

## The Relationship between Intellectual Capital and Organizational Creativity among Faculty Members of Islamic Azad University, Khorasan Branch in 2011-2012

Salimeh Tahoonch and Badri Shatalebi

**Abstract:** This study aimed to determine the relationship between intellectual capital and organizational creativity among faculty members of Islamic Azad University. It was a descriptive correlation study. Statistic population in the study was all faculty members of the university and it was 305 people, from the target population 172 people were chosen randomly. The sample size of the study was calculated through Cochran's sampling equitation and it was a randomly stratified sampling. Data collection instruments were two standard questionnaires on intellectual capital by Bantis (2010) with 30 items and on creativity by Rensip (1979) with 50 items which were arranged by 5 point Likert scale. The reliability of the questionnaires was calculated by assistance of supervisor and adviser and expert of Education. reliability coefficients were calculated by Cronbach's alpha coefficient and they were 0.87 and 0.81 for intellectual capital and organizational creativity questionnaires, respectively. To analyses the data, descriptive statistic like frequency percentage, mean, and standard deviation and inferential statistic such as Pearson correlation coefficient and t- test with two independent groups and regression multiple analyses were applied. The results revealed that there is a meaningful relationship between human capital ( $r=0.099$ ,  $p< 0.05$ ), structural capital ( $r=0.176$ ,  $p, 0.05$ ), relational capital ( $r=0.180$ ,  $p, 0.05$ ) and organizational creativity ( $r=0.180$ ,  $p, 0.05$ ). Findings from regression analysis proved that among intellectual capital dimensions, relational capital has the most potency to predict organizational creativity. For other variables this relationship was not meaningful. Results also showed that among responses on intellectual capital, and organizational support there is no meaningful relationship according to demographic factors ( age, sex, university, place of service, teaching experience, educational degree, scientific ranking).

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**Keywords:** Intellectual Capital, Human Capital, Structural Capital, Relational Capital, Organizational Creativity, University.

### Introduction

Results from many researches on organization development and society improvement have centered on the point that no society is developed unless it tries to develop organizations, managements and human resources. Today, researchers on organization and management find out that having a forward looking and empowered management and qualified and skillful human resources will be a valuable factor and an endless capital for improvement and development of organizations and countries and is the most important capital and the main improvement factor.

If labor, investment, and land were recognized as the main factors in productions, today technology changes, human resources, and increase in productivity are considered as development and improvement factors.(Sardari2002; Mir Karimi, 2004; Mohammadi, 2006, Rezae et al.,2007; Bakhtiari Nasr Abadi et al.,2009; YarmohammadZadeh, 2010).

Higher education is the main issue for human development all over the world. Universities are the key part of educational system. Great and diversified system of state and private institutions of higher education in every country include faculties, vocational training institutions, research laboratory, distance learning and many other

institutions which provide enough empowerment ground for development (Ramphel, 2008; Ashwin, 2006). Lick (2002) believes that universities must continually and effectively re-create according to circumstances conditions to grantee their survival and effectiveness (p 27).

In this educational institution, the re-creativity can be made through existence of different capital dimensions including intellectual capital and performance. In this respect, concerning the contributory role of intellectual capital and creativity in universities is essential. Stewart (1991, 1994,1997,2001) called intellectual capital a useful and applicable package and regarded knowledge properties as talent, skill, whys, qualities and relations which can turn to value (p.67). This concept consists of 3 main non- financial components as:

Human capital: different components of human resources are attitudes, qualifications, experiences, skills, innovations and explicit- implicit knowledge in human's mind. Human capital as innovation resource and strategic re-creativity is important for organizations. Higher levels of human capital are realized by more productivity, higher salary and benefits.

Therefore, it is in favor of managers to utilize the best and the most efficient employees as an instrument to fulfill competition attraction and development benefits.

Structural capital: constant learning and knowledge in every activity is structural capital, the knowledge which remains at the end, after departure of employees which is the nuclear of structural capital. Structural capital is supportive substructure for human capital and includes all non-human resources of knowledge in organizations like data base, processes guide books, strategies, approaches, organization and increase financial capital.

Relational capital: Determining the formal and informal relationship in an organization with external interests and their perception on organization and information exchange among organization, as well. Relational capital is important for organizations, since relating human capital and structural capital with other external interest is an increasing component for giving value to the organizations. University students, parents, employers, government, organizations, culture and economy, etc. are university's clients. These three components of intellectual capital have mutual dependency. Intellectual capital presents the highest form of value to organizations through combination, application, unifying, and interaction among the three components and knowledge management as well. (Bontis, 2000, Pike et al., 2002). Today, creativity and innovations are the only survival ways for those organizations by which a company with variable and diversified and situational changes.

This process is modern and new to adopt with changes and to make instrumental changes (ZohreDasht et al., 2010). In fact in today's political, economical, and social world in which transformation speed is unimaginable, those organizations can survive that have intellectual capital, pioneer, knowledgeable, creative, innovative human sources, as their non financial capital for competition (Aghaee and ZarrandiKhaledi, 2011). In this way creativity and innovation is the corner stone and a key for productivity, development, development and improvement in organizations and they are regarded as creative and innovative organizations which move toward their intellectual capital and utilize trained, creative, innovative, and flexible human resources to increase added value in structural capital. Creativity is an attempt to set a directed goal in social or economical potency; it is the application of mind capabilities to create a new thought or concept. (BabaeArbosara, et al., 2011). GolestanHashemi( 2001), defined organizational creativity as a process of producing modern organizational ideas and finding new solution for organizational problem solving. Haghayegh (2001) and Ezhaghi (2008) recognized organizational creativity as thought presentation and a new pattern for the increase and improvement of quality and quantity of organizational activities. Organizational support is a process which is conducted by people, in a complicated organizational community to gain value, useful and new products, service and ideas (Andriopolose and Dovson, 2001 p.27).

Therefore, organizational creativity can be recognized as all processes and conditions dominating the organizations which provide conditions for creating new ideas in individuals and encourage organizations to confirm and accept suggested changes and reformatting from

individuals. In other words, organizational creativity is all current processes which encourage individuals to create new ideas and organizations to accept them ( Yazdani, 2007).

#### **Main resources for creating new ideas divided into two groups:**

a) resources from outside of organization including: goods or services in market business or technological activities in market, industrial research centers( R&D), exhibitions, congress, scientific, industrial meetings, communications and universities activities.

b) Resources from inside of the organization: creative and inventive man power, strategic schedule of organization or organization outlook, utilizing creating techniques and research projects. To find the relationship between intellectual capital and creativity, some research has been conducted. Niknami et al., (2009) in a study on *design and investigation of manager's creativity and innovations causal model* found out that organizational etiquette and organizational atmosphere and knowledge management have respectively the most and the least effects on manager's creativity and innovation. Variables like organizational etiquette organizational atmosphere, organizational learning and knowledge management have direct and positive relation and effect on creativity and they are meaningful statistically.

Moreover, creativity, organizational etiquette, organizational atmosphere, organizational learning, knowledge management variables have direct and positive effect and have statistically meaningful relationship with innovations variable. Rashidi et al., (2009) showed that there is a direct and meaningful statistical relationship between 3 dimensions of intellectual capital and learning ability.

Subramaniam and youndt (2005) in a study by the title of *effect of intellectual capital on capabilities* showed that intellectual, organizational, and social capital and their inter-relationships have an effect on innovative capabilities.

Other findings from that study indicate that organizational support has more effect on developing innovation capabilities. While the relationship between human and social capital was more on fundamental innovative strategies. Zerenler and Hasiloglu(2008), in their study, *relationship between intellectual capital and innovative performance*, showed that all three dimensions of intellectual capital have positive and strong relationship with innovative performance. Other findings in this study indicate that those organizations which have higher improvement have strong relationship between intellectual capital and innovative performance and among three dimensions of intellectual capital relational capital has the most relationship with innovative performance. Long vist et al., (2009), in a study on intellectual capital management and organizational changes found out that intellectual capital dimension influence on organizational change increase.

Assi Ahmad (2012), in a study on "*The effect of intellectual capital on organizational innovations*",

investigated the effect of intellectual capital dimensions (human capital, structural capital, relational capital) on organizational innovation in 60 companies. The results revealed that among intellectual capital dimensions, structural and relational dimensions have some effects on organizational dimensions. Talebi and Bahamir (2012), in a study on *the effect of "intellectual capital on organizational entrepreneurship increase"* investigated the effect of intellectual dimensions (human, structural, Relational capital) on organizational entrepreneurship increase. They found out that there is a positive and effective relationship between intellectual capital and organizational entrepreneurship. Among intellectual capital dimension, human capital had the most effect on organizational entrepreneurship. Hang and Wu (2012), in a study on *intellectual capital and knowledge generation* investigated the simple and multidimensional relationship between intellectual capital and knowledge generation in some Taiwanese companies. Their results indicated that all intellectual capital dimensions have positive and high effect on knowledge generation. Furthermore there were a multi-relationship between intellectual capital and knowledge generation.

### Research objectives

#### General objective

1- Determination of intellectual capital and organizational creativity relationship among faculty members of Islamic Azad university of Khorasgan 1390-91.

1-2. determination of human capital and organizational relationship

1-3. Determination of structural capital and organizational relationship

1-4. Determination of relational capital and organizational creativity,

Methodology, population, sample, sample population size method, research instruments

This study is a descriptive-correlation research. Research population in present study include faculty members of Islamic Azad University in 2011-2012 and were 127 people estimated by Cochran formula. Participants were chosen randomly through stratified random sampling according to appropriate size. Based on mentioned objectives, the present study applied two standard questionnaires Feribontis capital questionnaire and Rensip creativity questionnaires.

a) Intellectual capital questionnaire were written by some adaption from Bantis questionnaire (2012). The original questioner had 90 questions and was based on Likert scales and components like qualification benefit increase, marketing value, etc. were investigated. Having appropriated the instrument, a 30-item questionnaire with 5 point Likert scale (completely agree, agree, not agree not disagree, disagree, completely disagree) were conducted. Reliability coefficient for the intellectual capital questionnaire were calculated as (0.87) according to Cronbach's alpha.

b) organizational creativity questionnaire which were designed by Rensip had 50 questions based on 5- point Likert scale and its format was strongly agree, agree, neither agree nor disagree ,disagree, strongly disagree. Reliability coefficient for organizational creativity question was calculated by Cronbach's alpha as (0.81)

### Findings

1. Is there any relationship between intellectual capital and organizational creativity among faculty members of Azad University?

**Table 1.**Correlation coefficient between intellectual capital and organizational creativity

Variable organizational creativity			
Statistical index Predictive variable			
	Correlation coefficient	Correlation coefficient square	Meaning level
Intellectual capital	0.172*	0.029	0.027

P<0.05

Results in Table 1 indicate that correlation coefficient for intellectual capital and organizational creativity is meaningful. Based on determination coefficient ( $r^2$ ) intellectual capital and organizational creativity variances were 2.9 percent.

1-2 Is there any relationship between human capital and organizational creativity?

**Table 2.**Correlation coefficient between human capital and organizational creativity

Variable		organizational creativity		
Statistical index Predictive variable				
		Correlation coefficient	Correlation coefficient square	Meaning level
Human capital		0.099	0.009	0.205

P&lt;0.05

Findings in table 2. show that correlation coefficient between human capital and organizational creativity is not meaningful. That is, there is no meaningful relationship between human capital and organizational creativity.

1-3 Is there any relationship between structural capital and organizational and creativity?

**Table (3)** correlation coefficient between structural capital and organizational creativity

Variable		organizational creativity		
Statistical index Predictive variable				
		Correlation coefficient	Correlation coefficient square	Meaning level
Structural capital		0.176*	0.031	0.023

P&lt;0.05

Results in table 3. indicate that correlation coefficient between structural capital and organizational creativity is meaningful. Based on coefficient ( $r^2$ ) variance, determination for structural capital and organizational creativity is the same as 3.1.

1-4 Is there any relationship between relational capital and organizational creativity?

**Table (4)** Correlation coefficient between relational capital and organizational creativity

Variable		organizational creativity		
Statistical index Predictive variable				
		Correlation coefficient	Correlation coefficient square	Meaning level
Relational capital		0.180*	0.032	0.020

P&lt;0.05

Findings in Table 4. indicate that correlation coefficient between relational capital and organizational creativity is meaningful. Based coefficient determination for relational capital and organizational creativity variance were the same as 3.2 percent.

### Discussion and conclusion

Findings, according to Table 1, indicate that there is a meaningful relationship between intellectual capital and organizational creativity ( $P, 0.05$ ). Intellectual capital is a set of knowledge- based properties belonging to an organization and being regarded as its characteristics. These properties can improve competition level among organizations through increasing the value to the organizations key beneficiaries. It can be emphasized that concerning the issues on intellectual capital, the key terms are the existence of sufficient knowledge and accurate information, providing grounds for transferring and exchanging information, recombination of concepts and new knowledge generation, exchange of experiences and concentration on creativity and innovation of new knowledge. This kind of capital based on its component, human capital, structural capital and relational capital is relational. On the other hand, the most important source for organizational idea-creating are inside organizational sources or creative and innovative manpower. In order to move toward intangible and unknown properties of the organizations and intellectual properties, it is necessary to apply skills, experiences information and organizational creativity and innovation from all organizational capital. Organizational creativity is a cycling process of constant finding and solving problems which bring about significant changes for achievements. To apply all these capabilities, however, it is necessary to change organization structure, software and hardware systems, principles and management method proportionate to the needs.

In this vein, all 3 dimensions of capital must be taken into account. Relational capital is one of these dimensions. The central point which must be taken is considering the needs and demands of clients, society industries and organizations and all beneficence, as well as participating them in decision making can contribute to organization improvement. A scrutinized investigation in human capital show the systematic and interwoven nature of capital dimensions.

As far as the needed specialist manpower concordant with clients' needs and demands were not taken in to account, growth and improvement in organizations would not meet. And that is relational capital. On the other hand, these two dimensions can be realized in responsible and flexible structures. Consequently, potency for creating superior ideas will demand all three dimensions of intellectual capital. Universities are the best place to create needed creativities in a developed country. In university different components of creativity like specialist or ground skills (natural skills), creative processes (learnable abilities) and internal motivation for work (work attitude) are of the highest importance. Organizational creativity would be impossible unless organizations have variable, encouraging, powerful, creative, active atmosphere,

creative manpower, creative groups, leader and a contributory communicative system.

In this respect, relationship between intellectual capital and organizational capital would be explainable. Concerning the investigation of research bases and lack of tentative research with similar research results are in the same direction. For instance, the results are in line with Nicknami et al., (2009) findings. Since there was a relationship between knowledge management and creativity and close relationship between components of intellectual capital in value creation and knowledge generation with knowledge management. As well as findings by Rashidi et al., (2010) who showed the relationship between intellectual capital and organizational learning capability, and study of Zerneler and Hess lego (2008) on intellectual capital and innovative performance relationship, Sober Emanim and Yandit (2005) on the effect of intellectual capital on innovative capabilities, Long Wist et al., (2009) on intellectual capital and organizational change increase and creativity as a change, Chang Woo (2012) on relation ship between intellectual capital and knowledge generation, Assi Ahmad (2012) on intellectual capital and organizational innovation relationship, Talebi and Behonar(2012) on the effect of intellectual capital on entrepreneurship and creativity in entrepreneurship creation are relativity in line.

Furthermore, based on Table 2 results show that correlation coefficient between human capitals and organizational creativity is not meaningful. That is, there is no meaningful relationship between human capital and organizational creativity. These days, organizations pay careful attention to human capital, because human resources are source of creativity, and improving organizational strategies. The base of human capital is the individual's intelligent and talent in organizations. The extent of human capital is restricted to the knowledge they possess. The essence of human capital is pure intelligence in organization members; human capital is fundamental to intellectual capital, in other words human capital is the main part for intellectual capital performances. Human capital in organization structure includes all involved people in organizational activities. In this concept human capital encompasses qualified, empowers, performative, new idea performers, organization's values and objectives, responsibilities, motivated to empower one another, enthusiastic, interested in organization activities and interaction with Clients, and able to state creative management processes. Human as the main element of organization development in group and organization activity framework has the main role. As we recognize human as the most complicated element in organization and individuals get various results. Without concerning human capital, organization resources and energies cannot be directed toward organization objectives. It seems that paying attention to human resources will result in loyalty,



attachment and commitment in employees and as a result active cooperation, innovation and creativity will appear in organizations.

According to the concept of creativity as application of mental capabilities to make or create a new concept, we can explain the ability to combine ideas in a unique way to relate uncommon relations between different ideas, ability to see new and unusual things, presenting new effective and unusual solutions and creating new combination to settle negotiations in to a relative idea between human capital and career creativity. In the present study human capital (one dimension of intellectual capital) did not prove any relationship with job creativity. According to items on human capital it seems that lack of a real place for human capital in university, disinterest in knowledge and information share, lack of strategies for encouraging faculty members, lack of confidence, lack of stability in organization structure, lack of research group and inter – organization- network to communicate information on desired career, etc are among the reasons for lack of relationship variables.

Results of this part are in line with that of Assi Ahmad (2012) because on that study, too, structural and relational capital had meaningful relationship with innovation. But human capital and innovation relationship was not meaningful. In addition, findings from this part on relationship between intellectual capital and creativity were not in line with that of Talebi and Bahamir (2012) because in their study human capital had the highest effect on organizational entrepreneurship.

Furthermore, findings on Table 3 indicate that correlation coefficient between structural capital and organizational creativity is meaningful. That's there is a meaningful relationship between structural capital and organizational creativity. Determination coefficient ( $r^2$ ) was the same for structural capital and organizational creativity as 3.1 percent variance. Structural capital can be referred to whatever is in organizations and support employee. Structural capital is a property of organizations, even when employees leave there. If an organization is not equipped with modern systems and approaches, intellectual capital cannot reach its outmost potential capability. While organizations with powerful structural capital, a kind of attitude will be formed by which people initiate, face failure and learn a lesson. Structural capital is subordinated to human capital since human capital is a determining factor for organizations. But structural capital gets influenced by human capital very soon. Therefore, human capital and structural capital in interaction assist organization coordinately toward forming and developing relational capital. Furthermore, flexible, changeable, ready organizational structures bring creativity and innovation.

Through structural capital, elements like bureaucracy decrease and research center and organization development equipped with modern techniques, enough budget for research, from one hand, and organizational creativity as development or accepting an idea or behavior in organization activities with external motivation on the other hand, as a key factor in developing creativity as an

informative and enabling, it can explain the relationship between these two variables. Therefore, in university structures, existence of organizational potential like research and development centers, accepting and encouraging creative ideas and so forth provide grounds for career behaviors manifestation and their relationship will be explainable. Results from this part is in line with that of Assi Ahmad (2012) on *relationship between structural capital and innovation* as well as Subramaniam and Youndt (2005) on *relationship between organizational capital and innovation*. Furthermore results from Table 4 indicated that correlation coefficient between relational capital and organizational creativity is meaningful. That is the relationship between relational capital and organizational creativity is meaningful. Based on ( $r^2$ ) determination coefficient variance was 3.2 percent for relational capital and organizational creativity. Part of organizational capital in organizations is relational capital. Relational capital determines formal and informal relationship between an organization with external interests and its conception about organization as well as interaction between information and organizations. Relational capital is important to organizations because it connects human capital and structural capital with foreign interests.

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