Artículo de investigación

Investigating the mediating role of organizational agility on the effect of intellectual capital on nurses' performance of Shahid Beheshti Hospital of Yasuj

Investigar el papel mediador de la agilidad organizativa en el efecto del capital intelectual en el desempeño de las enfermeras del Hospital Shahid Beheshti de Yasuj

Investigando o papel mediador da agilidade organizacional no efeito do capital intelectual sobre o desempenho do enfermeiro no Hospital Shahid Beheshti de Yasuj

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Abstract

Aim and literature: organizations face an environment which is characterized by increasing complexity and globalization and dynamism in the ultra-competitive era. So, the main aim of the present study is analyzing the effect of intellectual capital on nurses' job performance by considering the mediating role of organizational agility.

The present research is an applied, descriptive, survey and correlative research in terms of its aim

Resumen

Objetivo y literatura: las organizaciones se enfrentan a un entorno caracterizado por el aumento de la complejidad y la globalización y el dinamismo en la era ultracompetitiva. Por lo tanto, el objetivo principal del presente estudio es analizar el efecto del capital intelectual en el desempeño laboral de las enfermeras al considerar el papel mediador de la agilidad organizacional.

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and methodology which was conducted in 2017 periodically. The statistical population of this study included the nurses of Shahid Beheshti Hospital of Yasuj. They were 320 persons at the time of study. The sample size was 174 persons which were selected by a stratified- randomized method. The standard questionnaire was used for gathering information. The validity and reliability of this questionnaire was confirmed. Pearson correlation test, structural equations modeling and bootstrap test were used for analyzing the relationship between variables, measuring the fit of the research model and testing the hypotheses by SPSS and Smart Pls software respectively.

Results suggested that the proposed model of research has a good fit and these results are in accordance with positive and significant effect of intellectual capital on nurses' job performance. Findings of this research also showed that intellectual capital has a direct, positive and significant effect on nurses' job performance with the moderating role of agility.

The results showed that hospital agility can be an important factor in improving the nurses' job performance and thus strengthening the intellectual capital of the hospital.

Keywords: intellectual capital, job performance, organizational agility, Shahid Beheshti Hospital.

La presente investigación es una investigación aplicada, descriptiva, encuesta y correlativa en términos de su objetivo y metodología que se llevó a cabo en 2017 periódicamente. La población estadística de este estudio incluyó a las enfermeras del Hospital Shahid Beheshti de Yasuj. Eran 320 personas en el momento del estudio. El tamaño de la muestra fue de 174 personas que fueron seleccionadas por un método estratificado y aleatorizado. El cuestionario estándar se usó para recopilar información. La validez y fiabilidad de este cuestionario fue confirmada. La prueba de correlación de Pearson, el modelado de ecuaciones estructurales y la prueba de arranque se usaron para analizar la relación entre variables, medir el ajuste del modelo de investigación y probar las hipótesis mediante el software SPSS y Smart Pls, respectivamente.

los resultados sugirieron que el modelo propuesto de investigación encaja bien y estos resultados están de acuerdo con el efecto positivo y significativo del capital intelectual en el desempeño laboral de las enfermeras. Los resultados de esta investigación también mostraron que el capital intelectual tiene un efecto directo, positivo y significativo en el desempeño laboral de las enfermeras con el papel moderador de la agilidad.

Los resultados mostraron que la agilidad hospitalaria puede ser un factor importante para mejorar el desempeño laboral de las enfermeras y así fortalecer el capital intelectual del hospital.

Palabras clave: capital intelectual, desempeño laboral, agilidad organizacional, Hospital Shahid Beheshti.

Resumo

O objetivo principal do presente estudo é avaliar o comprometimento organizacional de professores do ensino médio baseado na teoria de Herzberg sobre a motivação dos fatores. Um método de pesquisa descritiva é usado neste estudo. A população estatística deste estudo inclui os professores da escola secundária da administração educacional da cidade de Jahrom. Havia 330 pessoas no momento do estudo. O tamanho da amostra foi de 178 pessoas, de acordo com a tabela de Kerjesi-Morgan, e a amostragem foi realizada por método estratificado e randomizado. Dois problemas de comprometimento organizacional (Allen e Meyer) e motivação foram utilizados pelas razões dos fatores (expectativa de trabalho) (Lussier) para coletar informações. A validade e confiabilidade dos questionários foram confirmadas. indicadores SIRS como média e desvio padrão, amostra teste t, coeficiente de correlação de Pearson, t-teste em amostras independentes, análise de regressão multivariada e análise de variância através das partes de estatística descritiva e estatística inferencial para analisar os dados respectivamente. Os resultados dos dados analisados mostraram que existe uma relação significativa entre fatores de higiene motivacional e comprometimento organizacional. Não há diferença significativa entre os fatores de higiene de professores do sexo masculino e feminino, mas a taxa de fatores de higiene das professoras é maior do que a dos professores do sexo masculino. Tampouco há uma diferença significativa entre o comprometimento da

organização do professor, mas a taxa de professores com mais do que a categoria de professores com bacharelado e mestrado em artes.

Palavras-chave: comprometimento organizacional, fatores de higiene, fatores motivacionais.

Introduction

Nurses have a significant role in promoting social health as the largest and most important human source of health care organizations so that success of these organizations depends on nursing efficiency in fulfilling their mission (Sangari, 1996). The main concern of care centers is the care provided quality and purpose and meaningful search of nurses' activity may affect the quality of care of patients (Assessment, 2008). Nurses' performance is very important in providing health care in an effective and continuous manner. Nurses' job performance is defined as a manner and process in which nurses present nursing services to patients (Scott, 1998). The nurse's performance reflects her actual and potential abilities and also her weaknesses and strengths in her job. Finally, a nurse's job path can be traced in hospitals and care centers by evaluating nurses and gaining information. A job path is a job that is committed to the nurse in hospital during her service life (Saadat, 2012). Considering the improvement and development of nurses 'job performance can help nurses' skills and motivations by providing feedback to them or sharing results and counseling with nurses so that they triumph their weaknesses (Barati, 2011). Pattern of global economic growth has changed radically due to the rapid development of technology especially in the field of communications and computers since the 1970s and knowledge has substituted capital, money and land. Success of organizations requires intellectual capital and the ability of managing these scarce resources and controlling them properly by the organization. Organizational knowledge can lead to a competitive advantage consequently. In fact, knowledge is one of the key sources of the organization that can play a role in creating competitive organization (Chang, 2007). Knowledge of working in an organization is named under different pretexts among which the most commonly used pretexts are intangible assets and intellectual capital. On the other hand, nowadays we have seen the least organization that has not been changed during a period of three to six months or even one year. Organizations have to change their attitudes, knowledge, approaches, procedures and the expected results considering the context that dominates the business world of organizations currently. Agile production is a concept that has been popularized in recent years and it has been accepted as a successful strategy by producers who prepare themselves for increasing their performance. Agile production creates some kind of ability in the hospital in today's competitive environment that responds to market swings quickly. Fierce competition in the business climate, increasing customer expectations, globalization, cultural and social issues, skilled manpower limitations, information technology, innovation and initiative are driving factors of changes in the hospital environment that draw attention to agility. As what is suggested, the main question of the current research is as following: Does intellectual capital affect organizational performance by considering the mediating role of organizational agility variable?

Methodology

The current research is an applied- analytical research that has been done cross-sectional at the Shahid Beheshti Hospital of Yasouj in 2013. The statistical population of this study included 320 nurses. They were 174 hospital personnel at the time of study. They were selected by Morgan table (also Cochran formula). The sample size was 180 persons. They were also selected by stratified random sampling among the members of the statistical population considering the probability of not returning of some of the questionnaires. It should be noted that having at least 1 year of job record in the so-called hospital was considered as a condition of entry into the study. Questionnaire of Sharifi and Zhang (1999) was used for measuring the organizational agility variable. It has five dimensions of leadership, organizational change, organizational culture, customer service and performance management and sixteen items. Questionnaire of Martin de Holan et al (2004) was used for measuring the job performance variable. It has three dimensions of human capital, structural capital and interdependent capital and fourth two items. Questionnaire of Byrne et al (2005) was also used in this research. It has two dimensions of Task performance and context performance and 10 questions. Finally, the required information was collected by a questionnaire which was consisted of 68 questions. Three variables were studied through these questions.

The method of answering the questions was based on 5 Likert Scale so that the numbers of 1 through 5 were dedicated to the options of strongly disagree, disagree, neutral, agree and strongly agree respectively. The reliability of the questionnaire was confirmed by Cronbach's alpha coefficient (intellectual capital (0.79)), (job performance (0.83)), (organizational agility (0.88)) and composite reliability coefficient (intellectual capital (0.80)), (job performance (0.85)) and (organizational agility (0.79)). The validity of the used questionnaire was also confirmed by experts (face validity) using convergent validity (intellectual capital (0.64)),(job performance (0.59)) and (organizational agility (0.66)) .

In this study, Skewness- Kurtosis was used for determining the normal distribution of variables, Pearson correlation test was used for studying the relationship between variables, structural equation modeling and Bootstrap test were used for measuring the research model fitness and testing the hypotheses using SPSS and SmartPls software.

It should be noted that 175 questionnaires out of 180 distributed questionnaires were returned (responsiveness rate 97.22%) and analyzed. The main aim of the research was also fully explained for the participants during distributing the questionnaires and their written and informed consents of participation in the research were received and confidentiality of the participants' information was also maintained. Meanwhile, this study has been approved in Shahid Beheshti Hospital in Yasuj ethically and all of the ethical issues have been observed.

Findings

The results showed a demographic profile of the sample members. 41% of them were women and 59% of them were men. 9% of the members had associate of arts, 64% of them had bachelor degrees, 25% of them had Master of Arts or sciences and 2% of them had Ph.D. in terms of educational degrees. 62 percent of them had a formal employment contract and 38 percent of them were contracted .The average age of the participants of this study was 36 years. Normality status of the studied variables was studied by Kolmogorov smirnov using SPSS software. Results of this test are shown in Table 1.

Table 1. Results of normality test

Normality result	Sig (significant level)	Z (Kolmogorov smirnov statistics)	Research variables
Not normal	0.004	1.770	Intellectual capital
Not normal	0.001	1.926	Job performance
Not normal	0.003	0.966	Organizational agility

As it is shown in table1, the significance level of all of the variables is less than the error value of 0.05. Therefore, the null assumption is rejected. It means that none of the variables are normal. Structural equations modeling using Partial Least Squares (PLS) and Smart PLS software is used for model verification and responding to hypotheses regarding the non-normalization of variables. Pearson correlation test was used to determine the relationship between indices in this research (Table2).

Table 2. Correlative coefficient between research variables

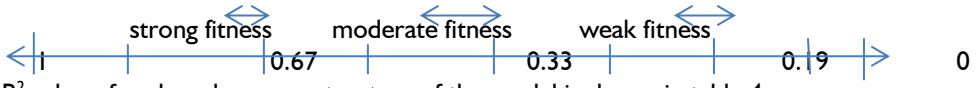
P** value	r*	Dependent variable	Independent variable
0.000	0.512	Job performance	Intellectual capital
0.000	0.472	Organizational agility	Intellectual capital
0.000	0.607	Organizational agility	Job performance

Pearson correlation test *
Significant at the significant level $P < 0.01$ **

Results of the correlation test showed that there was a positive and significant relationship between intellectual capital and job performance, intellectual capital and organizational agility, as well as job performance and organizational agility. At first, we evaluate the fitness of the conceptual model of research by the most important structural fitting criteria (R2, Q2, CV-COM and GOF) in order to analyze the collected data by the questionnaire. If the structural model fitness is appropriate, we will test the

hypotheses by the significant path coefficients (t-value). R^2 shows that an exogenous variable affects an endogenous variable. Chin and Tseng introduce three values of 0.19, 0.33 and 0.67 as criteria values of weak, moderate and strong R^2 values. Therefore, weak, moderate and strong fitness of the structural part of the model is determined by R^2 criterion according to Chart 1.

Chart 1. assessment of fitness of the structural part of the model by R^2



R^2 value of each endogenous structure of the model is shown in table 4.

Table 4. R^2 value of each endogenous structure of the model

Fitness	R^2	Structure name
strong	0.67	Intellectual capital
moderate	0.38	Job performance
strong	0.82	Organizational agility

Redundancy index which is also called Stone – Geisser Q^2 measures the structural model quality of each endogenous block by considering the measurement model. Positive values of the above indices indicate the good and acceptable quality of the measurement and structural model. Table 5 shows the values of each indices of independent and dependent variables. The results of Table 4 show that R^2 value of the above structures is in a strong and moderate region. It indicates the appropriate fit of the structural model. Other fitting criteria of the structural part of the model include the CV Com Index and the (Communality, Redundancy) CV RED Index. Common index measures the measurement model quality of each block.

Table 5. Common and redundancy values of each structure

Redundancy index	Communality index	Structure name
0.271	0.271	Intellectual capital
0.171	0.171	Job performance
0.359	0.186	Organizational agility

The obtained criterion is between zero and one which has introduced three values of 0.01, 0.25 and 0.36 as weak, moderate and strong values of GOF. They are calculated by the following formula.

$$GOF=\sqrt{\overline{AVE} \times \overline{R^2}}$$

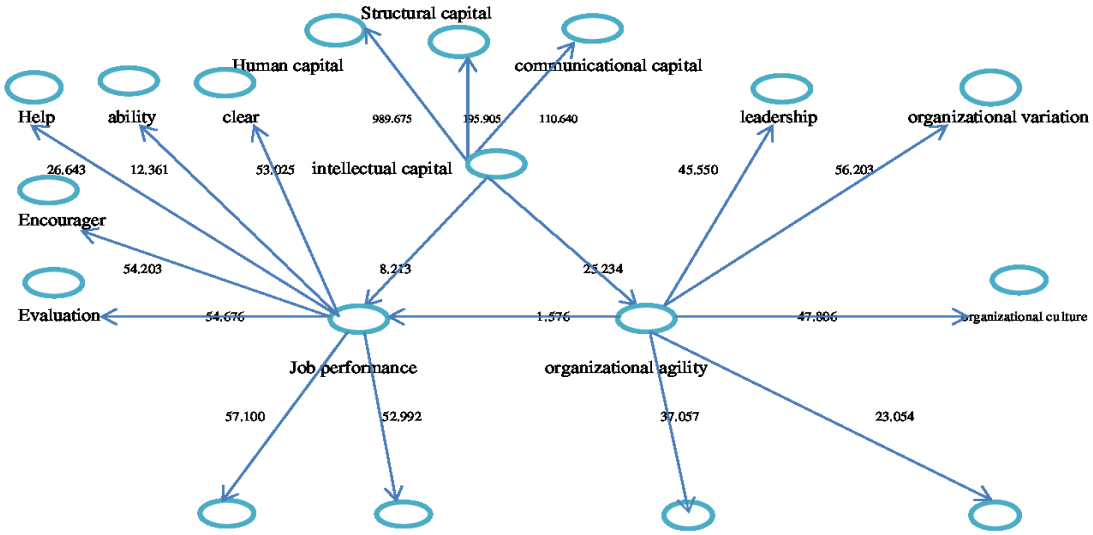
As it is shown in Table 5, indexes are positive and more than zero. It also confirms the appropriate fitness of the structural part of the model. Recently, an appropriate global measurement has been recommended using PLS for the overall fitness of the model.
Average of AVE and R^2 are calculated by the following formula:

$$\mu_{R^2} = \frac{1}{n} \cdot \sum_{i=1}^{n} x_i \quad \mu_{AVE} = \frac{1}{n} \cdot \sum_{i=1}^{n} x_i$$

GOF is calculated by calculating the average of AVE and R^2 and substituting it in the formula:
$GOF = \sqrt{0.81 * 0.61} = 0.55$

Overall fit of the model was 0.55 based on the GOF index. This value indicates the strong fit of the model with the collected data. It is time of studying the inherent and structural model after validating the measurement models. The validating criteria of the structural model are shown in Table 6 in this section. Figure 2 shows the structural equation model during estimating the significant coefficients. The exogenous intellectual capital, endogenous organizational agility (mediator) and job performance (dependent) variables are in this model.

Chart 2. Structural Equation Modeling based on a significant absolute value (t value)



If t-value is more than +1.96, the factor load is significant at 95% of confidence level. This model tests all of the structural equations by t- statistics actually.

Table 6. Results of structural equations for studying the research hypothesizes

Relationship direct	Hypothesis condition	R^2	T	β	Independent variables	Dependent variables	Hypothesis
Direct	Confirmed	0.548	25.134	0.740	Intellectual capital	Job performance	First
Direct	Confirmed	0.431	3.079	0.81	Intellectual capital*organizational agility	Job performance	Second
Direct	Confirmed		8.375	0.571	Organizational agility		

Path coefficient has a significant effect on Job performance of nurses of Shahid Beheshti Hospital in Yasuj based on this model. Since the t-value is out of the significant interval (more than 1.96) ($p < 0.05$) based on the $+\beta$ coefficient, the scholar's claim is confirmed, " intellectual capital affects the job performance of nurses of Yasuj Shahid Beheshti Hospital by the moderating role of agility". It can be said that intellectual capital has a direct and positive effect on job performance by the moderating role of agility considering the $+\beta$ coefficient.

Discussion and conclusion

The main aim of this study is studying the effect of intellectual capital on nurses' job performance by considering the mediating role of organizational agility. Results of the present study suggest that intellectual capital has a significant effect on job performance of nurses of Shahid Beheshti Hospital in Yasuj. Since it has been claimed that intellectual capital affects job performance, this effect is confirmed according to the results. P- Value with the probability of 95% is less than 0.05. It can be said that intellectual capital has a direct and positive effect on nurses' job performance considering the $+\beta$ coefficient. Therefore, intellectual capital increases the nurses' job performance and poor intellectual capital decreases the nurses' job performance at 95% of confidence level. Findings of this research are in agreement with results of studies of Seyyed Naghavi et al (2012) , Ahmadian and Ghorbani (2013) , Gol Kheyli (2013) , Hasani et al (2014) , Hovang and Hiuneh (2007) , Garsia and Martinez (2007) . Confirming the effect of intellectual capital on

nurses' job performance has a direct and positive effect on improving nurses' job performance. Therefore, increasing of intellectual capital improves nurses' job performance and poor intellectual capital decreases the nurses' job performance at 95% of confidence level. Since t- statistics value is out of the significant interval (more than 1.96) ($p < 0.05$), the scholar's claim about performance is confirmed. On one hand, intellectual capital affects the job performance of nurses of Yasuj Shahid Beheshti Hospital by the moderating role of agility based on the results, this effect is confirmed. Since t- statistics value is out of the significant interval (more than 1.96) ($p < 0.05$), the scholar's claim about the effect of intellectual capital on nurses' job performance by the moderating role of agility is confirmed. Therefore, It can be said that intellectual capital has a direct and positive effect on nurses' job performance by the moderating role of agility considering the $+\beta$ coefficient. Findings of this research are in agreement with results of studies of Seyyed Naghavi et al (2012) , Ahmadian and Ghorbani (2013) , Hovang and Hiuneh (2007) , Riahi and Blackvai (2003) , Garsia and Martinez (2007) . Confirming the effect of intellectual capital on nurses' job performance by the moderating role of agility emphasized on improving of job performance by the moderating role of agility. Nowadays, intellectual capital is the key element of creating competitive advantage in the age of knowledge. Evidence and empirical studies suggest that nurses' job performance cannot only be measured with traditional evaluation systems accurately and it requires attention and utilization of a set of indices and criteria that are related to the environment and the current situation of organizations. the role of knowledge and intellectual capital is of considerable importance and priority in this regard.

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