

Social Capital in Cyberspace

KATHERINE BALMES AND DONNA MAY TOMBOC

'Digital living' is the name of the game in the information Superhighway. The emergence of 'virtual communities' evokes a thorough redefinition of social relationships and human bonding (Gemeinschaft). These communities generate interactions which produce and sustain social capital. Cyber communities are deemed as socially, politically and economically liberating because they operate under the reality of anonymity, "timeless time", "spaceless flows" and asynchronous interaction. Since they merge cultures and peoples into a single "wired society", there is an infinite manner of transforming social configurations. The augmentation and dissipation of social capital hinges on the length of the individuals' connection to the Web. Unlike physical interface, cybernetworks foster the creation of trust with a lesser social cost. Nevertheless, virtual communities can only "complement and supplement" rather supplant traditional physical communities. The presence of a physical community remains a *sine qua non* of the accumulation of social capital in the Internet.

"By means of electricity, the world of matter has become a great nerve, vibrating thousands of miles in a breathless point of time ...

The round globe is a vast ... brain, instinct with intelligence!"

-Nathaniel Hawthorne (1851)

Just like Jules Verne's prediction of moon landings and space travel, Nathaniel Hawthorne had foreseen the creation of cyberspace. *Cyberspace* is a combination of the physical (computers) and virtual (Internet) aspects of information and communications technology. Since this breakthrough has become an invaluable facet in people's lives, the most logical action is to maximize its potential. Having a narrow view of this technological innovation can deter not only of the individual's but of the civilization's development as well. Aside from serving as an *Information Superhighway*, the Internet is also a venue for the proliferation of *virtual communities*. "Digital living", as Nicolas Negroponte posited, "will include less and less dependence upon being in a specific place at a specific time, and the transmission of place itself will start to become possible".⁴

As cyberspace technology was made to aid human activity, its presence bears several implications to human life. There is a homeostatic adjustment and dependence in the development of both. The individual

and the community adjust as technology progresses. Thereby, the community undertakes a redefinition of what it is composed of and how it is constituted. Its mechanisms are augmented; its actors are *reconstructed*, and its activities are revolutionized.²

Social capital will inevitably follow this trend. As a concept, it will have its own share of modifications. Foremost, its scope will no longer be limited to traditional modes of interaction. Second, it will no longer be confined within boundaries. Finally, its actors will be freed from the constraints of the physical world with one click of a button.

This paper ventures the possibility of generating and sustaining social capital in cyberspace. The central aim of this paper is to point out that the Internet can provide the mechanisms and venues for the potential generation and sustenance of social capital. It is essential that this issue be addressed as cyberspace continues to carve its niche in modern times. In effect, this challenges old concepts of social capital which are contained within finite space and time. Moreover, it presents an evolution of the creation of social capital from traditional face-to-face social interactions to virtual and global *cybernetworking*.

The New Realm: Cyberspace

The term "cyberspace" generally refers to the online world. It takes the form of the communications media – the wires above our head, the cable beneath our feet, and the satellites in the sky. The online world is practically neither an immaterial realm of data nor a kind of virtual world. Rather, it is a digital world constructed by computers which form millions or even billions of networks, collectively referred to as the Internet.³

The "Internet" (written with an uppercase "I"), also known as the Net, is a set of inter-connected networks.⁴ On the other hand, the Web (spelled with an uppercase "W"), is a collection of graphical pages on the Internet that can be read and accessed using a computer. It was created in 1989 at a research institute in Switzerland, *Centre European pour la Recherche Nucleaire* (CERN) solely for military use. It has gone a long way from what it was originally conceptualized for. Nowadays, the Web maybe used for purposes of commerce, education, or simple correspondence and information dissemination. The main topic of this paper is anchored on these connective and interactive capabilities.

The Internet is a convergence of computer science and linguistic genius. It greatly extends the reach of a computer network to physically unreachable places. It offers a variety of communication tools; great distances no longer exist and people can communicate in real time in their own convenience. Communication, which the Web facilitates, is the prerequisite in forming bridges and bonds, which make networks that would generate and sustain social capital.

What is Social Capital?

The study of social capital has become popular in the social sciences over the past few years. Its popularity began with the work of Harvard Professor Robert Putnam in his celebrated book, *Making Democracy Work*.⁵ But even before the publication of the book, several thinkers have already embarked on defining *social capital*.

Bourdieu

French sociologist Pierre Bourdieu posited that the size of the network of connections that an individual can effectively mobilize and the volume of the economic, cultural, or symbolic capital of those to whom he is connected with equates to the volume of social capital possessed by that individual.⁶ This means that one's social capital output is dependent with one's connections. Simply put, group members produce social capital. The group provides its members a collectively-owned social capital, which empowers them by giving them credits that they can use to create economic capital.⁷

There are set boundaries and defined set of individuals who possess cultural capital that inculcates the norms and traditions. Social capital is created as networks are formed. When connections are strengthened, differential access to resources and social differentiation are fostered. Individuals who have more access to goods and are favoured in society get more economic capital. Conversely, people who have more economic capital can create more links to tap more resources. As these social contacts deepen, norms are established, bringing the cycle back to square one. Nonetheless, it is not enough to treat the concept merely as a form of networks. It is also essential to examine its ideological or cultural context.⁸

Coleman

James Coleman puts forth a broad conception of social capital. He posits that it consists of some aspects of social structure and facilitates certain actions of actors.⁹ This view depicts the entirety of social structure, pertaining to the horizontal and vertical set-ups, such as firms and the norms governing behavior.¹⁰ Coleman stressed that horizontal ties are needed to give communities a sense of identity and a common purpose. However, it also argued that without "bridging" ties that transcend various social divides like religion, ethnicity, socio-economic status, horizontal ties can become a basis for the pursuit of narrow interests. This in turn can actively preclude access to information and material resources that would otherwise be of great assistance to the community.¹¹

For Coleman, social capital has three basic components.¹² The first pertains to obligation and expectation, which depend on the reliability of the social environment. The second deals with information dissemination to prompt action. The third form is the presence of norms accompanied by effective sanctions.¹³ Thus, efficient communication is a vital prerequisite before an individual can create norms to live by.

Putnam

The most popularized concept of social capital is associated with Robert Putnam who said that it is "a set of horizontal networks between people and associated norms that affects the productivity of the community."¹⁴ Therefore, it facilitates coordination and cooperation for the mutual benefit of the members of the association.¹⁵ Again, the "network of networks" analogy with the Internet comes to mind. Each individual is a "hyperlink" to another in the virtual realm and that each interaction can create infinite permutations. In this context, as coordination and cooperation are fostered among the members of a virtual community, social capital may be generated because it oversees the flow of communication

Lin

Nan Lin defined social capital as the "embedded resources of social networks accessed and used by actors for actions."¹⁶ Resources are defined as the valued goods in a society, like wealth, reputation, and power. One can be born with it or may strive to acquire it. When such

resources are utilized to gain personal or collective profit, these become social capital.

He also brought up the concept of *cybernetworks*, which he defined as "social networks in cyberspace specifically the Internet." He further noted that recent technologies have tremendous impact on social capital. Constructed by individuals or groups, cybernetworks are created for resource transactions or reinforcement of relationships. Cybernetworks are able to provide social capital because they "carry resources that go beyond mere information purposes."¹⁷ Furthermore, social capital is gained due to a wide variety of linkages and information, and the incentive to interact and go back for more.

Based on the concepts of social capital formed by Bourdieu, Coleman, Putnam, and Lin, this paper operationally defines *social capital* as the embedded resources of networks, founded on trust, norms, and reciprocity, and formed out of social interaction and investments.

Limitations of the Definitions of Social Capital

Another issue with the rise of the Internet is the continuous growing gap between the "haves and the have-nots."¹⁸ Although cyberspace interaction eliminates biases and hierarchical organization *within the Net*, there is still the gap between those who can access the Internet and those who could not. And this gap inevitably widens mainly due to the absence of technology (personal computers), and the lack of knowledge to access cyberspace and *cybernetworks*, which are determined by their socio-economic class, ethnic, religious, and residential lines. The Internet, therefore, will never serve society "until universal access is truly realized."¹⁹ This paper focuses only on individuals with access to cyberspace technology. The authors see the discussion of cyberspace and social capital relevant in contemporary times because of the impact of technology in society and everyday human living.

Real versus Virtual Communities

With the emergence of the *virtual reality*, "an artificial, computer-generated, and simulated environment that actually feels *real*...",²⁰ and the Internet, where people can interact, share information, and create networks, the absence of a face-to-face interaction may no longer pose

a problem to community-building. While virtual reality provides stimuli that are almost real, the Internet provides a medium for interaction that transcends time and space. Unlike the telephone, which merely augments direct relationship by posing as an instrument of communication, cyberspace interaction *forwards a reality apart from the reality*. Hence, this breakthrough allows for the usual "real community" activities to proliferate online.²¹

The emergence of *virtual communities*, "groups of people linked not by geography but by their participation in computer networks",²² took the limelight in the discussion of societies for several reasons. Foremost, since virtual communities are constructions of virtual social interactions, they provide an alternative reality for those who are tired of the real but corrupted and *disengaging* world.²³ Several theorists have posited that, since it was a *created community*—made in response to the imperfections of real-world interactions—it has the ability to revive the *community* as an interaction and bonding of people (*Gemeinschaft*) and not just as a collective entity bounded by contracts, money, and tokens (*Gesellschaft*) which, let alone, leads to social disengagement. Ed Regis attributed this to the logic of *fin-de-siècle* mania:

"...for perfect knowledge and power...the power to remake humanity, earth, the universe at large. If you're tired of the ills of the flesh, the *get rid of the flesh*: we can do that now. If the universe isn't good enough for you, then remake it, from the ground up."²⁴

Second, the virtual space allows for the sharing of environments and experiences even without physical presence, two factors essential to the strengthening of social ties among community members.²⁵ By *environment*, the authors refer to the virtual environment where cyber interactions occur. By *experiences*, they mean the sharing of information, narratives, meanings, and language transmitted over the Internet. The latter does not require physical interaction. The mere awareness of the *other's* presence interacting with an individual is sufficient to create an *integration* of the actors.²⁶

Third, individuals are able to further explore the meaning of the "self" as the virtual space allows for infinite opportunities to create and recreate identity, which maybe a venue for unexpressed facets of an individual.²⁷

Finally, as cyber utopians and cyber libertarians have argued, cyber communities or global villages are socially, politically and economically liberating. Economic and political power are not concentrated on certain nodes due to multiple channels of interaction; thus, less propensity for some to take advantage over others.²⁶ New businesses are able to compete in the market despite big, global competition. Politically-challenged sectors of the community are able to voice out their advocacies freely as much as those privileged in the physical world. For some advocates, it is democracy at its finest. Simply put, everyone is equal in cyberspace.

The facets of a virtual community provide equality and utopian reality. The first is *anonymity*. For instance, a person interacting in a dualist reality – the “constructed self” surfs and interacts in the vast cyberspace while his physical body is cocooned in front of his PC – is not obliged to reveal his “stable” and “real” identity to other people.²⁹ In effect, anonymity in cyberspace becomes an equalizing factor in social interaction. Ideas and information shared take merit over physical, ethnic, religious, and gender differences.³⁰ This socialization structure lies on the fact that there is no single body that oversees all Internet activities, a system, which Ause, Apajian and Ivens,³¹ refer as “consensual anarchy.”

Second is its ability to transcend time and space.³² Cyberspace interaction does away with traditional, chronological activities because it operates in “timeless time” and “space of flows.”³³ Therefore, social interaction does not have to be synchronous (e.g., cocktail parties) to effectively create networks. Asynchronous interactions, such as emails, are just as efficient connectors of people.³⁴

Although communities can emerge from and exist within computer-linked groups, the “technical linkage of electronic personas is not sufficient to create a community.”³⁵ Community includes more than merely the exchange of information; it is usually characterized by social contracts, reciprocity, and gift economies. Moreover, in a study conducted by Barry Wellman, et al.,³⁶ there is a significant relationship between Internet activity and commitment to online communities: when the former increases, the latter decreases. This is due to several factors. Internet users, although open to various information sources, is also open to irritating, abhorring sites, which decrease interactivity interests of the individual³⁷. Subsequently, as users are exposed to massive networks, online connections create more “bridge” social capital (numerous yet

weak ties) instead of "bonding" social capital (bounded but strong ties).³⁸ The former, although wide and global in scope, merely creates acquaintances, not necessarily leading to trust relationships. In addition, relationships formed out of weak ties do not promise sustainability. This is a weak form of social capital. Once communication discontinues, such communities may dissolve.

Thirdly, although anonymity serves as an equalizing variable for Internet users, it also poses weak commitment to online communities. This is mainly due to people's low investment in online communities. Without the obligation to connect "stable" or "real" identity to any activity online – either useful or detrimental to cyberspace interaction – there is a low sense of responsibility to outcomes of such activities. Moreover, non-verbal interaction (e.g. visual, auditory, tactile, and olfactory stimuli) leads to a deeper and more meaningful communication, trust and a sense of obligation. Cyberspace, unfortunately, has not translated the effects of these electronically.

Finally, Locksley believed that the emergence of information technology, including the Internet, leads to "outcomes of more inequality, less freedom, less choice, greater centralization of power and more intense and controlled work."³⁹ It serves as a tool for those already in power to control the economy, culture, and politics.⁴⁰ Although recognizing its potential contribution to social development, he further argued that information capital serves those who has the capacity to do so "rather than [to satisfy] social needs."⁴¹

The need to proliferate virtual communities is a question of convenience rather than of necessity. They were conceptualized to make lives easier, sustain existing interpersonal relationships separated by great distances, and provide more venues and options for human interaction. This is an invaluable asset in the business sector because it saves time, money, and effort in conducting certain transactions.

On a lighter note, there can also be a psychological reason for the existence of virtual communities. They maybe designed to satisfy one's need to disclose. There are personalities who choose to communicate behind the mask of anonymity, which is greatly fostered and empowered by technology. Some people may prefer to keep in touch online as they are

freed from any inhibitions (e.g. bashfulness, physical disabilities, lack of confidence) that face-to-face interactions bring.

The concept of a virtual community becomes relevant because it transcends race, language, time, and distance barriers. The Internet is a neutral ground for interaction. Since the Internet communicates digitally through Hypertext Mark-up Language (HTML), it is free from the limitations of oral language. This paper does not contend, however, that virtual communities *should take the place of* traditional communities. Not only will this be an economic question, but this will also raise graver personal and humane issues. This paper contends that virtual communities are made available at present to *complement and supplement rather than to take the place of* traditional communities.⁴²

How are Cyberspace and Social Capital Related?

Cyberspace, specifically the Internet, can pave the way towards the generation of social capital that transcends the limits of geographically-set modes of interaction. Internet advocates stress that electronic networks can help citizens build organizations, provide local information, and develop bonds of civic life and conviviality.⁴³

With the advent of the Internet, *cybernetworks* would eventually mushroom in the World Wide Web. Consistent with the technology that bred it, these communities would form networks upon networks of networks that would foster the creation of trust with unwritten rules drafted, norms generated, and people acquainted across spatial, time, and even cultural barriers.

Since *cybernetworks* are online communities, the effect of their activity creates a form of empowerment for individuals and communities interacting in cyberspace, or what Tim Jordan referred to as *cyberpower*.⁴⁴ "The Internet can serve as public spaces for informal citizen-to-citizen interaction, [it] can support rational dialogue and in some cases, deliberation, and [it] can promote the social connectedness, trust, and cooperation that [essentially] constitute social capital."⁴⁵ There are three levels of empowerment: individual, social, and ideological.

Individual Empowerment

This means that the use of the Internet allows an individual to gain knowledge regarding the technology (i.e., information and communications technology) and regarding the world. Cyberspace houses millions of domains which contain tremendous amount of data and/or information. With just one click of a button, these Web sites allow an individual at his own pace to know more about himself, his own society, and the world at large. The Internet provides venues for individuals to seek job opportunities online in the convenience of their own homes. This is not only favorable for the job-seeker but also for employers who could save more time, money, and human resources. There are also Web sites that teach people how to select software programs.⁴⁶ Another fad is online education. There are many tutorial sites that teach about anything from Java programming to bonsai-making. Pop-up icons in popular search engines or selected web sites advertise online schools which could earn anybody (who can afford it) a bachelor's degree or even an M.B.A. degree in just a few months. The Internet has become an indispensable tool for education and individual empowerment.

The Internet "benefits" from the individual's ingenuity and persistence to perfect the technology and other non-technical matters which allow it to exist. Computer scientists and engineers, not to mention a whole gamut of professions ranging from the white collar jobs to the vocational/technical ones, contribute to the development of the Internet as a technology or as an instrument of commerce.

Social Empowerment

The Internet is basically a network of networks. Although these networks are in hardware form (e.g. computers), they are run by people. Thus, the Internet can be instrumental in strengthening community ties, and thereby, augmenting social capital. There are several ways to do this. Mario Morino delineates ways how the Internet tries "to improve and magnify human communication and interaction in a community."⁴⁷

- By bringing together members of a community and promoting debate, deliberation, and resolution of shared ideas;

- By organizing communication and information relevant to the communities' needs and problems on a timely basis;

- By engaging and involving the participation of a broad base of citizens, including community activists, leaders, sponsors, and service providers on an on going basis;
- By striving to include all members of the community, especially those in the low income neighborhoods and those with disabilities of the limited mobility;
- By making basic services available at fair and reasonable costs or free, and;
- By representing local culture, local relevance, local pride, and a strong sense of community ownership.

All of these facilitate the formation of social capital. Participation of individuals in civic engagement forms civic networks, trust among its members, and norms of reciprocity. Higher social capital means higher tendencies that people will cooperate with each other. The community, therefore, strengthens *bonding social capital*, which are relationships within groups, and *bridging social capital*, which are relationships among groups such as sharing of resources between the church and the university of the city.⁴⁸

Ideological empowerment

The present power of the Internet promotes advocacy. Inexpensive and globally-accessible, it paves the way for intra- and inter-community support for projects. It is not only limited to a local group but spreads out its power in a global scale. It forms *ideological cyberpower*, or the empowerment of a group "in order to advance the imaginary: a vision, a movement, an ideological purpose" through online activity.

"As evidenced in industrialized nations, civic participation in politics and society in general can be solicited through the Internet. Government can decentralize while staying in close 'virtual' contact to facilitate coordination. Volunteerism can be generated by putting people in touch with the [agencies], which speak to their interests and values."⁴⁹ The Internet is a tool that "performs three major functions: information sharing, persuasion, and solidarity formation."⁵⁰ These are the basic things that a prospective volunteer wants to know. Brady, Verba, and

Schlozman⁵¹ delineate the reasons why people do not take part in civic engagements, particularly in politics. First of all, "people can't." This may mean that there is a scarcity of resources to engage in such activities. Second, "people don't want to." This is tantamount to the people's lack of motivation to join. Lastly, "nobody asked." This is where the information campaign on the Internet comes in. The World Wide Web is an ideal site to establish a "recruitment network." But the Internet is "institution-oriented" and accessed mostly by the opulent and educated citizens and therefore exhibits more potential than actual impact [to generate social capital].⁵²

Taking a Look Back: Some Practical Considerations

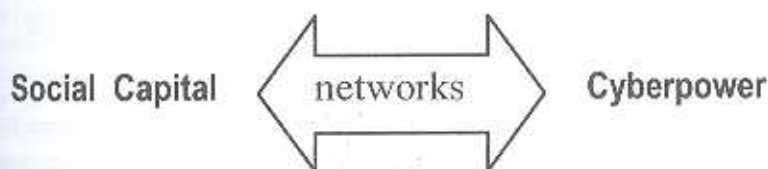
The formation of social capital in the Internet requires lesser social investment compared to face-to-face interactions. Nonetheless, the capacity to demand, if not impose grave sanctions in enforcing norms in cyber communities is still a challenge. When one becomes infuriated and suddenly rages online, he can simply log-out from the computer or pull off its plug. The act, if practiced in real life, could translate to hostile relationships. When someone has been filtered out of a mailing list of an e-group, he could simply change his e-mail address and subscribe to the same group again without being noticed. This is like having a plastic surgery to assume a different persona or identity. This is the reason it is hard to trust people in the Net.

Hence, no matter how great this technological breakthrough is, it still has a lot of practical shortcomings. No matter how sophisticated it gets, the Internet can never replace genuine human interactions and real life relationships.

But to consider Information and Communications Technology (ICT) as a mere entity with no value to the development of society is a grave misunderstanding of technology-society relationship. Cyberspace technology, with its roots in the social capital formed in the physical community, leads to the formation of cybernetworks, which generates *cyberpower*. Conversely, *cyberpower*, through online interaction, strengthens social capital by providing a new medium of communications among community members.⁵³

This discussion infers, therefore, that the prerequisite for strengthening social capital is that there should be a pre-existing counterpart physical community, and with the Internet only augmenting the social connections. According to Donald Schuler, "Community and technology are not antithetical."⁵⁴ Humans are innately social but are capable of using tools for his benefit. The Internet serves as an urgent tool for community development and not as a tool for community establishment. Its function in the community is to *strengthen*, not to *create* communities.

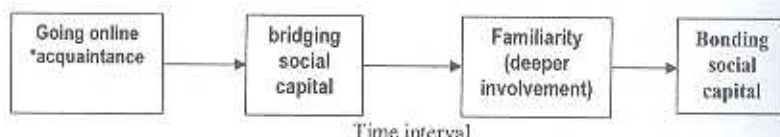
Figure 1. **Conceptual Model**



Although virtual communities cannot substitute traditional communities, they still generate social capital. The authors posit that the longer an individual "connects" with a particular virtual community, be it supported by a physical community or not, it may generate norms, trust, familiarity, and sense of reciprocity or social capital. Exploring the possibility of the *length of connectedness* in the network as the primary indicator of the formation of social capital in *cybernetworks* is a potential research study. Through regular and continuous interaction in a virtual community, individuals develop a sense of familiarity to those in the community through sharing of experiences and information.

A major critique of this model, however, concern the unpacking of the individual's motivation to go online in the first place. The authors do not deny that it may begin as an extrinsically motivated (incentives) activity – to meet someone, to create connections and linkages, to do business, and to acquire information and freebies.⁵⁵ As the length of connectedness to a virtual community increases, the level of involvement with that community likewise increases. This forms bonding capital which is summarized in the diagram which follows:

Figure 2: Formation of Social Capital in Cyber Networking



Conclusion

"The first thing to realize is that Internet is part of reality. The people you correspond with on the network are real people with lives and careers and habits and feelings of their own."⁵⁹

Social capital and cyberspace are not separate worlds in human life. They induce each other such that the former leads to the empowerment of the latter while cyberspace technology strengthens existing social capital in the community. Lastly, social capital is generated in cyberspace through a regular and continuous networking. Although this view is still problematic, it is noteworthy that the technologies behind it are continually advancing. Thus, the full potential of the social capital has yet to be fully realized in the context of cyberspace technologies. ☉

Endnotes

- 1 Negroponte, 1995: 165.
- 2 Lyon in Loader, 1997.
- 3 NetLingo, 2002.
- 4 NetLingo, 2002.
- 5 Putnam, 1993.
- 6 Bourdieu, 1986.
- 7 Lin, 2001.
- 8 Harriss, 2002.
- 9 Coleman, 1988.
- 10 Grootaert, 1998.
- 11 World Bank Group, 1999.
- 12 Coleman, 1988.
- 13 Feldman and Assaf, 1999.
- 14 Putnam, 1993.
- 15 Putnam, 1993; World Bank Group, 1999.

- 16 Lin, 2001.
- 17 Lin, 2001:215.
- 18 Lin, 2001: 229.
- 19 Hochner, 2001.
- 20 Netingo, 2002.
- 21 Lyon in Loader, 1997.
- 22 Rheingold, 2000.
- 23 Willson in Holmes, 1997; Fukuyama, 2001.
- 24 Regis in Holmes, 1997: 2.
- 25 Rheingold, 2000; Lyons in Loader 1997; James and Carkeek in Holmes 1997.
- 26 Lyons in Loader 1997.
- 27 Lyons in Loader 1997.
- 28 Lin, 2001; Loader, 1997; Castells, 2000.
- 29 Lyon in Loader 1997:31.
- 30 Hochner, 2000.
- 31 Aulsebrook, Arpajian, and Ivens, 1997.
- 32 Lin, 2001; Wellman, 2001.
- 33 Castells, 2000: 13.
- 34 Wellman, 2001; Negroponete, 1995: 167.
- 35 Rheingold, 2000; see also Holmes, 1997;Poster in Holmes 1997.
- 36 Bary Wellman et al. 2001.
- 37 See also Lin, 2001.
- 38 Hopkins and Thomas, n.d.:1
- 39 Locksley in Little and Smith (eds), 1991.
- 40 Hochner, 2000: Locksley, 1991.
- 41 Locksley, 1991:342.
- 42 London, 1997; Alkalimat and Williams, 2001; Wellman et. al, 2001.
- 43 London, 1997.
- 44 Alkalimat and Williams, 2001.
- 45 London, 1997.
- 46 Alkalimat and Williams, 2001.
- 47 London, 1997.
- 48 Alkalimat and Williams, 2001; Putnam, 1993.
- 49 World Bank Group, 1999.
- 50 Montague, 1997.
- 51 Schlozman, 1995.
- 52 Montague, 1997.
- 53 See Alkalimat and Williams, 2001.
- 54 Schuler, 1996.
- 55 Lin, 2001.
- 56 Agre, 1997.

References

- Agre, P. "Networking on the Network". Department of Communication University of California, San Diego, 1997.

- Alkalimat, A. and Williams, K. *Social Capital and Cyberpower in the African*. 2001.
- Alliance for Community Technology. "American Community: A Case Study of a Community Technology Center in the Dual City." Available at <http://www.communitytechnology.org/cyberpower/cyberpower.pdf>.
- Ause, W., Arpajian, S., and Ivens, K. *How to Use the World Wide Web*, 2nd ed. USA: Ziff-Davis Press, 1997.
- Brady, H. E., Verba, S. and Schlozman, K.L. "Beyond SES: A Resource Model of Political Participation." *American Political Science Review* 89, 2 (1995).
- Brown, B. E. *Comparative Politics Notes and Readings*, 9th ed. USA: Harcourt College Publishers, 2000.
- Castells, M. "Materials for an exploratory of the Network Society." *British Journal of Sociology*, 2000.
- Coleman, J. S. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94 (1988): S95-S120.
- _____. "Foundations of Social Theory." In T. R. Feldman and S. Assaf, eds. *Social Capital: Conceptual Frameworks and Empirical Evidence. An Annotated Bibliography*. Cambridge: Harvard University Press, 1999. World Bank Social Capital Initiative Working Paper Series. Available at www.worldbank.org/poverty/scapital/wkrppr/index.htm. 1990.
- Feldman, T. R. and Assaf, S., eds. *Social Capital: Conceptual Frameworks and Empirical Evidence. An Annotated Bibliography*. World Bank Social Capital Initiative Working Paper Series. Available at www.worldbank.org/poverty/scapital/wkrppr/index.htm. 1999.
- Fountain, J.E. "Social Capital: A Key Enabler of Innovation in Science and Technology." In L. M. Branscomb and J. Keller, eds., *Investing in Innovation: Toward A Consensus Strategy for Federal Technology Policy*. Cambridge: The MIT Press, 1997. Available at <http://www.ksg.harvard.edu/prg/fountain/soccap.htm#Introduction>.
- Fukuyama, F. *The Great Disruption*. USA: Touchstone, 2001.
- _____. "Trust: The Social Virtues and the Creation of Prosperity." In Feldman, T. R. and Assaf, S. *Social Capital: Conceptual Frameworks and Empirical Evidence. An Annotated Bibliography*, 1995. World Bank Social Capital Initiative Working Paper Series. Available Online, www.worldbank.org/poverty/scapital/wkrppr/index.htm. 1999.
- Grootaert, C. *Social Capital: The Missing Link?* The World Bank Social, 1998.
- Harasim, Linda M. ed. *Computers and International Communication*. USA: MIT Press. Cited in S. London, *Civic Networks: Building Community on the Net*, 1997. World Bank Library Available Online. <http://wbln0018.worldbank.org/PRM/PREHome.nsf/>

788610011854ce9c852565e70067772a /
5ea77e455c4566a38525681500702e6f?OpenDocument. 1993.

Hochner, R. "The Internet and Social Connection: Web of Politics." Available at <http://www.duke.edu/~crh8>, 2001.

Holmes, David, ed. *Virtual Politics – Identity and Community in Cyberspace*. London: SAGE Publication, 1997.

Kling, R. "Synergies and Competition Between Life in Cyberspace and Face-to-Face Communities." *Social Science Computer Review* 14, 1: 50-54. Available at <http://www.slis.indiana.edu/kling/pubs/kling9601.pdf>. 1996.

Lin, N. "Building a Network Theory of Social Capital." World Bank Poverty Net. Available at <http://poverty.worldbank.org/library/view/8489.n.d>.

Little, R. and Smith, M., eds. *Perspective on World Politics: A Reader*, 2nd ed. London:Routledge, 1991.

Loader, Brian,ed. *The Governance of Cyberspace*. London: Routledge. 1997.

London, S. *Civic Networks: Building Community on the Net*. World Bank ,1997.

Matthews, C. Hardball. In Fountain, J.E. *Social Capital: A Key Enabler of Innovation in Science and Technology*. Cambridge: The MIT Press. Available at <http://www.ksg.harvard.edu/prg/fountain/soccap.htm#Introduction>.1997.

Montague, K. "Social Capital and Citizen Interpretation of Political Ads, News, and Web Site Information in the 1996 Presidential Election." *American Behavioral Scientist*, 40, 8 (1997): 1238-1249.

Murray, B. "How Can New Interactive Communication Technology Enhance Harmonious and Functional Communities at all Scales Worldwide?" Report of an Exploratory Aspen Workshop. California Institute of Technology. Society, Cyberspace, and the Future. 1995.

NetLingo, Inc. Available at <http://www.netlingo.com/inframes.cfm>.2000.

Negroponte, N. *Being Digital*. New York: Alfred A. Knopf, 1995.

Pippa, N. "Does Television Erode Social Capital? A Reply to Putnam." *Political Science & Politics* 1996: 474-480.

Portes, A. and Landolt, P. "The Downside of Social Capital." *The American Prospect* 26 (1996).

Putnam, R. D. "Bowling Alone: America's Declining Social Capital." *Journal of Democracy* 6, 1(1995): 65-78 and in Brown, B. E., *Comparative Politics Notes and Readings*, 9th ed. USA: Harcourt College Publishers, 2000.

_____. *Making Democracy Work*. USA: Princeton University Press, 1993.

Rheingold, Howard. "The Virtual Community." Available at www.rheingold.com. 2000.

Ring, P.S. and de Ven, A.V. "Developmental Processes of Cooperative Interorganizational Relationships." *Academy of Management Review* 19, 1 (1995).

Schuler, D. "New Community Networks: Wired for Change." In London, S. *Civic Networks: Building Community on the Net*, World Bank Library Available Online. <http://wbinfo018.worldbank.org/PRM/PREMHome.nsf/788610011854ce9c852565e7006772a/5ea77e455c4566a38525681500702e6f?OpenDocument> 1996.