

The Relationship between Intellectual Capital and Knowledge Productivity and Moderating Role of Organizational Learning in the Branches of State Banks in Rasht

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ABSTRACT

Since one of the key issues in knowledge-based economy is the measurement of knowledge productivity in organizations, this study aimed to examine the relationship between intellectual capital and knowledge productivity given the role of organizational learning in the branches of state bank of Rasht. Intellectual capital is considered as an independent variable in this study that include three dimensions of social, organizational and human capital. Intellectual capital is defined as a set of those knowledge companies are applied to gain a competitive advantage. In the present study, the knowledge productivity as the dependent variable is the ability whereby individuals, teams and units in the organization are receiving knowledge-based development, productivity and innovation. Also, organizational learning as moderator variable is considered as a dynamic process to create, acquisition and collecting knowledge in order to develop the resources and capacity to lead better performance for organization.

Correlation method is used in this study and field method is used to data collecting and data collecting tool is questionnaire. In the present study, using a random sampling method, 84 completed questionnaires were received from banks. And finally, research hypotheses testing were examined by Pearson correlation test and multiple regressions. The results suggest a positive relationship between intellectual capital and knowledge productivity and positive role of organizational learning between them.

KEYWORDS: intellectual capital, knowledge productivity, knowledge productivity.

INTRODUCTION

World is moving rapidly from production-based economy towards knowledge-based economy. As Drucker has suggested, the most important contribution management needs in twenty-first century is to increase knowledge work productivity. Today, the company's ability to create and exploit new forms of knowledge has great importance. In fact, the main challenge of communities after capitalism is productivity of knowledge workers and knowledge workers (Yi -Chan & Yen-Chan, 2010). In the present study, the knowledge productivity as the dependent variable is the ability whereby individuals, teams and units in the organization are receiving knowledge-based development, productivity and innovation (Yi -Chan & Yen-Chan, 2010). Intellectual capital is an object that in recent years has been provided in theory globally. But since it is considered as valuable resource for countries and organizations, its development is rapidly becoming the indicator in countries development. On the other hand, this intangible resource has been provided as one of the most valuable resources in companies and key capital to increase entrepreneurial growth. Intellectual capital management will reach organizations to greater success in the future prospects of competitive markets (Brennan & Concell, 2000). From a system perspective, the capital has three components: Human capital, organizational capital and social capital that have been considered as intellectual capital in this study (Yi -Chan & Yen-Chan, 2010). Research has also shown that organizational learning plays an important role in transporting integrated knowledge into the organization (Rhodes et al, 2008). Thus it appears that organizational learning can serve as an appropriate moderator for the relationship between intellectual capital and knowledge productivity because the components of organizational learning has direct positive relationship with performance and innovation in organizations (Rhodes et al, 2008). With regard to the importance of this study to the banks, it should be noted that banks in fact are the main economic artery of the country and have the most liquidity shares of the community. So we can say that for a strong economy, the productivity of banks must increase. However, banks can play a key role at a time when is called the era of knowledge-based economy.

Regarding the issue of general policies of the regime and Article 44 that privatization of the credits and financial institutions is an important part of it; banks are engaged in a close competition and need to knowledge-based workers to succeed in this competition. This research seeks to answer the following question:

Are there a relationship between the intellectual capital and knowledge productivity with regard to the organizational learning?

LITERATURE REVIEW

Knowledge productivity: productivity is in tree level of national, organization and components that in two first item is in macro level and third is in detail level .productivity is knowledge of staff in detail level (Najafi and et al,2010) . In the present study, the knowledge productivity as the dependent variable is the ability whereby individuals, teams and units in the organization are receiving knowledge-based development, productivity and innovation. The variable parameters are: continuous improvement process - continuous improvement technology - Continual service improvement- exploiting existing knowledge to develop processes - exploiting existing knowledge to develop technology - exploiting existing knowledge to develop service- promote innovation to provide services, competition, and radical changes in service delivery (Yi -Chan & Yen-Chan, 2010). To measure this variable, a five- scale questionnaire from strongly disagree to strongly agree range will be used. Components that are designed to measure these variables are including: Continuous efforts toward continuous improvement of processes, technologies and services - process development, technology, and services provided - Strengthening innovation for new services, competition (Yi -Chan & Yen-Chan, 2010).

Intellectual Capital: Stewart defines intellectual capital from viewpoint of organizational resources, related to creating wealth investment in knowledge, moral assets, and experience (stewart,1997).intellectual capital is defined as a group of knowledge assets and is considered among the features of that organization and significantly leads to improvement of competitive situation of organization through increase of added value for key stakeholders of organization (marr,2005) . In the present paper, intellectual capital is considered as an independent variable. Intellectual capital is defined as a set of those knowledge companies are applied to gain a competitive advantage (Yi -Chan & Yen-Chan, 2010). Intellectual capital is a knowledge that can be converted to values (Bontis, 2008). From a system perspective, capital has three components: human capital, organizational capital and social capital that has been considered as intellectual capital dimensions in the present study. And it will be measured with a questionnaire.

Human Capital:Human capital is a set of tacit knowledge and explicit knowledge of employees which is considered value for organization (Arbab shirani,Abbasi,2010).On the other hand, human capital is defined as a combination of knowledge , skill, initiative and ability of employees for duties (Bontis,2000). Human capital is a cumulative combination of staff general and professional knowledge and leadership and problem solving and risk taking abilities (Haji Karimi and Bathahi,2009). Indicators to measure this dimension are: Skills of employees, personnel creativity and intelligence, standing and credibility of staff compared to other organizations- expertise of the staff in certain job tasks and the amount of knowledge and new ideas among employees (Yi -Chan & Yen-Chan, 2010).

Organizational capital: Organizational capital encompass a range of organizational structures, organizational philosophy, and software, and database and sometimes the spiritual monopoly rights, brand and in general all the things that it takes to support productivity and innovation (Khavandkar et al,2009).In fact, organizational capital is defined as institutionalized and standardized values in the organizations that is used through databases, proprietary rights, principles, structures, systems and processes. Organizational capital represents the ability to deal with internal and external challenges (Yi -Chan & Yen-Chan, 2010). Indicators to measure this dimension are: Using the property and license as a way to store the knowledge- Organizational knowledge as instructions and database- Organizational culture supportive of valuable ideas- use of knowledge in organizations (Yi -Chan & Yen-Chan, 2010).

Social Capital: Social capital is the ability of individuals to work together in order to achieving common goals in groups and organizations (Fukuyama,1999). Social capital is contained the knowledge that is in the

interactions between individuals and their network interactions and used (Ghoshal & Nahapiet, 1998). Indicators to measure this dimension are: Cooperation in identification and problem solving- information share and learn from each other- Interaction and exchange of ideas- alliances with partners in solving problems- use knowledge to solve problems(Yi -Chan & Yen-Chan, 2010).

Organizational learning: Alegra and chiva defined organizational learning as process that organization learns through it models leads to improve or maintain organizational performance (Alegra&chira,2008). According to Lopez (2005), organizational learning is considered as a dynamic process to create, acquisition and collecting knowledge in order to develop the resources and capacity to lead better performance for organization (Alameh & Moghadami,2010). According to Pilar et al questionnaire, the four components of managerial commitment, system approach, open space and experimentation and transfer and integration of knowledge and a five-scale questionnaire from strongly disagree to strongly agree range will be used (Pilar rt al, 2005).

Research hypothesis

- H1-There is a relationship between intellectual capital and knowledge productivity with regard to organizational learning in the State Bank of Rasht.
- H2- There is a relationship between human capital and knowledge productivity with regard to organizational learning in the State Bank of Rasht.
- H3- There is a relationship between organizational capital and knowledge productivity with regard to organizational learning in the State Bank of Rasht.
- H4- There is a relationship between social capital and knowledge productivity with regard to organizational learning in the State Bank of Rasht.

Research method:

This is a descriptive correlation method. The population is 134 state bank branches of Rasht and its sample size is 79 branches. And data collecting tool is questionnaire and content validity and Cronbach's alpha coefficient had been used to measure validity and reliability, respectively.

Cronbach alpha value of research variables

Variable name	Number of Questions	Cronbach's alpha coefficient	Final result	
Human capital	5	77/7 %	Confirmed	rejected
Organizational capital	4	83/9%	*	
Social capital	5	79/4 %	*	
Intellectual capital (generally)	14	90/3 %	*	
Organizational learning	16	78/8 %	*	
Knowledge Productivity	9	84 %	*	

Research hypothesis testing:

1-There is a relationship between intellectual capital and knowledge productivity with regard to organizational learning in the State Bank of Rasht.
 In the first step, the relationship between two variables of knowledge productivity and intellectual capital was examined.

Table (1-1) Correlation coefficient between intellectual capital and knowledge productivity

Variables	Numbers	The correlation coefficient	significance level	Result
intellectual capital and knowledge productivity	84	74/4 %	0/000	Confirmed

Pearson correlation test results show that there was a significant positive correlation between the two variables of intellectual capital and knowledge productivity. The Pearson correlation coefficient is equal to 74/4% which is significant in 0/05 %. In conclusion it can be said that there is significant positive

relationship between intellectual capital and knowledge productivity. In the next step, multiple regression method was used is to evaluate the effect of modulator variable.

Table (2-1) Summary results of the regression models between intellectual capital and knowledge productivity due to organizational learning

Regression models	severity of relationship	Determination Coefficient	Durbin-Watson statistic
First model- modulator variable	74/4 %	55/4 %	
Second model-Entering modulator variable into the model	76/2 %	58/1 %	1/799

It is observed that in the first model, the impact of intellectual capital on the productivity of knowledge is about 74/4 %. By entering variable of organizational learning in the model, this value increases to 76/2 percent.

Table (3-1) Coefficients of the regression model between intellectual capital and knowledge productivity due to organizational learning

	Variables	Standardized coefficients	Significant levels	Result
First model	intellectual capital	0/744	0/000	confirmed
Second model	intellectual capital	0/522	0/000	Confirmed
	organizational learning	0/277	0/025	confirmed

Conclusion: According to the results, we can say that there is a direct positive relationship between intellectual capital and knowledge productivity. Also, by entering variable of organizational learning as the modulator variable in the model observed that severity of the model has been increased about 2/2 percent. Given the significant levels and beta coefficient of the second model, we can say that organizational learning has significant positive impact on the relationship between intellectual capital and knowledge productivity and increased the severity relationship between two variables.

2- There is a relationship between human capital and knowledge productivity with regard to organizational learning in the State Bank of Rasht.

In the first step, the relationship between two variables of knowledge productivity and human capital was examined.

Table (1-2) Correlation coefficient between human capital and knowledge productivity

Variables	Numbers	The correlation coefficient	significance level	Result
Human capital and knowledge productivity	84	64/2 %	0/000	Confirmed

Pearson correlation test results show that there was a significant positive correlation between the two variables of human capital and knowledge productivity. The Pearson correlation coefficient is equal to 64/2% which is significant in 0/05 %. In conclusion it can be said that there is significant positive relationship between human capital and knowledge productivity.

Regression coefficients models between human capital and knowledge productivity given to organizational learning

Table (2-2) Summary results of the regression model between human capital and knowledge productivity of the organizational learning

Regression models	severity of relationship	Determination Coefficient	Durbin-Watson statistic
First model- modulator variable	64/2 %	41/3 %	
Second model-Entering modulator variable into the model	73/7 %	54/4 %	1/959

It is observed that in the first model, the impact of human capital on the productivity of knowledge is about 64/2 %. By entering variable of organizational learning in the model, this value increases to 73/7 percent.

Table (3-2) Coefficients of the regression model between human capital and knowledge productivity of the organizational learning

	Variables	Standardized coefficients	Significant levels	Result
First model	human capital	0/642	0/000	confirmed
Second model	human capital	0/325	0/002	Confirmed
	organizational learning	0/482	0/000	confirmed

Conclusion: According to the results, we can say that there is a direct positive relationship between human capital and knowledge productivity. Also, by entering variable of organizational learning as the modulator variable in the model observed that severity of the model has been increased about 9/5 percent. Given the significant levels and beta coefficient of the second model, we can say that organizational learning has significant positive impact on the relationship between human capital and knowledge productivity and increased the severity relationship between two variables.

3- There is a relationship between organizational capital and knowledge productivity with regard to organizational learning in the State Bank of Rasht.

In the first step, the relationship between two variables of knowledge productivity and organizational capital was examined.

Table (1-3) Correlation coefficient between intellectual capital and knowledge productivity

Variables	Numbers	The correlation coefficient	significance level	Result
organizational capital and knowledge productivity	84	58/2 %	0/000	Confirmed

Pearson correlation test results show that there was a significant positive correlation between the two variables of organizational capital and knowledge productivity. The Pearson correlation coefficient is equal to 58/2% which is significant in 0/05 %. In conclusion it can be said that there is significant positive relationship between organizational capital and knowledge productivity.

Regression coefficients models between organizational capital and knowledge productivity given to organizational learning

Table (2-3) Summary results of the regression models between intellectual capital and knowledge productivity due to organizational learning

Regression models	severity of relationship	Determination Coefficient	Durbin-Watson statistic
First model- modulator variable	58/2 %	33/8 %	
Second model-Entering modulator variable into the model	71/3 %	50/9 %	1/770

It is observed that in the first model, the impact of organizational capital on the productivity of knowledge is about 58/2 %. By entering variable of organizational learning in the model, this value increases to 71/3 percent.

Table (2-3) Coefficients of the regression model between human capital and knowledge productivity due to the organizational learning

	Variables	Standardized coefficients	Significant levels	Result
First model	organizational capital	0/582	0/000	confirmed
Second model	organizational capital	0/211	0/048	Confirmed
	organizational learning	0/555	0/000	confirmed

Conclusion: According to the results, we can say that there is a direct positive relationship between organizational capital and knowledge productivity. Also, by entering variable of organizational learning as the modulator variable in the model observed that severity of the model has been increased about 13/1 percent. Given the significant levels and beta coefficient of the second model, we can say that

organizational learning has significant positive impact on the relationship between organizational capital and knowledge productivity and increased the severity relationship between two variables.

4- There is a relationship between social capital and knowledge productivity with regard to organizational learning in the State Bank of Rasht

In the first step, the relationship between two variables of knowledge productivity and social capital was examined.

Table (1-4) the correlation coefficient between social capital and knowledge productivity

Variables	Numbers	The correlation coefficient	significance level	Result
social capital and knowledge productivity	84	67/1 %	0/000	Confirmed

Pearson correlation test results show that there was a significant positive correlation between the two variables of social capital and knowledge productivity. The Pearson correlation coefficient is equal to 67/1% which is significant in 0/05 %. In conclusion it can be said that there is significant positive relationship between social capital and knowledge productivity.

Table (2-4) Summary results of the regression models between social capital and knowledge productivity due to organizational learning

Regression models	severity of relationship	Determination Coefficient	Durbin-Watson statistic
First model- modulator variable	67/1 %	45/1 %	
Second model-Entering modulator variable into the model	73/9 %	54/6 %	1/887

It is observed that in the first model, the impact of social capital on the productivity of knowledge is about 67/1 %. By entering variable of organizational learning in the model, this value increases to 73/9 percent.

Regression coefficients models between social capital and knowledge productivity given to organizational learning

Table (3-4) the correlation coefficient between social capital and knowledge productivity due to organizational learning

	Variables	Standardized coefficients	Significant levels	Result
First model	social capital	0/671	0/000	confirmed
Second model	social capital	0/355	0/001	Confirmed
	organizational learning	0/442	0/000	confirmed

DISCUSSION AND CONCLUSION

According to the results, we can say that there is a direct positive relationship between social capital and knowledge productivity. Also, by entering variable of organizational learning as the modulator variable in the model observed that severity of the model has been increased about 6/8 percent. Given the significant levels and beta coefficient of the second model, we can say that organizational learning has significant positive impact on the relationship between social capital and knowledge productivity and increased the severity relationship between two variables.

The results show that there is significant positive correlation between the two variables of intellectual capital and knowledge productivity. And organizational learning as a modulator variable has positive and significant impact on the relationship between intellectual capital and knowledge productivity and increases the intensity of the relationship between two variables. There is significant positive correlation between the dimensions of intellectual capital (human, organizational and social) and knowledge productivity. And the test results showed that organizational learning as modulator variable has positive and significant impact on the relationship between dimensions of intellectual capital (human, organizational and social) and knowledge productivity and increases the intensity of the relationship between two variables. It is recommended to banks that in order to increase productivity, intellectual capital must be considered as an

independent variable. In this regard, considering the dimensions of intellectual capital could be a way to decoder for banks. It is recommended to banks: To invest on the development of new ideas and knowledge by workers. Also, the efforts to improve the creativity of employees can also be helpful. And also use the license and exclusive right to reserve organizational knowledge and also to create a culture supportive of valuable idea in organizations. Interaction and exchange of ideas between the organization and the employees should be encouraged. Also, different branches of the bank can hold several meetings together to solve problems and find solutions to problems and seek to solutions.

On organizational learning, employee opinions are used in process of decision making by managers. Discussion and analysis must taken place at all levels of the organization among the employees. Awareness to all sectors of banks in how cooperation together to achieving the pre-set objectives. And to create coordination and communication to all mentioned sectors to achieve the final objectives of the bank must be considered.

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