The Impact of Intellectual Capital on Students’ Creativity from Teachers’ Perspective

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Abstract

Intellectual capital development in organizations is one of the key factors in improving business processes and organizations success and schools are no exceptions. Thus, this study examines the impact of intellectual capital on students’ creativity from the perspective of teachers. The statistical population of this study consists of secondary school teachers of the Shahindej City, among these, 186 individuals were selected using random sampling method and answered the survey’s questionnaires. The reliability of the questionnaire was confirmed through The Cranach’s Alpha, also the questionnaires were prepared with a high content validity. The obtained data were analyzed using SPSS software and the results showed that intellectual capital and its components (human capital, structural capital and customer capital) has a significant and positive impact on student creativity in teachers’ perspective.

Keywords: Intellectual Capital, Human Capital, Structural Capital, Customer Capital, Students’ Creativity.
Introduction
In the industrial era, the price of the property, machines, equipment and raw materials of a business unit were considered its efficient elements, while in the information age, more efficient use of intellectual capital is what that determine the success or failure of a business unit. Despite the importance of tangible assets in the production of goods and services, in the new economy, the economic value and wealth often result from creating and use of intellectual capital and not the management of tangible assets. Its share is so high that an estimated 50 to 90 percent of the value created by companies in today's economy is achieved through the intellectual capital management. So, to compete in the knowledge-based economy dedicating a huge amount to the growth of research and development resources, staff training and new technology is required (Sooner et al., 2007). In other words, one can say today, intellectual capital management, helps organizations and institutions to more achieve success in competitive markets and sustainably of credit. In this era intellectual capital is a vital stimulus for sustainable credit system in today's competitive environment. (Nazem and Matlabi, 2011).
Intellectual capital is one of intangible assets and value of institutions to achieve innovation and responsiveness to today’s developments. Utilization of different types of knowledge or intellectual capital can increase the competitive advantage of organizations. Individual and organizational knowledge, play an important role in the production of creativity and innovation and development at different levels of the organization. An organization's capacity for innovation significantly depends on the knowledge and expertise of its staff, which if properly managed, can increase innovation and productivity and competitive advantage. Researchers have described in several studies that human resource management can explain innovation management. Researchers also described the relation between the distinct activities of human resources or human resource systems that will drive innovation and have concluded that human capital is positively related to innovation. And intellectual capital can have a mediating or mitigating role in the relationship between human resource management and innovation (Kamalian et al, 1391).
So intellectual capital could have an important role in creativity and innovation. Numerous studies in the literature were found which examined the relationship between intellectual capital and a creative employee. But little research has tried to investigate the intellectual capital and students’ creativity from teachers’ perspective. Therefore, this study tries to address this issue.

Literature Review
Along with the development of the market value of knowledge-based organizations that emerged in the 1990s, a wide interest arose towards the capital subject. Therefore, researchers have tried to define and measure the intellectual capital concept, which until then was unmeasurable. The first applications of the intellectual capital concept goes back to the 60s, where for the first time this term used in 1969 by the famous economist John Kenneth Galbraith in order to explain the gap between the book value and the market value of institutions. Prior to that Peter Drucker had used (staff’s knowledge) (Chen et al, 2004).
There is no comprehensive consensus about the nature of intellectual capital and numerous definitions has been offered. Here are a few:
According to Chen, Xue and Xi (2004), from a strategic perspective, intellectual capital is used to create and enhance enterprise value and success requires the ability to manage this scarce resource and intellectual capital. From another perspective, intellectual capital is focused on creating an effective evaluation model that combines the financial and non-financial items (Ramadan, 2011).

Intellectual capital are capabilities, knowledge, culture, strategies, processes, intellectual assets and communication networks that creates value and competitive advantage for organizations and helps the organization to achieve its goals (Hsu and Fang, 2009). According to Barrett (2001) although so far there has been no definition of intellectual capital that is widely accepted, but most researchers and experts in the field of intellectual capital, have reached a consensus regarding intellectual capital definition in terms of its components (Mirkamali and Zohor Parvande, 2008), with an increase in studies on intellectual capital, many studies has used the proposed framework by the Russ et al (1998), Bontis (1998), Johansson (1999) Bozra (2004) that includes human capital, structural capital and customer capital (Hsu and Fang, 2009).

**Human capital:** Bontis believes that human capital represents the knowledge of people in an organization. (Qelichlee and Moshbeki, 2006) and this capital can the organization by employees and it includes competencies, experience knowledge, skills, attitude, commitment and wisdom of managers and employees (Hsu and Fang, 2009) and based on Johansson (1999), human capital refers to idea capital (employees power, abilities and attitudes that is based on knowledge) and leadership capital (characteristics of managers, professionals) (Wu et al, 2012).

**Structural capital:** according to Stewart (1997), structural capital refers to use of effective ways to collect, test, integrating existing knowledge and eliminating incorrect knowledge and retain the correct knowledge and then spreading it (Wu et al, 2012). According to Bontis, human capital is set of knowledge, ability and experience of employees of an organization that temporarily and in short-term in office hours is in the hands of the organization, but structural capital is the ability and knowledge that exist in the organization which is in the organization’s control and remain there after the staff leave and belongs to the entire organization and can be produced and shared with others (Bontis and Richardson, 2000). This capital could include "processes and work flow, certain methods, business development programs, information technology systems, copyright, a culture of cooperation and the costs of research and development (R & D) (Hsu and Fang, 2009) and organizational culture, organization structure, organizational learning, operational processes and information systems (Ramadan, 2011).

**Customer capital:** Chen et al define customer capital in the form of marketing capability, intensity of the market and customer loyalty. This attitude touches the role of services and their impact on the causal relationship between employee satisfaction, satisfied customers, customer loyalty and financial performance (Chen et al, 2004). This creates capital in marketing channels and organizations’ relationships during expansion under pressure. Compared to human capital, structural capital more directly affects the perception regarding the value of the company and increasingly becomes as an important factor and includes marketability, market development and customer loyalty (Ramadan, 2011).
According to Bontis (1998), if an organization has weak work process or system, intellectual capital as a whole will not reach its maximum capacity. While, organizations with strong structural capital has a supportive culture which allow individuals to take on new work, fail, and learn from failure. Structural capital and human capital will assist organizations in interacting with each other to shape and develop and apply customer capital (Chen et al, 2004).

**Students’ Creativity**

Different definitions proposed for creativity. The most common definition of the term is "creating a new, valuable and proper design (Renzuli, 1993 quoted by Mousavi and Taji, 2010). In other words, creativity, is using mental abilities to create new a thought or concept. Robert Vizberg (1995), in this regard says: "one of the best features of humans is their creative power or creativity and through it they can create their idealistic goals and flourish their ability (Vizberg, 1993). Creativity has composing elements such as: domain skills, creative thinking skills, and motivation.

The first element is skill domain that corresponds to talent, training and experience in a particular field and it is considered as raw materials. In other words, for the people to be creative in a particular area they must have the necessary skills in that area. The second element is creative thinking skill. All people have different characteristics that enables them to put their skills to work in a new way. These attributes or skills can be developed through education and experience. The third element, is motivation. Motivation is the desire to work. Basically, motivation is created when the person see the work interesting, and satisfactory and becomes interested to do it. To emerge and strengthen creativity in individuals, the intersection of these three elements must be specified. Because this intersection is a powerful combination that leads to creative person (Torrance, 1989). We can change students’ attitude toward environment by flourishing creativity in them, and make them more attentive and make them rational toward nature and make their human relations moral and humane. If we accept that a nations’ biggest asset is its creative minds, any cost in terms of improving students' creativity, is a big and persistent capital investment that build the current world and lead to posterity in future (Ghasemi, 2001, quoted by Roshan et al, 2008).

Many assume that innovation is intrinsic to some people who are born with this type of ability, while it is long been proven that this kind of talent in the human species is common like memory. It can be flourished using some principles and techniques, with new mentality, by avoiding habits and factors that stifle these factors and with its continued application (Osborne, 1992, quoted by Roshan et al, 2008).

**Hypotheses**

Accordingly, in order to achieve the objectives of the study, we will design the hypothesis as follows:

1. Intellectual capital has a significant impact on students’ creativity from teachers’ perspective.
Human capital has a significant impact on students’ creativity from teachers’ perspective. Structural capital has a significant impact on students’ creativity from teachers’ perspective. Customer capital has a significant impact on students’ creativity from teachers’ perspective.

Research methodology
In terms of objectives, this study, is an applied type and in terms of the method of data collection, it is descriptive and non-experimental and in terms of the relationship between variables, it is correlational. The research method is a survey. The study’s statistical population includes the secondary school teachers in Shahindep city which include 349 individuals. Random sampling was used to select the sample and to determine the sample size the Cohen (1969) and Krejcie and Morgan tables (1970) were used (Danaifard et al, 2009), and based on the tables and the population size is 349 the samples size was determined to be 186.

To evaluate the effect of intellectual capital on students’ creativity from the perspective of teachers, the required data collected through the questionnaires. For this purpose, a questionnaire was used, which contains two sections, general section that includes gender, age, education level and marital status. The other portion of the questionnaire that investigates the intellectual capital impact of students’ creativity in teachers' perspective that designed by redeploying questionnaires by Bontis (2001) and Pique et al (2002), which contains 25 questions. The questionnaires are based on Likert questions consisting of five choices for each question. That answers range from strongly disagree to strongly agree.

The method to evaluate the credibility (reliability) of questionnaires that used in this study, is the Cranach’s Alpha, to determine the Cranach’s Alpha, a total of 30 questionnaires were distributed among the statistical population and using the SPSS software the Cranach’s Alpha was calculated that is 0.902 and considering that values beyond 70 percent are desirable, it can be said that the questionnaire has a high reliability. The questionnaires have good reputations and high. To evaluate the validity, content validity methods were used. In order to evaluate the content validity, the questionnaire was presented to experts and a number of management professionals and finally using their comments a final questionnaire with a high content validity was prepared and then it was distributed among the population.

The results of the study
Research findings show that the number of men was more than women that included 55.5 of respondents. Most respondents aged between 41 and 45 years that is about 45 percent of respondents. 88.7 percent were married and most (58.8) hold a BA.
Checking hypotheses
The main objective of this study was to evaluate the impact of intellectual capital on students’ creativity from the perspective of teachers. In order to achieve the goal of the research, the single group T-test carried out using SPSS software. The results are as follows:

Table 1: T-test results

<table>
<thead>
<tr>
<th>Factor</th>
<th>T Statistics</th>
<th>DOf</th>
<th>Significance Level</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual Capital</td>
<td>65.606</td>
<td>185</td>
<td>0.000</td>
<td>3.71212</td>
</tr>
<tr>
<td>Structural Capital</td>
<td>46.775</td>
<td>185</td>
<td>0.000</td>
<td>4.15152</td>
</tr>
<tr>
<td>Human Capital</td>
<td>35.276</td>
<td>185</td>
<td>0.000</td>
<td>3.22727</td>
</tr>
<tr>
<td>Customer Capital</td>
<td>32.354</td>
<td>185</td>
<td>0.000</td>
<td>3.57955</td>
</tr>
</tbody>
</table>

Conclusion
The main objective of this study was to determine if intellectual capital has any impact on students’ creativity from the perspective of teachers or not? The T- test was used to achieve the main objective of the study and the results showed that intellectual capital and its components (structural capital, human capital and customer capital) impact students’ creativity from the teachers’ perspective. The results are consistent with Jahanian and Vahedi’s results (2015). In their study, they have concluded that there is a significant relationship between intellectual capital and employee’s creativity and its components. In addition, it is consistent with the results of Ghasemi and Jafarnejad (2008), Qureshi (2007) and Zarghami et al (2012). In their study, they have concluded that there is a significant relationship between intellectual capital and organizational creativity.

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