

## Social Capital in Virtual Organizations

Saad Alqithami<sup>1</sup>

Department of Computer Science  
Southern Illinois University  
Carbondale, IL, USA  
alqithami@cs.siu.edu

Henry Hexmoor<sup>2</sup>

Department of Computer Science  
Southern Illinois University  
Carbondale, IL, USA  
Hexmoor@cs.siu.edu

**Abstract**—in this fast growing world, rapid alterations in technologies result in having a huge influence on humans' standard of living, increase global opportunities and globalize shareholders' activities. Executives all over the world are expected to utilize the right technology in order to gain the high level of success for their organizations. These executives require sustainable knowledge, techniques and tools that will allow them to continue to advance and remain ahead of the competition in the business environment. In this paper, we consider the techniques that will give a clear analysis of how social capital can be created within virtual teams or organizations and what value is created with the help of social capital. It will help organizations to examine the type of value they already created with social capital and its reflection in the future.

**Keywords**- Social capital, Virtual organization, agents trust, organizational growth.

### I. INTRODUCTION

Social capital was first proposed by James Coleman in 1988 [1]. Social interactions are directly correlated with the degree of trust, involvement, ties, commitment, and performance of the organization. The density of social interactions will be directly related with the degree of tacit to tacit knowledge sharing since knowledge sharing is mostly achieved through tacit to tacit communication [2]. Tacit knowledge is defined as knowledge that is personal, experiential, and context specific. Social interaction is an important factor that helps social capital to grow. Social capital provides the ability for the collaborative agents to make decisions. By the time the social capital grows inside the organization, the organization will gain structural, relational and cognitive profits. Social capital in an organization gives major changes such as the launch of new strategic plans for providing trust among actors in virtual teams, ties, norms, deep cultural change, and acquisitions [3]. However, the lack of it will lead to dissolution of the organization.

Social capital involves certain aspects of social structures, mostly social networks which facilitate the members' actions inside the social structure or networks. Financial (i.e. physical or human) capital and social capital add values to the beneficiaries. Also corresponding to other capital investments, social capital investment has its risk and cost saving on drafting legal paperwork and overseeing the

transaction in the organizations. Social capital deliberate resources flowing in a network, but it in many cases represent an amount that is more than the simple aggregation of the resources possessed by its components. For example, some of the resources controlled by X may be useless to X, but certainly important to Y, and when social network links X and Y, it makes it possible that Y can capitalize on X's resources, and so on and so forth. This is the phenomenon on social capital which cannot be reducible to its individual unit's resource amount.

Let us consider a simple example, student network bounded by their classroom is the input of dynamic network and some substance in this network is social capital. In this scenario primarily we need to understand the point on social capital. Is it encouragement, ties, trust, norms to study hard, mutual assist with difficult homework? Is the final result the improvement in student's academic performance? So, in the absence of social network that facilitates mutual problem solving results in decreased academic performance. In other words, mutual learning in the classroom will give better academic performance in the class.

### II. BACKGROUND AND RELATED WORK

#### A. What is Social Capital?

"Better together, Get involved, Build trust, Connect with others"

Social capital is defined as the collective value of all social networks and the inclinations that awake from these networks to do things for each other. In other words it can be termed as teamwork, whether collocated or virtual, it generates task success, the value of outcomes and social success, the value of relationships.

Organizations evaluate teams on the basis of their performance goals and the quality of their results and also need to evaluate teams on the quality of their interactions and the permanent relationships between members. Every organization has relationships based on the previous experiences, present interactions, and expectations for the future. Therefore, all organizations whether small or large have some social capital that is continually flourishing and diminishing.

According to Lipnack social capital is defined as the structure of relations between and among actors, individual or organizational [8].

There are two definitions for social capital provided by the World Bank. On the macro level, social capital defined as the institutions, relationships, and norms that shape the quality and quantity of social interactions. In this scenario social capital is not only the sum of the institutions, which underpins the society; it is the glue that holds them together [15]. On the micro level, social capital is defined as a stock of active connections among people: the trust, mutual understanding, and shared values and behaviors that bind people, the members of human networks and communities that make cooperative action possible [5].

Just imagine can you recall a professional or friendship or blood relationship that you built in a single team or a small group that after proved to be the most considerable connection? If you decided to do some business with an external partner, vendor, or customer because of its pre-existing organizational reputation and communication between you and your business partner, that relationship will build up because of trust, ties, shared values, encouragement, face-to-face communication, beliefs, norms and dense social network. Social interactions are directly correlated with the degree of trust, involvement, ties and commitment to the network, and ultimately the performance of the social network.

The density of social interactions will be directly related with the degree of tacit to tacit knowledge sharing. From a business point of view, this would include business meetings, conferences and seminars as well as traditional events. Such a measuring social interactions can provide a degree of tacit to tacit knowledge sharing occurring within an organization.

Tacit knowledge is defined as knowledge that is personal, experiential, and context specific. Externalize (i.e., tacit to explicit knowledge) is defined as knowledge that has been articulated or published in some way. Internalize (i.e., explicit knowledge to tacit) is defined as use the knowledge that has been articulated or published. Knowledge sharing is fundamental to the sharing of best practices, creating new knowledge and achieving shared learning. Knowledge sharing is mostly achieved through tacit to tacit communication [2].

### *B. Virtual Teams or Organizations*

Virtual team or organization is a general word used for a task, organization or project, which is characterised by multiple locations (i.e., dispersion), division of responsibilities (i.e., empowerment), restlessness (i.e., acceptance of change), interdependence and all members' cooperation is needed.

“Virtual teams are using Internet and intranets and going digital communication”

In other words, people who work with others in small or large groups stretched across space, time, and organizational boundaries with links strengthened by webs of

communication technologies and relationships bind them together. A decade ago people working together in a same place for the same organization with face-to-face communication. With passage of time people no longer must be in same place in order to work together. Presently many people are working in virtual organizations that transcend distance, time zones, and organisational boundaries.

But there is a huge difference between face-to-face working teams and virtual teams. Human beings have always functioned in face-to-face working teams. After introducing social capital in virtual organizations, virtual organizations are gaining profits in different ways like structural, relational and cognitive.

Getting together for lunch, weekly meetings, encounters in the hallway, dropping into one another's offices, these are our standard techniques for getting things done. Electronic interaction and digital technologies give people a historically unprecedented ability to work together at a distance. In the virtual teams people rarely see one another when they are in different locations that are spread out around the world. Virtual teams are also classified according to the type of dispersion. There are four types of dispersions:

1) Spatial and temporal dispersions: Members mostly working without face-to-face interaction.

2) Cultural dispersion: It refers to groups with members from different cultural backgrounds.

3) Organizational dispersion: It refers in general covers team with members belonging to different organizations.

4) One of the main differences between virtual teams and traditional teams is the commitment to the team. Virtual team members are committed to work for themselves, not for other members. The lack of shared visions and experiences result into a lack of trust between the team members. The dispersions among virtual teams make the monitoring of teams expensive, due to the lack of information increase the threat of moral hazard and principle agent problem to occur. Therefore trust between the members decreases this risk and decreases the cost of monitoring.

## III. SOCIAL CAPITAL

### *A. Human Capital versus Social Capital*

Human capital is defined as the “individual capabilities, knowledge, skills, and experience of the company's employees and managers.” It is created by changes in persons that bring about skills, knowledge and capabilities that make them able to think in novice ways. Social capital is complement of human capital, reflecting the community skills that have increased with individual skills.

The concept of physical capital as embodied in machines, tools and other productive machinery can be extended to include human capital as well. It is created by changes in materials to form tools that facilitate production. It refers to physical objects and human capital refers to properties of individuals such as knowledge.

“Social capital seeks to improve the ability of a collectivity to make decisions and Human capital seeks to improve the ability of an individual to make decisions”

All virtual organizations or teams, whatever their tasks, can increase human, social, and knowledge capital in specific. By doing job with more people in more places, human capital increases as individuals meet new challenges and new competencies.

### *B. Social Capital in Virtual Organizations or Teams*

In this fast forwarding world changing technology, increased global opportunities and globalization, and shareholder activity, executives all over the world are expected to utilize the right techniques in order to gain the high level of success for their organizations. These executives need the knowledge, techniques and tools that will allow them to continue to advance and remain ahead of the competition in the business environment.

After introducing social capital in virtual organizations all the organizations are running on the right track. Social capital offers a practical and proven framework for rapid implementation of strategic changes that can be used by executives in their organizations. Social capital in virtual organization gives major changes such as the launch of new strategic plans for providing trust among actors in virtual teams, ties, norms, deep cultural change, and acquisitions.

Number of companies that use virtual teams, at least in part, is growing constantly. This growth is caused by recent economic and environmental changes such as globalization and increased dependency on information technology. Almost 80% of companies use virtual teams. A number of academics emphasize the importance of trust for making virtuality work, note that there is chance of losing trust is much higher with virtual teams than with face-to-face teams, so it is important to maintain high level of trust. Therefore, trust can prevent geographical distances from becoming psychological differences.

Considering the previous studies that are very narrow and do not give credit to the variety of values that can be created in the virtual organizations and teams through the development of trust. Moreover, the importance of these studies is on the role of trust whether the effect of other elements of social capital was not discussed.

By examining how trust and other elements of social capital can be created in virtual organizations and where the importance created by social capital resides. Considering in depth analysis of my project gives rise to three set of questions:

- What value can social capital create for virtual teams?
- Social capital elements and difficulties of developing
- Relationship between social capital elements

First we examine how the three dimensions of social capital can be developed within virtual organizations. We analyze how different elements of social capital including shared value, trust, cultural values, ties and norms create value for virtual organizations and difficulties of developing.

Finally, we discuss about how social capital elements are interlinked with each other.

### *C. What value can social capital create for virtual organizations?*

Social capital played main role in creating value for virtual teams and organizations, it is very important to consider different dimensions of social capital and how these dimensions are created and interlinked. Social capital is multidimensional and consists of three dimensions:

- 1) Structural
- 2) Relational
- 3) Cognitive

#### *1) Structural Dimension*

Structural dimension refers to the ability of individuals in the organization to make connections to each other. These relationships can help to reduce the amount of time and investment needed to find information [9]. The structural dimension of social capital makes it possible to determine the network ties between actors and configuration of these ties. This structural dimension is very important because ties are treated to be a fundamental aspect of social capital, social ties creates opportunities for social capital transactions [4].

Network relationships are categorized according to their connection (i.e., strength). Strength of the tie depends on duration, reciprocity and intensity of interactions. The high network stability is required for repeated interactions that will create strong ties between actors in the virtual organization.

Also, the more contacts are made within the network will create more structural social capital. In the virtual organization this could be done by sending e-mails.

#### *2) Relational Dimension*

Relational dimension mainly concentrates on the development of initial connections among individuals [14]. Here are the four components of this dimension:

1. Obligations
2. Norms
3. Trust, and
4. Identification

Obligations are defined as binding oneself with social and moral ties. Norms consist of behaviors and beliefs regarded by each and every one as standard. Trust is defined as one individual relying on the ability or character, integrity of other individuals. Main function of the relational social capital is to create new relationships and concerns gaining access to new resources. If an organization does not have these relationships or if they are unable to create these relationships in the organizations, organizations will not have permission to get other organization resources. The number of virtual organizations may be more eager to share the

information with another organization member if the later has a good reputation.

Finally, the formation of good and stable relationships are depends on the present relational social capital. Relational social capital are developed over the time but it can be easily or quickly diminished by trust breaking behavior, therefore there is only one way to be maintained through long term relationships. One of the biggest challenges of virtual organizations is when developing this type of social capital in the organization and maintaining long term relationships.

### 3) *Cognitive Dimension*

Cognitive dimension of social capital is related to development of shared values between actors in the virtual organization, it includes shared interpretations, representations and systems of meanings. It helps actors to understand collective goals better and create a shared vision, it can assist actors in cooperating.

It is easier for an organization to create trustful relationships with other network members. Trust, reputation and credibility help to create new ties and strengthen old ties. In virtual organizations trust and reputation can result in a more active participation of the team members.

Coming to cognitive dimension, it may affect the relational dimension, as shared vision helps to create trust. On the other hand, leads to the fact that the vision of one party will be accepted by the other party and will finally output in shared vision. Moreover, when individuals share the values and goals, the ties between them become stronger, which leads to cooperation between these individuals. The present existence of shared value and goals within virtual organization can thus result in a stronger cooperation.

There is a relation between ties, shared values and culture, because strong ties can also aid the development of shared values and culture. Based on the previous point we can conclude that, there is also a link between cognitive and structural social capital. Therefore, when the ties are already created it becomes easier to share values and to assure that the team members understand values in same way. Finally, in order to be able to generate value, social capital should include some level of structural dimension, relational dimension and cognitive dimension.

### D. *Social capital elements and difficulties of developing*

The recent literature on trust in virtual organizations has a very narrow, general focus and has rarely been applied within the context of corporate value creation. They did not give clear explanation about other elements in social capital. Furthermore, other elements of social capital played a major role in creation of virtual teams or organizations which include shared value, trust, cultural values, ties and norms in making virtual organizations more successful.

#### 1) *Shared Value*

Shared value is defined as policies and operating practices that strengthen the competitiveness of a company while simultaneously developing the economic and social conditions in the communities in which it operates and it focuses on identifying and expanding the connections between societal and economic progress [11].

An increasing number of companies are known for their practical approach to business, such as Google, IBM, Intel, Johnson and Johnson, Nestle and Wal-Mart have already launched on important efforts to create shared value initiatives. However, our recognition of the transformative power of shared value is just beginning. Shared value requires leaders and managers to develop new skills and knowledge. Such as a far deeper appreciation of societal needs, a greater understanding of the true bases of company productivity, and ability to collaborate across profit or nonprofit boundaries. Government must learn how to coordinate in ways that enable shared value rather than work against it.

Government alone cannot do everything for people, and this is the reason why NGO's (i.e., non-governmental organizations) are taking care of some part of the government responsibilities and projects. NGO and government corporations have contributed their social responsibility strategies. Economic profits may be used for social progress but social progress can create highly sustainable economic profits. Shared value strategies are rich in both tangible and intangible profit opportunities that have progressive impact on both government and NGO corporations and their communities.

Organizations can create economic value by creating shared value. There are mainly three ways that corporations can create shared value opportunities:

- By re-conceiving products and markets.
- By redefining productivity in the value chain.
- By building supportive industry clusters at the company locations.

Each of these is part of the virtuous circle of shared value; increasing value in one area gives rise to opportunities in the others. Shared value rearranges the boundaries of capitalism. By better connecting organizations success with societal improvement, it provides many ways to serve new needs, gain efficiency and expand markets.

Every organization should look at decisions and opportunities through the lens of shared value. This will lead to new approaches that produce greater innovation and growth for organizations and also greater benefits for society.

#### 2) *Trust*

In the creation of social capital in virtual organization, trust is a difficult factor affecting interfirm knowledge transfer and creation [6]. Secondly, trust plays a major role in the willingness of network actors to cooperate, which in the long term results in a higher chance of a company to innovate and grow. The presence of trust can be beneficial to virtual teams in many ways. Some of the most common advantages created by the high level of trust within virtual

teams include information and knowledge exchange as well as easier cooperation. In the long term, high level of trust results in building stronger ties and leads to improved cooperation.

Fukuyama in [7] noticed that there is a direct relationship between trust and social capital. Fukuyama differentiates between high trust and lower trust societies. His main discussion is that high trust societies tend to develop high social capital and consequently they enjoy high economic development than low trust societies. This discussion also suggests that high trust groups and cultures also accumulate greater social capital [12].

People come to cultivate trust after realizing that they share common stories or experiences. People in most virtual learning environments are characterized by high variation in training, language and culture. Therefore, sharing of experiences or telling stories of common interests that result in building trust among everyone.

Trust takes time and space to develop. It propagates as a result of exposure to one another, sharing experiences, and knowledge sharing, whether success or failures, shared experiences provide a critical avenue for building trust. Relationships built on trust cannot be hurried. It cannot be developed over night but rather propagate exponentially through time, space and social interaction.

### 3) *Cultural Values*

First of all, social capital is embedded in cultural values and attitudes. When individuals share cultural values or try to understand the cultural values of their prospective partners, a trusting relationship is created. This relationship can then lead to cooperation. In cases where individuals have different cultural values, cooperation should be based on cultural compromise. Cultural compromise can positively affect the performance of many virtual teams and organizations, especially those located in different cultural environments. Furthermore, sharing and understanding of cultural values can create trust or increase the trust levels within a virtual environment [13].

### 4) *Ties*

Another major component of social capital is involvement in network ties. Network ties help to identify, collect and allocate scarce resources. Moreover, networks assure privileged access to information and opportunities, which eventually helps in gaining competitive advantage. The strong ties created between the members of a virtual team are essential for company's successful performance and their growth.

### 5) *Norms*

Norms, rules and procedures are similar to cultural values in the sense that they also represent shared values and vision. They can make it easier to monitor the behavior of individuals, which will lead to more productive behavior.

Norms, rules and procedures help make virtual teams and organizations more homogeneous and can be seen as the core of the team building.

## IV. RELATIONSHIP AMONG SOCIAL CAPITAL ELEMENTS

Previously in section 2.3, we discussed dimensions of social capital and how they are related to each other. This literature explains about cognitive, structural and relational dimensions and examples. Based on this theory we can conclude how social capital elements are interlinked.

TABLE I. RELATIONSHIPS BETWEEN SOCIAL CAPITAL ELEMENTS

	Shared Values	Trust	Ties
<b>Shared Values</b>		Share vision create trust	Share vision strengthens ties
<b>Trust</b>	Trust result in share vision		Trust create stronger ties
<b>Ties</b>	Strong ties lead to shared vision and culture	Being central in the network create trust	

Table 1 explains the relationship among social capital elements, it lists three elements of social capital and how they are interlinked. A shared value creates trust and strengthens ties. Trust results in shared vision and creates stronger ties. Stronger ties lead to shared vision and culture, and being central in the network creates trust.

## V. CONCLUSION

Previous literature on social capital in virtual organizations has a very general focus and has rarely applied within the context of corporate value creation. Additionally, recent literature has not addressed roles played by other elements of social capital, which includes shared value, cultural values, ties and norms in making virtual organizations more successful. This paper provides an analysis of how social capital can be created within virtual teams or organizations and how value is created with the help of social capital. It may help companies examine what type of value they already created with social capital and what value they might create in the future. It shows that trust is strongly interlinked with other elements of social capital and trust is more difficult to develop in virtual teams. Finally this project shows how to avoid this problem within different types of virtual organizations.

## REFERENCES

- [1] J. Coleman, "Social capital in the creation of human capital," *American Journal of Sociology*, Vol. 94, pages 95–120, 1988.
- [2] D. Morey, M. Maybury and B. Thuraisingham, "Knowledge management: Classic and contemporary works", MIT Press, 2002.
- [3] K. Dixon and N. Panteli, "The Strength of Virtuality in Teams: Social Capital built on 'Weak Ties'," in the 40th Hawaii International Conference on System Sciences, IEEE, 2007.

- [4] P. Adler and S. W. Kwon, "Social Capital: prospects for a new concept," *Academy of Management Review*, Vol. 27, pages 17-40, 2002.
- [5] D. Cohen and L. Prusak, "In Good Company: How Social Capital Makes Organizations Work," Massachusetts: Harvard Business School Press, 2001.
- [6] M. Dodgson, "Organizational learning: a review of some literatures," *Organization Studies*, Vol. 14, No. 3, pages 375-394, 1993, Blackwell Publication.
- [7] F. Fukuyama, "Trust: The Social Virtues and the Creation of Prosperity," New York: Free Press, 1995.
- [8] J. Lipnack and J. Stamps, "Virtual teams: Reaching across space, time and organizations with technology," New York, John Wiley & Sons, Inc., 1997.
- [9] J. Nahapiet and S. Ghoshal, "Social capital, intellectual capital, and the organizational advantage," *Academy of Management Review*, Vol. 23, No. 2, pp. 242-266, 1998.
- [10] M. Nichani, "Communities of practice at the core, the elearning post, corporate learning, community building, instructional design, knowledge management, personalization and more," Inderscience Publication, 2001.
- [11] M. E. Porter and M. R. Kramer, "The big idea: creating shared value," *Harvard Business Review*, pp. 62-77, 2011.
- [12] C. Sirianni and L. Friedland, "Social capital, civic practices network," Electronic Publication Group, 1995.
- [13] L. Striukova and T. Rayna, "The role of social capital in virtual teams and organizations: corporate value creation," *Int. J. Networking and Virtual Organizations*, Inderscience Publication, Vol. 5, No. 1, pp.103-119, 2008.
- [15] The World Bank, "What is Social Capital?" The World Bank PovertyNet, 1999.