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An Survey On Investigation On Relationship Between Dimensions Of Social Capital And Knowledge Management In Manufacturing Firms

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ABSTRACT

The knowledge management is a crucial skill for business firms. KM is seen as a significant component of a business strategy that has the ability to provide an organization with opportunities to manage new market challenges. Also, Social capital accounted as an important issue to knowledge management. In this study we have examined the relationship between dimensions of social capital and knowledge management. The proposed study of this paper designs a questionnaire and distributes it among a randomly selected employees and using some statistical test, the relationship between knowledge management as dependent variables with five independent variables are investigated. The results of our survey have confirmed that informal mechanism, building a good trust within organization, having a good Integration among different units of organization and Commitment in receiver of knowledge facilitates of knowledge management meaningful relationship with knowledge management firms. However, the survey did not find that formal mechanism meaningful relationship with knowledge management firms.

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INTRODUCTION

The knowledge management is a crucial skill for business firms. knowledge management describes a systematic plan to ensure that an firms knowledge base is properly paired with the potential of individual skills, competencies, ideas, innovations, and musical themes. (Patel, *et al* 2010, p: 24).

The primary objective is to ensure the full utilization of the existing potentials and to create a more efficient and effective organization (Chua A 2004). KM consists of creation and distribution of knowledge and it is increasingly recognized as a priority in the competitive businesses.

A healthy organization normally is able to provide good infrastructure to share employees' capabilities within different units. Sharing knowledge helps organizations grow faster and facilitate any possibilities for creativity and innovation (Wang & Noe, 2010). There are, however, some concerns on how we can make knowledge distribution faster and more reliable. Jung (2009), for instance, proposed architecture to fulfill context matching among blog-based knowledge management systems referred to as detecting 'shared' context between knowledge management systems. Thus, they wish to detect a community of practice on a knowledge blogosphere where a set of blog-based knowledge management systems were incorporating with each other. As a result, newly generated knowledge could be proactively diffused to the blog-based knowledge management systems in which context was relevant to the knowledge, even before the bloggers' queries were explicitly requested.

Social capital is a new concept that plays a greater vital role than physical and human capital in organizations. Nowadays in sociology and economics and quite recently in management and organization the social capital has been used widespread. The social capital concept considers the communications and relations of net work members as a valuable resource that by creating norm ties and mutual confidence provides the members goals achievement. In the absence of social, then the other capitals lose their effectiveness and the continuation of development routines and cultural and economic evolution become difficult. Social capital either at macro-management lever or at management lever of an organization can create a new cognition of economic-social systems, and helps managers in better conducting of the system; many parameters have been mentioned for social capital and one of the aspects that in considering social capital must be dealt with is, this concept can

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contain many aspects, and the reason is, the social capital has a significant potential and capacity to fulfill a wide range of works (Nahapiet and Ghshal, 1998).

Knowledge Management:

The knowledge is regarded as strategic company's resource as it enhances the organization potentials to reach the goals in the challenging situations and market competitions. Modern companies should recognize all business processes as KM. To create an efficient discussion, the relevant information should be properly transferred within all levels of an organization. KM is the process of evaluation and implementation of knowledge and these are collected from inside and outside the organization to promote a system performance (Jelenic, 2011). Although, there is no universally accepted definition of knowledge management, there are numerous definitions suggested by experts. Very simply, "knowledge management is the conversion of tacit knowledge into explicit knowledge and sharing it within the organization" (Uriarte, Jr., 2008).

KM is seen as a significant component of a business strategy that has the ability to provide an organization with opportunities to manage new market challenges. Additionally, as Teece (1998) argues, knowledge can form the basis for sustained competitive advantage. The number of organizations claiming to work with KM is growing progressively (Grover and Davenport, 2001). Knowledge management has been defined as the process of accumulating and creating knowledge, and facilitating the sharing of knowledge so that it can be applied effectively throughout the organization (Turban *et al.*, 2003). Knowledge management involves four main processes. The first process is the generation of knowledge, which includes all activities that discover "new" knowledge. The second process is knowledge capture, which involves continuous scanning, organizing, and packaging of knowledge after it has been generated. Knowledge codification is the third process and it is the representation of knowledge in a manner that can easily be accessed and transferred. The fourth process, knowledge transfer, involves transmitting knowledge from one person or group to another person or group, and the absorption of that knowledge (Pearlson and Saunders, 2004).

Social capital:

Social capital serves three important functions. First, it represents a structure of obligations, expectations, and trustworthiness. Social systems with high trustworthiness are ones in which expect social obligations to be repaid somewhere down the line. As such, individuals in social structures with higher level of obligations outstanding have more social capital to draw on. Second, it serves as information channels. As information may be costly to acquire because it requires attention, which is scarce, social relations constitute a form of social capital that provides access to information which facilitates action. Finally, social capital serves as a system of norms and effective sanctions, that is, effective norms which constrain people from socially undesirable actions. For example, one prescriptive norm within a collectivity that constitutes an especially important form of social capital is the norm that one should forgo one's self-interest to act in the collectivity's interest (Lang, 2004). Coleman's understanding of SC is beneficial for SC and KM as he was explicitly concerned with explaining why individuals cooperate in social structures. In more detail, Coleman's understanding of SC aimed to introduce social structure into the rational action paradigm – that is, to fuse sociological and economic traditions, the historical "passion and interests" (Manning, 2009). Social capital is defined by its function. It is not a single entity, but a variety of entities having two characteristics in common: They all consist of some aspect of social structure, and they facilitate certain actions of individuals within the structure [. . .] A given form of social capital that is valuable in facilitating certain actions may be useless or even harmful in others. Unlike other forms of capital, social capital inheres in the structure of relations between persons and groups (Coleman, 1990).

Social capital is another component of business organizations and there are a growing number of sociologists, political scientists, economists, and organizational theorists on the concept of social capital in the search for address different questions in this field. Adler and Kwon (2002), for instance, synthesized the theoretical research undertaken in these different disciplines and developed a common conceptual framework that identified the sources, advantage, risks, and contingencies of social capital

The link between SC and KM:

In an era where competitive advantage is perceived to be linked to knowledge, considerable interest in KM continues to be the trend. A notable common feature of this trend is an emphasis upon knowledge work, knowledge workers and the nature of knowledge within firms. This debate results growing importance of collaboration among firms individuals and groups. One potentially rich area for collaboration is that between emerging group of professionals, who have a primary focus on management of the knowledge resource in firms. Indeed, interest in the relationship between KM and SC has increased over recent years as both KM and SC have grown more sophisticated and complex.

The proposed model of this paper investigates whether there is relationship between dimensions social capital and knowledge management in manufacturing firms

A:Structural dimensions: Formal mechanisms, Informal mechanisms
B:Relational dimensions: Trust, Commitment, Integration

Methodology:

Previous Research:

Social capital in Iran is highly oscillatory, according to political, geographical and historical context of country. In some special political and historical circumstances, empathy and social capital shows a positive signal, but due to its incorrect management, has a descending trend. It turns out that Iran has a strong potential for social capital according to its religious and historical background. But due to lack of proper management and conduct of social capital in last century, there is not a proper use from this capital, and this has resulted in gradual loss of social capital (Saadat, 2007).

Berglund (2005) described design criteria for bug handling from a global user community perspective. The author described a distribution architecture for bug knowledge and concentrated on bug awareness and bug visibility in the standard work environment.

According to Castellacci and Archibugi (2008), the convergence clubs literature in applied growth theory implies that countries that differ in terms of structural characteristics and initial conditions will more likely experience diverging growth performances. They investigated this unexplored question by carrying out a study of the cross-country distribution of knowledge in a large sample of developed and developing economies in the 1990s. They indicated the existence of three technology clubs characterized by markedly various levels of development. The clubs also differed with respect to the dynamics of their capabilities over the decade, as the most advanced group and the intermediate one were detected to be much more dynamic than the large cluster of less developed economies.

Levin and Cross (2004) discovered that trust has a strong moderating effect in the relationship of tie strength and knowledge usage. Without trust, the tie strength would be weak ties to knowledge usage. Developing trust among employees is crucial in ensuring organizational knowledge development which is critical for continuous innovation (Chowdhury, 2005).

The structural dimension of the social capital is derived from the structural form, diversity, centrality and supportive role of the participants (Alavi Seyyed Babak, 2001).

From the organizational point of view Nahapiet and Ghoshal (1998) have defined the social capital as sum of actual and potential resources embedded within available through and derived from the network of relationships possessed by an individual or social unit. They (Nahapiet and Ghoshal, 1998) also think that the social capital is one of the most important organizational assets and qualifications which can extraordinarily assist every organization in knowledge creation and sharing/distribution and lead the organization to sustainable organizational advantages as compared with other organizations

Liu *et al.* (2011) discussed the challenges of knowledge sharing (KS) in dynamic virtual enterprises. They introduced a KS community model and adopted an agent based solution to execute the functions of KS among members of a dynamic virtual enterprise. The method incorporated the concepts of agent society and semantic ontology where KS in dynamic virtual enterprises was performed with three kinds of ties: knowledge agent to knowledge agent, knowledge agent to knowledge item, and knowledge item to knowledge item. They measured agent-to-agent ties by preference correlation implementing the contribution degree of one agent to another and the preference similarity degree between two agents. They defined a semantic view to demonstrate agent-to-item ties and applied semantic links in the knowledge resource space model to reflect item-to-item ties. They also elaborated the co-evolution mechanism of collective intelligence across enterprises throughout the lifecycle of a dynamic virtual enterprise. A set of blog-based knowledge management systems were incorporating with each other. As a result, newly generated knowledge could be proactively diffused to the blog-based knowledge management systems in which context was relevant to the knowledge, even before the bloggers' queries were explicitly requested.

Our study focused on social capital viewed from the perspective of economic organizations for which collaboration is a sinequa-non of survival in the market. Duly accounting for the theoretical dimensions laid out above, we assumed that social capital is an ability of citizens to collaborate with each other within groups and organizations to pursue common interests. Such joint effort is aimed at producing benefits and is underpinned by trust between group members. By the standards of classical model of economy, this proposition transcends the concept of achieving equity by means of market mechanisms. The emphasis shifts to social relations and norms and rules regulating them. As N. Lin observes "From this perspective, capital is a social property (...) as it is made up of resources that individuals accrue as a result of their respective relationships and access to the network and groups they belong to." (Lin 2001, p. 19).

Hypotheses:

Regarding the research elements, research hypotheses are presented as follows:

Main hypothesis:

There is a meaningful relationship between social capital and knowledge management

First sub-hypothesis:

There is a meaningful relationship between formal mechanisms within firms facilities of knowledge management

Second sub-hypothesis:

There is a meaningful relationship between Informal mechanisms within firms facilities of knowledge management.

Third sub-hypothesis:

Trust in receiver of knowledge facilitates of knowledge management .

Fourth sub-hypothesis:

Commitment in receiver of knowledge facilitates of knowledge management

Fifth sub-hypothesis:

Having a good Integration between different units expedite the process of knowledge management

Research Method:

This research has a measuring, descriptive and applied methodology. The study has designed a questionnaire in Likert scale to examine all components of the survey. The study has detected that all data were normally distributed through Kolmogorov-Smirnov test and, consequently, uses Pearson correlation test to verify all hypotheses of the survey.

Sample and Scope of the research:

Statistical population of this research included 200 employees working as managers in manufacturing firms. The sample size of the survey has been calculated as follows,

$$n = \frac{N \times z_{\alpha/2}^2 \times p \times q}{\varepsilon^2 \times (N - 1) + z_{\alpha/2}^2 \times p \times q}$$

where N is the population size, $p = 1 - q$ represents the yes/no categories, $z_{\alpha/2}^2$ is normal distribution and finally ε is the error term. Since we have $p=0.5$, $z_{\alpha/2}^2=1.96$ and $N=200$. the number of sample size is calculated as $n=140$

The Results of Hypotheses Testing:

The first sub-hypothesis:

The first hypothesis of the survey examines relationship between formal mechanisms within firms facilities of knowledge management. In our survey, Pearson correlation ratio is equal to $r=0.625$ with $\text{Sig.} = 0.000$, which means do not have a positive and meaningful relationship between these two components and we can not confirm the first hypothesis.

Second sub-hypothesis:

The second hypothesis of the survey examines relationship between formal mechanisms within firms facilities of knowledge management. In our survey, Pearson correlation ratio is equal to $r=0.427$ with $\text{Sig.} = 0.000$, which means there was a positive and meaningful relationship between these two components and we can confirm the second hypothesis.

Third sub-hypothesis:

The third hypothesis of the survey examines which trust in receiver of knowledge facilitates of knowledge management. In our survey, Pearson correlation ratio is equal to $r=0.215$ with $\text{Sig.} = 0.000$, which means there was a positive and meaningful relationship between these two components and we can confirm the third hypothesis.

Fourth sub-hypothesis:

The fourth hypothesis of the survey examines which commitment in receiver of knowledge facilitates of knowledge management. In our survey, Pearson correlation ratio is equal to $r=0.364$ with $\text{Sig.} = 0.000$, which means there was a positive and meaningful relationship between these two components and we can confirm the fourth hypothesis

Fifth sub-hypothesis:

The fourth hypothesis of the survey examines which having a good Integration between different units

expedite the process of knowledge management. In our survey, Pearson correlation ratio is equal to $r=0.412$ with $\text{Sig.} = 0.000$, which means there was a positive and meaningful relationship between these two components and we can confirm the fifth hypothesis

Conclusion

In this paper, we have presented an empirical investigation to study the impact of five variables on knowledge management in Iranian manufacturing firms. The obtained results have been summarized in table 1 as follows:

Row	Hypothesis title	Verified	Rejected
1	There is a meaningful relationship between formal mechanisms within firms facilities of knowledge management		✓
2	There is a meaningful relationship between Informal mechanisms within firms facilities of knowledge management	✓	
3	Trust in receiver of knowledge facilitates of knowledge management	✓	
4	Commitment in receiver of knowledge facilitates of knowledge management	✓	
5	Having a good Integration between different units expedite the process of knowledge management	✓	

The results of our survey have confirmed that informal mechanism, building a good trust within firms, having a good Integration among different units of firms and Commitment in receiver of knowledge facilitates of knowledge management meaningful relationship with knowledge management firms. However, the survey did not find that formal mechanism meaningful relationship with knowledge management firms.

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