



Relationship Between Intellectual Capital and Organizational Entrepreneurship Among Employees: A Case Study

Mohammad Ranjbar¹, Zeinab Dehghan¹, Mohammad Amin Bahrami¹, Mohammad Zare Zadeh¹, Sima Rafiei^{2*}

¹ Health Policy and Management Research Center, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

² Social Determinants of health Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

Abstract

Background and Objectives: Entrepreneur organizations are considered as effective means of economic growth in every society. Trying to gain a competitive advantage leads organizations toward knowledge assets such as intellectual capital. This study aimed to investigate the relationship between intellectual capital and organizational entrepreneurship among employees of Yazd University of Medical Sciences in 2016.

Methods: This was a cross-sectional, descriptive-analytical study which performed among 223 employees of Yazd University of Medical Sciences in the year 2016. Method of sampling was stratified sampling. The standard questionnaires of Bontis Intellectual Capital and Scarborough entrepreneurship assessment were used to collect the data. Collected data were entered in SPSS version 20 and analyzed through descriptive analysis methods (Mean, Standard deviation), and Pearson correlation coefficient.

Findings: Mean of scores of employees was a modest level of intellectual capital (126.5 ± 18.2), while the organizational entrepreneurship was also evaluated to be in a modest level (10.5 ± 2.4). In terms of intellectual capital employees considered human capital dimension as the most important aspect (44.9 ± 8.2). In addition, there was a correlation between human aspect of intellectual capital and organizational entrepreneurship ($P=0.02$).

Conclusions: Given the study results, paying special attention to human capital in every organization and empowering employees in terms of required knowledge and skills of innovation and entrepreneurship would be beneficial for the target society.

Keywords: Intellectual capital, Entrepreneurship, Organization, Employee, Medical University

Background and Objectives

Today's organizations are experiencing dramatic changes. Moving away from mechanistic vision and going through thinking of an organization as a living system which depends on various needs of existing environment are among some of the main changes in organizations. Based on entropy law, if these living systems do not adopt themselves with changing surroundings, their life would be threatened due to the occurred irregularities.¹ Organizations maintain their internal order through taking energy and different kinds of capital items from environment and returning produced goods or services to external environment. Among variety of capital assets and resources, intangible assets play an important role in organizations.² Intangible assets do not have physical nature but create value for the firm.³ Knowledge and

intellectual property are considered as main assets of this type.⁴ Bontis defined intellectual capital as an attempt to make effective use of knowledge (the final product) versus information (raw material). This process mainly deals with creating, organizing and transferring the stock of knowledge through designing a strategic vision which integrates human, structural and relational capital as three dimensions of intellectual property to develop entrepreneurship and innovation within the organization.^{2,5}

Human capital is related to employees' competency for solving organizational problems and depicts how effectively an organization uses its human resources to yield creativity and innovation. Structural capital contains processes, strategies, operational plans, information system and databases which empower human capital to function. Customer capital, knowledge of marketing channels, supplier a customer relationships are key elements of relational capital.^{6,7}

Nowadays, in order to survive in highly competitive and knowledge-based environment, organizations need

*Corresponding Author: Sima Rafiei, Department of Infectious Diseases, Iran University of Medical Sciences. Tehran. Iran, Tel: +98 9123886817, Fax: +98283336001, Email: sima.rafiee@gmail.com

to consider innovation as an essential strategy. In this way, they identify environmental changes and define criteria influencing organizational innovation to gain competitive advantage. In fact an organization's capacity for innovation depends significantly on the knowledge and expertise of its employees that if properly managed, increased productivity will occur.⁸ As thinking is a basis of creativity, directing the organization's intellectual capital is a key factor for innovation which is actually based on implementing creative ideas and innovative resource recovery.⁹ Intellectual capital is a process of developing knowledge management through creating and updating the intellectual capital also adopting a strategic vision, which brings together all its three dimensions within the organization.⁹ In fact this measure is regarded as a metric for the degree of enterprise value which has a significant effect on the value of other tangible assets including physical and financial ones.¹⁰

Intellectual capital is normally classified as human, structural, and relational capital. Human capital is the value that employees provide for an organization through applying their knowledge, skill, and expertise in the work processes. Such a capital is dependent on individuals, and management can use it in a proper form. It is also measured by creativity and innovation.¹¹

Structural capital encompasses the processes and databases of an organization which enable human resources to act effectively in the system. This type of capital includes organization's image, information system, programs, techniques, and databases that facilitate the delivery of goods and services. The value of effective interaction with customers and suppliers is also an important factor which is categorized as the third type of intellectual capital known as relational capital. Customer relationships, supplier relationships, licenses, trademarks, and franchises are mentioned in this regard.¹¹⁻¹³

Furthermore, the increased complexity in today's organizations focuses on the necessity of entrepreneurship as a factor to stimulate innovation which consequently brings about organizational success. Entrepreneurship has been defined as the "capacity to develop, and organize a new business through taking its probable risks with the purpose of making profit".¹⁴

Several researchers pointed out a significant positive impact of intellectual capital on entrepreneurship and development of new products.^{3,15-17} The studies confirmed that organizations need to empower their intellectual capital in order to achieve entrepreneurship and innovation. In a study conducted by Sayadi et al it has been mentioned that organizations can develop entrepreneurship through linking human capital to intellectual assets.¹⁸ Similarly,

Ayar et al et al confirmed the positive effect of intellectual capital on organizational entrepreneurship. They also suggested some strategies to improve intellectual capital and empower human capital in terms of this crucial factor.¹⁹

As existing theories are insufficient to explore the interaction between organizational entrepreneurship and intellectual capital in order to use the relative results in an effective policy making, we conducted an empirical study to explore the relationship between these two factors among employees of Yazd University of Medical Sciences in 2016.

Methods

This is a descriptive analytical study which has been done among 223 employees of Yazd University of Medical Sciences in a cross-sectional format in the year 2016. The study population included 500 employees of whom 217 were selected through Cochran's formula. To cover loss of response rate, we added 20% to this number and consequently distributed 261 questionnaires among the study sample. Ultimately, 223 questionnaires (Response Rate=85%) were filled out and returned to the research team. Yazd Medical University includes 7 deputies from which based on the number of their employees and use of a stratified sampling method, the calculated sample was selected in a way that 33 employees belonged to education deputy, 36 to health deputy, 18 to resource and management development deputy, 60 to research and technology deputy, 27 to curative affairs deputy, 28 to cultural and student affairs deputy, and 21 to food and drug deputy.

The data were collected using an intellectual capital questionnaire consisting of 42 questions with a five-point Likert type scale initially developed by Bontis in 1998 and an entrepreneurship assessment tool developed by Cornwall and Perlman in 1990 comprising 15 yes/no questions.^{3,20} Demographic data including age, gender, educational level, and work experience were gathered from study participants. The intellectual capital questionnaire consisted of three sub-divisions including human (15 questions), structural (13 questions), and relational aspects (14 questions). The questionnaire scoring system scales from 42-210. Accordingly, the score below 70 was regarded as a low level of intellectual capital, while the score between 70-140 was mentioned as a moderate level, and above 140 a high level of intellectual capital.³ The second questionnaire was comprised of 15 questions in five main dimensions including innovation (5 questions), risk taking (3 questions), influential behavior (2 questions), competitive strategy (3 questions), and independency (2 questions). Scoring method for this questionnaire was in

a way that score 1 was considered for “yes” answers, and score 0 for “no” ones. Thus, the maximum and minimum achievable scores were relatively 15, and 0. Score below 7.5 was considered as undesirable and above 7.5 as acceptable state for organizational entrepreneurship.²⁰ The validity and reliability of questionnaires were approved in similar studies conducted among the Iranian population.^{18,19,21}

To mention ethical considerations, study participants were informed about the study objectives and their rights to leave the research at any time for any reason. Collected data were analyzed in SPSS version 20 through descriptive analysis methods (mean and standard deviation), and analytical methods including Pearson correlation coefficient. *P* value under 0.05 was considered significant.

Results

Demographic data showed that most of participants were female (56.5%) and belonged to the age group of 30-40 years old (43.5%). 43.5% of employees had bachelor degree and 30.9% had 10-20 years' work experience (Table 1). There were statistically significant relationships between intellectual capital, age, and work experience ($P=0.00$, and $P=0.01$).

Table 1. Distribution Frequency of Demographic Characteristics Regarding Study Participants and Their Relationship With Intellectual Capital

Variables	No. (%)	P Value	
Age Group	20-30	66 (29.6)	
	31-40	97 (43.5)	0.00
	>40	60 (26.9)	
Gender	Male	97 (43.5)	
	Female	126 (56.5)	0.2
Educational level	Under bachelor's degree	50 (22.4)	
	Bachelor's degree	97 (43.5)	0.1
	Upper bachelor's degree	76 (34.1)	
Work experience (y)	1-5	68 (30.5)	
	6-10	46 (20.7)	
	10-20	69 (30.9)	0.01
	>20	40 (17.9)	

Table 2. The Mean Score of Employees' Viewpoints About Intellectual Capital

Dimensions	Human Capital	Structural Capital	Relational Capital	Total Score
Mean±SD	44.9±8.2	38.3±5.8	43.3±7.3	126.5±18.2
Maximum	66	57	59	179
Minimum	15	19	14	50

Table 3. The Mean Score of Employees' Viewpoints about Organizational Entrepreneurship

Dimensions	Innovation	Risk Taking	Influential Behavior	Competitive Strategy	Independency	Total Score
Mean±SD	2.9±0.2	3±0.8	3.25±0.3	2.1±0.3	3.25±0.3	10.5±2.4

Table 2 depicts the mean score and standard deviation of different dimensions regarding to intellectual capital. The obtained total score was 126.59±18.24 from which the highest mean score was given to human capital (44.9±8.2) and the least was mentioned for structural capital (38.3±5.8).

The mean scores regarding organizational entrepreneurship and its related aspects are also shown in Table 3.

The obtained total score was 10.5±2.4 from which the highest mean score was given to influential behavior and independency (3.25±0.3) and the least was mentioned for competitive strategy (2.1±0.3).

Based on the study data of Table 4, the only statistical significant relationship was between human capital and entrepreneurship ($P=0.02$).

Furthermore, assessing the relationship between organizational entrepreneurship and demographic characteristics of study participants affirmed the positive, significant association between the dependent variable, age and work experience (Table 5).

Discussion

Due to increasing competition and evolutions which constantly occur in environment surrounding organizations, identifying factors that are related to innovation and entrepreneurship would be beneficial. Thus we conducted this study to investigate the relationship between intellectual capital and organizational entrepreneurship among employees of Yazd University of Medical Sciences in 2016.

The mean score for intellectual capital was 126.59±18.24 from which the highest mean score was given to human capital (44.9±8.2) and the least mean was structural capital (38.3±5.8). Furthermore, the mean score belonging to organizational entrepreneurship was 10.5±2.4 from which the highest mean score was given to influential behavior and independency (3.25±0.3) and the least mean was for competitive strategy (2.1±0.3). Based on the obtained data, our findings affirm the moderate

Table 4. Relationship Between Organizational Entrepreneurship and Intellectual Capital Dimensions

Quantitative Variables	r	P Value
Intellectual capital	0.07	0.2
Human capital	0.016	0.02
Structural capital	0.109	0.1
Relational capital	0.07	0.2

Table 5. Relationship Between Organizational Entrepreneurship and Demographic Characteristics of Study Participants

Quantitative Variables	r	P Value
Age	0.42	0.00
Work experience	0.65	0.00
Qualitative variables	t	
Gender	1.18	0.4
Educational level	1.01	0.2

level of these two variables among study population. This finding was confirmed in many research. In fact, majority of studies found that intellectual capital and organizational entrepreneurship are not at a desirable level.²² A research finding regarding Iranian organizations revealed that organizational entrepreneurship is lower than the average.²³ The reason might be due to the variety in terms of managerial support, degree of work autonomy, and the existence of an effective rewarding system which might positively affect intellectual capital in any kind of organizations. Thus, there is a considerable necessity to develop these types of resources in organizations through identification of their contributing factors.

In a study conducted by Garcia-Morales et al, innovation and organizational learning were introduced as two main aspects of organizational entrepreneurship; while most of the managers have not been successful in these two areas.²⁴ Compared to this research, our study participants regarded innovation as a less important aspect and assigned the third priority to it; while the most crucial dimension was mentioned as influential behavior such as diminishing bureaucracy, increasing risk taking and flexibility in the organization. These factors were also been emphasized by Davidsson.²⁵ To improve the flexibility in an organization as a major step of entrepreneurship development, Mwatsika mentioned a leading role for managerial support.²⁶ Similarly, Yusuf determined that in order to affect success of entrepreneurship, this kind of support can be attained through appropriate provision of training facilities.²⁷

Our study findings revealed a significant statistical relationship among age, work experience, and entrepreneurship. Similarly, a number of studies

confirmed the important role of age and found a negative association between managers' age and tendency for taking risk.²⁸ Ahmadpor-Daryani affirmed this finding and explained that younger people need to succeed more than older individuals. This study also focused on a significant relationship between managers' working experience and their flexibility in decision making and conducting organizational affairs.²⁹ In a study done by Hornsby et al a negative relationship between managerial experience and amount of entrepreneurship was affirmed. They believed that managers with higher levels of experience were more restrained in dealing with entrepreneurial activities.³⁰ This finding was also confirmed by Floyd and Woolridge who found a negative relationship between managerial experiences and their tendency toward entrepreneurship.³¹ As a whole, to facilitate entrepreneurial activities in an organization, it is required to root out existing barriers, including managers' resistance toward innovation and entrepreneurship.

Study findings revealed that among intellectual capital dimensions, human capital was evaluated to be good (44.9 ± 8.2) while structural capital was in a weak condition (38.3 ± 5.8) depicting the fact that today's organizations are working more sincerely on strengthening employees' knowledge, skills and intellectual competencies than ever before. Also, they use human resources more effectively to yield creativity and innovation, though necessary attention has not been paid to structural areas containing processes, strategies, operational plans, databases and information system. These findings are consistent with similar studies conducted to investigate different dimensions of intellectual capital.^{17,32-35} This similarity affirms lack of necessary attention given to appropriate strategic planning in most of the organizations. The mentioned shortcoming might be due to the existence of improper data collection system and information management. Thus, managers who intend to improve the organizational situation in terms of innovation and entrepreneurship should mention these important factors in organizational strategies.

Furthermore, the positive correlation between human capital and organizational entrepreneurship emphasized on the importance of paying especial attention to intellectual capital management as an effective strategy to develop organizational innovation. The literature affirmed this finding and confirmed that knowledge management, entrepreneurship and creating a developmental environment for organizations may lead to a remarkable success, increased efficiency and economic growth especially in developing countries.^{17,36-39} Similar studies also approved that empowering intellectual capital acts as a competitive advantage for organizations which finally

results in facilitation of entrepreneurship activities.^{40,41} Research also mentioned intellectual capital as one of the significant organizational assets which helps organizations in promoting entrepreneurship.^{32,42} Likewise, Jimenez introduced intellectual capital as the most important source of innovation.⁴³ In fact in almost all of the today's organizations, intellectual capital has been developed as a subject for research. The contributing results of these literatures confirmed the positive, and significant relationship between these factors and emphasize on the necessity to improve intellectual capital in all types of organizations in order to achieve success.

Among various aspects of intellectual capital, the significant relationship between human property and corporate entrepreneurship suggests that motivated employees in entrepreneur organizations make considerable efforts in continuous learning and developing new ideas. Positive significant relationship between human capital and organizational entrepreneurship has also been confirmed in the literature emphasizing that organizations are dependent on employees' competency to succeed in a competitive market.^{17,33-35} Thus, managers should share work-related information among workers, encourage them in continuous learning and transferring information among various departments in order to provide sufficient opportunities for development of staff intellectual capacities.

Development of intangible assets especially intellectual capital and knowledge based capacities motivates employees to take advantage of entrepreneurial opportunities in order to achieve higher levels of innovation. As a result entrepreneurial efforts bring about better organizational performance and enable them to easily survive in the competitive environment. Given the importance of existing relationship between human capital and organizational entrepreneurship, we offer some suggestions to move organizations forward in this direction. Holding in-service training courses to promote employees' awareness toward the importance of innovation in today's organizations, implementation of corporate culture and encouraging employees to do teamwork, development of an encouraging system to promote creative ideas of working staff, paying particular attention to meritocracy in recruiting managers, improvement of processes and operational programs in order to strengthen structural capital, creating a thinking room to foster employees' new ideas, implementation of job rotation strategies among prone workers, organizing a flexible structure and promoting cooperative atmosphere and benchmarking from successful national and international competitors are considered as most practical recommendations for

improvement of innovation and intellectual capital in organizations.

Authors' Contributions

MR developed the study idea and SR contributed in analyzing the research data and drafting the manuscript. Furthermore, all of the authors contributed in revising the manuscript.

Competing interests

Authors declared no competing interest regarding this study.

Grant Support & Financial Disclosures

Nil.

Acknowledgment

We acknowledge Shahid Sadoughi University of Medical Sciences for its support in carrying out the research.

References

- Tohidi H, Seyedaliakbar SM, Mandegari M. Organizational learning measurement and the effect on firm innovation. *J Enterp Inf Manag.* 2012;25(3):219-45. doi: 10.1108/17410391211224390. [Persian].
- Rahmani Karchegani M, Sofian S, Mohd Amin S. The relationship between intellectual capital and innovation: A review. *Int J Bus Manag Stud.* 2013;2(1):561-81. [Persian].
- Bontis N. Intellectual capital: an exploratory study that develops measures and models. *Management Decision.* 1998;36(2):63-76. doi: 10.1108/00251749810204142.
- Gazor H, Kohkan F, Kiarazm A, Rastegari H. Impact of intellectual capital on performance in audit institutes. *Asian Journal of Finance & Accounting.* 2013;5(1):60-72. doi: 10.5296/ajfa.v5i1.2682.
- Khavandkar E, Theodorakopoulos N, Hart M, Preston J. Leading the diffusion of intellectual capital management practices in science parks. In: Shipton H, Budhwar P, Sparrow P, Brown A, eds. *Human resource management, innovation and performance.* London: Palgrave Macmillan; 2016:213-31. doi: 10.1057/9781137465191_14.
- Haanes K, Fjeldstad Ø. Linking intangible resources and competition. *Eur Manag J. European Management Journal.* 2000;18(1):52-62. doi: 10.1016/S0263-2373(99)00068-7.
- Gogan LM, Artene A, Sarca L, Draghichi A. The Impact of Intellectual Capital on Organizational Performance. *Procedia - Social and Behavioral Sciences.* 2016;221:194-202.
- Bontis N. Intellectual capital: an exploratory study that develops measures and models. *Management Decision.* 1998;36:63-76.
- Ghorbani M, Mofaredi B, Bashiriyan S. Study of the

- relationship between intellectual capital management and organizational innovation in the banks. *Afr J Bus Manag.* 2012;6(15):5208-17. doi: 10.5897/AJBM11.2298.
10. Stewart TA. *Intellectual capital: The new wealth of organizations.* Crown Business; 1998.
 11. Maddocks J, Beaney M. See the invisible and intangible. *Knowledge Management;* 2002:16-7.
 12. Edvinsson L, Malone MS. *Intellectual capital: realizing your company's true value by finding its hidden roots.* New York: Harper Business; 1997.
 13. Skyrme DJ. *Valuing Knowledge: Is It Worth It? Managing Information.* 1998;5(3):24-6.
 14. *Webster's New World Finance and Investment Dictionary, Business Dictionary definition.* Indianapolis, Indiana: Wiley Publishing, Inc.; 2003.
 15. Bassi LJ, Van Buren ME. Valuing investments in intellectual capital. *Int J Technol Manag.* 1999;18(5-8):414-32. doi: 10.1504/IJTM.1999.002779.
 16. Chen J, Zhu Z, Xie H. Measuring intellectual capital: a new model and empirical study. *Journal of Intellectual Capital.* 2004;5(1):195-212. doi: 10.1108/14691930410513003.
 17. Rezaye R. Impact of intellectual capital components on entrepreneurship enterprise consulting services and agricultural engineering. *Journal of Organizational Culture Management.* 2014;12(1):125-47.
 18. Sayadi S, Shokuh Saljughi Z, Bahraminejad Z. *Intellectual Capital and Organizational Entrepreneurship. Interdisciplinary Journal of Contemporary Research in Business.* 2013;5(3):612-26.
 19. Ayar S, Bakhnoo M, Abdoullahi S, Mahmoodi A. Investigating the relationship between intellectual capital and organizational entrepreneurship: case study the governmental institutions of west Azerbaijan province in Iran. *Int J Humanit Cult Stud.* 2016;2016:2509-22.
 20. Kiang YJ, Cao Y, Yue W, Chang KC. Study on the Relationship between Entrepreneurship Intellectual Capital and the Enterprise Performance. *Bus Econ J.* 2016;7(4):256. doi: 10.4172/2151-6219.1000256.
 21. Scarborough NM, Zimmerer TW. *Effective small business management.* Columbus: Merrill; 1990:26-7.
 22. Haghshenas A, Jamshidian M, Shaemi A, Shahin AY, Azdanshenas M. Entrepreneurship model of public sector organization in Iran. *Manag Sci Iran.* 2013;8(2):31-7.
 23. Safari S, Ahoyay M, Shams F. The Role of Intellectual Capital and its dimensions in the development of entrepreneurship. *Journal of Executive Management.* 2014;6(19):41-66. [Persian].
 24. García-Morales V, Llorens-Montes F, Verdú-Jover A. Antecedents and consequences of organizational innovation and organizational learning in entrepreneurship. *Industrial Management & Data Systems.* 2006;106(1):21-42. doi: 10.1108/02635570610642940.
 25. Davidsson P. The domain of entrepreneurship research: Some suggestions. In: Katz J, Shepherd D, ed. *Cognitive Approaches to Entrepreneurship Research (Advances in Entrepreneurship, Firm Emergence and Growth, Vol. 6).* Bingley: Emerald Group Publishing Limited; 2003:315-72. doi: 10.1016/S1074-7540(03)06010-0.
 26. Mwatsika C. Entrepreneurship development and entrepreneurial orientation in rural areas in Malawi. *Afr J Bus Manag.* 2015;9(9):425-36. doi: 10.5897/AJBM2014.7552.
 27. Yusuf A. Critical success factors for small business: Perceptions of South Pacific entrepreneurs. *J Small Bus Manag.* 1995;33(2):68.
 28. Knight GA. Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. *J Bus Ventur.* 1997;12(3):213-25. doi: 10.1016/S0883-9026(96)00065-1.
 29. Ahmadpor-Daryani M. *Entrepreneurship: Definitions, Theories, and Models.* Tehran: Pardis Publications; 2000.
 30. Hornsby JS, Kuratko DF, Zahra SA. Middle managers' perception of the internal environment for corporate entrepreneurship: assessing a measurement scale. *J Bus Ventur.* 2002;17(3):253-73. doi: 10.1016/S0883-9026(00)00059-8.
 31. Floyd SW, Wooldridge B. Middle management involvement in strategy and its association with strategic type: A research note. *Strategic Manage J.* 1992;13(S1):153-67. doi: 10.1002/smj.4250131012.
 32. Narvekar RS, Jain K. A new framework to understand the technological innovation process. *Journal of Intellectual Capital.* 2006;7(2):174-86. doi: 10.1108/14691930610661845.
 33. Mariz-Perez RM, Teijeiro-Alvarez MM, Garcia-Alvarez MT. The relevance of human capital as a driver for innovation. *Cuad Econ.* 2012;35(98):68-76. doi: 10.1016/S0210-0266(12)70024-9.
 34. Zerenler M, Hasiloglu SB, Sezgin M. Intellectual capital and innovation performance: empirical evidence in the Turkish automotive supplier. *J Technol Manag Innov.* 2008;3(4):31-40. doi: 10.4067/s0718-27242008000200003.
 35. Huang CF, Hsueh SL. A study on the relationship between intellectual capital and business performance in the engineering consulting industry: A path analysis. *J Civ Eng Manag.* 2007;13(4):265-71. doi: 10.1080/13923730.2007.9636446.
 36. Al-Dujaili MA. Influence of Intellectual Capital in the Organizational Innovation. *Int J Innov Manag Technol.* 2012;3(2):128-35.
 37. Bruton GD, Ahlstrom D, Obloj K. Entrepreneurship in emerging economies: Where are we today and where should the research go in the future. *Entrepreneurship Theory and Practice.* 2008;32(1):1-14. doi: 10.1111/j.1540-

- 6520.2007.00213.x.
38. Gries T, Naudé W. Entrepreneurship and structural economic transformation. *Small Bus Econ.* 2010;34(1):13-29. doi: 10.1007/s11187-009-9192-8.
39. Aubert JE. Promoting innovation in developing countries: a conceptual framework, Working Paper. Washington, DC: World Bank; 2005.
40. Audretsch D, Keilbach M. Entrepreneurship capital and economic performance. *Reg Stud.* 2004;38(8):949-59. doi: 10.1080/0034340042000280956.
41. Maboudi M, Mobaraki MH, Khavandkar J, Moghimi Esfandabadi H. The Effect of Intellectual Capital on Innovation: A Case Study of an Institute for Advanced Studies in Basic Sciences Located in the Science and Technology Park of Zanjan. *Journal of Entrepreneurship Organization and Management.* 2015;4(3):148. doi: 10.4172/2169-026X.1000148. [Persian].
42. Miller ML. E-health: knowledge generation, value intangibles, and intellectual capital. *Int J Healthc Manag.* 2015;8(2):100-11. doi: 10.1179/2047971914Y.0000000094.
43. Jiménez-Jimenez D, Sanz Valle R, Hernandez-Espallardo M. Fostering innovation: the role of market orientation and organizational learning. *European Journal of Innovation Management.* 2008;11(3):389-412. doi: 10.1108/14601060810889026.

Please cite this article as:

Ranjbar M, Dehghan Z, Bahrami MA, Zare Zadeh M, Rafiei S. Relationship between intellectual capital and organizational entrepreneurship among employees: a case study. *Int J Hosp Res.* 2017;6(3):x-x. doi:10.15171/ijhr.2017.xx.