.al (2012) in a study for investigating effect of cultural and emotional intelligence for adaptation in different cultural setting on 259 students of an international college showed that cultural intelligence has positive effect on inter-cultural adaptation after control for gender, age, experience and language ability (Rhee and White, 2007)

Naeeji and Abbasalizade (2011) in a study with the purpose of investigating relationship between cultural intelligence and entrepreneurship of managers in 244 members of non-profit organization id Tehran showed that there is a deep relationship between four-factor model of cultural intelligence and characteristics of entrepreneurs. Also behavioral and cognitive aspects showed causative relationship with entrepreneurship. Therefore; enhancing behavioral and cognitive cultural intelligence has direct effect on increasing organizational entrepreneurship. (Butler, 2005)

Khairi et.al(2009) in a research on 228 managers of non-profit organizations showed that there is a relationship between cultural intelligence and its dimensions with entrepreneurship. Degree of this relationship is at the highest level. Only risk-taking has not showed any correlation with cultural intelligence factors. (Zhou et al, 2012).
Research shows that cultural intelligence and its dimensions have a positive and significant relationship with success, organizational efficiency, and performance, and it is a vital skill for leaders of global business. The hypotheses presented are:

**Hypotheses**

H1: Organizational entrepreneurship according to the dimension of Motivational Cultural Intelligence is predictable.

H2: Organizational entrepreneurship according to the dimension of Cognitive Cultural Intelligence is predictable.

H3: Organizational entrepreneurship according to the dimension of Met Cognitive Cultural Intelligence is predictable.

H4: Organizational entrepreneurship according to the dimension of Behavioral Cultural Intelligence is predictable.

![Research Conceptual Model](image)

**Materials and Methods**

In order to predict the organizational entrepreneurs based on the dimensions of cultural intelligence, two questionnaires were used: one on organizational entrepreneurship with 60 questions by Margaret Hill (2003) with validity 0.82, and another on cultural intelligence with 20 questions by Ang (2004) with validity 0.78. Descriptive and inferential statistics were used for data analysis. Descriptive statistics include frequency tables and percents, mean, and standard deviation, while inferential statistics use Kolmogorov-Smirnov and Spearman and Pearson correlation. SPSS was used for calculations.

**Data Analysis**

The mean, standard deviations, results of Kolmogorov-Smirnov test, and reliability for entrepreneurship and cultural intelligence are presented. For normality test, Kolmogorov-Smirnov test was used. According to the table, the significance level of all factors is higher than 0.5, indicating a normal distribution. Therefore, parametric tests can be used to study the relationships between variables. Reliability was measured by Cronbach alpha. In most research, a validity of 0.7 was accepted for Cronbach alpha. As the table shows, the Cronbach alpha coefficients are higher than 0.7 for all scales in this study.
For examine whether is components of cultural intelligence can predict organizational entrepreneurship we used analysis of variance, regression.

Based on table 2, variance regression analysis shows effect of emotional intelligence on organizational entrepreneurship. Obtained \( f(7/285) \) is significant in \( p<0.05 \); Therefore we can predict organizational entrepreneurship. From Dimensions of cultural intelligence and \( R^2=0.193 \) shows that 19 percent change is determined in organizational entrepreneurship.

For study effect of 2 components of cultural intelligence on entrepreneurship we used multiple regressions. Table 6 shows predictor variables in stepwise regression analysis. Order of predictor variables is not controlled by researcher based on correlation coefficient and if variables achieve entry criterion they remain in analysis, otherwise they eliminated (Bazargan, 2011).

Regarding results of table 4 we can say that because significance level of t-statistics is in all variables located a linear relationship and can not be deleted none of them.

Based on stepwise regression results linear equation for effect of components of cultural intelligence on organizational entrepreneurship in managers and employees of sport ministry is as below:

Organizational entrepreneurship= 139/433+0/933(strategy)+ -0/737(Knowledge) + 0/83 (motivation) + 0/742(behavior)

Regarding regression standard coefficient we can conclude that; this coefficient on cognitive dimension (-0/218) and afterwards motivational (0/208) and behavioral (0/188) and finally the strategy (0/179). Therefore in lieu of each unit change in the cognitive dimension of 21 units, motivational dimension of 20 units, behavioral dimension of 18 units and dimension strategy 17 units in organizational entrepreneurship will change.

### Table 1. means, standard deviations, results of Kolmogrov-Smearnov test and reliability for entreprenureship and cultural intelligence.

<table>
<thead>
<tr>
<th>Alpha coefficient</th>
<th>Result</th>
<th>Significant level</th>
<th>Z statistic, Kolmogrov - Smimov</th>
<th>SD</th>
<th>Mean</th>
<th>Variable</th>
<th>( R )</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8209</td>
<td>Normal</td>
<td>0.35</td>
<td>0.932</td>
<td>27.005</td>
<td>162.35</td>
<td>organizational entrepreneurship</td>
<td>1</td>
</tr>
<tr>
<td>0.7874</td>
<td>Normal</td>
<td>0.84</td>
<td>0.618</td>
<td>19.644</td>
<td>68.97</td>
<td>cultural intelligence</td>
<td>2</td>
</tr>
<tr>
<td>0.9073</td>
<td>Normal</td>
<td>0.051</td>
<td>1.345</td>
<td>7.644</td>
<td>24.24</td>
<td>Cognitive</td>
<td>2-1</td>
</tr>
<tr>
<td>0.8630</td>
<td>Normal</td>
<td>0.075</td>
<td>1.28</td>
<td>6.359</td>
<td>16.81</td>
<td>Behavioral</td>
<td>2-2</td>
</tr>
<tr>
<td>0.8581</td>
<td>Normal</td>
<td>0.097</td>
<td>1.267</td>
<td>5.023</td>
<td>13.14</td>
<td>Met cognitive</td>
<td>2-3</td>
</tr>
<tr>
<td>0.8456</td>
<td>Normal</td>
<td>0.071</td>
<td>1.288</td>
<td>6.337</td>
<td>15.26</td>
<td>Motivational</td>
<td>2-4</td>
</tr>
</tbody>
</table>

### Table 2. results of variance regression analysis for effects of components of cultural intelligence

<table>
<thead>
<tr>
<th>( R^2 )</th>
<th>( R )</th>
<th>Significant level</th>
<th>F-statistic</th>
<th>Mean square</th>
<th>Degrees of freedom</th>
<th>Sum of squares</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.193</td>
<td>0.439</td>
<td>0.0001</td>
<td>7.285</td>
<td>3888.8</td>
<td>4</td>
<td>15555.4</td>
<td>regression</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>533.84</td>
<td>122</td>
<td>65128.5</td>
<td>Remaining</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>126</td>
<td>80863.9</td>
<td>Total</td>
</tr>
</tbody>
</table>

### Table 3. multiple regressions analysis for predicting variables components of cultural intelligence

<table>
<thead>
<tr>
<th>Adjusted Coefficient of determination</th>
<th>Coefficient of determination</th>
<th>Correlation coefficient</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.166</td>
<td>0.193</td>
<td>0.439</td>
<td>1</td>
</tr>
</tbody>
</table>


\( a \) = Predictor variables: constant number, cognitive, behavioral, met cognitive, motivational cultural intelligence

### Table 4. results of stepwise regression analysis

<table>
<thead>
<tr>
<th>Significant level ( T )-statistic</th>
<th>T-statistic</th>
<th>Standard regression coefficients</th>
<th>SD coefficient</th>
<th>Regression coefficient</th>
<th>Indicator variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>17.011</td>
<td>179.0-</td>
<td>197.8</td>
<td>443.139</td>
<td>Constant value</td>
</tr>
<tr>
<td>0.46</td>
<td>992.1</td>
<td>218.0-</td>
<td>543.0</td>
<td>933.0</td>
<td>(Met cognitive) strategy</td>
</tr>
<tr>
<td>0.017</td>
<td>-2.424</td>
<td>218.0-</td>
<td>304.0</td>
<td>737.0</td>
<td>cognitive</td>
</tr>
<tr>
<td>0.048</td>
<td>1.959</td>
<td>208.0-</td>
<td>466.0</td>
<td>830.0</td>
<td>motivational</td>
</tr>
<tr>
<td>0.050</td>
<td>1.867</td>
<td>188.0-</td>
<td>420.0</td>
<td>742.0</td>
<td>behavioral</td>
</tr>
</tbody>
</table>
Analyzing conceptual model: results are presented with a suitable method in figure 2. Therefore, as shown in the four dimensions of cultural intelligence model can predict the organizational entrepreneurship. It should be noted that the numbers are indicate the extent of association coefficients for the regression model. Therefore by increasing three dimensions strategies, motivational behavior (because to the positive relationship Unlike cognitive Dimension that That is a negative relationship), can also increase Amount of entrepreneurship.

![Conceptual Model](image)

**Figure 2.** conceptual model based on obtained results

**DISCUSSION AND CONCLUSION**

Researcher considers cultural intelligence and four dimensions of intelligence in his research: motivational, cognitive, meta-cognitive and behavioral. In this paper, a stepwise regression analysis showed that all dimensions of cultural intelligence are able to predict organizational entrepreneurship. Results of Naeeji and Abbasalizade showed that there is a deep relationship between four-factor model and characteristics of entrepreneurs Naeeji and Abbasalizade (2011). Khairi et.al(2008) research showed that there is a relationship between cultural intelligence and its dimensions with entrepreneurship Khairi et.al,(2009) this consistency shows high validity of relationship between cultural intelligence and organizational entrepreneurship.

Because entrepreneurs experience high level of inter-cultural interactions in dynamic environment of sport and because of difficulties and interaction with different cultures which needs attempt and certain skills, clever entrepreneur could identify conflicts and use them as opportunity in market. This causes that instead of judging different cultural behaviors they were prepared to accept these differences and show suitable behavior in market. Correlation analysis results show that most changes in order to increase organizational entrepreneurship by motivational, behavioral, strategies dimensions are explained.

Combination of findings showed that understanding cultural similarities and differences and identifying other cultures is necessary for organizational entrepreneurship but it is not sufficient and individual must go beyond cognitive cultural intelligence and interact with other cultures with active thinking and creating strategies, balancing behavioral responses and according to results of this study those with more ability in these three aspects will have higher organizational entrepreneurship.

Regarding the role of cultural intelligence and the importance of having entrepreneurshie features in managers and experts of sport department, using cultural intelligence in human resource policies as an effective factor in hiring, performance evaluation and improving employees is considered. Sport department can appoint personnel with high cultural intelligences by using tests for measuring cultural intelligence of personnel.

Cultural intelligence is an acquired trait; therefore, organizations can prepare plans for developing this intelligence in organizations. There are some plans that Irli and Mosakowski (2004) plan is the most important one.

Identification of differences in cultural intelligences of entrepreneurs in sub-cultures, measuring validity of questionnaires with certain requirements of society and mechanisms for enhancing different aspects of cultural intelligence should be considered in future researches and regarding international trade which has accelerated globalization and multi-cultural workplaces these researches could be suitable for improving performance of our country in globalization.

**REFERENCES**


Barry AF. 2011. "The relationship between Governance Effectiveness and Entrepreneurship, Associate Professor School of Business at State University of New York at Oswego Oswego, NY 13126, USA & Associate Professor Business and Management at Suleyman Sah University Istanbul, Turkey. International Journal of Humanities and Social Science Vol. 1 No. 17 [Special Issue – November 2011] 221.


Chau YC, YR. 2011. "Born global Entrepreneurship Intensions of Undergraduate Students Marketing Major An Honours Degree Project Submitted to the School of Business in Partial Fulfillment of the Graduation Requirement for the Degree of Bachelor of Business administration (Honours) Hong Kong Baptist University.


Facultad de Psicología, Universidad Autónoma de Madrid, Ciudad Universitaria de Cantoblanco, 28049 Madrid, Spain. roberto.colom@uam.es.


Hadizade A, Ramirnemeh H, Hosseint SS. 2009. "the study of relationship between emotional intelligence and entreprenuership: case study of organizations dependent on oil organization". Year 2; No:4; p114.

Herranz AA, de Lara PV. 2008. "An analysis of social demographic factors determining the enterprise creation in the field of multiculturalism." REVISTA DE ECONOMIA MUNDIAL- Issue: 18


Ng KY, Van Dyne L, Ang S. 2009. Developing global leaders: The role of international experience and cultural intelligence. In W.H. Mobley, Y. Wang, & M. Li (Eds), Advances in global leadership, 5:225-250.


Ulhoi JP. 2004. The social dimensions of entrepreneurship, dk-8210 Aarhus v, Denmark Technivation.


