

SOCIAL CAPITAL: THE SOFT INFRASTRUCTURE OF FACILITATING TACIT KNOWLEDGE SHARING

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Abstract

In the knowledge- based area the success and compatibility of organizations depends heavily on their ability to utilize their knowledge recourses. Among different KM practices knowledge sharing has a vital role and requires appropriate contexts. Human- social factors are among its most influential infrastructures. This article tries to explore effects of social capital on tacit knowledge sharing. It will investigate the way in which various aspects of social capital can improve attitudes and behaviors required for effectively knowledge sharing. The population of the research consists of 955 persons of managers and senior experts of a service organization.

A sample of 274 subjects was selected randomly. Data analysis is done through structural equation modeling and shows that all dimensions of social capital have a considerable effect on tacit knowledge sharing. Accordingly some practical recommendations have been offered for facilitating knowledge sharing in organizations through improving social capital.

Keywords: Knowledge Sharing, Social Capital, Trust, Norms, Networks, Obligations, Expectations

INTRODUCTION

In today's highly competitive environment faced by service organizations, pioneer organizations begin a wide variety of applications to ensure their survival, productivity and growth. One of the most influential arrangements that have a considerable effect on improving the performance and quality of the services of such organizations is the successful implementation of knowledge management practices. The nature of service organizations is such that human factor influences the quality of provided service and brings customer satisfaction. Having technical knowledge and job-related experiences can improve the ability of their employees to provide high quality services. Therefore, many leading service organizations consider the successful implementation of KM practices as the most important priorities. It also attempts to create a variety of conditions and requirements for knowledge sharing and providing the valuable experience of employees is one of the most important actions in this area have done.

On the other hand, knowledge management emphasize that people have the power of thinking and analysis of issues; hence it is thought that, organizations can improve their performance through effective knowledge sharing and reduces training costs and risks resulted from uncertainty (Kim S, Ju B, 2008). So an organization where employees are willing and able to share their knowledge, it will be progressive, leading and capable organization, and based on this using the conversion and transfer of knowledge, not only huge savings take place in the organization, but also a suitable situation is provided to become a powerful organization in terms of human resources.

Knowledge sharing is defined as all activities related to the transmission or distribution of knowledge of an individual or organization to individual, group or other organization (Lee, 2001), and according to Mc Dermoot, when we say someone is sharing his knowledge, means that the person guides another person with his knowledge, insight and thoughts to help him see his position better (Mc Dermoot, 1999).

However, in some large organizations there are not infrastructure and facilitating conditions for knowledge sharing among employees and effective utilization of them. From the perspective of Denning, main problem for organizations is that many employees tend to share their knowledge with other members of organization (Denning, 2006). Recognition and extraction of knowledge and sharing it is the task of managers with which they can strengthen individuals and organizational performance. Hence, a better understanding of the factors influencing knowledge sharing in such organizations can improve their competitive performance.

Since knowledge sharing has human nature, in this research among its various infrastructures, the effect of social capital on tacit knowledge sharing has been investigated. Also it has been examined that how and to what extent each of four dimensions of social capital can facilitate implicit knowledge sharing in the organization; how their ranking is and what practical proceedings of improving knowledge sharing are with the help of each factor.

THEORETICAL BACKGROUND

Knowledge Management (KM)

In today's competitive world, knowledge has become the strategic resource of most organizations (Ghelich Li & Motabaki, 2006). According to Nonaka, in unstable conditions today, the only reliable source to gain a sustainable competitive advantage is knowledge (Wiig, 1997). Therefore, knowledge management has become one of the main tasks of organizations that seek to exploit these valuable assets (Rahnavard and Mohammadi, 2010). Knowledge management refers to systematic and coherent process of harmonization of wide activities including the acquisition, creation, and storage, sharing, and applying knowledge by individuals and groups in order to achieve organizational goals (Rastogi, 2000). The effect of KM projects on the overall success of the organization is widely approved (Adler and Cowan, 2000). One of the requirements for success of knowledge management is the existence of appropriate conditions and context (Saedi and Yazdani, 2010) that the nature of interpersonal relationships between members of the organization plays an important role in this field (Asgari, 2011).

Knowledge Sharing

Knowledge sharing has been described by McDermott(1999) in a way that when we say someone shares his knowledge we mean that person guides another person with his knowledge, insight and thoughts to help him see his status better. Additionally, the ideal is that person who shares his knowledge, should be aware of the goal of shared knowledge and its application and also needs and informational gaps of the person who receives knowledge.

Hislop (2009) knows the potential benefit of knowledge sharing in the rewards or incentives. Incentives can be used as tools to extract, enhance and maintain knowledge sharing behavior among employees. However, a study by Wu and Zhu (2012), showed that incentives do not influence behaviors of knowledge sharing. It is like a trigger for knowledge sharing and cannot be a force to keep it in forming the attitude of a person.

In many situations, organizational factors such as job involvement and job satisfaction, performance evaluation and recognition act as stimuli for increasing knowledge sharing behavior among employees. In addition, organizational culture, top management support and organizational communication influence knowledge sharing behavior (Sizlivati and Heng, 2015: 233).

Importance of Knowledge Sharing

Many believe that effective knowledge sharing is one of the most reliable ways of applying core competencies and gaining competitive advantage. Knowledge sharing is of such importance that many have embraced knowledge management success depends on effective knowledge sharing, as Bock and Kim (2002) believe that knowledge sharing is the most important part of knowledge management.

In fact, the means by which knowledge is shared and the factors that facilitate the sharing and transferring knowledge are among the basic issues for knowledge management (Renzel, 2008: 212). Knowledge sharing can be seen as an organizational innovation through its fundamental role in the creation of ideas and new business opportunities via the process of socialization and learning of personnel.

Key Success Factors of Knowledge Sharing

Effective and efficient knowledge sharing creates sustainable competitive advantage for organizations that are not easily imitated by competitors. But knowledge sharing for employees and the organization itself is worthless, unless the people, who need special knowledge, receive it at the right time and apply it.

One of the problems faced by the majority of research in the field of knowledge management, is the absence of a theory and general guidelines for knowledge sharing that is applicable to all organizations, and there is no shortcuts that guarantees success in the field of knowledge-sharing and every organization has to identify key factors that ensure their success in this field, and move toward creating the sustainable competitive advantage with the investment and attention to these factors (Mc Derkut and O'Dell 2001 : 80). Some of the most determinant of knowledge sharing are introduced in the table 1.

Table 1: Key Factors Influencing Knowledge Sharing

Author	Factors of knowledge sharing
The & Sun(2012)	Job satisfaction, job involvement, organizational commitment, organizational citizen behavior
Wu & Zhu (2012)	Incentives, mutual benefits, increasing the credibility, loss of knowledge strength, the joy of helping others, and organizational climate and technology
Hendriks(1999)	Gaining success, responsibilities, knowledge, operational strength, promotion opportunities, job challenge
Zhang & Ng (2012)	Perceived embarrassment, bonuses, reducing workload, student feedback, personal relationships, self- efficacy of knowledge
Eze et al (2013)	Knowledge technology, motivation, reward system, confidence, leadership abilities, formalization
Fathi et al (2011)	Individualism, collectivism, social networks, trust, common purpose, drive system, metaphor orientation, self-efficacy, attitudes
Chateriglio & Varmiki (2013)	Attitude, intention, method of use of personal technology
Anitha (2006)	Incentives, mutual benefit, enhancing reputation, loss of knowledge strength, enjoy helping others, technology, organizational climate
Yee (2010)	Loss of personal competition, trust, anticipation, cooperation, learning, ability, fairness, supportive leadership, openness and information and communication technology
Jolaee (2012)	Attitudes, self-efficacy, subjective norm, rewards, social networks, trust

(Sizlivati and Hong, 2015, 233-234)

Social Capital

There are very different interpretations of social capital that reflects the phase and multi-dimensional nature of it. Despite this, it is necessary to create a range for this theory to reach a clear meaning in order to achieve the objectives of knowledge management (Manning, 2009). Social capital consists of features of social organization (e.g. norms, trust and networks) that facilitate cooperation and coordination necessary to achieve mutual advantages (Taslimi et al., 2009). Unlike other forms of capital, social capital is formed in the structure of relationships between individuals and groups (Coleman, 1990). In the following, it explains dimensions and factors of social capital.

The literatures in this area include a lot of different views. Despite the differences that exist in this area, there is considerable overlap. The aim of this chapter is to study a part of these literatures in this area about the nature of social capital that among its scholars ,there is an overlap. In particular there is more relationship between dimensions of social capital that describes by process of knowledge management:

Trust

Trust means how much an individual can be sure that other individual or group will do a certain action (Ostrom & Ahn, 2003). Fukuyama (1995) also defines trust as: "people who are members of a society expect other members' behavior to be systemic, honest, cooperative, and are based on commonly shared norms". Trust in people's psychological state (Lesser, 2000). Trust facilitates cooperation. The more the level of trust is in a society, the greater will be the possibility of cooperation and partnership and cooperation also fosters trust (Lesser, 2000).

Norms

Social norms are an accepted set of behaviors that are internalized for members of the social network. In other words, social norms are a set of common beliefs that allow members to express their ideas and will have feelings of the same experience (Nahapiet and Ghoshal, 1998). Social norms create social control in organization. These norms are asymmetric in nature, because the norms that facilitate certain actions, limit other behaviors (Manning, 2009). People internalize norms and therefore it is necessary to note internalization of norms when predicting the behavior (Coleman, 1990).

Networks (Information Networks)

Social capital refers to relationships between individuals and groups (e.g. social networks) (Putnam, 1993). The social networks are those social systems that knowledge sharing will be possible with their help (Rastogi, 2000). Networks are considers both social knowledge manufacturer and its results. In this context, social networks are those systems that produce real social knowledge. These networks themselves are not knowledge, but are distinct patterns of social activities through which knowledge sharing is possible (McElroy et al., 2006). Therefore, special patterns of social networking innovations (either spontaneous or organized), make it possible that social system solve problems, learn and adapt (McElroy, 2003). Organizations that try to manage such networks, can expect to take advantage of it.

Obligations and Expectations

This aspect of social capital can be defined as the constructive interaction between members of social network and can strengthen trust and mutual relationship (compensation) (Putnam, 1993). There are obligations and expectations that result in creating collective trust (Nahapiet and Ghoshal, 1998). And in this case, members are able to cooperate more and rely on each other more in order to solve everyday problems. Despite the collective trust, members can rely on each other more when they are meeting obligations and expectations. In this case, the team

will be more willing to work for a group and they know this group when needed, will compensate their efforts (Hoffman et al., 2005).

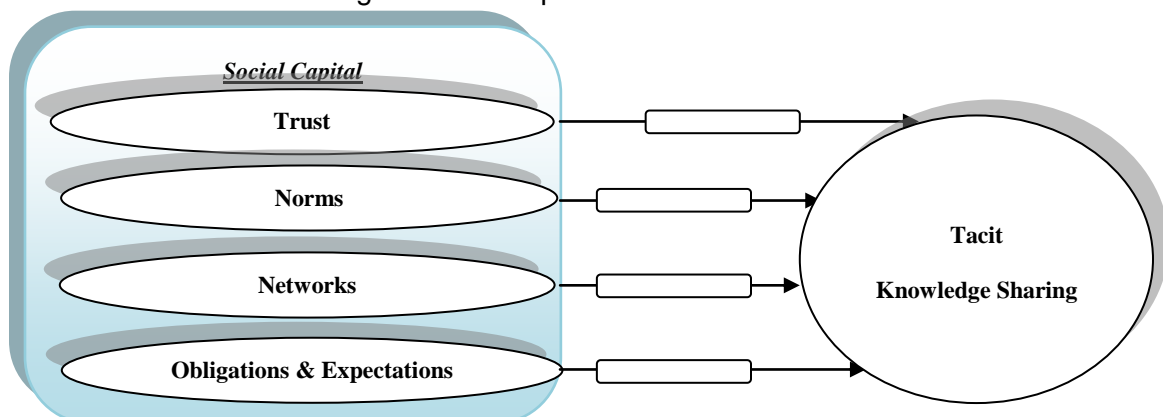
The Development of Social Capital for the Purpose of Knowledge Management

The relationship between knowledge management and social capital is discussed by many scholars, including: Lesser (2000), Hoffman et al (2005), Mac Elroy et al (2006), Smedlund (2008). Social capital can improve the ability of organizations to manage knowledge, because improves the capacity of doing team works and knowledge management initiatives are largely social in nature (Asgari, 2011). From the perspective of knowledge creation, social capital facilitates development of collective intellectual capital by influencing the creation of combination and exchange conditions (Nahapiet and Ghoshal, 1998). Since intellectual capital requires to combine knowledge and to experience various parts, creating intellectual capital is facilitated by social capital (Hoffman et al., 2005). Social capital also helps to develop core competencies (Kogut & Zander, 1996), which is essential for knowledge creation. However, social capital can also facilitate knowledge sharing. Because it enhances the ability of organization to create value through available sources (Kogut & Zander, 1993). It also encourages cooperative behaviors (Coleman, 1998). In general, social capital can enhance the whole process of knowledge management as it makes collective measures more efficient, because it can be an alternative for official conventions, incentives and regulatory measures that are necessary in systems having less social capital between members of organization (Fukuyama, 2001).

Theoretical Framework

In this study, based on the mentioned literatures, "tacit knowledge sharing" has been considered as the dependent variables. The for dimensions of social capital (trust, norms networks, and commitments and obligations) have been also considered as the independent variables. Accordingly, the conceptual model can be drawn as figure1.

Figure 1: Conceptual Model of Research



Hypotheses

Based on the literature reviewed in this study, the following hypotheses were tested:

1. Trust has significant positive effect on tacit knowledge sharing.
2. Norms have significant positive effect on tacit knowledge sharing.
3. Communication networks have significant positive effect on tacit knowledge sharing.
4. Obligations and expectations have tacit knowledge sharing.

RESEARCH METHODOLOGY

This study is applied based on its objective; because its results can be used for improving knowledge sharing in organizations. From data collection view, it is descriptive survey; because it has used the questionnaire to obtain required information of sample status quo. It is also cross sectional based on time aspect and quantitative in terms of data type.

Statistical Population and Sample

The population of interest consists of 955 persons of managers and senior experts of a service organization in Tehran. The stratified sampling has been used in this study. Sample includes 274 people based on sampling formula.

Data Collection Tool

A questionnaire has been used for data gathering. In order to collect primary field data, a researcher-made questionnaire containing 24-item has been used based on five-level Likert scale. The first 8 questions were to measure the knowledge sharing and to assess any dimension of social capital 4 questions have been considered. To test the reliability of the questionnaire, a primary sample containing 30 questionnaires was pre-tested and then reliability coefficient was calculated using Cronbach's alpha through SPSS statistical software. The reliability of the questionnaire and its variables are provided in table 2.

Table 2: Reliability of the Questionnaire and each of the Variables

	Trust	Norms	Networks	Obligations & Expectations	Social Capital	Knowledge sharing
Reliability coefficient	0.72	0.75	0.76	0.71	0.81	0.84

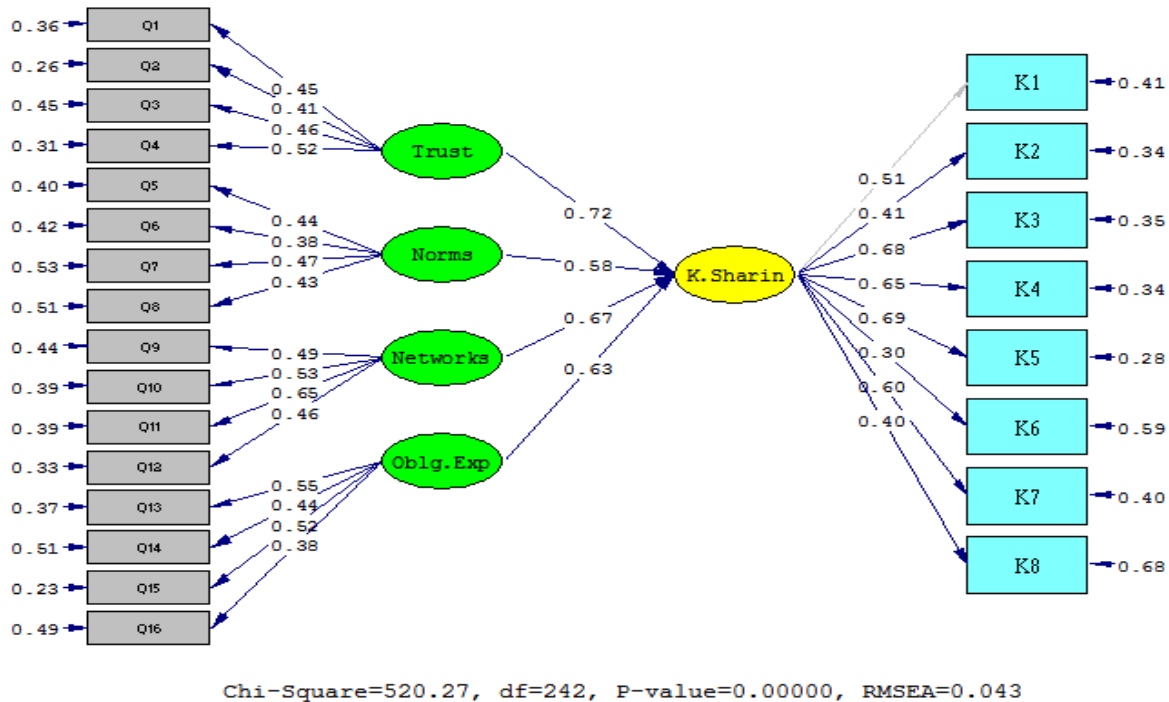
Data Analysis Approach

In this study, structural equation modeling has been used to analyze the data and determine the presence or absence of the simultaneous relationship between the variables.

ANALYSIS

To investigate the relationship expressed in the hypotheses, first by using significance model the significance of every predicted relations will be studied and then by using standard model, the extend and quality of impact will be evaluated. Figure 2 shows the significance of trust, commitment and motivation on tacit knowledge sharing.

Figure 2: The Effects of SC Dimensions on Tacit Knowledge Sharing in Significance Mode.



Based on the indicators outlined in table 3, the fitness of model can be judged.

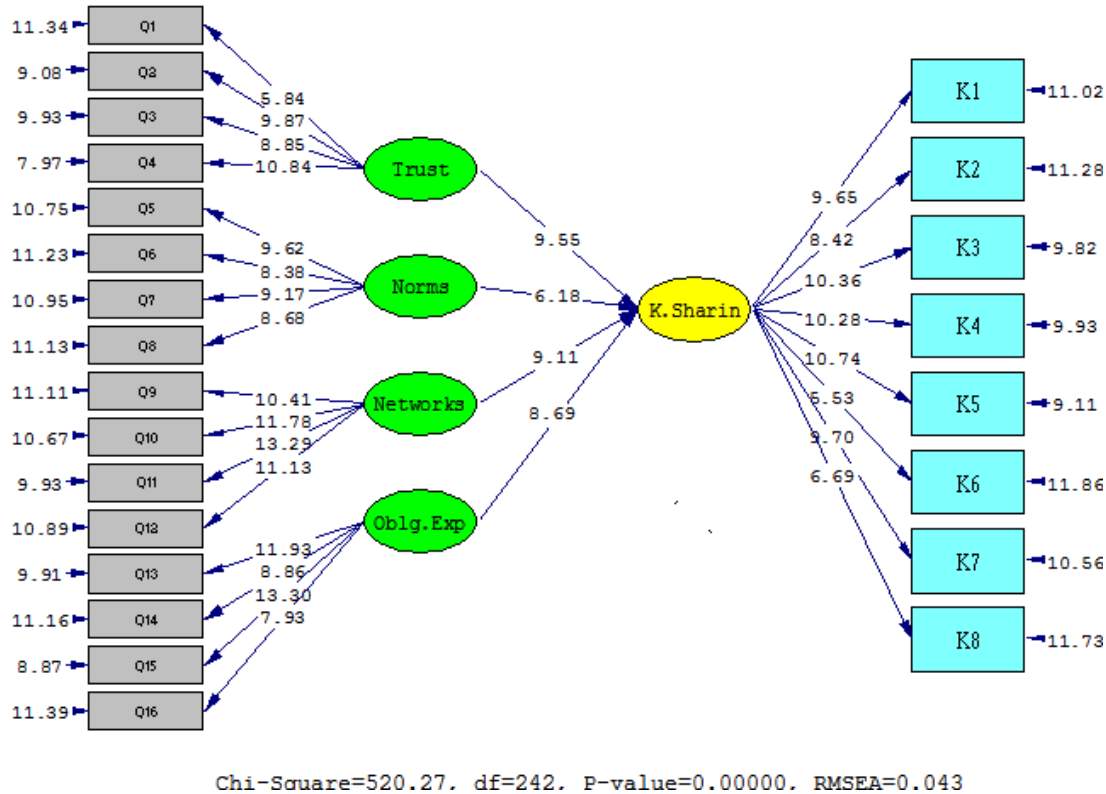
Table 3. Fitness indicators of SC dimensions on tacit knowledge sharing

Indicators	Allowable Value	Numbers Obtained	The Result
Chi-Square to the degree of freedom ratio	$\chi^2 / Df < 3$	2.14	Fit
P-Value	$P < .05$.0000	Fit
RMSEA	$.05 > RMSEA > .08$.043	Almost Fit

The fitness indicators of the appropriateness of model shows the measurement model of variables; because chi square to degree of freedom ratio equals 2.14 and is less than 3, RMSEA (.043) almost in appropriate limit and P-value (.0000) is less than .05. Based on this model, the impact of SC dimensions on sharing tacit knowledge is significant because their

values are higher than the 1.96. In addition, using the standard model we can also evaluate the impact of relationships that their significance have been confirmed in this study.

Figure 4: Effects of SC Dimensions on Knowledge Sharing in Standard Mode.



The significance model showed the impact of SC dimensions on sharing tacit knowledge is significant. The model in standard mode also shows that to what extent each of the studied SC dimensions explains the changes of tacit knowledge sharing. The summary of findings of the data analysis related to these hypotheses presented in table 4 and is concluded in this regard.

Table 4: Fitness indexes of effects of social capital dimensions on knowledge management measures

Indexes	Allowed value	obtained data	Fitness results
Chi Square to degrees of freedom ratio	$\chi^2/df < 3$	2.14	Suitable
P-Value	p-value < .05	0.000	Suitable
root mean square error of approximation (RMSEA)	.08 > RMSEA > .05	.043	Suitable
Fitness index (GFI)	More than .9	.92	Suitable
Modified fitness index (AGFI)	More than .9	.93	Suitable
Comparative fitness index (CFI)	More than .9	.94	Suitable

Indexes presented and their comparison with the desired value for the fitted model indicates the goodness of fit for the model. This means the effect of social capital dimensions on knowledge sharing is real and is not random. In the following, we evaluate the effect quality of each of the dimensions of social capital on knowledge sharing measures in a form of standard diagram.

Significant model, has confirmed the significance of the effect of social capital dimensions on knowledge sharing. The standard model also shows the amount of this effect. The results of the model are shown in table 5.

Table 5: Results of Hypotheses Testing

Hypothesis	Route: The positive effect of ...	Standard rate	Significant numbers	Result
1	trust on tacit knowledge sharing	0.72	9.55	Confirmed
2	norms on tacit knowledge sharing	0.58	6.18	Confirmed
3	Communication networks on tacit knowledge sharing	0.67	9.11	Confirmed
4	Obligations and expectations on tacit knowledge sharing	0.63	8.69	Confirmed

The overall pattern of relationships between variables in structural equation models was consistent with the hypothesis stated; any of 4 relationships investigated, was significant. In terms of results, the significant effect of all dimensions of social capital on facilitating knowledge sharing was confirmed. The effect extent of trust, norms, networks, obligations and expectations, were 0.72, 0.58, 0.67, 0.53 respectively. This finding is consistent with the results of earlier research in this area (Manning, 2009, Hoffman et al., 2005; Nahapiet and Ghoshal, 1998). Also, based on the findings, trust factor has the highest effect on facilitating knowledge management measures (0.72).

RESULTS

Knowledge sharing is a human process and mostly depends on the availability of soft perquisites – human-social factors. This soft infrastructure can reinforce behaviors and attitudes that are necessary to motivating people to share their knowledge.

One of the most influential infrastructures of tacit knowledge sharing is social capital. According to the results of data analysis all aspects of social capital have positive effects on tacit knowledge sharing. Therefore, organizations can strengthen the trust, constructive norms, networks, and mutual obligations among their members to improve required conditions for knowledge sharing.

The importance of trust for facilitating knowledge sharing is that many employees believe their knowledge sharing with others as a risk; hence, they do not want to do this. But when there is trust among members, they are sure of goodwill of others and no abuse of shared knowledge and they can provide their knowledge and experiences to others more easily. In this case, knowledge sharing will be increased in organizations.

Norms governing organization, shapes the behavior of individuals in the organization largely. Efforts for sharing knowledge are no exception. Some norms that can facilitate knowledge sharing, including intimate relationships among colleagues and members of the organization, moral of team work and team spirit, tendency for participation, cooperation and mutual assistance, friendship , helping to solve problems together.

Communications networks also play an important role in tacit knowledge sharing. Knowledge sharing often become meaningful in interpersonal relationships and team work. Hence, interactions among individuals and groups can facilitate sharing of knowledge among individuals. Then the more effective and stronger the interactions and interpersonal relationships are, knowledge sharing will be done more effectively. These interactions do not only include formal relations and main part of it is informal interactions among people in the organization such as informal meetings, friendly meetings, collective recreational activities, collective negotiations in the restaurants, buffet and gyms. Business transactions, either formal or informal way, are very useful and important method for mutual exchange of knowledge and experience and learning from each other. These interactions are formed gradually and reinforced. These relations are strengthening collective and group learning and cause people to benefit from the experiences of each other.

The importance of obligations and expectations to facilitate knowledge sharing is because of the fact that sharing knowledge and experience in organizations acts as trading. It means knowledge sharing with others is done with the hope of compensating. The more honest are people in this way and meet their obligations, their trust will be enhanced and their tendency to cooperate more will increase. While opportunistic behavior, self-centered actions, and not meeting obligations damage this trust.

In general, improving social- human infrastructure of knowledge sharing requires that organization creates the relationships based on trust, obligations, collaboration and constructive norms among their members.

PRACTICAL RECOMMENDATIONS

The idea that social capital plays an identical role in facilitating knowledge sharing has practical results for managers of organizations that try to improve their ability of knowledge management.

Those organizations with high social capital have more knowledge sharing capabilities than those with lower social capital. The fact that social capital can help to knowledge sharing, makes supporting the developing of social capital more urgent. Some of the actions that managers can undertake to develop social capital include:

- Effective recommendations to strengthen trust among members of the organization: development of friendly relations and encouraging employees to help each other to solve problems, encouraging honest behavior and emphasis on the promises and commitments to meet, paying more attention to meritocracy in the organization, fighting destructive political behavior in organizations, and the effective management of organizational conflicts.
- Effective recommendations to strengthen the facilitating norms of knowledge sharing among members of the organization: development of friendly relations and informal interactions between employees, encouraging employees to work together and help each other, strengthening commitment to the organization and co-workers, emphasis on competency and adequacy of assignments and promotions, encouraging employees to maintain their relationships with others, encouraging teamwork and relationships based on trust.
- Effective recommendations to strengthen communication networks among members of the organization: development of interpersonal interaction, enabling direct interaction between people and same level units, valuing the role of informal and friendly interactions of employees, holding consultation meetings, and communication skills training to employees.
- Effective recommendations to reinforce the obligations and expectations among members of the organization: encouraging employees to help to solve each other's problems and taking responsibility towards colleagues, the development of a culture of cooperation and mutual assistance, encouraging employees to share their knowledge and experiences with each other and mutual learning, fostering a sense of trust between employees, teamwork, and collective performance evaluations.

RESEARCH LIMITATIONS

There might be unwanted factors in any research that make limitations to the research; hence, some of the unwanted variables are not under researcher's control. These factors must be determined and the researcher must show his knowledge about the influence of these factors on the research results. In the present study, there were some limitations such as:

- To study the variables the survey (questionnaire tools) has been used; while it was better to use observation and/or interview for some factors. The questionnaire is a tool by which the understandings and attitude of any person is investigated; whereas, the reality might be different with respondent's answers.

- There are two issues must be considered regarding the nature and generalization of the research: firstly, there might be some practical behaviors like other survey researches that are mostly dependent on environmental conditions. Furthermore, intervening variables might affect the supposed relations among variables that are considered in this study.
- Some other important limitations to this research include: reluctance of some of the respondents to answer the questionnaires, not enough carefulness of some of the respondents in answering the questions, the possibility of bias in answering the questions by some of the respondents.

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