



Research article

VIEW POINT OF MANAGERS IN YASUJ UNIVERSITY OF MEDICAL SCIENCES, ABOUT INTELLECTUAL CAPITAL AND DETERMINATION IT'S EFFECTIVE FACTORS

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ABSTRACT

Background and Objectives: Intellectual capital is a topic that is formed in the shadow of economic, social and managerial development in recent years. Its purpose is trying to use of knowledge effectively in management and upgrading and improving the organizations, and it has attracted much attention in today's environment. This study was conducted and implemented to evaluate intellectual capital and effective factors on it in the Yasuj University of Medical Sciences of Kohgiluyeh and Boyer-Ahmad. **Materials and methods:** This is a cross-sectional study and all employees, including managers, Yasuj University of Medical Sciences of Kohgiluyeh and Boyer-Ahmad province, selected for statistical population. This study was done in September 2015. 150 manager of university were participated in this project and completed the questionnaire. Collected and coded information was analyzed using SPSS-ver. 22 software. We used tables and diagrams for describing the statistical population and qui-square test and t-test for data analysis. Significance level was 0.05 in this study. **Results:** Mean and standard deviation of intellectual capital, human capital, costumer, and structural capital in study population were 61.3 (9.3), 60.6 (10.5), 62.7 (10.4) and 61.6 (11.2) respectively. Sex has had a significant relationship with the intellectual capital but; Age, job tenure and education have had no significant relationship with the intellectual capital. **Conclusion:** These scores indicate the middle and low level of intellectual capital in Yasuj University of medical sciences in Kohgiluyeh and Boyer-Ahmad province. It is necessary to plan for upgrading and improving the intellectual capital in the university.

KEYWORDS: Intellectual capital, Human capital, Costumer capital, Structural capital, Yasuj University of Medical Sciences.

INTRODUCTION

In new economy, intellectual capital has been described as intangible assets and it could be applied as a source for the advantage of sustainable competition ^[1]. Intellectual capital components have mutual effects which lead to value creation. Always, there has been a positive relation between intellectual capital and organizational performance. Evaluating intellectual capital in an organization is among the most important factors which are introduced in increasing human force creativity in management of human sources. Intellectual capital is a new debate which tries to provide a ground in which the staff speculate and innovate in their working domain with more freedom and confidence. Knowledge, management and attention to intellectual capital role have special significance in more gradation of the

organization ^[2]. In the ultra- competitive age of organizations, we are encountered with an environment whose characteristic is complexity, becoming universal and dynamicity, then, the organizations face modern challenges for their establishment and continuity that exiting from these challenges requires more attention to skills and internal abilities development and reinforcement and this is accomplished through organizational knowledge fundamentals and intellectual capital, which are used by the organizations for reaching better performance in business world. Knowledge and intellectual capital have been recognized as sustainable strategies for attaining and maintaining the organization competitive advantage ^[3]. In the present knowledge –based world, organization capabilities have been based on knowledge and intellectual capital and managers should understand what capabilities are required

for preserving the advantage of becoming competitive. Knowledge assets and intellectual capital are turning to the strategic lever for managing business performance and the company continuous innovation. Then, the companies don't just produce product and service but they should create added value for remaining in new economy. And in this age, main challenge of managers is preparing suitable environment for human mind growth and nurture in knowledge-based organization. Knowledge and intellectual capital management has been turned to the essential skill of managers in the organization [4]. In the present economy, the companies' competitive advantage is based on intangible asset and intellectual capital, that this issue has been realized by establishing appropriate relations with customers and acquiring required experience in this route and by relying on knowledge and organizational techniques and specialized skills. When companies move from industrial economy to knowledge economy, they face great challenges like dynamicity and unreliability and complexity. Then, in these conditions, need to more awareness about intellectual capital and immediate control increases and this issue has caused companies to identify and manage their intangible assets. Peter Dracker says: we are about to enter a knowledge based society in which main economy source is not reckoned natural sources and working force but main economy source in this society is and will be knowledge [5]. Supporting new ideas in each organization is among features of intellectual capital management and intellectual capital management is among main conditions of gradation and updating each organization. Regarding the necessity of recognition and awareness about intellectual capital and its management in organizations, limited studies have been performed in the ground of intellectual capital and factors effective on it in Iran and in the country universities and in Shahid Beheshti University [6] and Tehran University [7] and in the country level, yet little studies have been conducted in this field. In Medical Science University of Kohgiluyeh and Boyer Ahmad province, that its innovation and update is vital for the society and the region, conducting a study with this title is more significant.

Aim: This study has been conducted with the aim of examining Yasuj Medical Sciences University managers' point of view in the ground of intellectual capital and identifying factors effective on it.

METHODOLOGY

Study design: This study which has been descriptive-analytical and was performed in cross-sectional form, the statistical population included all managers working in Yasuj Medical Sciences University.

Sampling method: Sampling was based on counting all and included all managers who have been satisfied to cooperate in the plan and have completed the questionnaire.

Sample size: 150 persons from total managers of Yasuj Medical Sciences University completed the questionnaire.

Data collection: Data collecting tool has been a questionnaire including two parts. The first part includes age, gender,

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educations, occupational post, working background and type of employment based on Torres model (2006) in 5-degrees Likert scale which was evaluated by Moghimi (Tehran, 1390) and has been suitable validity and reliability of 0.87 and includes 53 questions, the score calculation and interpretation for each option was considered I fully agree 5 scores, I agree 4 scores, not agree not disagree 3 scores, disagree 2 scores and fully disagree 1 score and finally for each person total scores of intellectual capital and its domain was calculated. The score, between 74 to 100, indicates existence of high level of intellectual capital, 47 to 74 shows intermediate intellectual capitals and the score below 47 indicates low intellectual capital. These sections have been performed based on standard questionnaire [8].

Statistical analysis: The collected data were analyzed using SPSS software version 22. For description of data frequency distribution tables and central and dispersion indexes were used and for data analysis regarding the existence of the scores normality and homogeneity, parametric dependent T-tests and variance analysis were used. The scores of intellectual capital and each domain are calculated for each participant in the plan out of 100. In this study, all moral considerations principles including confidentiality of participants' information in the plan, non-compulsion of participants for responding the questionnaire has been observed.

RESULTS

People age with minimum 24 and maximum 60 years have had the average 2.23 and standard deviation 0.846. 49 persons (36%) of Yasuj medical University personnel were female and the rest were men. More information is provided in table 1.

Table 1. Demographic description of Yasuj Medical Sciences University managers, Bahman 1394

		Number	%
type of employment	Contractual	37	26.8
	corporative	2	1.4
	formal	99	71.7
service background	less than 5 years	12	8.3
	5-9 years	33	22.9
	10-19 years	47	32.6
	more than 20 years	52	31.6
education	diploma and less	9	6.2
	associate diploma	15	10.3
	bachelor	63	43.4
	master	45	31
	service location	general physician	5
	specialist physician	8	5.5
	university lecturer	71	52.6
	training adjacency	48	35.6
	treatment adjacency	16	11.9

In this study, average and standard deviation of intellectual capital rate in general: 9.321±61.34 and its sub-scales in human capital was evaluated 10.562±60.67, in structural

capital equal to 10.400 ± 62.78 and in customer capital 11.213 ± 61.67 respectively. Also, correlation of human capital with intellectual capital was evaluated equal to $R=0.902$, correlation of structural capital with intellectual capital was equal to $R=0.908$ and correlation of customer capital with intellectual capital equal to $R=0.869$.

The most important factors effective on human capital field in Yasuj medical Sciences University managers' point of view have included: personnel work group, exchange of the personnel training and scientific relations, the personnel satisfaction with the university. The lowest intensity factors included: the personnel unexpected service quit, employing the best people existing in the university, development and support of relations among university various groups.

The most important factors effective on the domain of structural capital in Yasuj Medical Sciences University managers' point of view included: the university attention to what the student and respective ministry ask from the university, the university investment on needs and demands of students for their satisfaction, the university continuous relation with the students for identifying their needs.

The lowest intensity factors included: the students loyalty rate to their university, more support and development of the university services towards similar universities, life length of university longer term relation with students towards similar universities.

The most important factors effective on customer domain in Yasuj Medical science University managers included: easy access to customers required information using system data, supporting systems innovations and university procedures and the university efficiency

And the lowest intensity factors included: more rate of acquired income from each university employee than similar universities, the time of one transaction performance by the university, implementing a great deal of new provided ideas.

The findings showed that human capital, structural capital and customer capital of Kohgiluyeh and Boyer Ahmad province Medical Sciences University personnel has had a significant relation with intellectual capital. Human capital hasn't had any significant relation with age, the age group younger than 35 years old intuitively have given more score to the first domain, human capital of Medical Sciences University. Age have a significant relation with intellectual capital. Age group of younger than 35 years old intuitively evaluated the rate of structural capital more in Medical Science University. The customer capital haven't had any significant relation with gender, age group of younger than 35 years old intuitively have given more score for the third domain, customer capital of Medical Sciences University. Age have had a significant relation with intellectual capital, age group of younger than 35 years old have evaluated the rate of intellectual capital more in Medical Science University.

Human capital of Kohgiluyeh and Boyer Ahmad province Medical Science University personnel have had a significant relation with gender, female staff intuitively have evaluated the rate of human capital in Medical Sciences

University high. Structural capital has had a significant relation with gender. Female staff has intuitively evaluated the domain of structural capital more in Yasuj Medical Sciences University.

The customer capital has had a significant relation with gender; female staff has given more score to customer capital in Medical Science University. Intellectual capital and domains (human, structural and customer) of Kohgiluyeh and Boyer Ahmad Province Medical Sciences University personnel have had significant relation with gender and ladies have evaluated intellectual capital rate in the university more. Human capital of Kohgiluyeh and Boyer Ahmad province Medical Sciences University have had no significant relation employment type, contractual staff have intuitively evaluated the rate of human capital high in Medical Sciences University. Structural capital has had no significant relation with employment type. Contractual staff has intuitively evaluated the domain of structural capital in Yasuj Medical Sciences University more. The customer capital hasn't had any significant relation with employment type, contractual staff for the third domain, have given more score to customer capital of Medical Sciences University. The staff intellectual capital of Kohgiluyeh and Boyer Ahmad province Medical Sciences University staff have had a significant relation with gender, female staff intuitively have evaluated the rate of intellectual capital in the university more. Human capital has had any significant relation with service background. Those who have had service antecedent more than 20 years have intuitively evaluated human capital rate more. Structural capital has had no significant relation with service background. Those who have had service background of 5-9 years have intuitively evaluated the rate of structural capital more. The customer capital have had no significant relation with service background, those who have had service background of 5-9 years, have intuitively evaluated the rate of customer capital more. Intellectual capital have generally no significant relation with service background, those who have had service background of 5-9 years, have intuitively evaluated the rate of intellectual capital more.

The rate of human capital has had a significant relation with education level. The employees with degrees of diploma, associate diploma and bachelor have given more score to intellectual capital respectively. In contrast, the employees with education degree of specialist, master and general physician have given fewer score to intellectual capital. 62.88 for diploma, 62.10 for associate degree and 61.62 for bachelors against 57 for specialist physicians, 59.31 for master's degree and 59.60 for the employees with general physician education. The rate of structural capital has had a significant relation with education. The staff with education degree of general physician, associate diploma and diploma has given more score to intellectual capital, in contrast the staff with education degree of specialist, master and bachelor have given less score to intellectual capital. 68.70 for general physician, 68.23 for associate diploma and 68.08 for diploma

against 56.47 for specialist physicians, 61.56 for bachelors and 62.55 for the staff with master's degree. The rate of customer capital has a significant relation with education level. Respectively, the employees with education degree of associate diploma, general physician and diploma have given more score to intellectual capital while the staff with education degree of specialist, bachelor and master has given fewer score to intellectual capital. 69.77 for associate diploma, 66.50 for general physician and 64.06 for diploma against 53.25 for specialist physicians, 60.06 for bachelors and 61.65 for master's degree.

The rate of intellectual capital has had no significant relation with education level. Respectively, the employees with education degree of general physician, associate diploma and diploma have given more score to intellectual capital while the staff with education degrees of specialist, master and bachelor has given fewer score to intellectual capital. 64.60 for general physicians, 64.42 for associate diploma and 64.33 for diploma against 50.44 for specialist physicians, 60.38 for master and 62.01 for bachelors. Human capital has had no significant relation with service background. Those, whose service place is medical adjutancy, intuitively have evaluated the rate of human capital more. Structural capital has had no significant relation with service background. Those, whose service location is in the office of Medical Sciences University, have intuitively evaluated the rate of structural capital more. The customer capital has had no significant relation with service background, those whose service place is the office of Medical Sciences University, have intuitively evaluated the rate of customer capital more. Generally, intellectual capital has had no significant relation with service background, those whose service background has been in medical adjutancy, have intuitively evaluated the rate of intellectual capital more.

DISCUSSION

Most studied staff in Yasuj Medical Sciences University has evaluated the intellectual capital and its dimensions low and medium.

Low intellectual capital means your organization needs improvement in the field of intellectual capitals and medium capital means your organization needs attention and planning in the field of intellectual capital [9]. Therefore, Kohgiluyeh and Boyer Ahmad province Medical Science University stands in the section of medium to low intellectual capital and it is required to plan for promoting intellectual capital. Most studied staff in Yasuj Medical Sciences University, age increase has had a direct relation with the first domain of intellectual capital. Middle ages have evaluated human domain of intellectual capital in Yasuj Medical Sciences University more than others. Also, age increase has had a significant relation with the second domain of intellectual capital which is customer capital. Youths and olds have given fewer score to customer capital. Intellectual capital which is structural capital has had a significant relation with age. Youths have had fewer score to the university structural capital.

Finally, age has had a significant relation with the personnel opinion about the score of intellectual capital in general, after that people older than 40 years old and the least score has been related to youths. The reason of this could be their little experience of youths and lack of complete familiarity with the organization and also their non-establishment in responsibilities and using the privileges relating to it. High education has also considered age among effective factors on intellectual capital evaluation in high education personnel. Similar results reported by some author [10-12].

In this study, gender has had a significant relation with intellectual capital and its dimensions, human capital, customer capital and structural capital, but ladies intuitively have given more score to the organization intellectual capital. Its reason could be more expectation of men from the organization, while for ladies having job has been more important. Similar results reported by XXXX [10,13,14]. They have evaluated intellectual capital in high education in ladies significantly higher. Human capital has had a significant relation with the staff education. The educated people have evaluated intellectual capital of Yasuj Medical Sciences University more. Less educated have evaluated human capital less for the university. The rate of customer capital, the second domain of intellectual capital has had a significant relation with education level. Less educated have had less trust to the university. Also, the rate of structural capital, the third domain of intellectual capital has had a significant relation with education level. Less educated have considered less structural capital for the university.

Generally, the rate of intellectual capital has had a significant relation with education level. Educated people have considered more intellectual capital for the university. The reason that educated have evaluated the score of intellectual capital and its dimensions more for the university, in most studies has been similar [9,10, 14, 15].

In this study, the first domain (human capital) and the second domain (customer capital) have had no significant relation with service background. The rate of intellectual capital in Yasuj Medical Sciences University personnel view in this domain of human capital has had no significant relation with service background. The rate of intellectual capital in this university staff view in the domain of structural capital has had a significant relation with service background. Also, the rate of intellectual capital in this university in managers' view in general has had a significant relation with service background. The evaluation of intellectual capital has been reduced with increase of service background.

In fact people age has been related to service background and both these factors has had a significant relation with intellectual capital and its domains. These results have been consistent with most similar studies [10,14,16].

The rate of intellectual capital in Yasuj Medical Sciences University, in view of participating managers in the domain of human capital, customer capital and also in the domain of structural capital and with intellectual capital in general has

had a significant relation with service post. Managers have given more score to intellectual capital and its dimensions. This finding in similar studies has shown a significant relation too, [10, 17, 18-22] and its reason could be related to more knowledge and education, more records, more physical and spiritual motivation or all these cases. In most studies, the issue of the personnel knowledge and awareness from new management concepts like social capital and intellectual capital in promoting the rate of intellectual capital and then increasing efficiency the organizations has been pointed [23-30].

CONCLUSION

The general conclusion is that more education, more age and female gender have had a positive significant relation with intellectual capital and its dimensions.

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