A study of the relationship between social capital and organization’s intellectual capital (case study: Kurdistan Departments of Education)

Mehran Zohdi1*, Reza Shafeai2, Hoshyar Kheirkhah3

1. Young Researchers Club, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran.
2. Assistant Professor, Department of business management, University of Kurdistan, Sannadaj, Iran.
3. Department of Industrial business management, Payame noor University, Iran.

* Corresponding Author email: mehran.zohdi@yahoo.com

ABSTRACT: Social capital is an inter-disciplinary subject that in recent years has been considered increasingly by authorities in different areas such as science, especially management. On the other hand educational organizations can improve their efficiency and efficacy through establishing, reinforcing and spreading such valuable and touchable capital. The scope of this research is to study the effect of the rate of social capital along with the intellectual capital exchange among Kurdistan education staff organization. Four hypotheses were proposed for this purpose. The research method, according to the purpose of applied research and the manner of data collection is descriptive and the analysis of the model specifically is based on structural equation modeling (SEM) via LISREL and SPSS softwares. The study statistical community comprises of the employees of Kurdistan Departments of Education. The study sample was chosen based on cluster analysis method and the number of the sample members was 285. The research findings which are based on structural equations model indicate that social capital significantly affects intellectual capital. In addition, the results suggest that there is a significant relationship between structural, cognitive and relational aspects of the social capital, and these of Intellectual capital.

Keywords: Social capital, Intellectual capital, Departments of Education, Structural equations model (SEM).

INTRODUCTION

There is an increasing recognition that places where people live are important for explaining individuals’ health (Fone et al., 2007; Mansyur, Amick, Harist, and Franzini, 2008; Mohnen, Groenewegen, Völker, and Flap, 2011). Apart from the physical environment, there has been growing recognition among many researchers that the social environment, in particular social capital, may play an important role in one’s health (Veenstra, 2005; Araya et al., 2006; Poortinga, 2006a, 2006b; Kim and Kawachi, 2007; Eriksson, Ng, Weinehall, and Emmelin, 2011). Social capital has been defined as the resources available to individuals or groups through their social relationships (Portes, 1998; Putnam, 2000; Poortinga, 2006a; Kawachi, 2010). Knowledge-based business environment requires an approach which covers new intangible assists such as knowledge and human resources merits, innovation, and relationship with customers, organizational culture, systems and organizational structure. On the other hand, one significant organizational capability which can significantly empower organizations to create and share knowledge and provide them with "sustainable organizational advantage", compared to other organizations is social capital (Nahapiet and Gotha, 1998).

Social capital is a modern concept which has been applied nowadays to sociology and economy and very recently to management and organization. Woolcock believes that social capital as a common the optical language can help political scholars, sociologists, anthropologists and economists work collaboratively in a suitable situation (Woolcock, 1998, quoting from Parandy, 2009). There are many definitions of social capital and such multiplicity of definitions has created an atmosphere of confusion and incoherence. But it can be said that social capital refers to the norms and communication networks that allows public to participate in collective action in order to provide
mutual benefit. Therefore, the social capital is a combined concept which describes the degree of norms and networks in a particular time (Tajbakhsh et al., 2002). The analysis of social capital situation plays significant roles in each society because it helps to understand how social elements can enhance the performance of the individuals in achieving different objectives (Lin, 2011). Also social capital plays a more significant role in physical capital and human resource in societies, and in the absence of social capital, other capital lose their effectiveness and social, cultural and economic development without such capital is difficult and challenging (Kavosi, 2008)

The intellectual capital is a collection of knowledge, information, intellectual property, experience, competition and organizational learning that can be used to create wealth. In fact, the intellectual capital involves all employees, their organizational knowledge and capabilities to create added value and result in continues competitive advantages (Moshbeki and Ghehlich Lee, 2006). The emergence of the intellectual capital topic in the mid 1990s has produced a voluminous literature spanning a range of disciplines. Considerable progress in understanding the significance of intellectual capital was soon evident in contributions that were often both incisive and provocative. In retrospect, it appears that like many previous management fashions (Abrahamson and Fairchild, 1999) intellectual capital’s appeal began to wane in the early years of the next decade, as scholars moved on to the next field. In the case of organization studies, for example, knowledge management, which overlaps extensively with intellectual capital, has become a widely studied field focusing on the management of knowledge assets (Nonaka and Takeuchi, 1995; Davenport and Prusak, 1997; Newell, Robertson, Scarbrough, and Swan, 2002; Mouritsen and Larsen, 2005; Newell, Robertson, Scarbrough, and Swan, 2009). The present paper attempts to consider the fact that organization's social capital can influence various factors and make the implementation of social capital in service-provider organizations equipped with competence and capabilities, so that not only environmental opportunities are utilized, but also their performance improved. The researchers seek to investigate the relationship between social capital and intellectual capital among Kurdistan Departments of Education's employees and also evaluate the effect of social capital dimensions on intellectual capital, and determine whether social capital in an organization is able to influence the intellectual capital of Departments of Education's employees or not.

Research literature
Social capital
In today's business world, the greatest firm value is based on intangible assets. The capability to identify and estimate the source of this value is critical. In order to administer social capital management, we need to understand its origin and how to create these assets in firms (Frits and Leana, 2009). A social network is formed by social relationships and link between individuals in a firm and society. They will benefit from bilateral relations through exchange of information and cooperation in solving problems (Ring et al., 2010). Differences in the operationalization of social capital have led to the rise of two main approaches -psychosocial and network - to understand the link between social capital and health. The psychosocial approach includes constructs that are both social and psychological in nature and typically include measures of trust, norms, reciprocity, and perceptions of surrounding social environment (Legh-Jones and Moore, 2012).

Social capital is perceived as a resource that can be used for achieving a variety of goals and has often been the explaining factor in economic growth (Knack and Keefer, 1997; Woolcock, 1998; Woodhouse, 2006). This perception may lead to the view that social capital is always good, and its increase automatically leads to desirable outcomes. However, social capital accumulation may not invariably foster inherent positive consequences, such as economic growth and it has been argued, that social capital has dark sides (Putzel, 1997; Zmerli, 2010). An accumulation of ‘downward’ social ties in a society might endanger an individual’s opportunities. Increased involvement in a criminal group, for instance, might lead to undesired outcomes from a societal perspective and, hence, have negative consequences (Lewis, 2010; Zmerli, 2010). Therefore, social capital stimulation must be conducted with caution and built on well-established foundations (Lewis, 2010).

Social resources capital is energy or power that forms the structure of economic factors and focuses on a specific goal in a social context (Patel and Conklin, 2009). From an organizational perspective, Ghoshal and Nahapiet define social capital as the sum of actual and potential benefits contained within, available through, and derived from the network of relationships of an individual or a social unit. They believe that social capital is one of the major organizational capabilities and assets that can greatly help to create and share knowledge and to provide them with "sustainable organizational advantage" compared to agencies and organizations (Nahapiet and Ghoshal, 1998) and to improve the performance of organizations and create competitive advantage (Fustell et al., 2006). However, the social capital is composed of structural (trust between individuals), relational (trust between individuals) and cognitive (common goals and values between individuals) dimensions from the most comprehensive view (Andrews, 2010).
**Intellectual capital**

In broad terms, ‘intellectual capital’ can be defined as the intellectual, or knowledge-based, resources of an organization. It encompasses both resources that exist at a particular point in time (a stock of IC) and the more fluid way these resources are used and interact with other resources (both intellectual and physical) to further the organization’s goals (a flow concept) (Ricceri, 2008). Intellectual capital provides a new source and resource through which the organizations can compete. It is a combination of market intangible assets, human assets and structural assets which empowers organization to carry on its activities. In other words, intellectual capital is the sum of the members’ knowledge and application of that knowledge (Ghlichli and Moshabaki, 2006). Intellectual capital is defined as a group of knowledge assets that are dedicated to an organization and are among the characteristics of an organization and considerably through adding value to key stakeholders contribute to improve the organization’s competitive position (Marr, 2005). Intellectual capital is the main cause of value creation in organizations and firms are moving towards the creation of value through intellectual capital in the organizations. In fact, the managers’ previous views on organizations value through physical assets have changed (Maditinos et al., 2011). Edvinsson and Malone (1997) divide intellectual capital into three categories: human capital, structural (organizational) capital, and relational (customer) capital.

**Human capital**

Human capital is rooted in a certain way in the talent of employees (Cater and Cater, 2009). This capital leaves with the employees when they leave the company and cannot be owned by the company. In the literature, human capital consists of components such as knowledge, expertise, skills, experience, competence, creativity, teamwork capacity, loyalty, training and education, problem-solving capability, attitude, loyalty and the motivation of people (Jacobsen, Hofman-Bang, and Nordby, 2005; Johanson, 2005; Cohen and Kaimenakis, 2007; Hsu and Fang, 2009; Hormiga, Batista-Canino, and Sanchez-Medina, 2011).

**Structural capital**

Structural capital is the intellectual asset that remains when employees leave the company; hence, structural capital is independent of individuals and is generally explicit (Chen, Lin, and Chang, 2006; Longo, Mariani, and Mura, 2009; Hormiga et al., 2011). If we compare this definition with the notion of knowledge creation by Nonaka and Takeuchi (1995), structural capital results from knowledge spiral when implicit knowledge reaches the organizational level. According to Edvinsson (1997), structural capital is created by containing and retaining knowledge to become company property. Structural capital belongs to the organization as a whole and can be reported and shared (Cohen and Kaimenakis, 2007; Longo et al., 2009). Structural capital includes intellectual properties consisting of patents, licenses, trademarks, etc. (Edvinsson, 1997; Jacobsen et al., 2005; Marr and Roos, 2005; Subramaniam and Youndt, 2005; Chen et al., 2006).

**Relational capital**

Relational capital is the value of a firm’s relationships with people and organizations with which it conducts business (Cabrita and Bontis, 2008; Longo et al., 2009; Hormiga et al., 2011). This capital includes relationships with external stakeholders, networks with suppliers, distributors, lobby organizations, partners, customer relationships (imagebuilding, loyalty, network partners and investors) and branding (attitude, preference, reputation, brand recognition) (Payne, Christopher, Peck, and Clark, 1995; Roos and Roos, 1997; Marr, Schiuma, and Neely, 2004; Jacobsen et al., 2005).

**Research background**

Moshbeki and Ghelich-Lee (2006) performed a study entitled “competitive Advantage: explaining the role of intellectual capital and social capital” in two Iranian car manufacturer companies. The results indicated that there is a significant and positive relationship in these companies between social capital and intellectual capital. Obviously, by increase in social capital, organizations’ intellectual capital increases. Also the results indicate that the social capital and intellectual capital of the firms studied impact their competitive advantage. Petrou and Daskalopoulou (2013) performed a study on «Social capital and innovation in the services sector». Overall results indicate that a firm’s knowledge base is conducive to innovation activity. Nevertheless, the explanatory power of knowledge base variables weakens once the underlying social capital generation mechanisms are taken into consideration. The selective nature of network links is also evidenced.

In a study by Oliver (2013) micro intellectual capital knowledge flow model: a critical account of IC inside the classroom. The results indicate that intellectual capital is created without the students being formally aware of its extent. The focus moves from a top-down evaluation of intellectual capital stocks such as student academic
performance to a bottom-up view of intellectual capital flows in which discipline knowledge is applied and generic attributes such as collaboration, communication and critical evaluation are exercised with incremental improvement. These are not normally noticed by the students. However, some skills which do not form part of the university skills plan are acknowledged by students. These include high engagement in the classroom instead of passive learning, more confident, flexible communication and persuasion, as well as the ability to speak unprepared without resorting to reciting from the textbook or lecture slides.

By literature review of previous research in this area, the conceptual framework of the study is presented Figure 1. This framework is formulated by adapting Goshal and Nahapiet (1998) and Bintes (2000). The present paper attempts to investigate independent variable (social capital) and dependent variable (intellectual capital) by taking into account the dimensions of social capital.

![Figure 1. Research conceptual model](image)

**Research hypothesis**

The main hypothesis

There is a positive and significant relationship between social capital and intellectual relationship in Kurdistan Departments of Education.

The Sub-hypotheses

1. There is a positive and significant relationship the Structural dimension of social capital and intellectual capital in Kurdistan Departments of Education.
2. There is a positive and significant relationship the cognitive dimension of social capital and intellectual capital in Kurdistan Departments of Education.
3. There is a positive and significant relationship the Relational dimension of social capital and intellectual capital in Kurdistan Departments of Education.

**Research method**

This is an applied study which is descriptive-measurable in terms of data type. To investigate the relationship between the dependent and independent and study hypotheses using SPSS software, Pearson correlation coefficient is used. To test cause and affect relationships between the variables and studied components, multiple regression models were used, and ultimately to determine the optimal model, the relationships among variables were modeled by LISREL software (structural equation modeling). To examine how well works a model in terms of explaining a set of observed data especially compared to other models, values of the indices (RMSEA) · (GFI) · (AGFI) are used.

To test the above-mentioned hypothesis, a questionnaire was used as measurement instrument. Therefore, measurement of the method is based on field research. Data required to test research hypotheses in the questionnaire is based on the Likert Spectrum. So in order to assess Social capital, 19 questions derived from Nahapiet and Ghoshal questionare (1998), to assess Intellectual capital 20 questions from Bontis Questionnaire (2000) asses are used. Cronbach’s α Coefficient was used to determine the reliability of the questionnaires. A primary sample including 30 questionnaires was pre-tested and then using data from these questionnaires and using SPSS software, Cronbach’s α Coefficient was calculated. Cronbach’s α Coefficient for social capital questionnaire was 0.789 and for intellectual capital 0.806 which indicating necessary trust capability for data collection tool. The study statistical community includes all employees in Kurdistan Department of Education, which they are 1108 according to statistics and information polished by Kurdistan Departments of Education in 2010. Sampling method is of a random-stratified type, and cluster sampling was used to choose among 16 Kurdistan Departments of Education. The sample volume using Cochran formula is 285.
Research finding

In this study, the respondents first specified their personal information including gender, work experience, organizational position and their employment situation, which the questions were not in multi-choice items. By using this scale, respondents' sensitivity, attitude and their belief could be determined. Of 285 distributed questionnaires, the men were majority with frequency (84.1%), BA degree (57.4%), work experience between 17-22 years (52.7%), and organizational position: employee (81.2%) and employment situation: formal employment (67.5%).

Data analysis

The results obtained from Table 1 indicate that at the significance level of (0.000), the correlation coefficient between social capital and intellectual capital is equal to 0.592 and the calculated significance is less than 0.05. Therefore, there is a positive and significant correlation between social capital and intellectual capital. This means that by an increase in social capital rate in Kurdistan Departments of Education, intellectual capital among employees increase. In a department with a high level of social capital, intellectual capital among its employees is high as well. The results from secondary hypotheses 1, 2 and 3 are shown in Table 1 which they are in the significance level of (0.000), correlation coefficient between variables is less than 0.050, i.e. by increase in cognitive, structural and relational dimension of the social capital, the intellectual capital of Kurdistan Departments of Education increases as well. The results obtained from testing study hypotheses are summarized and presented in Table 1.

Table 1. Results of testing research hypotheses

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Research hypotheses text</th>
<th>Sig</th>
<th>Correlation Coefficient</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Hypothesis</td>
<td>There is a positive and significant relationship between social capital and intellectual relationship in Kurdistan Departments of Education.</td>
<td>0/000</td>
<td>0.592</td>
<td>Not Rejected</td>
</tr>
<tr>
<td>Hypothesis 1</td>
<td>There is a positive and significant relationship the Structural dimension of social capital and intellectual capital in Kurdistan Departments of Education.</td>
<td>0/000</td>
<td>0.487</td>
<td>Not Rejected</td>
</tr>
<tr>
<td>Hypothesis 2</td>
<td>There is a positive and significant relationship the cognitive dimension of social capital and intellectual capital in Kurdistan Departments of Education.</td>
<td>0/000</td>
<td>0.533</td>
<td>Not Rejected</td>
</tr>
<tr>
<td>Hypothesis 3</td>
<td>There is a positive and significant relationship the Relational dimension of social capital and intellectual capital in Kurdistan Departments of Education.</td>
<td>0/000</td>
<td>0.446</td>
<td>Not Rejected</td>
</tr>
</tbody>
</table>

Structural equation modeling

To evaluate the causal relation mentioned in the hypotheses, structural equations modeling is used, and in order to validate the structural model or path diagram, its indices must be appropriately fitted and also t-value magnitudes and standard coefficients must be significant. If $\chi^2$ is low, $\chi^2$ to freedom degree (df) ratio is less than 3, RMSEA is less than 0.05 and GFI and AGFI is higher than 90%, it could be occluded that the model is appropriately fitted. If t values are higher than 2 or less than -2, at significance level 99% are significant.

As seen in Figures 2 and 3, the validity and fitness of the models are confirmed, because $K_2$, RMSEA (standard level of RMSEA is 0.08 and it is seen that this magnitude is lower than this standard level and so confirms the fitness of the model) and $K_2$ to freedom degree ratio in the models is less than 3 and also AGFA and GFI in all the models is higher than 90%.

Figure 2. The results from coefficient and standard estimation of the research overall model
As seen in Figures 2 and 3, the impact of social capital on intellectual capital is significant and confirmed. Also, the relationship between the dimensions of social capital and intellectual capital is significant and confirmed. All t values are higher than 2 and significant. T values show that the study primary and secondary hypotheses are confirmed.

![Diagram of social capital and intellectual capital](image)

**Chi-square = 16.77, df = 8, P-value = 0.00600, RMSEA = 0.063**

Figure 3. The results from significance numbers of the research overall model

**RESULTS AND CONCLUSIONS**

The findings confirm that the main hypotheses of the present study are dependent upon the significant relationship between social capital and intellectual capital over the Kurdistan education organizations, in terms of correlation coefficient 0.592 at the significance level 0.000 between Social capital and intellectual capital. In addition, there is a significant and positive relationship between Social capital dimensions and Intellectual capital. It could be concluded that more social capital, more intellectual capital into Kurdistan Department of Education will be infused. The correlation between the variables is linear, i.e. it simultaneously increases or decreases. The intensity of the correlation between two variables is high. Therefore, the study original hypotheses are confirmed. These results are consistent with those from Kogut and Zndr (1995), Nonaka (1995), Spender (1996), Nahapiet and Ghoshal (1998) and Moshbeki and Ghelich-Lee (2006).

As it could be inferred from the study results, social capital could be regarded as a capability or asset in organizations which empowers them to create and share knowledge in their intellectual capital and provides them with "sustainable organizational advantage" compared to other organizations. If the managers of these departments encourage and facilities relationships network, then friendships and informal relationships between employees and colleagues could be expanded in order to provide communications and social support and also to pave the way for the development of intellectual capital. Satisfactory social relationships between Kurdistan Department of Education could lead to development of their relationship network. Experiences, knowledge and information along with social skills are transferred between employees through relationship network development and this empowers them to create more value and make organization as a basis for their constructive relationships. In other words, in an organization with a high level of trust, employees are more inclined to do social exchanges and collaborative interactions. Trust between employees is another crucial factor. By encouraging trust, collaborative norms and common identity within organization, the managers of Kurdistan Department of Education create a robust base for establishing intellectual capital in their organization. The managers of Kurdistan Departments of Education can create an atmosphere replete with valuation, response to variety, critical spirit and tolerance to defeat and raising spirit of employees in order to assimilate knowledge, and in turn make considerable progress in creating and developing intellectual capital in their organization. The findings of the present study are consistent with other workers such as Starbuck (1995), Boissut (1995), Lwisky (1996) and Bentis (1999).

**Study suggestions**

We suggest Kurdistan Department of Education's managers to consider following factors in order to develop intellectual and social capital in their own organizations.

Given the internal correlation of social capital variables such as trust, relationships network, norms, requirements and expectations, identity and so on, the managers are able to develop each variable and enhance social capital by means of establishing and enhancing an effective organizational and cultural atmosphere.
The manager must identify and organize existing knowledge within an organization and explore and extract implicit knowledge in the hidden layers of scholars' minds through developing human interactions and relationships between networks.

Managers must eliminate stringent regulations, redundant procedures and also complex and long hierarchy so as to reduce unnecessary bureaucracy.

Attempt to develop a supportive culture through designing a promising and motivating system for enhancement of innovation and creativity, learning and organization's human resources development.

REFERENCES


