IDENTIFICATION OF INTELLECTUAL CAPITAL EFFECTS ON PROMOTING ORGANIZATIONAL ENTREPRENEURSHIP
(CHARMAHAL-E BAKHTIARI MINISTRY OF COOPERATIVES, LABOUR AND SOCIAL WELFARE)

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ABSTRACT

Intellectual capital and organizational entrepreneurship have played a significant role in global economy during last decades. Considered as useful instrument to obtain the economic growth, entrepreneurship organizations lead the efforts to achieve the competitive benefits of organizations toward the instructive capitals such as intellectual capitals. However, it is represented as the reflection of processes like acquiring, merging and taking advantage of knowledge by a fairly new approach. Thus, the research goal is to empirically review the role of intellectual capital in arranging and establishing organizational entrepreneurship. Besides, it determines the impact of intellectual capital dimensions including human, structural and relational capital in creating organizational entrepreneurship. Statistical society under study consists of managers and employees of cooperation, occupation and social welfare administration of Charmahal-e-Bakhtiari province. Applied research method is collaboration and the means of collecting data is questionnaire. Simple and multiple regression analyses are used to examine the data. The results indicate that intellectual capital influences effectively and positively on organizational entrepreneurship. However, among the three above mentioned elements it is the human capital having the most efficient impact on the organizational entrepreneurship.

KEYWORDS: Intellectual Capital, Structural Capital, relational Capital, Organizational Entrepreneurship.

INTRODUCTION

Today, innovation and intelligence have been focused as a central subject for achieving the benefits of competition and the organizational learning has become a meaningful mechanism in creating dynamic capabilities and strategies (Kang & Snell 2009). Perhaps this is the reason why in recent years entrepreneurship has been paid more attention by executive managers and researchers as a process causing restoration and promotion of organizational performances (Zahra et al., 1999). On the other hand, today attempts to achieve the benefits of competition
have changed the organizations’ concern to the educational assets like intellectual capital. In recent years, several specialists have shown that the process of entrepreneurship not only does result in value creation through using organizational sources with new methods but it brings about another new source for the organization. The new key source is knowledge applied to redefine the business as well as competition procedures (Floyd & Wooldridge, 1999; Zahra et al. 1999).

Respecting this new approach on one hand and regarding to the importance of entrepreneurship to the present organizations on the other hand, recognition of the relationship between the educational assets such as intellectual capital and entrepreneurship to take advantage of this source for promoting the entrepreneurial level is a critically important factor. Particular attention to the entrepreneurship is required not only for private organization but for the state ones. Some experts also believe that entrepreneurship concepts can assist us to predict a clear future for radical terms in governmental bureaucracy and to escape the problems and challenges resulting from them (Shockley et al, 2002). Accordingly, the purpose would be identification of the intellectual capital and its dimensions (human, structural and relational capital) on organizational entrepreneurship in Cooperation, occupation and social welfare administration of Charmah-Bakhtiari city and determination of its predictability by mentioned elements.

REVIEWING THE LITERATURE

THEORETICAL FRAMEWORK OF THE RESEARCH

Concerning the theoretical studies based on Kang and Snell’s comments and Zahra’s as well about entrepreneurship and organization knowledge, conceptual model of this research indicates (figure 1) how intellectual capital and its elements (human, structural and relational capital) relates to organizational entrepreneurship. It should be noted that in organizational entrepreneurship concepts, given what was said, some innovation and adventurism have been considered in designing the questionnaire. The research hypotheses have been produced in accord with this model.

FIGURE 1: THE RESEARCH CONCEPTUAL MODEL

<table>
<thead>
<tr>
<th>Intellectual capital:</th>
<th>Organizational entrepreneurship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human capital</td>
<td>(innovation and adventurism)</td>
</tr>
<tr>
<td>Structural capital</td>
<td></td>
</tr>
<tr>
<td>Relational capital</td>
<td></td>
</tr>
</tbody>
</table>

RESEARCH HYPOTHESES

This research has one main hypothesis and three subordinate hypotheses:
1. Intellectual capital has positive and meaningful influence on organizational entrepreneurship.

   1.1. Human capital has positive and meaningful influence on organizational entrepreneurship.

   1.2. Structural capital has positive and meaningful influence on organizational entrepreneurship.

   1.3. Relational capital has positive and meaningful influence on organizational entrepreneurship.

**RESEARCH QUESTION**

How does each of the human capital components contribute in organizational entrepreneurship?

**RESEARCH HISTORY**

Zahra et al, (1991) believe that entrepreneurship can promote the performance by producing a new knowledge which is a foundation of making new competences and elevates previous ones. They note that organizational learning can help organization produce and develop the new knowledge (Zahra et al 1999). Floyd and Wooldridge (1999) represent entrepreneurship as a concept reflecting the process of acquiring, sharing and utilizing knowledge. In fact, organizational entrepreneurship gains meaning in an environment under severe competitive situation leading organization members to continuously attain new knowledge (Chandler et al., 2000; Loof & Heshmati 2002). In this manner, members having new awareness, offer new ideas and opinions consistent with organization conditions. According to experts, entrepreneurial organizations need further sources like physical, financial and human… resources more than other organizations. Intellectual capital is represented as a knowledge asset required for entrepreneurship as well (Hayton 2005).

Therefore, each of these triple dimensions including human, instruction and relational capital has influential role on organizational entrepreneurship. Most of experts refer to innovation as one of the important element of organization of entrepreneurship (Hayton 2005).

Researches have revealed the positive relation between level and degree of people’s innovative abilities with their educational level. People with higher educational, cognitive and job experiment qualifications are more innovative than others under the same situation. As a matter of fact, it can be attributable to the over mentioned factors in decision making process. People with more experiences and stronger cognitive abilities do better in understanding the problem, presenting more solutions and solving it (Bantel & Jackson 1989). In terms of structural capital, presenting useful information and knowledge, research and development units allow employees to have more efficient reaction in condition of uncertainty and risks. Also, organizations with machine structure use extremely accurate control systems to avoid the creation of uncertainties and to reduce the market risks. Yet entrepreneurship requires a broad scope of freedom. Organic organizational structures with low hierarchy and inconclusive decision making positively relates to entrepreneurship in terms of removing rules and troublesome procedures (Burns 2005). Among other aspects of structural capital we can direct attention to the values respected in an
organization. There should be an organizational culture fitted with entrepreneurship to produce and retain the entrepreneurial measures. In entrepreneurial organizations, values like emphasis on innovation and creativity, continuous learning, effective relations, raising employee’s capabilities and taking risks are regarded as key and prominent targets. Customers’ new opinions and ideas are a good source of innovation and an appropriate relation with suppliers end in development of need sources for entrepreneurship.

INTELLECTUAL CAPITAL CONCEPT

Intellectual capital to gain the competitive benefits includes potential resources which it is believed that they can be produced through technological development and economic growth (Hayton 2005). Bonits (1998) defines intellectual capital as attempt to effectively exploit knowledge (finished product) opposite to information (raw material). It is a term to combine intangible market assets, intellectual assets, human assets and structural assets allowing organization to be able to carry out its activities (Brooking 1996). Roos & Roos (1997) says intellectual capital includes all processes and assets not shown in balance-sheet and also contains all intangible assets (trade brands, registry rights and exploitation and trade names) which are paid good attention in modern accounting methods. That is the intellectual capital is the collection of members’ knowledge and putting them into practice. Since there are many definitions for this subject, we can consider different component for it as well. In the commonest definition it is introduced as having knowledge, information and intellectual and experience assets can be used for making wealth. In this definition, intellectual capital has three components such as human capital, structural capital and relational capital (Stewart 1997). By studying the relevant literature we would understand that the researchers and other agree on these three elements. In this section they would be explained in more details.

HUMAN CAPITAL

In organizational learning literatures, there are two human Capitals, general and specific. The general human capital focuses on deep institutionalized knowledge and the specific one discuss on distinct and particular field (Kang & Snell 2009). Human capital represents the knowledge reserve of an organization manifesting as employees. It is defined as collective abilities of an organization so that it can extract the best solution from them (Bontis 1998). Roos & Roos, (1997) believe that intellectual capital is created by employees through intelligence, attitude and eligibility. Brookings also says it is the human capital which creates the skills, specialties, problem solving abilities and leadership methods. In another definition, in addition to knowledge, skill and creativity of members, human capital represents the values, culture and even philosophy of the organization (Edvinsson & Malone 1997). According to Edvinsson, although in a learning organization employees are considered as the main asset, they do not belong to the organization as long as it is not clear whether the newly created knowledge belongs to the organization or not. For instant, can the organization claim the sense of belonging toward a software programing by a programmer in his weekend holiday at home?

STRUCTURAL CAPITAL

Structural capital includes institutionalized knowledge and comprehensive experiences based on routine activities and processes (Kang & Snell, 2009). Structural capital is one of the
fundamental principles in creating learning organizations. Even with highly qualified employees, a weak set of rules and systems does not let organization take advantage of its employees’ abilities to create values and have good trading performance (Bontis 1998). In fact, the structural capital is something that has already been defined and would be remained in the same manner even after leaving the workplace at the end of the day (Roos & Roos 1997). In Bontis opinion, the intellectual capital of an organization would achieve to the maximum potential capability, unless there are inefficient working systems and procedures. However, organizations with strong structure and consequently a supportive culture allow people to try new ideas, confront with failures and then learn. It may help supporting team to accomplish an optimum mental and trade performance. As it is a function of human capital, their interaction may assist organizations to coordinately develop and apply the customers’ capital (Chen et al 2004).

RELATIONAL CAPITAL (CUSTOMER)

Relational capital includes the degree of customers’ loyalty, the number of distribution channels, proper relationship with suppliers and the credit of brand name (Brookings 1996). It should be noted that the most important part of it is the relation of organization with customers and this is why it is also called customer capital. Chen et al (2004) categorize customer capital into marketability, market intensity and customer’s loyalty and recognize it as a bridge and a mediator in the process of intellectual capital. They see as a determining factor in converting intellectual capital into market value and then trade performance of organization. In Bontis’ definition (1998), customer capital is current and future value of an organization relation with its customers which shows the potential of that organization in confrontation of ambiguous and external factors.

ORGANIZATIONAL ENTREPRENEURSHIP

Fry (1993) in his definition knows organizational entrepreneurship as a process may result in product and process innovation by inducing an entrepreneurial culture. Kuratko & Hodgetts,(1993) defines it as a multidimensional process along with forces acting simultaneously and ending in implementing an innovative insight. He also explains that entrepreneur is a person who estimates how it is possible to convert a thought or an idea into a profitable reality. Entrepreneurs are independent, adventurous, creative, courageous and daring people are not afraid of failure. Besides, organizational entrepreneurship and its accelerating factors do not occur unexpectedly and they require related chances and factors to be accomplished (Sadler 2000).

3- RESEARCH METHODOLOGY

Research methodology is a descriptive and analytic survey. The employees of the Cooperation, Occupation and Welfare Administration of Charmahal-e Bakhtiari are those who answered the questionnaire. 108 people were randomly selected from among the society of 150 respondents. The means of gathering information is vector receipt and questionnaire. Vector receipt is used for gathering and editing required information about the subject. Two questionnaires have been designed; one for intellectual capital on the basis of human, structural and relational capital; the other one for evaluating organizational entrepreneurship on the basis of adventuring and innovating criteria in the format 40 questions. Since the understudied concepts are qualitatively
assessed, Likert 5 Scorecard is used to quantify them. Furthermore, in analyzing the research data, statistical methods of analyzing correlation, regression analysis and Freedman test have been applied to specifying the type and degree of correlation between variables, to studding the effects of independent variables on dependable variables and determining the preference of the dimensions of each variable respectively. The research is content-oriented so the questionnaires’ content designed on the basis of theoretical fundamentals of concepts verified by the university specialists. To examine about the credit of research Cronbach's Alpha test has been used. As long as the Kronbach Alpha for both of the questionnaire is more than 0.7, the research is valid.

**ANALYZING DATA (RESEARCH FINDINGS)**

**HYPOTHESIS TEST**

Regression analysis has been used for evaluating and testing the hypotheses which are discussed as bellow:

First hypothesis: intellectual capital meaningfully and positively effects on organizational entrepreneurship.

**TABLE 1: REGRESSION OF INTELLECTUAL CAPITAL ON ORGANIZATIONAL ENTREPRENEURSHIP**

<table>
<thead>
<tr>
<th>Suppose to</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>R</th>
<th>R²</th>
<th>Standard β</th>
<th>T Test</th>
<th>Sig.*</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intellectual capital</td>
<td>organizational entrepreneurship</td>
<td>0.889</td>
<td>0.785</td>
<td>0.886</td>
<td>0.000</td>
<td>approved</td>
<td></td>
</tr>
</tbody>
</table>

**p<.05**

According to statistical test it is clear that in the meaning level of 5%, the above hypothesis is confirmed. In other word, on level of 95% , the intellectual capital of under studied organization has a meaningful and positive effect.

Second hypothesis: human capital meaningfully and positively effects on organizational entrepreneurship.

**TABLE 2: REGRESSION OF HUMAN CAPITAL ON ORGANIZATIONAL ENTREPRENEURSHIP**

<table>
<thead>
<tr>
<th>Supposing</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>R</th>
<th>R²</th>
<th>Standard β</th>
<th>T Test</th>
<th>Sig.*</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Human capital</td>
<td>organizational entrepreneurship</td>
<td>0.805</td>
<td>0.649</td>
<td>0.805</td>
<td>0.000</td>
<td>approved</td>
<td></td>
</tr>
</tbody>
</table>
According to statistical test it is clear that in the meaning level of 5%, the above hypothesis is confirmed. In other word, on level of 95%, the human capital of under studied organization has a meaningful and positive effect.

Third hypothesis: structural capital meaningfully and positively effects on organizational entrepreneurship.

TABLE 3: REGRESSION OF STRUCTURAL CAPITAL ON ORGANIZATIONAL ENTREPRENEURSHIP

<table>
<thead>
<tr>
<th>Supposing Independent Variable</th>
<th>Dependent Variable</th>
<th>R</th>
<th>R2</th>
<th>Standard β</th>
<th>T Test</th>
<th>Sig.*</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Structural capital</td>
<td>Organizational entrepreneurship</td>
<td>0.80</td>
<td>0.64</td>
<td>0.801</td>
<td>0.00</td>
<td>0</td>
<td>approved</td>
</tr>
</tbody>
</table>

** p<.05

According to statistical test it is clear that in the meaning level of 5%, the above hypothesis is confirmed. In other word, on level of 95%, the structural capital of under studied organization has a meaningful and positive effect.

Forth hypothesis: Relational capital meaningfully and positively effects on organizational entrepreneurship.

TABLE 4: REGRESSION OF RELATIONAL CAPITAL ON ORGANIZATIONAL ENTREPRENEURSHIP

<table>
<thead>
<tr>
<th>Supposing Independent Variable</th>
<th>Dependent Variable</th>
<th>R</th>
<th>R2</th>
<th>Standard β</th>
<th>T Test</th>
<th>Sig.*</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 Relational capital</td>
<td>Organizational entrepreneurship</td>
<td>0.79</td>
<td>0.64</td>
<td>0.793</td>
<td>0.00</td>
<td>0</td>
<td>approved</td>
</tr>
</tbody>
</table>

** p<.05
According to statistical test it is clear that in the meaning level of 5%, the above hypothesis is confirmed. In other word, on level of 95%, the relational capital of under studied organization has a meaningful and positive effect.

**ANSWERING TO RESEARCH QUESTIONS**

For answering the research questions a multiple step by step regression analysis has been used. In the step by step method, the independent variables go into model in several stages. First the most effective variable is added then the second effective variable and these stages keep going until all independent variables are placed in the last model.

**RESEARCH QUESTION**

How each of the dimensions of intellectual capital has effect on predicting the organizational entrepreneurship?

**TABLE 5: REGRESSION OF HUMAN, STRUCTURAL, RELATIONAL CAPITAL ON ORGANIZATIONAL ENTREPRENEURSHIP**

<table>
<thead>
<tr>
<th>model</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>R</th>
<th>R2</th>
<th>T Test</th>
<th>Standard β</th>
<th>Sig.*</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Human capital</td>
<td>Organizational entrepreneurship</td>
<td>0.805</td>
<td>0.649</td>
<td>13.99</td>
<td>0.805</td>
<td>0.000</td>
<td>approved</td>
</tr>
<tr>
<td>2</td>
<td>Human capital</td>
<td>Organizational entrepreneurship</td>
<td>0.872</td>
<td>0.760</td>
<td>7.599</td>
<td>0.495</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Human capital</td>
<td>Organizational entrepreneurship</td>
<td>0.888</td>
<td>0.789</td>
<td>4.049</td>
<td>0.379</td>
<td>0.000</td>
<td>approved</td>
</tr>
</tbody>
</table>

**p < .05**

The table indicates than in the first model, the variable having the most estimation is the human capital variable which has been added to the equation. Correlation coefficient of this variable with organizational entrepreneurship has been 0.805. This variable could have predicted 0.649 percent of entrepreneurship changes. This extent is in meaningful level of 95 percent.
In the second model, after human capital, it is the relational capital variable enters the equation. The multivariable correlation coefficient of these two variables with entrepreneurship is 0.872 which is meaningful (P<0/05 , f(2,105)=12.50). Coefficient of determination indicates that these two variables can predict 76 percent of changes in organizational entrepreneurship variable.

In the third model, by adding structural capital variable, the multiple correlation coefficients would be 0.888. Though it is meaningful, comparing with the second model adding this variable causes fewer changes. Regarding the coefficient of determination of the third model (i.e. 0.789) this model is the selected model of research. The standard β for human capital is 0.379, therefore this variable has more effective role in predicting the organization entrepreneurship. Relational capital with standard β of 0.316 and structural capital with standard β of 0.291 are place in the second and third positions respectively.

**DISCUSSION AND CONCLUSION**

The finding empirically indicates that as according to new theoretical approaches about the effects of educational assets on entrepreneurship, it was shown that intellectual capital as an educational asset in general and in each dimension including human, structural and relational capital in particular has a meaningful and positive effect on organizational entrepreneurship. The results from regression analysis between intellectual capital and organizational entrepreneurship report about this influence as well. this means that intellectual capital as one of main capabilities and assets of an organization may help it to improve the entrepreneurial areas such as innovation and risk taking. So, the organization takes advantage of intellectual capital benefits on one hand and exploits the benefits of entrepreneurship on the other hand. The results also showed that in comparison with other elements, the human capital is the most effective element, then the structural and relational capitals. Thus, the organization may achieve better result by investing on human capital than structural capital. Regarding these facts the ultimate model is offered as the figure 2.

**FIGURE 2: FINAL MODEL**

<table>
<thead>
<tr>
<th>Intellectual Capital</th>
<th>Human Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>R² = 0.649</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Structural Capital</th>
<th>R² = 0.641</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Relational Capital</th>
<th>R² = 0.648</th>
</tr>
</thead>
</table>

Additionally, the results about the organizational entrepreneurship revealed that the organization has weaker performance in employees’ innovation than risk-taking. Therefore, the following measures have been recommended:
1. Allocating sufficient resources for supporting new and fresh ideas.

2. Managing the reward system correctly for motivating innovative activities.

3. Inducing flexibility by removing rough rules for creating the context of innovation.

4. Making balance between the boundaries of adventure and reward and offering particular rewards.

Findings about the intellectual capital of these two companies showed the elements preference as: human capital, relational capital and structural capital. It also explained the organization has had more efforts in human capital like knowledge, skills and eligibilities of employees and in relational capital with other organizations and companies than in structural capital including informational systems, processes, working methods, organizational learning and innovation.

So the organization can carry out some measures in the following areas in order to develop its intellectual capital:

**A. DEVELOPMENT OF STRUCTURAL CAPITAL**

1. Removing difficult and troublesome rules and regulations, redundant methods and complicated and long Hierarchies to reduce the level of excessive bureaucracy.

2. Planning to develop the activities causing improved utilization.

3. Attempting to create supportive culture through designing promotion and motivation system to improve innovation and creativity, learning and development of human resources, evaluating the level of utilization of human resources and planning for improving it in the company and

4. Developing the Information Technology (IT) systems throughout the system.

**B. DEVELOPMENT OF RELATIONAL CAPITAL**

1. creation and development of good relation with universities, other organizations and educational institutional

2. evaluation of clients’ opinions about the organization

3. regular reflection of clients’ feedback about organization

4. investigation of clients’ critic and offers and practicing them if it is possible

**C. DEVELOPMENT OF HUMAN CAPITAL**

1. designing a framework of the eligibilities of employees and managers including education, skills and capabilities and planning for their progression based on merits
2. designing and founding a replacement oriented system for key employees
3. designing a system of supporting and encouraging superior thought of employees to applying them on operational process at a correct time
4. designing and founding the management process of human capital performance in the organization

REFERENCES


