Chapter 1

Social Capital and IT, Current debates and research

Marleen Huysman and Volker Wulf

Introduction

Social capital has recently gained importance in a variety of differed research fields. The concept was originally introduced by sociologists and political scientists. Lately, organization and management sciences show an increased interest in the concept. Social capital refers to network ties of goodwill, mutual support, shared language, shared norms, social trust, and a sense of mutual obligation that people can derive value from. It is understood as the glue that holds together social aggregates such as networks of personal relationships, communities, regions or even whole nations.

Social capital is about value derived from being a member of a society or community. By being a member people have access to resources that non-members do not have. Research on social capital varies amongst others on the type of resources that are gained from being member of a social network or community. Resources range from e.g. access to potential career moves, access to resources in enterpreneurial start-up processes, to access to cooperative services in developmental countries. Lately, social capital has also been adopted by researchers interested in the topic of organizational learning and knowledge management.

Although the concept of Social Capital has a much longer existence (cf. Hanifan 1916), discussion on the topic spurred in the last two decades. Its emergence in the field of political science and sociology started as a critic regarding the narrow analytic perspective on economic activities which is immanent in the neoclassical school of macro-economic thinking (e.g. Bourdieu 1985; Granovetter 1985; Uzzi 1997). A basic assumption of main stream economic analysis sees the economy as an increasingly separate, differentiated sphere in modern society, with economical transactions defined no longer by social or kinship obligations but by rational calculations of individual gains. It is argued that industrial societies are distinct from pre-industrial societies by the fact that the social dimensions of economic activities are subordinated under atomic market transactions. With regard to research methodology, such an understanding marginalizes the analysis of sociological conceptions of economic activities.

Social capital is a concept which challenges such a reductionist understanding of economic activities. Drawing on the capital metaphor it allows to analyse social aspects of economic activities. However, the recent interest in the concept of social capital has been developed from rather divergent philosophical traditions. To put it rather black and white, the actual discussion on

social capital can be routed back to either the Marxist or the communitarian tradition. The Marxist conception of social capital is provided by French sociologist Pierre Bourdieu (1985). The communitarian tradition, is stemming from American social scientists such as Etzioni (1993, 1995) and Putnam (1993 and 2000).

Marxist versus Communitarian Tradition

Bourdieu (1980 and 1985) perceives social capital as a specific form of capital. It has to be studied in relation to economic and cultural forms of capital. Bourdieu (1985) defines social capital to be „the aggregate of actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationship of more or mutual acquaintance and recognition" (p. 248). Like all forms of capital, social capital is accumulated labor. It has its own capitalists who accumulate it in the form of relationships, networks, contacts: „... the network of relationship is the product of investment strategies, individual or collective, consciously or unconsciously aimed at establishing or reproducing social relationships which are directly usable in the short or long term …"(p. 249). Bourdieu (1985) is specifically interested in the way the different forms of capital shape the social world, especially the aspects of class struggle and class nature. Whereas the upper class takes their high level of social capital for granted, lower classes usually are aware of their scarce resources in terms of social capital, e.g. lack of collective bargaining power or access to career jobs.

Against this conflict perspective stands the tradition of American communitarism. In this tradition, social capital is community-centered. Communities in turn are seen as a voluntaristic social units that promote harmonic development of organizations and society as a whole. The community concept was studied not just from an 'objective' sociological perspective but also to provide the - in practice mainly American - society with a normative, organizational vehicle for revitalizing democracy. Advocates of this community view, known as the communitarians, protest against the decline of social trust, the loss of civic engagement, and seek to shore up the moral, social, and political foundations of society (Etzioni, 1995). This emphasis on unity and collectivism is in line with the communitarian perspective that surrounds the discussion on Communities of Practice (Lave and Wenger 1991; Wenger 1998). From a communitarian perspective, it is the community instead of the individual or organization that structures action and provides the key frame of reference. The perspective argues that 'we know what we know through our relationships with others in the community' (Etzioni 1993). The communitarian perspective also stresses the need to take social responsibility to support the community instead of striving to satisfy individual needs only. This communitarian perspective has been adopted by many social scientists interested in social capital and largely overshadows topics as power issues, class struggles and conflict that characterizes the Marxist tradition. In this discussion the term "social capital" underwent quite some shift in meaning.

Emergence of Meaning

Let us have a closer look at the emergence of meaning. While not using the term "social capital" explicitly, Granovetter (1985) works out the concept of embeddedness of social action. He argues that "the anonymous market of neoclassical models is virtually nonexistent in economic life and

that transactions of all kinds are rife with the social connections described" (p. 495). He criticises the limited analytic perspective of institutional economists, especially Williamson's (1975, 1979, and 1981) work. Granovetter (1985) shows how personal relations and networks of such relations generate trust and discourage malfeasance, undermine formal organizational structures, and shape inter-organizational transactions. So the embeddedness of social action offers a valid alternative explanation for institutionalisation in economic life.

Meanwhile there are many case studies that have proven the importance of social networks in explaining economic behavior. Loury (1977) contributes racial income differences to different levels of connection to the labour market and of access to relevant information. Portes and Sensenbrenner (1993) investigate the effects community participation has on the economic condition of Puerto Ricans in New York and Latin American minorities in Miami. Uzzi (1997) shows how social network shape inter-organizational cooperation in the New York textile industries.

On a theoretical level, Coleman (1988), Burt (1992) and Portes (1998) provide important contributions to the discussion on social capital. Coleman (1988) defines social capital rather vaguely as a "variety of entities with two elements in common: They all consist of some aspect of social structure, and they facilitate certain action of actors - whether persons or cooperated actors – within this structure" (p. S98). Burt (1992) understands social capital as "friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital" (p. 9). While differing in the scope of their definition, both of these authors highlight the close interaction between social and human capital. The argument which was already developed by Bourdieu (1985) becomes increasingly more important in knowledge-intense economies. In this sense Cohen and Prusak (2001) have suggested to see social capital as the main angle to improve knowledge management in organizations. These considerations are the starting point for quite some contribution in this book.

While the analysis had been grounded so far on the relationship between actors or between individual actors or between an individual actor and a social aggregate, Putnam (1993 and 2000) equals social capital with the level of civic engagement. He applies the concept of social capital to cities, regions and whole nations. He understands social capital as a set of properties of a social entity (e.g. norms, level of trust, or social networks) that enables joint activities and cooperation for mutual benefit. In such a perspective one has to ask which interaction exists between the level of civic engagement and the use and appropriation of information technology. Various researchers such as Wellman (2000) and Kraut et al (1998) have studied this relationship in more depth. In chapter five of this book, Quan Haase and Wellman show that the Internet influences civic engagement by adding to already existing levels of social capital.

Next to social capital as an important ingredient to civic engagement is the growing attention for social capital as an important ingredient to knowledge development in and between organizations (e.g. Cohen and Prusak 2001; Lesser 2002). It is argued that investing in social capital will result in organizational members inherently motivated to share knowledge. This motivation is derived from being a member of a community were shared norms, trust, cognitions and experiences stimulate 'goodwill' and reciprocity. Especially in knowledge intensive organizations, this

implies helping each other through sharing of knowledge. It might be an utopian viewpoint on economic institutions and social capitalists might indeed enforce their power on organizational members that are socially deprived. Nevertheless, the topic of social capital inspires many to remain optimistic about managing the key resource of organizations: knowledge.

The introduction of the concept of social capital, in combination with the concept of community and 'communities of practice', have led to a fundamental shift in thinking about managing knowledge (cf. Ackerman, Pipek, and Wulf 2003). While the notion of human capital formed the core knowledge of the first wave of KM, social capital can be seen as the core ingredient of the second wave. Human capital relates to individual knowledge, individual capabilities to act on this knowledge and individual learning. The first wave of knowledge management mainly centered around issues how to support the exchange of human capital as to avoid unnecessary knowledge redundancy as well as fill knowledge gaps that exist as result of mobility, globalization and distributed work. Most prominent in this first wave of knowledge management were information technological solutions, such as knowledge repositories or content management systems. It has now become accepted that these technical solutions combined with the emphasis on stirring individual knowledge are problematic. What the first wave of KM was neglecting was the importance of people's motivation to share their knowledge and to learn from other people's knowledge. The second wave of knowledge management, although still in its infancy, agrees that communities will foster social capital and as such increase peoples motivation to share knowledge (Huysman and De Wit 2002).

Investing in social capital means long term benefits as social networks based on mutuality, trust and mutual respect and appreciation will last much longer than engineered networks such as organizational teams. It is difficult to point to the conditions that stimulate social capital. Goshal and Nahapiet (1998) argue that it has three dimensions: a structural dimension that includes, for instance, networks structures, a cognitive dimension incorporating shared stories, language, culture and a relational dimension that has to do with mutual trust and reciprocity. These dimensions are highly interrelated and difficult to segregate in practice. What makes the search for its ingredients even more difficult is that social capital, like other forms of capital, accumulates when used productively (Fountain (1997). Fountain gives the following example: "(A) group of scientists who have collaborated on a relatively small scientific project may then use their collaborative ability to propose and to complete larger, riskier research projects. They may then further use their network to address the economic revitalization of their community. Their originally small network may be extended to members of the political and business community: small cooperative ventures may grow into more ambitious undertakings as parties learn how to collaborate productively and develop reputations for trustworthiness."

Darker Sides
The dominance of the communitarian view, both applied to civic engagement as to organizational action, is also present in this book. Most contributions take the positive effects of high levels of social capital on sharing knowledge and expertise, on community building and on developing creativity for granted. We would fully agree with representatives of the conflict perspective such as Bourdieu (1985), that consequently this volume is biased and too optimistic. Although

Bresnen and his colleagues explicitly deal with both sides of the coin (see chapter ten), it is necessary to spend some more words on the negative aspects of social capital in the introduction.

Empirical finding from different case studies have shown dysfunctional behaviour of tightly knitted social networks. Uzzi (1997) calls such ambivalent effects the "paradox of embeddedness". The following problems of a high level of social capital are reported in the literature:

- restrictions imposed on actors who do not belong to the network (Portes 1998, Cohen and Prusak 2001),
- lacking perception of environmental changes outside the network (Cohen and Prusak 2001),
- negative social dynamics within the network and downward levelling norms (Portes 1998),
- dependency on central actors and their loyalty towards the network (Uzzi 1997),
- restrictions on autonomy and individuality resulting from demands for conformity (Portes 1998),
- irrational economic behavior due to the feeling of solidarity towards partners in the network (Portes and Sensenbrenner 1993),
- irrational economic behavior due to personal aversion (Uzzi 1997).

Information Technology

Most of the research on social capital is conducted by either social, political, economic and organization scientist. As a result, the range of topics is broad and varies from the effect of social capital on individual career moves to industrial economic regions. It is thus surprising to note that although the introduction and acceptance of the concept of social capital in various academic disciplines has been significant, the attention from the side of information technology research lacks far behind. With some notable exceptions (e.g. Preece 2002; Resnick 2001; Lesser and Cothrel 2001) the topic has not gained comparable attention from scholars interested in the design of information technology in organizations or the society at large. This is on the one hand not surprising as we are dealing with rather different disciplines. Although computer scientists and IS scholars have shown to become increasingly open to incorporate social science research into their discipline and vise versa, cross-fertilization between the various research streams is still not standard practice. One the other hand, this limited interest in the topic from the side of IT scholars is surprising as understanding this relationship is becoming more and more urgent in todays 'networked society'. The growth in attention in networks within and between organizations makes research into the relationship between IT and Social Capital even more important. Since social capital is about connected people, the question needs to be posed if and how social capital is influenced when these connections are supported by IT. Referring to the development of IT, one has to ask how to design specific functionality to support social capital and how to set up a design processes appropriately. Research is also needed into the other direction of the relationship, namely into the question whether and to what extent social capital is needed in order to develop, to customize and to appropriate IT? Moreover, research is also

needed into the question if IT can help us understand better the level of social capital within a network or a community. The contributions of this book take rather the perspective of the first two research issues.

In general, there seems to be an ambivalence in the relationship between IT and Social Capital. For example, high levels of social capital, or pre-existing strong social networks, are seen to be a success factor in establishing electronic based networks (Fukuyama 1995). At the same time, the existence of IT creates networking infrastructure which encourages the formation of social capital (Calabrese and Borchert 1996). However, high levels of social capital make communication by means of IT unnecessary (Kumar et al. 1998). Also, researchers have documented that existing IT possibilities that were intended to support communication infrastructures, do not support or create a sense of community. This ambivalence is also present in this book although there is a strong bias towards IT positively influencing social capital. The chapters by Anita Blanchard (chapter 3) and by Anabel Quan Haase and Barry Wellman (chapter 5) both discusses the dual effect of social capital on Internet usage: internet both positively as well as negatively influences social capital.

Overview of the Book

No single discipline is able to claim exclusive ownership of the concept. This also mirrors the multi-disciplinarity of the contributions to the book. The book covers research from computer sciences, sociology, communication studies, business economics and management studies. The aim of the book thus is to provide a meeting place between various communities of academics.

All thirteen contributions to this book share an interest in communities as the social entities were social capital resides. The communities that are covered in this book vary among each other to a great extent. For example Blanchard has done research on online as well as offline athletes communities. Syrjanen and Kuutti present research on Finish dog breading communities. Quan Haase and Wellman discuss civic communities in a more general sense and refer also to personal communities such as local and far-flung friends and kin. Rohde looks at communities within and among various Non Governmental Organizations (NGO's) in Iran. Fischer, Scharff, and Ye discuss various communities among which are internet based communities active in the open source movement. Chapman discusses communities of children in after school programs. Steinfield looks at communities at an inter-organizational level and discusses these so-called B2B hubs. Finally, several contributions share an interest in knowledge processing communities within organization, such as the ones by van den Hooff, Ridder, and Aukema; Cross and Borgatti; Huysman, and Ackerman and Halverson.

Analyzing the relation between IT and social capital calls for a socio technical research approach. All contributions in this book have this socio technical background in the sense that they all approach technology as being part of its social environment. Several contributions are very explicit about this relationship, such as Rohde, Ackerman and Halverson; Syrjanen and Kuutti; Huysman, and Fischer, Scharff, and Ye while others discuss IT in its social context but do not explicitly refer to the socio-technical traditions. Only two contributions (Bresnen and colleagues and Cross and Borgatti) do not discuss IT, and focus only on knowledge sharing in organizations

and its contributions and downsides for social capital. We have included these two chapters because of their contributions to the conceptualization of social capital and because they offer a fertile ground for technological design. Cross and Borgatti investigates more fundamental issues of information use in social networks, providing amongst others empirical ground for IT design, for instance for the match making algorithms proposed in Beck, Reichling, and Wulf's contribution. Bresnen and colleagues discuss possible downsides of social capital and as such offer insight that counterbalances the enthusiasm that surrounds most of the other contributions.

Dealing with the issues raised above, the first collection of articles represent discussions about the effect of social capital on civic engagement. All four chapters analyses the role of IT on civic engagement. Part two of the book represents another field of research: organizational learning and knowledge sharing. The contributions each look at how IT might support of hinder knowledge sharing within communities as such influences the degree of social capital.

The last part of the book takes a computer science perspective. It presents computer applications which have the potential to augment social capital among its communities of users. The four contributions discuss eleven different applications. Most of the applications are designed to promote social capital in overcoming spatial or temporal boundaries by making users aware of each other or of artifacts others have created. By contrary, the Envisionment and Discovery Collaboratory presented by Fischer, Scharff, and Ye support face-to-face discussions within given communities of interest. Among the systems which bridge spatial and temporal boundaries, topic- and member-centered communication spaces are classical examples. While member-centered communication spaces, such as the Bubble or Loops system presented by Ackerman and Halverston, forster social ties in an already well defined community, topic-centered communication spaces, such as Cypher, in Ackerman and Halverston's contribution or the Expert Finder by Fischer, Scharff, and Ye, allow people who are not necessarily well known to each other to exchange ideas or find solutions to problems. A key motivational factor to participate in topic-centered communication spaces seems to be the personal reputation to be gained. System design has to take this fact into account.

Beyond pure communication, applications may foster social capital by offering virtual spaces which allow to create, to develop, and to store topic-centered materials. These repositories of materials are typically augmented with communication and annotation functionality. Editing tools support the development of materials and may have additional functionality to distill content out of communication spaces. The Answer Garden, presented by Ackerman is one of the most influential approach in this line of thought. While the general functionality of these systems may be similar, their concrete implementation will be specific with regard to the topic to be dealt with and the application domain. The Answer Garden was mainly built to encourage learning within organizations. Chapman's Pearls of Wisdom offer a rather sophisticated set of functionalities to foster knowledge sharing and social capital building among teenagers in after-school community centers. The systems discussed so far offer places in the virtual space where human actors can direct themselves to, strengthen existing social ties, or build up new ones.

In another class of applications, the system takes a more active role in suggesting actors to establish or to refresh social ties. Such applications require personal data of the different human

actors and domain-specific algorithms to match actors appropriately. Moreover, they need to offer access to appropriate communication channels. The Expertise Recommender presented by Ackerman and Halverston matches developers in a software company based on their past activities in working on certain software modules. Becks, Reichling, and Wulf present an algorithmic framework which allows to match actors based on different sets of personal data and corresponding algorithms. They apply the framework to the problem of matching actors with similar interests in E-learning platforms. Finally, Fischer, Scharff, and Ye present a recommender system which does not propose human actors but software components created by others. They argue that the CodeBroker will help making shared repositories of software components more useful to software developers, and thus, augment the social capital within software development communities.

Research Challenges

During the past two decades social, political, organization and economic sciences have witnessed a rapid introduction of a fairly new concept. The introduction of 'social capital' was surrounded by much enthusiasm, especially in academia. Until so far however, the concept has not been analyzed in relation to information technology. With the collection of papers in this book we hope to demonstrate that research on this topic is valuable and deserves more attention. Of course, we are aware that this collection is only a first step towards building a bridge between different academic fields. Also, by no means is this collection a complete sample of possible research topics.

As mentioned, while at first the concept was approached from a conflict as well as a communitarian perspective, gradually and perhaps to a large extent as a result of this enthusiasm the communitarian approach dominates the debate. The collection of papers in this book should be seen in this light. Future research needs to focus also on the darker sides of social capital. Information technology is able to connect people but at the same time contributes to depriving those that are not connected. This growing digital divide is not addressed in this book but surely needs more research attention.

Another example of a promising research field that is only addressed by Steinfield in this book but deserved more - empirical – research attention is the topic of social capital in relation to e-business. Given a new dimension by the use of electronic networks, inter-organizational cooperation is nowadays often discussed in terms of B2B-Marketplaces, Supply Chain Management, Virtual Organizations, or Strategic Alliances. Many failed attempts to implement these approaches can be contributed to lacking attention of issues of social capital. We also need to investigate how new types of communities, e.g. on-line communities, will change the relationships between producer and consumer. New business models may be created which allow a closer interaction among consumers and between consumers and producers.

Also, with the exception of the contribution of Syrjanen and Kuutti, this book is biased towards short term evaluatations of the effect of information technology on social capital. As long as no long-term empirical evaluations have investigated social capital effects of IT, discussions about its effects remain speculative. As various researchers (e.g. Barley 1986, Pipek and Wulf 1999)

have demonstrated, the appropriation of IT and its consequences need in depth long term analyses. Consequently, this new field of research requires more longitudinal studies.

Furthermore, the book does not discusses how information technology can be used to analyze social capital. Research done by for example Noshir Contractor et al. (1998) is very valuable for providing insight into tools to investigate diverse aspects of social networks in order to analyze the social capital of e.g. organizations. Finally, new technologies such as large screen displays or wearable devices, will offer opportunities to design innovative applications which attempt to impact the level of social capital within social entities.

Having said so, we believe this book offers an interesting collection of research on social capital and information technology. We wish to thank all authors and reviewers for their contributions.

References

Ackerman, M.; Pipek, V.; Wulf, V. (eds) (2003): Sharing Expertise: Beyond Knowledge Management, MIT Press, Cambridge .

Barley, S.R. (1986) Technology as an occasion for structuring: observations on CT scanners and the social order of radiology departments. Administrative Science Quarterly, 31, pp. 78 - 108

Bourdieu, P. (1980) Le capital social: notes provisoires, in: Actes de la Recherche en Sciences Sociales, Vol. 31, 2-3

Bourdieu, P.: The forms of capital, in: J.G. Richardson (ed.): Handbook for Theory and Research for the Sociology of Education, 1985, pp.. 241 – 258

Burt, R.S (1992) Structural Holes: The Social Structure of Competition, Harvard University Press, Cambridge

Calabrese, A. and M. Borchert (1996). Prospects for electronic democracy in the United States: Rethinking communications and social policy. Media, Culture, and Society 18: 249-268.

Cohen, D and L. Prusak (2001) In good company: How social capital makes organizations work, Harvard Business School Press, Boston

Coleman, J. S (1988).: Social capital in the creation of human capital, in: American Journal of Sociology, Vol. 94, pp. 95 – 121

Contractor N., Zink, D., & Chan, M. (1998) IKNOW; a tool to assist and study the creation, maintenance, and dissolution of knowledge networks. In Toru Ishida (Ed.), *Community*

Computing and Support Systems, Lecture Notes in Computer Science 1519 (pp. 201-217). Berlin: Springer-Verlag

Etzioni, A. (1993). The spirit of community: the reinvention of American society. New York, touchstone.

Etzioni, A. (1995). New communitarian thinking. persons, virtues, institutions, and communities. Charlotteville, university press of virginia

Fountain, J.E. (1997) Social Capital: A Key Enabler of Innovation in Science and Technology, Published in L. M. Branscomb and J. Keller, eds Investing in Innovation; towards a consensus strategy for federal technology policy. . (Cambridge: The MIT Press)

Fukuyama, F. (1995). Trust: The social virtues and the creation of prosperity. NY: Free Press.

Granovetter, M. (1985): Economic Action and Social Structure: The Problem of Embeddedness, in: American Journal of Sociology, Vol. 91, No. 3, pp. 481 – 510

Hanifan, L.J (1916).: The Rural School Community Center. Annuals of the American Academy of Political and Social Science.Vol. 67, pp. 130-138.

Huysman, M. H. and D. de Wit (2002). Knowledge Sharing in Practice. Dordrecht, Kluwer Academics.

Kumar, K., H. G. van Dissel, P Bielli (1998). "The Merchant of Prato - Revisited: Toward a Third Rationality of Information Systems." MIS Quarterly 22(2): 199-226.

Kraut, R. P., M., Lundmark, V. Kiesler, S., Mykhopadhyay, T. and Scherlis, W. (1988). "Internet paradox: a social technology that reduces social involvement and psychological well-being?" American psychologist 53(9): 1017-1031.

Lave, J. und E. Wenger (1991). *Situated Learning: Legitimate Peripheral Participation.* Cambridge University Press

Lesser, E. (2000) Knowledge and social capital, Foundations and applications. Boston: Butterworth-Heinemann

Lesser, E. and J. Cothrel (2001) Fast Friends: Virtuality and Social Capital, Knowledge Directions, Spring/Summer

Loury, G. C. (1977): A dynamic theory of racial income differences, in: Wallace, P. A.; La Mond, A. M.(eds): Women, Minorities, and Employment Discrimination, Lexington MA, pp. 153 – 186

Nahapiet, J. and S. Ghoshal (1998). "Social Capital, Intellectual Capital, and Organizational Advantage." <u>Academy of Management Review</u> 23(2): 242-266.

Pipek, V.; Wulf, V. (1999): A Groupware's Life, in: Proceedings of the Sixth European Conference on Computer Supported Cooperative Work (ECSCW '99), Kluwer, Dordrecht pp. 199 – 219

Portes, A. (1998): Social Capital: Its Origin and Application in Modern Sociology; in: Annual Review of Sociology, Vol. 24, p.1 - 24

Portes, A.; Sensenbrenner, J. (1993): Embeddedness and Immigration: Notes on the social determinants of economic action, in: American Journal of Sociology, Vol. 98, pp. 1320 – 1350

Preece, J. (ed.) (2002): Supporting Community and Building Social Capital. Special edition of Communications of the ACM , Vol 45, No 4

Putnam, R. (2000): Bowling alone: The collapse and Revival of American Community, Simon & Schuster, New York

Putnam, R.: (1993)The prosperious community: social capital and public life, in: American Prospect, Vol. 13, p. 35 – 42

Resnick, P.: Beyond Bowling Together: SocioTechnical Capital, in: Carroll, J. M. (eds): Human Computer Interaction in the New Millenium, Addison Wesley 2001, 647 - 672

Uzzi, B. (1997): Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness, in Administrative Science Quarterly, Vol. 42, p. 35 – 67

Wellman, B. (2000) Computer Networks as Social Networks, Science 293, 14, pp 2031-2034.

Wenger, E.(1998) Communities of Practice : Learning, Meaning, and Identity. Cambridge University Press,

Williamson, O.(1975) Markets and Hierarchies, Free Press, New York

It is implausible to add bridging capital to bonding capital and subtract perverse social capital. Thus an amount of social capital should not be sort, not even qualitatively. Instead, social capital should be analysed in terms of a composite of its disparate, yet interrelated, components. Adam, Frane, and Borut Roncevic. 2003. 'Social Capital: Recent Debates and Research Trends.' Social Science Information 42: 155-183. ^ Onyx, Jenny, and Paul Bullen.