CSCanada
International Business and Management
Vol. 8, No. 2, 2014, pp. 179-186
DOI:10.3968/4421

ISSN 1923-841X [Print]
ISSN 1923-8428 [Online]
www.cscanada.net
www.cscanada.org

Effect of Social Capital Dimensions on Intellectual Capital (Case Study: Bank Hekmat Iranian)

Fariborz Rahimnia[a]; Rahim Najminia[b],*

[a] Professor. Faculty of Economic and Administrative Science, Ferdowsi University of Mashhad, Mashhad, Iran.
[b] Ph.D. candidate in human resource management. Faculty of Management, Ferdowsi University of Mashhad, Mashhad, Iran.
*Corresponding author.

Received 5 March 2014; accepted 14 May 2014

Abstract

Different operating organizations in the society can improve their performance in terms of effectiveness and efficiency by building, development, and support of social capitals. Present study addresses this issue by exploring the relationship of social capital and its dimensions, i.e., structural, cognitive, and relational capitals, with intellectual capital in employees of Bank Hekmat Iranian. The required data conform to the research model were gathered using a questionnaire distributed among the employees working in different branches of this bank. Multivariate regression and Structural Equation Modeling (Path Analysis) were applied to assessment of the assumed relationships between the variables and to test of the hypotheses.

The results indicate positive and significant relationship (at 95 percent confidence level) of social capital and its dimensions with intellectual capital where the relational capital accounted for the weakest correlation with social capital.

Key words: Social capital; Intellectual capital; Employees; Organization

Fariborz Rahimnia, Rahim Najminia (2014). Effect of Social Capital Dimensions on Intellectual Capital (Case Study: Bank Hekmat Iranian). *International Business and Management, 8*(2), 179-186. Available from: http://www.cscanada.net/index.php/ibm/article/view/4421
DOI: http://dx.doi.org/10.3968/4421

1. INTRODUCTION

We are entering a knowledge-based society in which knowledge will be the key resource rather than the quantity of economic and natural resources, and workforce. Formerly, most of the assets in organizations were tangible assets, whereas today they mainly consist of intangible ones (Sullivan & Sullivan, 2000). In knowledge economy, organization success depends on its ability in management of intangible assets. To manage these assets, we need to identify and measure them (Sanchez et al, 2000). Intellectual capital, knowledge management, and intangible assets are among the chief factors in evaluation of organizations and formulation of their business and technology future strategies. Despite the high importance and special position of intellectual capital strategy, the abstract and dynamic nature of this concept made it difficult for researchers to clearly define and assess it. In view of Koenig (1996), the new thing with the concept of intellectual capital is not the value and importance of knowledge, but finding ways for assessment and measurement of knowledge (Chen et al, 2004). On the other side, there are social capitals which are utilized next to other types of capitals. This concept refers to links and communications between members of a network as a valuable source which through creation of norms and mutual trust helps member reach their objectives. Social capital is an interdisciplinary matter the role of which is facilitation of human relationships (Nahapiet & Ghoshal, 1998).

In brief, today knowledge as the most important capital asset is valued above financial and physical capitals, and use of this knowledge by the intellectual capital can make a big difference in organization performance and relative competitive position. This means that a combined set of intangible assets including employees' knowledge and skills, technology, and organizational culture, reputation and image contribute to upgrade of knowledge in organization. Next to these factors, social capital as one of the chief organizational capabilities can be of great

help in the process of knowledge creation and sharing resulting in competitive advantage for the organization. Many researchers view this factor capable of influencing the intellectual capital in the organization. Present study as a partial contribution to earlier research by addressing the relationship of social capital with intellectual capital in employees of Bank Hekmat Iranian provides further evidence on the role and influence of social capital in intellectual capital. The remainder of this paper is organized as follows. First, theoretical backgrounds on definition and dimensions of social capital and intellectual capital are treated following which research methodology and data analysis is handled. Next, the model estimation and goodness of fit test as well as the test of hypotheses are discussed. In the end, while concluding remarks are made, based on the findings, a number of suggestions are made for better and more effective use of the existing and potential knowledge and intangible assets in the understudy bank which can result in an overall improvement in its performance and relative competitive position.

1.1 Intellectual Capital

Intellectual capital is characterized as the kind of knowledge convertible into value and is identified in the form of practical experiences, organizational technology, customer relationship, and professional skills used to achieve competitive advantage (Edvinsson & Sullivan, 1996). Intellectual capital includes all knowledge-based resources producing value for the organization as the total knowledge of employees and applied knowledge of organization members (Roos & Roos, 1997). According to Zerenler et al (2008), intellectual capital is a concept which suggests immaterial capital creates more value than material capital does, hence through expansion of employee relations, creativity, and innovation organizations can produce more value. In view of Zhu and Hun (2011), intellectual capital refers to organizational or individual knowledge resulting in sustainable competitive advantage in organization and is produced by combining abilities of all employees. In other words, intellectual capital is defined as strategic asset of organization the use of which will result in differentiation of its goods and services from other organizations (Davood & Van Yusuf, 2011).

Table 1
An Overview of the Intellectual Capital Structures Proposed by Researchers

Structure / Researcher	Human capital	Structural capital	Relational capital	Research & development	Intellectual ownership	Innovation capital
Edvinsson & malone	*	*	*		*	*
Brooking	*	*	*		*	
Roos and roos	*	*	*	*		
Stewart	*	*	*			
Sullivan	*	*	*		*	
Bonfer	*	*	*			*
Bontis	*	*	*			*
Morrison	*	*	*	*		
Lin	*	*	*			
Sveibi	*	*	*			

As is evident from review of the literature, most of the proposed models on intellectual capital consistently emphasis on dimensions human capital, structural capital, and relational capital as three common features of intellectual capital (Marr, 2005). According to these approaches, intellectual capital is predominantly a product of the interaction between the three mentioned elements, since human capital alone is not able to create such difference unless it is combined with the other two elements. In the following, each feature or dimension is handled separately.

1.2 Human Capital

Bontis views human capital as the indicator of existing knowledge in organizational members. Chen et al state that human capital as the base of intellectual capital refers to such factors as knowledge, skill, competence, and attitude of employees which result in improved performance, more customers, and increased earnings for the organization. This knowledge and proficiency has place in the mind of employees developed as a result of acquired knowledge and skill. If knowledge employees are not desirably profited from, the existing knowledge and skill in their brain cannot be activated or turned into measurable market value (Chen et al, 2004). According to Bhartesh (2005), human capital is the level of individual knowledge possessed by employees of an organization. This knowledge typically is tacit. Sitaran and Sarvanen hold human capital as equivalent to competence and then, they define employee competence as the capacity to perform tasks in different conditions for creation of tangible and intangible assets (Rashidi et al., 2010).

In view of Bontis, among components of intellectual capital, human capital is most crucial, because human

capital is the source of innovation and strategic restructuring in organizations which are accomplished through improvement of human proficiencies (Bontis & Richardson, 2000). Stewart argues, although in a learning organization, employees are considered as the most important asset, yet they are not exclusively in possession of organization, and theissue as whether the generated knowledge by employees belongs to organization or not is still the subject of debates. Suppose a software programmer of a company who in weekends develops a program at home. Can the company have claim on this program? The growing role of human capital has made companies to a great extent rely on knowledge and skill of their employees for income generation, growth, and improvement of efficiency and effectiveness (Hemmati et al, 2010).

According to Yolanda et al (2011), human capital at universities is the amount of tacit and explicit knowledge acquired by staff employees (i.e., teachers, researchers, service and administrative support managers and personnel) through formal and informal training as well as retraining processes.

1.3 Structural Capital

Structural capital can be described as all what exists in the organization and supports employees (human capital) in their works. Structural capital is owned by the organization and will remain in the organization even when employees leave the place (Lopez, 2008). Employees every evening return to their home; the task of managers is construction of the knowledge assets that do not go home every evening. This can be accomplished by development of structural capital which involves technologies, data networks, publications, procedures, and organization. Establishment of a knowledge bank allows frequent use of knowledge. Structural capital of an organization should create a map and guide for intellectual capital assets, such as where should we look for the knowledge, or which person has the best skills? The only organizational knowledge to be used as the guide is the knowledge directly linked to organization main strategies. This knowledge should result in better performance output (Alavi & Ghorashi, 2007).

According to Bontis, human capital is a combined set of knowledge, ability, and experiences of employees put temporarily and for a short while at disposition of organization during working hours, but structural capital is the existing ability and knowledge in the organization permanently under control of the organization which will remain there even after that the employees have left the place. It belongs to the whole organization and can be reproduced and shared with others (Bontis & Richardson, 2000).

In view of Yolanda et al (2011), structural capital at universities is the explicit knowledge regarding internal process of dissemination, communication and management of technical and scientific knowledge at these institutes. The structural capital assumed by them involves two dimensions; *organizational capital* (i.e., interaction between research, management, organization processes, commonly shared culture and values, information system, etc) and *technology capital* (i.e., documented sources, bibliography, patents, etc).

1.4 Relational Capital (Customer Capital)

Relational capital is built up on the concept customer capital which primarily deals with the existing knowledge in marketing channels and relationships with customers. The term customer capital, initially proposed by Hubert St. Onge, in later definitions, received broader implication as relational capital applying to existing knowledge in all kinds of relations maintained by organization with customers, competitors, suppliers, trade unions, and government (Bontis, 1999). Roos and Roos conceive relational capital as the relations with stakeholders inside and outside the organization (Roos & Roos, 1997). Chen et al. (2004), in an effort for conceptualization of customer capital, classify it as marketing capabilities, market intensity, and customer loyalty. This view has implications for the role of services in the causal relationships between employee satisfaction, customer satisfaction, customer loyalty, and financial performance (Chen et al., 2004). According to Yolanda et al. (2011), relational capital at university involves a broad set of developed and maintained institutional, political and economic relations between university and non-scientific partners such as institutes, non-profit organizations, local government, and society, as well as perception, expectation, judgment, and trust of others in regard to the university. As for the value and significance of the relationship with customers, suppliers, and competitors, Bontis points out the crucial role of such relations in creating future growth opportunities for the organization. Customer capital also concerns such aspects as customer trust and mutual commitment and loyalty between organization and customers. Customer capital is of such importance that one may say all efforts in organization ultimately serve creation of customer capital.

1.5 Social Capital

Nahapit and Goshal (1998), from an organizational point of view, describe social capital as the sum of actual and potential resources existing within, accessible via, and produced from the relationship network of an individual with a social unit. They view social capital as one of the key organizational capabilities and assets which can be of much help to organizations in knowledge creation and sharing, and in giving them a sustainable organizational advantage relative to other organizations. They assign diverse aspects of social capital to three classes of structural capital, relational (customer) capital, and cognitive capital which are treated in the following paragraphs.

1.5.1 Structural Dimension

It refers to overall pattern of connections between people, i.e., to whom and how do you have access? This dimension is characterized by such features as network relationships between people, network and organization configuration.

- *Network relationships*: the social capital theory basically suggests that network relationship allows access to resources (e.g. knowledge). Social relationships by creation of information channels reduce time and cost of information gathering.
- *Configuration of network relationships*: the overall configuration of network relationships is one of the key features of social capital which can influence development of intellectual capital. For example, network flexibility and ease of communication can be improved by influencing the amount of contact or accessibility for the members through three attributes of network structure, i.e., congestion, connection, and hierarchy.
- *Fitting organization*: the created social capital, including relationships and connections, norms, and trust in a particular setting, often is transferable from one social environment to another and whereby social communication pattern can be influenced. Fitting social organizations can provide individuals with a potential network and their required resources, including information and knowledge, and through cognitive and relational dimensions of social capital they may guarantee motivation and capability for communication (idem).

1.5.2 Cognitive Dimension

This element refers to the sources which are provider of representations (manifestations), explanations, interpretations, and systems of shared meanings among groups. Language and common codes, and shared anecdotes (narratives) are among the most important features of this dimension.

- *Language and common codes*: for different reasons, the common language affects conditions of knowledge combination and communication. Firstly, language has a direct and important function in social relations. Secondly, language is of influence in our perceptions. And thirdly, common language enhances information combination capacity.
- *Shared anecdotes*: the advent of shared anecdotes (narratives) in a society allows creation and communication of new interpretations of events, and facilitates combination of different forms of knowledge which are generally hidden (idem).

1.5.3 Relational Dimension

This element describes a kind of personal relationships maintained between individuals as a result of a long interaction. Relational capital is expressed in such features as trust, norms, expectations, and identity.

- *Trust*: great interest of individuals in social exchange and collaborative interaction.
- *Norms*: cooperation norms can lay a solid basis for creation of intellectual capital. Interactive norms whose importance in formation of intellectual capital has been demonstrated are: tendency to valuation, response to diversity, critical spirit, and bearing defeat (failure).
- *Requirements and expectations*: requirements indicate a commitment or obligation for performance of an activity in the future. Nahapiet and Ghoshal (1998) in regard to intellectual capital state that requirements and expectations are likely to influence access and motivation of individuals and groups in communication and combination of knowledge.
- *Identity*: it is a process in which individuals feel with a group of other individuals are the members of one and the same group (idem).

2. RESEARCH MODEL

According to the literature, majority of the proposed models in study of intellectual capital have focused on three dimensions *human capital*, *structural capital*, and *relational capital*. Also in the present research, the three above mentioned dimensions will be used as dependent variables. In addition, for study of social capital, we adopt the model of Nahapiet and Ghoshal (1998) in which social capital was expressed in three structural, relational (customer), and cognitive dimensions. Thus, the research model can be represented as Figure 1.

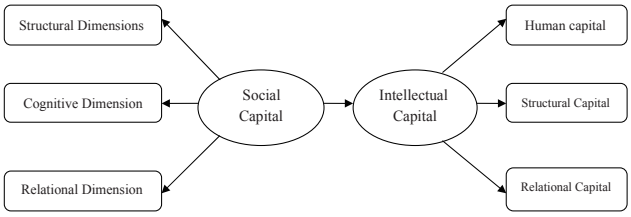


Figure 1
Research Model

3. RESEARCH HYPOTHESES

This study, based on the research model and the research question, aims to examine the following hypotheses.

Hypothesis 1:

There is a significant relationship between social capital and intellectual capital in employees of Bank Hekmat Iranian.

Hypothesis 1.1:

There is a significant relationship between social capital structural dimension and intellectual capital in employees of Bank Hekmat Iranian.

Hypothesis 1.2:

There is a significant relationship between social capital cognitive dimension and intellectual capital in employees of Bank Hekmat Iranian.

Hypothesis 1.3:

There is significant relationship between social capital relational dimension and intellectual capital in employees of Bank Hekmat Iranian.

4. METHODOLOGY

As concerns its purpose, this is an applied research, since the results hereof meant to be used in the understudy private Iranian bank for better use of the existing knowledge and improvement of overall performance in this organization. This study is conducted based on a descriptive survey design and a non-experimental approach. To examine the relationships of the model variables, multivariate regression analysis performed through structural equation modeling (SEM) and path analysis. Hence, for data analysis, first, based on goodness of fit indicators, the model fit is examined in LISREL environment and then, the causal relationships between dimensions of social capital and intellectual capital is investigated using standard coefficient and Sig. value based on which it will be decided whether to confirm or reject an hypothesis.

4.1 Statistical Population and Sample

The research statistical population included all employees of Bank Hekmat Iranian due to finiteness of which the sample size was determined using Morgan table for sample size. Next, given the sample size and convenience sampling method, the questionnaire which had been prepared for collection of the actual data was distributed and finally, of the collected questionnaires 83 were considered valid and utilized in the subsequent analyses. It should be noted that the questionnaires were distributed and collected within locations of the bank branches during autumn 2013. Majority of the respondents had a bachelor's degree (61.45 percent were with a bachelor's degree, 30.12 percent with a master's degree, and 8.43 percent had a PhD).

4.2 Data Gathering and Analysis Tools and Methods

The required data for examination of the research model were gathered using the researcher-constructed questionnaire prepared according to standard scales, Bontis (1999) concept of intellectual capital, and social capital of Nahapiet and Ghoshal (1998) composed of 36 questions in Likert Scale with five choices. The questionnaire is divided in two main sections; in the first section which pertains to social capital, questions 1 to 5apply to structural dimension, questions 6 to 9 to cognitive dimensions, and questions 10 to 16 to relational dimension and in the second section concerning intellectual capital, questions 1 to 7 are associated to human capital, questions 8 to 14 to structural capital, and questions 15 to 20 to relational capita. The questionnaire reliability (internal consistency) calculated in Cronbach's alpha by SPSS software for the first and second section was 84.61 and 81.06, respectively. In addition, according to this test, for the associated questions to each dimension (subscale) the obtained reliability was at a reasonable level (Table 2).

Table 2
Reliability of the Questions Associated to Subscales of the Research Variables

Variable	Sub-scales	Number of questions	Cronbach's alpha
Social capital	Structural	5	82.23
	Cognitive	4	76.54
	Relational	7	86.12
	Total	16	84.61
Intellectual capital	Human capital	7	79.58
	Structural capital	7	76.41
	Relational capital	6	83.42
	Total	20	81.06

4.3 Model Goodness of Fit Test

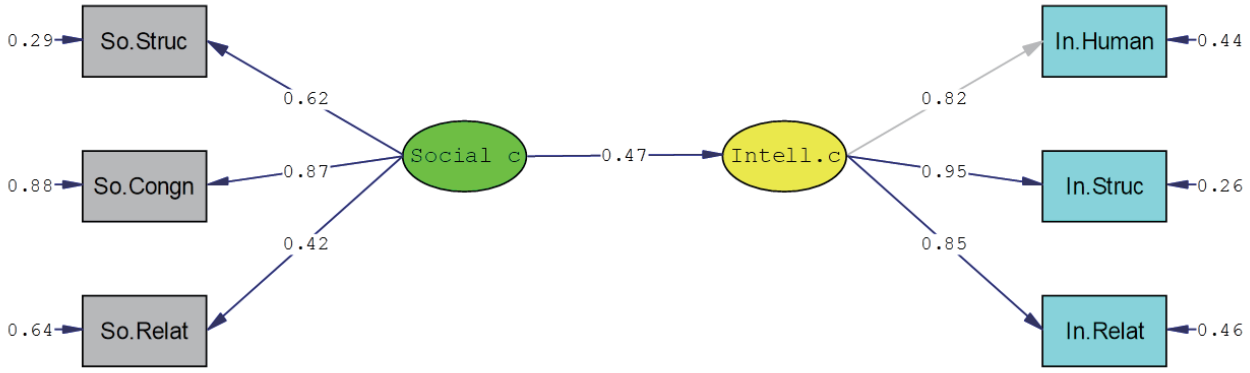
The obtained values from the model goodness of fit test indicate good fit of the research model, which logically justifies the set relationships between the variables based on the research theoretical framework.

Table 3
The Model Fit According to Statistical Measures

Statistical measure	Standard value of measure	Values of measure in model	Conclusion
χ^2 / df	Smaller than 3	1.03	Fit
p-value	Greater than 0.05	0.41	Fit
GFI	Greater than 0.9	0.97	Fit
AGFI	Greater than 0.9	0.93	Fit
RMSEA	Smaller than 0.1	0.018	Fit
CFI	Greater than 0.9	1.00	Fit
NFI	Greater than 0.9	0.97	Fit
RMR	Smaller than 0.9	0.044	Fit
IFI	Greater than 0.9	1.00	Fit

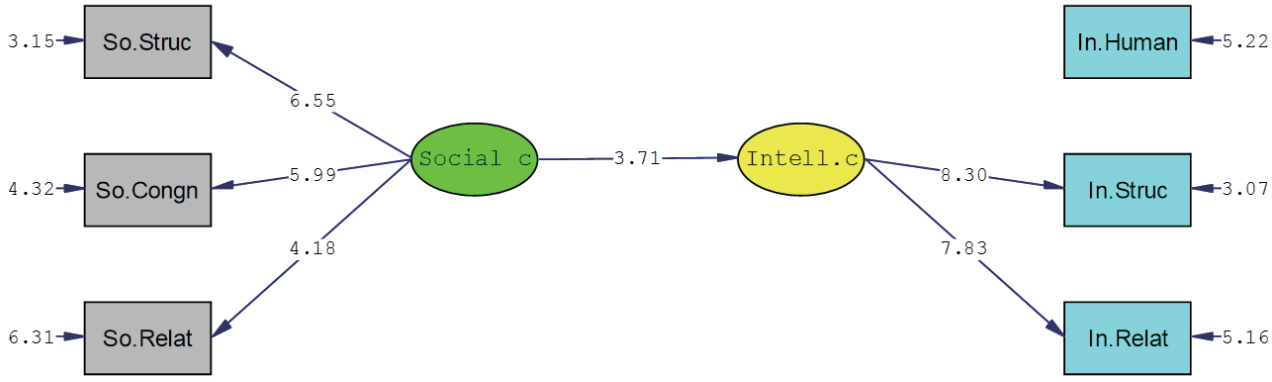
4.4 Structural Model

For test of the research hypotheses, SEM model (path analysis) in LISREL environment was applied. In Figures 1 and 2, the model estimation output in case of standard estimate (standard coefficient) and Sig. coefficient (significance value) in regard to verification of the hypotheses are shown.



Chi-Square=8.25, df=8, P-value=0.40965, RMSEA=0.018

Figure 2
Structural Equation Modeling (SEM) **Outputs**



Chi-Square=8.25, df=8, P-value=0.40965, RMSEA=0.018

Figure 3
Standard Estimate and Sig.

4.5 Verification of Research Hypotheses

Table 4 presents a summary of the obtained results from the performed estimation by the structural model for test of the hypotheses which haven derived from LISREL output (diagrams 1 and 2). The path of social capital—intellectual capital was for test of the main hypothesis (hypothesis 1). The Significant value of this path (i.e., 3.71) which is greater than the standard value of 1.96 indicates that the path at 95 percent confidence is significant. Hence, the main hypothesis which suggests a significant association between social capital and intellectual capital is confirmed.

Table 4
SEM (Path Analysis) **Results**

Hypothesis	Path		St. coefficient	Sig.	Confirmation / rejection
1	Social capital	Intellectual capital	0.47	3.71	Confirmed
1.1	Social capital – Structural	Intellectual capital	0.62	6.55	Confirmed
1.2	Social capital – Cognitive	Intellectual capital	0.87	5.99	Confirmed
1.3	Social capital – Relational	Intellectual capital	0.42	4.18	Confirmed

The path structural social capital – intellectual capital was for test of the first sub-hypothesis (hypothesis 1.1) the Sig. value of which (6.55) is greater than 1.96, indicating that at 95 percent confidence level the path is significant. Thus, hypothesis 1.1 which suggests a significant relationship between structural social capital and intellectual capital is confirmed. Further, in test of the second sub-hypothesis (hypothesis 1.2), the Sig. value

of the path cognitive social capital – intellectual capital (5.99) is greater than 1.96 which indicates significance of the path at 95 percent confidence level. Thus, hypothesis 1.2 suggesting a significant association between cognitive dimension of social capital and intellectual capital is confirmed. And finally, in test of the third sub-hypothesis (hypothesis 1.3), a Sig. value of 4.18 was found for the path relational social capital – intellectual capital which is greater than 1.96, indicating significance of the path at 95 percent confidence level. Thus, hypothesis 1.3 which suggests a significant relationship between relational aspect of the social capital and intellectual capital is confirmed.

In addition, based on the found standard coefficients, cognitive and relational aspects of social capital have respectively the strongest and weakest correlation with intellectual capital.

CONCLUSION AND SUGGESTIONS

In this research, after review of the prior research, for measurement of social capital and intellectual capital, they were each expressed in three dimensions; the social capital became identified by the three structural, cognitive and relational dimensions, and the intellectual capital with the three aspects of human capital, structural capital and relational (customer) capital. Next, based on the obtained data from the questionnaire, multifactor regression, and SEM (path analysis), the assumed relationship between social capital and intellectual capital was investigated. The results indicate confirmation of the research main hypothesis, that is, at 95 percent confidence level a significant association was observed between social capital and intellectual capital in employees of Bank Hekmat Iranian. This finding is consistent with the results documented in the study of Ghelichli and Moshabbaki (2006). It suggests that social capital can be viewed as one of the intangible yet valuable assets of organization with significant contribution to creation of human, structural and relational dimensions of the organization intellectual capital. The results also indicate confirmation of the research sub-hypotheses which means at 95 percent confidence level a significant relationship is observed between structural, cognitive, and relational dimensions of social capital on the one side, and intellectual capital on the other side. And these results, likewise, correspond to the findings of Ghelichli and Moshabbaki (2006). It should be noted that the significant relationships found in this study were all linear and with relatively high correlation coefficients. Therefore, it can be established that with increase of social capital dimensions, intellectual capital increases accordingly. In other words, social capital as one of the key capabilities and assets can help Bank Hekmat Iranian in formation and sharing of the existing knowledge in its intellectual capital, resulting in sustainable competitive advantage relative to other organizations.

According to the results, the least correlation was found in the relationship of social capital relational dimension with intellectual capital. This finding indicate necessity of more attention to internal planning in the area of interpersonal and inter-organizational relations as well relationship of managers with employees, and more effort for promotion of team-building and creation of organizational identity at organizational level. The managers are also recommended to champion and encourage trust, cooperation norms, and a common identity in the organization. In doing so, they in fact lay strong foundation for building and development of intellectual capital. We believe managers by creating an atmosphere of valuation, response to diversity, critical spirit, and bearing defeat and failure and by boosting employee motivation for communication and combination of knowledge they actually take firms and steady steps towards building and development of intellectual capital in their organization.

REFERENCES

Bontis, N., Keow, W. C., & Richardson, S. (2000). Intellectual capital and business performance in Malaysian Industries. *Journal of Intellectual Capital*, *1*(1), 85-100.

Bontis, N. (1999). Managing organizational knowledge by diagnosing intellectual capital: framing and advancing the state of the field international. *Journal of Technology Management*, *18*(5/6), 433-462.

Chen, J., Zhu, Z., Xie, H. Y. (2004). Measuring intellectual capital: A new model and empirical study. *Journal of Intellectual Capital*, *5*(1), 195-212.

Cosme, A.-E., Hernández-Tinoco, J., Sánchez-Anguiano, L. F., Arnaud-Gil, C. A., & Molina-Espinoza, L. F. (2010). Eating habits associated with a history of suicide attempts in psychiatric outpatients. *Health*, *6*(5), 317-322.

Edvinsson, L., & Sullivan, P. (1996). Developing a model for managing intellectual capital. *European Management Journal, 14*(4), 356-364.

Hemmati, M. (2010). What it takes. Competencies needed to design and facilitate MSPs. Retrieved from Capacity.org.

Lopez, D. C. (2008). Intellectual Capita in high-tech firms: The case of Spain. *Journal of Intellectual Capital*, *9*(1), 25-36.

Marr, B. M. (2005). Defining intellectual capital: A three dimensional approach. *Management Decision*, *43*(9), 65-79.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital and the organizational advantage. *Academy of Management Review*, *23*(2), 242-266.

Rashidi. (2010). An analytic solution of micropolar flow in a porous channel with mass injection using homotopy analysis method. International Journal of Management Science, *24*(2), 83-95.

Roos, G., & Roos, J. (1997). Measuring your company's intellectual performance. *Long Range Planning, 30*(3), 413-426.

Salina, D., Yusoff, W., & Fadzilah, W. (2011). How intellectual capital mediates the relationship between knowledge

management processes and organizational performance?. *African Journal of Business Management*, *5*(7), 2607-2617.

Sanchez, P., Chaminade, C., & Olea, M. (2000). Management of Intangibles: An attempt to build a theory. *Journal of Intellectual Capital*, *1*(4), 312-327.

Sullivan, J. P. H., & Sullivan, S. P. H. (2000). Valuing intangible companies: An intellectual capital approach. *Journal of Intellectual Capital*, *1*(4), 328-340.

Yolanda, R. C., Pealver, J. F. S., & Ponce, N. T. (2011). Intellectual capital in Spanish public universities: Stakeholders' Information needs. *Journal of Intellectual Capital*, *12*(2), 140-157.

Zou, X., & Tzung-Cheng, H. (2011). A study of the intellectual capital's impact on listed banks' performance in China. *African Journal of Business Management*, *5*(12), 5001-5009.

