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Social Capital and Knowledge Sharing in Organization: An Initial Meta-analysis

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**ABSTRACT**

While organizations recognize the important role of knowledge sharing, the number of studies investigate different factors that foster this behavior also increases. This meta-analysis tries to analyze the relationships between some most popular facets of social capital (trust, social interaction, shared vision) and knowledge sharing under the individual level. The research has once again confirmed the important role of Knowledge sharing to the Performance of the organization. Co-citation analysis of the Social Capital and Knowledge Sharing literatures is carried out to give the reader the picture of the most important studies that had high impacts on this topic.

**KEYWORDS:** Knowledge Sharing, Social Capital, Meta-analysis, Co-citation Analysis

**INTRODUCTION**

Knowledge sharing is as an activity through which knowledge is exchanged among people, friends, or members of a family, a community or an organization. To foster those natures of knowledge sharing require an environment that gives opportunities for all process of knowledge. The behavior of sharing knowledge is not only motivated by the individuals but also from the interpersonal relationship among individuals. This phenomenon can be clarified by applying the Social Capital Theory and social capital is also the motivation of behavior to share knowledge in community.

Previous studies see Bourdieu's definition of social capital could be decomposable into two elements: (1) the social relationship that allows individuals to claim access to resources possessed by their associates and (2) the amount and quality of those resources. Organizations have unique advantages for creating knowledge over more open other settings because organizations provide an institutional environment to the develop this capital (Nahapiet & Ghoshal, 1998).

Linking knowledge sharing to the dimension of social capital, previous studies (Nahapiet & Ghoshal, 1998; Wasko & Faraj, 2005) mentioned that the combination and exchange of knowledge is facilitated when properties of structural capital, cognitive capital and relational capital exist. Chiu, Hsu and Wang (2006) integrated the Social Cognitive Theory and the Social Capital Theory to construct a model for investigating the motivations of online community member. This study showed out some facets of social capital such as social interaction ties, trust, identification, shared vision and shared language had influences individuals' knowledge

sharing in virtual communities. In addition to Chiu, Hsu and Wang (2006), various studies also used some similar dimensions of social capital (Chang & Chuang, 2011; Nahapiet & Ghoshal, 1998; Wasko & Faraj, 2005) that have the significant impacts on knowledge sharing. Especially, Nahapiet and Ghoshal have a first movement in examining of the role of social capital in the creation of intellectual capital; suggest that social capital should be considered in terms of three clusters: structural, relational, and cognitive. Each of these forms of social capital constitutes an aspect of the social structure and facilitates the combination and exchange of knowledge between individuals within that structure.

Although the relationship between social capital and knowledge sharing have been mentioned separately in previous studies, there is no previous research collecting and clarifying the impact of popular dimensions of social capital on knowledge sharing, which may benefit for researchers and practitioner to have a holistic view of these relationship.

## **LITERATURE REVIEW**

### **2.1 Knowledge Sharing.**

Knowledge sharing simply defined as an activity through which knowledge (i.e. information, skills, or expertise) is exchanged among people, friends, or members of a family, a community. Nonaka & Takeuchi (1995) also showed that knowledge sharing occurred through 3 of 4 processes: Socialization – the process of sharing tacit knowledge through shared experiences; Externalization – the process of articulating tacit knowledge into explicit knowledge and Combination – the process of converting explicit knowledge into more complicated and systematic sets of explicit knowledge. Only in Internalization process where explicit knowledge is embodied into tacit knowledge, knowledge sharing doesn't occur.

Knowledge sharing involves a process of communication whereby two or more parties are involved in the transfer of knowledge. Hence, knowledge sharing is also known as a process of communication between two or more participants involving the provision and acquisition of knowledge (Uoro, Sharratt, Tsui, & Shekhar, 2007). Knowledge sharing also refers to the provision of task information and know-how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies or procedures (Cummings, 2004).

### **2.2 Social Capital**

#### **2.2.1 Definition of Social Capital.**

Social capital is a broad concept, which refers to the value of connections within and between social networks. In the first systematic analysis of social capital, Bourdieu (1986) defined social capital as the aggregate of the actual or potential resources which are linked to possession of a durable network. Nahapiet and Ghoshal (1998) had expanded this concept as the sum of the assets or resources embedded in the networks of relationships between individuals, communities, networks, or societies. Therefore, social capital is embedded in the relationships between individuals and their connections with their communities (Chang & Chuang, 2011).

So why does social capital work? The answer is simple that "investment in social relations with expected returns", "individuals engage in interactions and networking in order to produce profits" (Lin, 1999, p. 30). Compare to other kind of capital which based on assets, social capital resides in the fabric of relationships between individuals and in individuals' connections with their communities (Putnam, 1995). By the relationship "the embedded resources in social networks will enhance the outcomes of actions" (Lin, p. 31).

Social capital not only exists in the face-to-face environment but also in the virtual setting. Using concept "cyber-networks", Lin (1999) in his research proposed about the emergence of virtual community as a major source of social capital. Many researches also study about the

relationship between social capital and knowledge sharing in virtual community (Chiu et al., 2006; Wasko & Faraj, 2005).

### 2.2.2 Structural Dimension: Social Interaction.

The structural dimension of social capital refers to the ability of individuals in the organization to make connections to others. These connections can help to reduce the amount of time and other efforts to obtain information from inner of organization. Structural dimension focuses on the nature and strength of relationships (Méndez-Durón & García, 2009), determine whether there are social interaction between actors, what the configurations of these interactions are and how network of social interaction could create opportunities for social capital transactions (Adler & Kwon, 2002).

### 2.2.3 Relational Dimension: Trust and Identification.

Different from structural dimension concerns the properties of the social system and of the network of relations as a whole, relational dimension deals with the nature of the connections between individuals in an organization. The key facets of this dimension are trust, norms, obligations, expectations and identification.

#### Trust.

Trust can be viewed as “the extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another” (McAllister, 1995, p. 25) because the value of one member’s contributions depends in part on the efforts, contributions, emotional and psychological consequences of others (Stewart & Gosain, 2006). Previous studies on trust suggest that trust is a multidimensional construct that has both cognitive and affective elements (McAllister; Stewart & Gosain, 2006).

#### Identification.

Identification is the process whereby “individuals see themselves as one with another person or group of people” (Nahapiet & Ghoshal, 1998). Identification is a condition where the interests of individuals merge with the interests of the organization, resulting in the creation of an identity based on those interests (Kankanhalli, Tan, & Wei, 2005). That process also renders the self depersonalized (Bagozzi & Dholakia, 2002). In virtual communities, identification can also refer to an individual's sense of belonging and positive feeling toward that community (Chiu et al., 2006).

### 2.2.4 Cognitive Dimension: Shared Vision.

Cognitive dimension of social capital concerns the extent to which people in a social network share a common perspective. Those resources that make possible shared interpretations and meanings within virtual community. In this dimension of social capital, share vision is one of the most important variables. Peter Senge (1990) defined shared vision as "... a force in people's hearts, a force of impressive power....At its simplest level, a shared vision is the answer to the question, "What do we want to create?". In organizational setting, shared vision “embodies the collective goals and aspirations of the members of an organization” (Tsai & Ghoshal, 1998, p. 476). Shared vision can be the motivation for all organization to archive the common goal.

## **2.3. The influence of some facets of Social Capital on Knowledge Sharing**

### 2.3.1. The influence of Social Capital on Knowledge Sharing

#### The Influence of Social Interaction on Knowledge Sharing.

Social interaction or the connections through contributors who bring their knowledge to the project will improve project success, and that connection through all members, who transfer their knowledge toward their projects also enhance project success (Méndez-Durón & García, 2009). Nahapiet and Ghoshal (1998) showed that network ties influence both access to parties for combining and exchanging knowledge and anticipation of value through such exchange. In

virtual community, social interaction ties among members of allow a cost-effective way of accessing a wider range of knowledge sources (Chiu et al., 2006).

❖ **H1: Social interaction have a positive impact on Knowledge Sharing**

The Influence of Trust on Knowledge Sharing.

Trust influences the process of knowledge sharing by increasing openness in knowledge transfer, facilitating joint problems solving (Li, 2005). Trust can help reduce relationship risks and when people trust each other, they become more willing to share their resources without worrying that they will be taken advantage of by the other party (Tsai & Ghoshal, 1998). When trust is strong, the effort required for knowledge sharing may not be salient to knowledge contributors because they believe that knowledge shared is not likely to be misused by re-users (Davenport & Prusak, 1998). Trust has been recognized as an important antecedent of knowledge sharing in virtual communities of practice (Usono et al., 2007).

❖ **H2: Trust have a positive impact on Knowledge Sharing**

The Influence of Norm on Knowledge Sharing.

Norms are rules or laws to which people must conform or consult when they act (Gregory & Ricky, 2001) and represent the expectations people have of themselves and others. Rice & Aydin (1991) found that employee reactions to new technology were similar to those of supervisors and employees with whom they frequently communicated. TDifferent management models have mediated the levels and intentions behind knowledge sharing (Lam, 1997). Research by Currie & Suhomlinova's (2006) research addressed institutional regulations and cultural recognition, arguing that both entities hamper the ease with which knowledge is shared. The degree to which members are willing to share is proportional to the degree to which organizations expect them to share (Cabrera & Cabrera, 2005).

❖ **H3: Trust have a positive impact on Knowledge Sharing**

The Influence of Shared Visions on Knowledge Sharing.

Cognitive dimension of social capital describes how people in social network could share a common perspective or understanding that aspire of the members of an organization to pursuit the collective goal. Sharing the knowledge among people of organization could help them to promote and perform that goal better. Shared vision enhances relative absorptive capacity in knowledge assimilation process and allows firms to engage more into knowledge acquisition (Li, 2005).

**H4: Shared Vision have a positive impact on Knowledge Sharing**

The Influence of Knowledge Sharing on Performance.

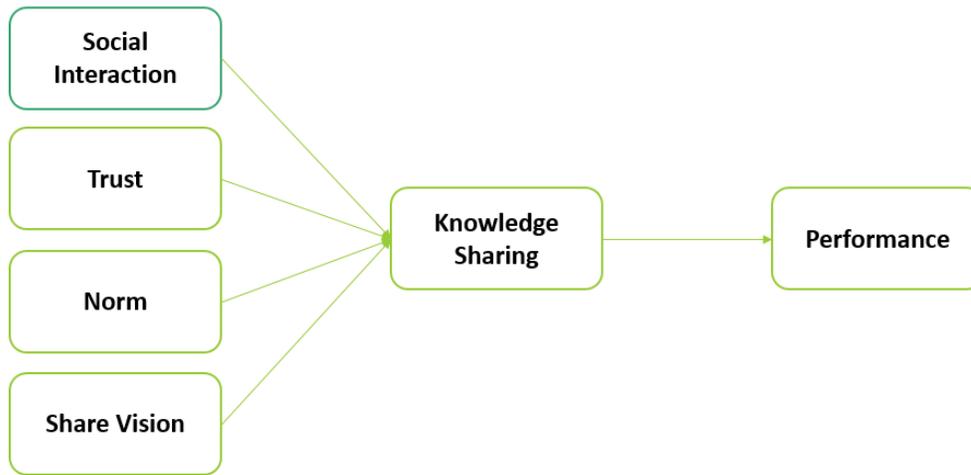
Previous studies showed the empirical evidence proved that knowledge sharing has a positive impact on project performance (Marques, Cardoso, & Zappalá, 2008; McNeish & Mann, 2010; Nelson & Coopriider, 1996).

Knowledge sharing can improve team processes and an improvement in business decision, thus, lead to success and improve performance (McNeish & Mann).

Knowledge sharing is one of the most important factors affecting organizational agility and performance.

**H5: Knowledge Sharing have a positive impact on Performance**

2.3.2. Conceptual Model



**RESEARCH DESIGN AND METHODOLOGY**

This study use meta-analysis on published research findings. The samples for this research are empirical studies in all academic journal that we could collect.

We used multiple keywords to search relevant papers such as “knowledge sharing”, “social capital”, “trust”, “social interaction”, “knowledge management” from following databases: ScienceDirect Online (SDOL), Business Source Complete [EBSCOhost ].

A total of 118 papers were found in the initial search and all studies must be empirical studies which could provide quantitative data. Especially, most of them have the report of correlation between dependents (trust, social interactions, norm, shared visions) and knowledge sharing. The screening resulted in 52 usable relationships. As shown in the tables in the next part, the number of studies that can be used to test our hypotheses varies from 3 to 20.

Methods commonly used in meta-analysis include Hunter and Schmidt (Hunter & Schmidt, 1990), Peterson and Brown (2005) and Borenstein, Hedges, Higgins, and Rothstein (2009).

In this study, we use the Pearson correlation *r* as the fundamental basis of meta-analysis, and combined Fish Z scores for each construct to test the significance of our hypothesis.

In later part, we used VOSreviewer and Cinetexplorer (van Eck & Waltman, 2014) to draw the images of research in Knowledge Sharing and Social Capital.

**RESULTS**

**4.1. Social interaction and Knowledge Sharing**

The relationship between Social interaction of Social capital and Knowledge Sharing is confirmed by 16 studies with the correlations vary from -0.020 to 0.767.

Hypothesis	Number of studies	Model	Correlation	Lower limit	Upper limit	Z value	P value		
H1: SI -> KS	16	Fixed	0.492	0.473	0.512	41.119	0.000		
		Random	0.457	0.364	0.541	8.647	0.000		
		<b>Heterogeneity</b>				<b>Tau-squared</b>			
		<b>Q</b>	<b>Df</b>	<b>P</b>	<b>I<sup>2</sup></b>	<b>Tau<sup>2</sup></b>	<b>Std</b>	<b>Var</b>	<b>Tau</b>
		247.172	15	0.000	93.931	0.047	0.025	0.001	0.218

In the test of Heterogeneity of this analysis, Q-value is significant (247.172<sup>\*\*\*</sup>) suggests that the true effect varies from study to study and 93.4% of the relationship is explained by true effect. According to Borenstein et al. (2009), the True Effect Size (fixed) is bigger than 0.5, which means Social Interaction has high effects on Knowledge Sharing. Thus, H1 is supported.

#### 4.2. Trust and Knowledge Sharing

Hypothesis	Number of studies	Model	Correlation	Lower limit	Upper limit	Z value	P value		
H2: Trust -> KS	20	Fixed	0.512	0.494	0.530	44.885	0.000		
		Random	0.491	0.439	0.540	15.802	0.000		
		<b>Heterogeneity</b>				<b>Tau-squared</b>			
		<b>Q</b>	<b>Df</b>	<b>P</b>	<b>I<sup>2</sup></b>	<b>Tau<sup>2</sup></b>	<b>Std</b>	<b>Var</b>	<b>Tau</b>
		117.932	19	0.000	83.889	0.018	0.039	0.000	0.135

The relationship between Trust of Social capital and Knowledge Sharing is confirmed by 20 studies with the correlations vary from 0.139 to 0.670.

In the test of Heterogeneity of this analysis, Q-value is significant (117.932<sup>\*\*\*</sup>) suggests that the true effect varies from study to study and 83.9% of the relationship is explained by true effect. According to Borenstein et al. (2009), the True Effect Size (fixed) is bigger than 0.5, which means Trust has high effects on Knowledge Sharing. So we could see that H2 is supported.

#### 4.3. Norm and Knowledge Sharing

The relationship between Norm of Social capital and Knowledge Sharing is confirmed by 03 studies with the correlations vary from 0.459 to 0.734.

In the test of Heterogeneity of this analysis, Q-value is significant (29.971<sup>\*\*\*</sup>) suggests that the true effect varies from study to study and 93.327% of the relationship is explained by true effect. Thus, H3 is supported.

Hypothesis	Number of studies	Model	Correlation	Lower limit	Upper limit	Z value	P value		
H3: Norm -> KS	03	Fixed	0.562	0.512	0.608	17.754	0.000		
		Random	0.571	0.359	0.727	4.648	0.000		
		<b>Heterogeneity</b>				<b>Tau-squared</b>			
		<b>Q</b>	<b>Df</b>	<b>P</b>	<b>I<sup>2</sup></b>	<b>Tau<sup>2</sup></b>	<b>Std</b>	<b>Var</b>	<b>Tau</b>
		29.971	2	0.000	93.327	0.055	0.059	0.003	0.234

#### 4.4. Shared Visions and Knowledge Sharing

The relationship between Shared Visions of Social capital and Knowledge Sharing is confirmed by 8 studies with the correlations vary from 0.310 to 0.604.

In the test of Heterogeneity of this analysis, Q-value is significant (54.631<sup>\*\*\*</sup>) suggests that the true effect varies from study to study and 87.2% of the relationship is explained by true effect. Therefore, the H4 is supported.

Hypothesis	Number	Model	Correlation	Lower	Upper	Z value	P value
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	of studies			limit	limit				
H4: Shared Vision -> KS	08	Fixed	0.463	0.431	0.494	24.680	0.000		
		Random	0.484	0.391	0.567	9.003	0.000		
		<b>Heterogeneity</b>			<b>Tau-squared</b>				
		<b>Q</b>	<b>Df</b>	<b>P</b>	<b>I<sup>2</sup></b>	<b>Tau<sup>2</sup></b>	<b>Std</b>	<b>Var</b>	<b>Tau</b>
		54.631	7	0.000	87.187	0.023	0.016	0.000	0.153

#### 4.5. Knowledge Sharing and Team Performance

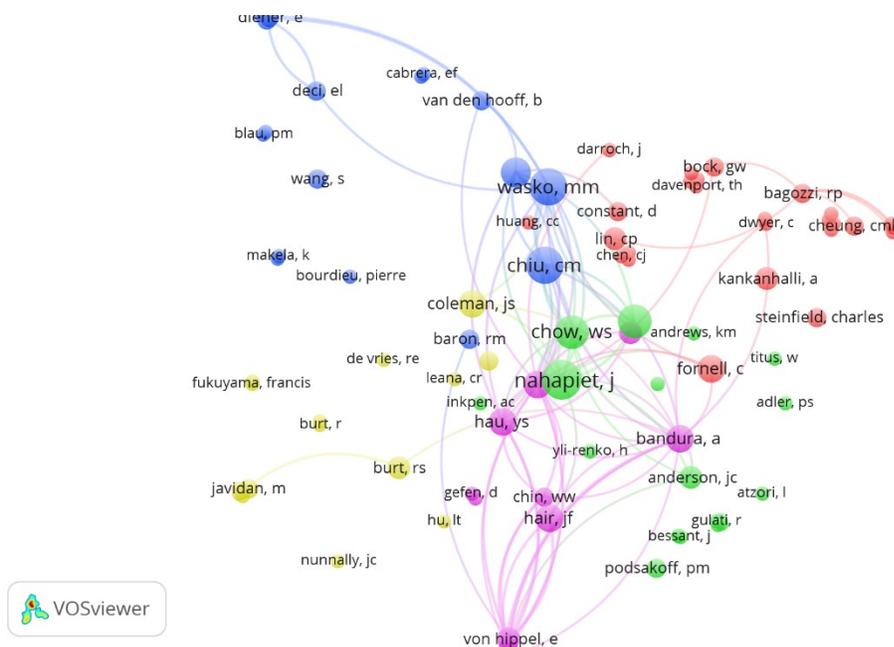
The relationship between Shared Visions of Social capital and Knowledge Sharing is confirmed by 5 studies with the correlations vary from 0.310 to 0.604.

In the test of Heterogeneity of this analysis, Q-value is significant (90.468<sup>\*\*\*</sup>) suggests that the true effect varies from study to study and 95.56% of the relationship is explained by true effect.

Hypothesis	Number of studies	Model	Correlation	Lower limit	Upper limit	Z value	P value		
H5: KS -> Performance	05	Fixed	0.454	0.418	0.488	21.629	0.000		
		Random	0.529	0.354	0.668	5.272	0.000		
		<b>Heterogeneity</b>			<b>Tau-squared</b>				
		<b>Q</b>	<b>Df</b>	<b>P</b>	<b>I<sup>2</sup></b>	<b>Tau<sup>2</sup></b>	<b>Std</b>	<b>Var</b>	<b>Tau</b>
		90.468	4	0.000	95.579	0.059	0.047	0.002	0.243

#### 4.6. Co-citation Analysis

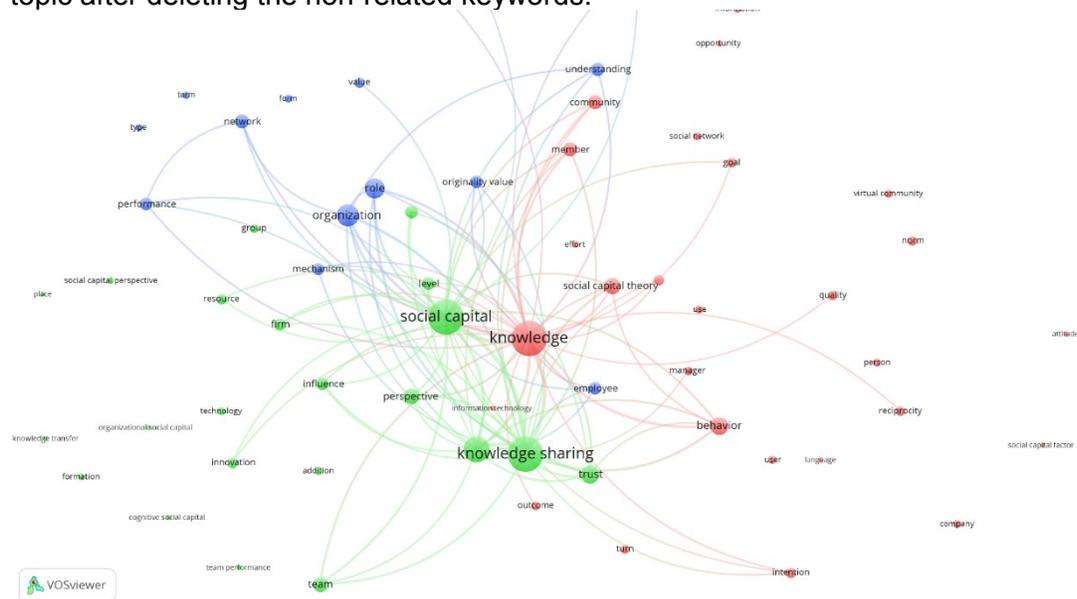
##### 4.6.1. Co-citation Analysis of Knowledge Sharing and Social Capital



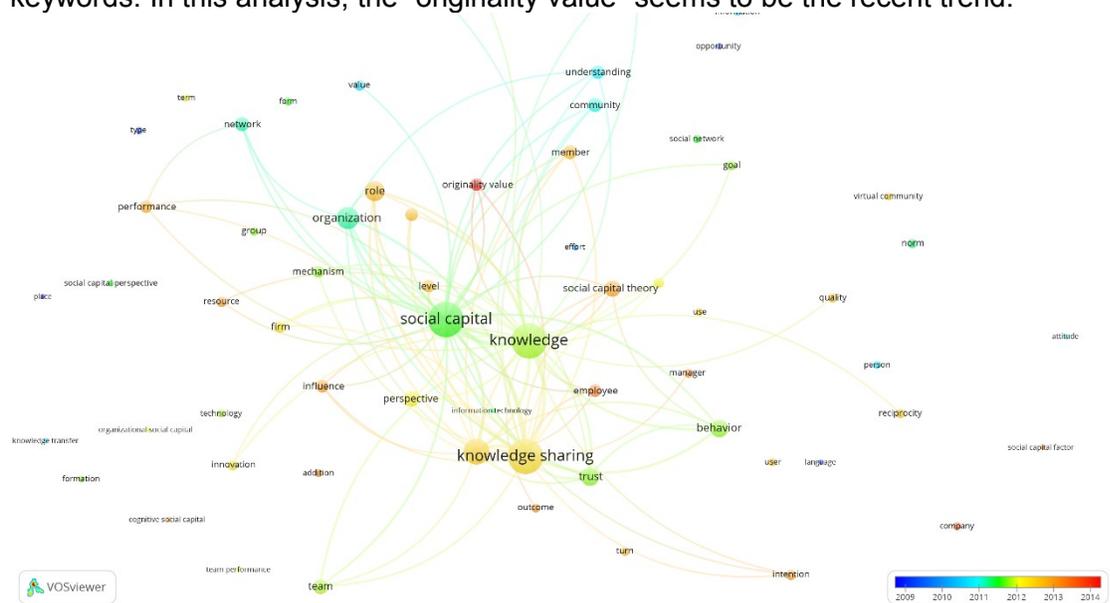
Using the data from 118 studies that mentioned about Social Capital and Knowledge Sharing, we try to figure out the network of co-citation. Each of dot appeared in the figure has at least 3 cocitation, and the cite of dot demonstrate how large of the co-citation of each author.

4.6.2. Knowledge Sharing and Social Capital Term Cluster

Because the number of research related to Knowledge Sharing and Social Capital is limited, we use only the key word “Knowledge Sharing” to find all papers talking about this topic. The terms that related to Knowledge Sharing are extracted from the Abstract of 1034 paper in the same topic after deleting the non-related keywords.



From the result, we could see that these term are classified into 4 clusters that related to 4 major subfields in Knowledge Sharing. We also run the software again to see the trend of keywords. In this analysis, the “originality value” seems to be the recent trend.



## CONCLUSION

The objective of this study is to systematize the literature explaining the relationship between Social Capital and Knowledge Sharing and between Knowledge Sharing and Performance. After reviewing 52 usable relationships, the results of this meta-analysis showed the impacts of Social interactions, Trust, Norm and Shared Vision on Knowledge Sharing in organization. The result of this study also confirm that maintaining the Knowledge sharing behaviors could lead to the better performance of organizations. Thus, this research emphasized the importance of Social Capital in organization and once again urges the leaders of organizations to pay more attention to facets of Social capital to maintain Knowledge sharing behaviors in their organizations. Our research also faced some limitations. First, the data is taken from variety of studies of different types of organizations that may. Second, the number of available studies to investigate H3 and H5 is still limited, we suggest future research should continue to find more studies from other databases and from newest researches to update this meta-analysis research.

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