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Social Capital: A Theoretical Lens for IS Research

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ABSTRACT

Social capital theory is based on the notion that networks of relationships constitute an important resource for the conduct of social affairs. Unlike human capital, which rests in individuals, social capital is embedded in the networks of mutual acquaintances and relationships of the individual or the organization. As a theoretical perspective, social capital is receiving increasing attention in organization theory and management literature. IS researchers investigating socio-technical issues in areas such as IS outsourcing, knowledge management, software development, and IT enabled interorganizational linkages will find this a useful complementary theoretical approach. This paper provides a review of key literature on social capital theory, and illustrates how this could serve as an important theoretical lens to research several IS areas in organizations.

Keywords

Social capital, theory, relationships, networks.

INTRODUCTION

Creation of new knowledge through theory building is a fundamental pursuit of all research endeavors. Early IS researchers called for the intellectual grounding of IS research in reference disciplines to enable cumulative tradition and theory building (Keen, 1980). IS research has since collaborated with reference disciplines and applied diverse theoretical perspectives from these disciplines to study IS phenomena. IS discipline is labeled as fragmented adhocracy (Banville and Landry, 1989) and this contributes to its flexibility and inherent strength in adapting to changing environment (Baskerville and Myers, 2002).

A growing consensus is recently emerging among IS researchers regarding what constitutes the core domain of IS research. This is defined in terms of the IT artifact and its immediate nomological net (Benbasat and Zmud, 2003). IS research examines more than merely the technological or the social system but the socio-technical phenomenon emerging from the interaction of the two systems (Lee, 2001). Recently some researchers have argued that IS has emerged as a discipline in its own right and should be considered as both a refereeing and a reference discipline in a multidirectional knowledge creation network comprising various disciplines (Baskerville and Myers, 2002). This also entails reassessing these other disciplines as contributing rather than reference disciplines (Lee, 2001), and looking for ways to enhance our contribution towards theory refinement. Based on this theme this paper provides a review of social capital theory, a valuable theoretical perspective gaining increasing popularity in organization theory and management literature, and explores its usefulness to IS research.

Social capital theory is based on the premise that there is resource value inherent in social relationships. According to this perspective, similar to financial and human capital, there is social capital embedded in the relationships among organizational members and in networks between organizations. Social capital as an umbrella concept is still in the “emerging excitement” phase of its lifecycle (Adler and Kwon, 2002). This presents an opportunity for IS researchers to capitalize on its momentum and simultaneously contribute to its refinement. Social capital perspective could complement the agency and transaction cost models by placing norms and relationships as ways that could help reduce transaction costs and create better agents (Leana and Van Buren, 1999).

This paper has two objectives: First, to review the key literature on social capital for the benefit of IS audience and second to identify some IS research areas involving socio-technical issues as illustration for possible application of this theoretical perspective. Consistent with these objectives, we first present a review of social capital theory and discuss the dimensions of social capital as identified in the literature. Then we discuss four research areas within IS that could benefit from this perspective.

SOCIAL CAPITAL THEORY

Social capital theory is based on the notion that networks of relationships constitute an important resource for the conduct of social affairs. Unlike human capital, which rests in the individuals, social capital is embedded in the networks of mutual acquaintances and relationships of the individual or the organization. Bourdieu (1986), Coleman (1988) and Putnam (1993) are credited with making pioneering contributions to this concept. Social capital is defined as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet and Ghoshal, 1998). Thus both the network and the assets to be mobilized through the network have been conceptualized in its definition.

Social capital is considered as another form of capital for organizations as it is a long-lived asset and other resources can be invested in it. It yields benefits to the individuals and collective entities by enabling access to information, power and solidarity. Social capital is ‘constructible’ to some extent through deliberate actions and is appropriable or convertible into other forms of capital though not as efficiently as the economic capital. It could substitute or complement other resources in realizing economic benefits such as reduction in transaction costs. The norms, obligations, and trust inherent in social capital could help reduce opportunistic behavior thus saving on the time and money spent on monitoring such behaviors (Adler and Kwon, 2002).

While human capital is created through changes in the skill level, education and competency of individuals, social capital is created through changes in the relations among individuals that help direct action. Social capital predicts that returns to human capital (education, intelligence etc.) depend in part upon the position of the actor in the social structure of the market or hierarchy. Unlike other forms of capital, social capital is characterized by joint ownership by the parties in a relationship with no exclusive ownership rights to any of the players. It has value but cannot be traded easily. The ends achieved by social capital are almost impossible to achieve without it, or involve additional costs. It is not completely fungible and is specific to certain activities. A distinguishing feature of social capital from other capital resources is the public good aspect, i.e., the actors investing in the social capital typically derive only part benefit (Coleman, 1988).

Social capital theory draws inspiration from Granovetter’s conception of social embeddedness, which argues that economic action cannot be conceived independently of the social relationships of the economic actor. Contrary to assumptions of neo-classical economics, a rational decision maker may find the social relations to be advantageous and be sensitive to them (Granovetter, 1985). Embeddedness conceptualizes social organization and social relations into the analysis of economic systems not just as structures to fulfill economic functions but also as an independent effect on the economic systems owing to its history and continuity (Coleman, 1988). In the next two sections some competing theoretical conceptions on network ties and public versus private goods aspects of social capital are discussed.

Weak, Open and Closed Network Ties

There are several theoretical conceptions highlighting network characteristics that contribute to superior social capital benefits (Granovetter, 1973; Lin, 1990; Coleman, 1988; Burt, 1997). These theories, however, focus on different points in the process of accumulation of social capital. In the integrated view the social capital construct is conceptualized as both the network structure and the nature of the social resources embedded in the network (Seibert, Kraimer and Liden, 2001).

Network structures that facilitate higher social capital benefits have been conceptualized in terms of weak ties (Granovetter, 1973), open ties spanning structural holes (Burt, 1997) or closed networks (Coleman, 1988). Ties that reach outside of one’s social clique are likely to be weak (emotionally less intense, infrequent and restricted to one narrow type of relationship), and are likely to provide more valuable information than ties restricted to one’s social clique (Granovetter, 1973). It is also argued that greater social capital benefits accrue when there is a sparse network with few redundant ties. According to structural hole theory the impact of social capital on performance is a function of the information and control benefits of bridging structural holes i.e., disconnections between non-redundant contacts in a network (Burt, 1997). Alternately, the closure of the network structure could contribute to strengthening of social capital by facilitating the emergence of effective norms and maintaining the trustworthiness of actors. In an open structure, reputations cannot arise, violations of norms could go unpunished causing mistrust and thereby weakening social capital (Coleman, 1988). In terms of value derived from open networks social resources theory argues that it is not the weakness of the ties or the bridging property of the ties per se, but the access to useful resources facilitated by the ties that provides value (Lin, 1990).

The type of network structure that is appropriate for a given situation is contingent upon the states of the social capital, the task, and the environmental factors. Closure is expected to contribute to cohesiveness while structural holes in the network linkages provide valuable resources for competitive action (Adler and Kwon, 2002). Some researchers argue that structural hole theory could be applicable more to networks of market transactions than to networks of cooperative relationships (Walker, Kogut and Shan, 1997). While weak tie theory and structural hole theory focus on the structure of the network,

social resource theory focuses on the content of the network (Seibert et al., 2001). There is no rigorous theory or meta theory as yet to tie the various competing perspectives of social capital (Adler and Kwon, 2002). It is, therefore, prudent to look at process variables that are closer to outcomes and could potentially moderate the relationship between the structure and the outcomes (Reagans and Zuckerman, 2001).

Public versus Private Goods Approaches

The social capital benefits are conceptualized at different levels by different researchers. Researchers studying public goods facets of social capital study the phenomenon at the macro or meso level and highlight the secondary nature of benefits to individuals. In this view social capital is considered as an attribute of the social unit. The benefits of an individual's actions accrue directly to the social unit and only indirectly to the individual. In contrast, the private goods approach to social capital emphasizes the benefits accruing to individuals by forming particular types of social networks (Burt, 1997). In this perspective, benefits accrue directly to the individual and only indirectly to the collectivity. Accrual of social assets to an individual such as prestige, educational credential, and social clubs, career success etc. (Seibert et al., 2001) are of typical interest here. The distinctions between private and public goods model articulated by Leana and Van Buren (1999) are presented in Table 1.

Attribute	Public Good	Private Good
Level of Analysis	Macro and meso (social unit)	Micro (individual)
Benefit to individual	Indirect	Direct
Benefit to collective	Direct	Indirect
Necessary ties	Resilient	Fragile
Individual incentives	Weak or moderate	Strong

**Table 1– Public vs. Private Goods Models of Social Capital
Adapted from Leana and Van Buren (1999)**

Dimensions of Social Capital

As one of the earliest exponents of this concept Coleman (1988) identified three forms or dimensions of social capital: obligations and expectations, the social structure capability for information flow, and norms together with sanctions. Nahapiet and Ghoshal (1998) conceptualized the social capital in terms of three analytically distinct but related dimensions: structural, relational and cognitive dimensions (Figure 1).

Structural Dimension: Structural embeddedness refers to the overall patterns of connections between actors. Important facets of this dimension include network ties (e.g. presence or absence), network configuration (e.g., density, connectivity, hierarchy), and appropriable organization (e.g., degree of appropriability). Networks and network structures influence the range of information collected. A dense network could be inefficient due to redundancies while sparse networks with few redundant contacts provide more information benefits particularly for the transfer of unambiguous information. For ambiguous and problematic information, richer patterns of relationships and interactions become important. Some redundancy is considered necessary for the development of cross-functional absorptive capacity. Appropriable organization means that social capital developed in one context could sometimes be transferred to a different social setting (Nahapiet and Ghoshal, 1998). Development of personal relations into business relations, aggregation of individual level social capital into that of organizations are some illustrations of this concept (Coleman, 1988).

Cognitive Dimension: This refers to the resources that provide shared representations, interpretations, and systems of meanings among parties. Shared narratives involve two modes of cognition – the information or paradigmatic mode (rational analysis and logical argument) and narrative mode (myths, metaphors, stories etc.).

Relational Dimension: This refers to personal relationships such as respect or friendship individuals develop among themselves through a history of interactions that help fulfill different social motives such as approval, sociability, and prestige. The different facets of this dimension include trust and trustworthiness, norms and sanctions, obligations and expectations, identity and identification. Trust indicates willingness to be vulnerable to another party arising from belief in good intent, concern, competence, capability, reliability and perceived openness of the exchange partners. Norms are indicative of degree of consensus in the social system and exist when people other than the actor hold the socially defined right to control. Norms that are valuable initially could also cause pathological rigidity. Obligations represent commitments to undertake some activity in the future while identification is the process by which individuals see themselves as one with

another person or group of people. They take the values or standards of the reference person or the group as a comparative frame of reference (Nahapiet and Ghoshal, 1998).

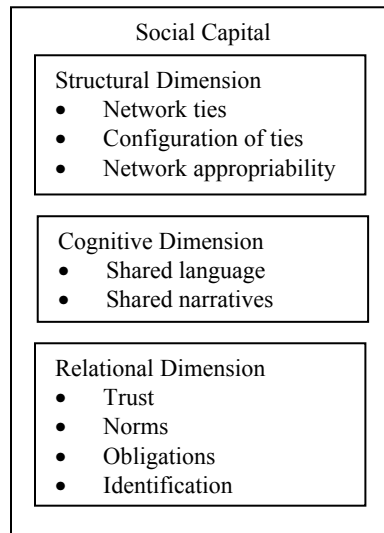


Figure 1 – Dimensions of Social Capital
Adapted from Nahapiet and Ghoshal (1998)

These dimensions of social capital identified by Nahapiet and Ghoshal (1998) are gaining increasing acceptability among the management researchers. Some researchers have proposed a parallel conceptualization of social capital (Figure 2) with associability and trust as the two dimensions of organizational social capital (Leana and Van Buren, 1999). Associability is defined as “the willingness and ability of participants in an organization to subordinate individual goals and associated actions to collective goals and associated actions”. This parallels the cognitive dimension of Nahapiet and Ghoshal (1998). Associability has both an affective component (feeling of collectivism) and a skill-based component (e.g. coordination abilities).

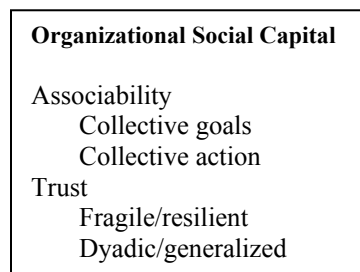


Figure 2 – Dimensions of Organizational Social Capital
Adapted from Leana and Van Buren (1999)

Trust, which is the second dimension, is a necessity for individuals to work together on common projects. It is also a by-product of successful action. Trust is one facet of the relational dimension enunciated by Nahapiet and Ghoshal (1998). Leana and Van Buren (1999) however make a distinction between fragile and resilient trust. Fragile trust is based on perceptions of the immediate likelihood of rewards and is concerned with developing a workable strategy of reciprocity. Resilient trust on the other hand is based on stronger and more numerous links between the organization and its members. It builds upon ongoing reciprocity norms. A distinction is also made between dyadic vs. generalized trust. Dyadic trust exists between two parties who have first hand knowledge of one another. In contrast, generalized trust is the indirect trust that rests in the norms and behaviors that are generalized to others in the whole of the social unit. Organizations with strong social capital are expected to exhibit resilient trust, even among individuals who do not directly interact with each other (Leana and Van Buren, 1999).

Benefits and Risks of Social Capital

Several benefits could accrue to organizations from social capital. First, social capital facilitates access to broader sources of information thereby helping improve the quality, relevance and timeliness of information. These benefits at the focus group level could have positive externalities for the broader aggregate. Second, social capital could contribute to influence, control and power for the focal actor(s) and the broader aggregate (Adler and Kwon, 2002). Solidarity could be a third benefit of social capital thus serving as a mechanism for managing collective action (Leana and Van Buren, 1999). Closure of social network along with strong norms and beliefs encourage compliance (Coleman, 1988) and reduce the need for formal controls. Fourth, social capital in the form of trust reduces the possibility of opportunism and reduces transaction costs (Putnam, 1993). Finally, trust inherent in social capital facilitates a more flexible work organization through employment practices such as flexible deployment and high involvement programs (Leana and Van Buren, 1999).

There are also potential risks associated with social capital. It is possible that not all dimensions of social capital are mutually reinforcing. An efficient network in structural terms may not be the best way to develop relational or cognitive social capital. Strong ties may also promote the sort of conformity that could lead to collective blindness (Coleman, 1988), stifling creativity and possibly impeding innovation. There may be an inherent tradeoff between power and informational benefits. The solidarity benefits at the focal group level could lead to fragmentation of the broader whole. Also investment and maintenance costs in social capital may not be cost effective with respect to the information benefits realized. This calls for a need to strike a balance between the benefits and risks to generate organizational value (Adler and Kwon, 2002; Leana and Van Buren, 1999).

POTENTIAL RESEARCH AREAS IN IS

Social capital provides a valuable perspective for researching socio-technical issues that involve networks of relationships. In the IS literature, social capital theory has found limited application in a few recent studies. In a case study involving two organizations Newell et al. (2003) related the different sources and effects of social capital to the different innovation episodes in the design and implementation of ERP projects. In another case study Reich and Kaarst-Brown (2003) examined how social capital inherent in transitioning IT professionals into non-IT business positions resulted in organizational advantage through IT innovation. In a recent conceptual article Ye and Agarwal (2003) combined social capital perspective with the knowledge-based view of the firm to examine learning outcomes of outsourcing relationship. These studies are indicative of an initial interest in this important concept. The dimensions of social capital enunciated by Nahapiet and Ghoshal (1998) figure in two of these studies (Reich and Kaarst-Brown, 2003; Ye and Agarwal, 2003) while the third study contrasts the bridging and bonding forms of social capital (Newell, Huang and Tansley, 2003). These initial efforts are either conceptual studies or case studies and future empirical studies should help demonstrate the usefulness of this approach.

As social capital theoretical perspectives continue to evolve in multiple disciplines there are certain barriers inherent in adopting this perspective for IS research. As brought out earlier, there are competing theoretical conceptualizations of social capital and there is no meta-theory to tie them together. Hence the competing approaches should be evaluated with respect to the research objectives before choosing the appropriate conceptualization. For empirical research the constructs also need to be carefully adapted to the IS phenomenon and operationalized. We see great potential for adapting social capital theory to research several IS phenomena. Here we discuss four such important areas that may benefit from this perspective.

IS Outsourcing

Outsourcing of information systems involving transfer of IT assets of the organization to a strategic partner for supporting IT requirements is a growing phenomenon among organizations (Ang and Straub, 1998). Understanding the conditions, motivations, trends and governing structures involved in this phenomenon has attracted the attention of IS researchers for over a decade. Cheon, Grover and Teng (1995) reviewed four theories used to study outsourcing phenomenon: resource based, resource dependence, transaction cost, and agency theories. They suggested a contingency model of outsourcing based on these four approaches. Social capital theory is another valuable perspective that could offer insights into this phenomenon. The dimensions of social capital articulated in Figure 1 could be used to analyze outsourcing relationships (Ye and Agarwal, 2003). Outsourcing partner selection, appropriate governing structures for different task and symbolic contingencies (Adler and Kwon, 2002), outsourcing relationship management, organizational value of outsourcing are some research issues that could benefit from the social capital lens. With IT outsourcing and its sequels, business process outsourcing (BPO) and offshore outsourcing, continuing to engage organizations, social capital would be a welcome addition to our theoretical toolkit to explore these emergent phenomena.

Software Development

Software development is an enduring research topic of interest in IS with new technologies and new programming languages evolving to cater to organizational requirements. With hyper competitive business environments and rapid changes in technologies and systems requirements, software development methodologies are undergoing transformation. There is a shift in emphasis from traditional plan driven methodologies to team-based collaborative approaches as reflected in the agile software development methodologies (Beck, 2000). Agile methodologies value people and their interactions over processes and documentation. Documentation is de-emphasized with stress on social tacit knowledge. Software development is thus undergoing a fundamental shift from being a predominantly technical endeavor to a socio-technical phenomenon. Social capital offers a sound theoretical basis for researching this phenomenon as the success of an agile software development project is contingent upon not just the human capital (abilities) but also on the social capital embedded in the relationships of the agile project team. Task contingencies (project characteristics), symbolic contingencies (organizational culture and norms), and complementary capabilities (combinatorial capabilities) could significantly influence the impact of social capital on project outcomes. Contingent factors affecting the choice of methodology (say agile vs. traditional), scheduling effective agile teams for different projects, and project structures for different task contingencies are some potential research issues that could benefit from social capital lens. Agile software development with its emphasis on social networking and flexible collaborative approach is a topic with high research potential, and the social capital perspective could be gainfully used in this area.

Organizational Knowledge Management

Organizational knowledge management deals with the creation, dissemination and management of organizational knowledge (Alavi and Leidner, 2001). It is a growing area of interest to IS researchers as IT is considered to be an important enabler of knowledge management. Some of the common applications of IT to organizational knowledge management initiatives include creation and sharing of best practices, creation of corporate knowledge directories, and creation of knowledge networks (Alavi and Leidner, 2001). Social capital as an important resource for creation of intellectual capital and organizational knowledge is being researched in multiple disciplines. These perspectives could potentially inform IS research in this area for fruitful extensions. In the management literature the theory of co-creation of social capital and intellectual capital identifies the conditions under which various dimensions of social capital contribute to creation of new intellectual capital through combination and exchange (Nahapiet and Ghoshal, 1998). Some models identify the contingent factors such as task and symbolic contingencies and complementary capabilities that moderate the relationship between social capital benefits/risks and organizational value (Adler and Kwon, 2002).

IT provides access to organizational actors to combine/ exchange intellectual capital. It also provides combination capabilities for generating new intellectual capital. IT impacts the structural and cognitive dimensions of social capital. Several insightful propositions could be derived at the intersection of IT, social capital networks and organizational knowledge creation that would be of interest to IS researchers. Often there are admonitions against an emphasis on IT at the cost of social and cultural aspects of knowledge management (Alavi and Leidner, 2001). Social capital theory could help address such concerns and help broaden the IT focus. The role of IT networks in knowledge management issues such as enabling shared narratives and language, building trust and shaping norms for knowledge sharing, creating and servicing obligations among organizational members are some issues illustrative of this. Social capital theory stressing the resource value of relationships would thus be a very appealing theoretical perspective to study organizational knowledge management.

IT-Based Interorganizational Linkages

IT-based Interorganizational Linkages (IT-based IOL) involve systems designed to enable collaboration between supply chain partners. This topic captured widespread interest among IS researchers over the last two decades based on the competitive advantage gained by organizations such as American Hospital Supply and American Airlines (Teo, Wei and Benbasat, 2003). The success of electronic data interchange (EDI) systems is well documented in IS research. IT-based IOL has again become a topic of interest with the advent of business-to-business (B2B) electronic commerce. Despite the dotcom disasters, B2B continues to be the fastest growing segment of electronic commerce as organizations look for ways to integrate supply chains in a hyper competitive business environment. Research on IT-based IOL has focused on diffusion of innovation, organizational innovation, and institutional theory perspectives. Social capital is a valuable additional asset for managing interorganizational relationships due to its constraining influence in inducing cooperative behavior (Walker et al., 1997). In IS literature Kumar, Van Dissel and Bielli (1998) made a metaphorical reference to social capital in their case study of the success of an interorganizational information system in Italy.. Organizational issues favoring IT-based IOL, the organizational value created by such linkages through say reduction in transaction costs, network structures and contingent factors contributing to organizational advantage are some issues that could benefit from new insights provided by this approach. Social capital theory could thus be a theory of choice for researching this born again phenomenon.

CONCLUSION

Social capital theory is a refreshingly new perspective offering ways of valuing social relationships and resources embedded in these networks. We presented a review of key literature of this theory from organization theory and management literature for the benefit of IS audience. As an illustration we identified four research streams within IS that could benefit from the application of this perspective. The review of literature on social capital presented in this article is not claimed to be exhaustive but sufficient effort has been expended to present more seminal and influential research articles of the field. For IS researchers interested in tracking this emerging theoretical perspective, academy of management publications, organization science, administrative science quarterly, and journal of sociology could serve as important reference sources.

A theory is considered valuable if it is useful for explanation and prediction and is falsifiable (Bacharach, 1989). The 'utilizability' of any theoretical framework for IS research stems from practical relevance, applicability of the theory's findings, and its specificity (Benbasat and Zmud, 1999). Judged from this perspective, social capital could definitely be considered as a theoretical perspective of great promise and utility presenting the opportunity for IS research to contribute substantially to this theoretical perspective not just as a refereeing discipline but also as a reference discipline.

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