Development Informatics

Working Paper Series

The Development Informatics working paper series discusses the broad issues surrounding information, knowledge, information systems, and information and communication technologies in the process of socio-economic development

Paper No. 16

Knowledge and Learning in Online Communities in Development: *A Social Capital Perspective*

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2003

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Knowledge and Learning in Online Networks in Development:
A Social Capital Perspective

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2003[4]

Abstract

The paper examines whether the concept of social capital can be applied to facilitate our understanding of online networks in development. It first argues that knowledge and learning are important to development and development actors. Much of the knowledge generation and social learning in development takes place in networks. These networks, now increasingly going online, thus have an important role to play in facilitating social learning and the improvement of development practices. Although there seems to be a general feeling that these online networks are a positive force in development, there are many unknowns about these networks, partly because they are in their infancy. New ideas and tools are needed to facilitate our understanding.

The concept of social capital has been applied to examine the functioning of groups and societies. More recently, it has also been applied to development and to online networks outside development. Given this background, it may offer a useful approach for increasing understanding of online networks in development. With this objective in mind, three non-development approaches for examining social capital in online networks and communities are reviewed. Elements of these approaches, into which development-related aspects are incorporated, are combined to produce a framework which aims to facilitate the analysis of social capital in online networks in a development context.

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Introduction

The main purpose of this paper is to consider whether social capital can help our understanding of online networks in development. This will be done by developing a framework to facilitate this understanding. The paper has roots in three different areas: academic knowledge management; and literature related to both information and communication technologies (ICTs) and social capital in a development context. This paper aims to develop a form of middle-range theory in which theory, in this case relating to social capital, is linked to practice, namely to the functioning of online development networks. In addition to the literature in the above three subject areas, this paper is also founded on practical experience with and active participation in online networks. This practical experience is incorporated into the proposed framework for analysing social capital in online development networks.

Part A will first examine why knowledge and learning are important to development and development actors. Part B considers knowledge and learning in development networks, arguing that these networks, now increasingly going online, have an important role to play in facilitating social learning and the development of new and improved practices. Although there seems to be a general understanding that these online networks are a positive force in development, there are many unknowns about these new networks. New ideas and tools need to be developed to facilitate understanding of networks. Part C then examines whether social capital may be a concept which can be applied to facilitate this understanding. It first looks at different definitions of social capital and discusses whether social capital can help us understand how societies and groups function, and whether it is applicable to development and online networks. In Part D, criticisms of social capital in the development field are reviewed to see if it is appropriate to apply this concept within a development context at the (meso) level of online networks. Part E then reviews three emerging approaches to considering social capital in online networks and communities outside development. In Part F, these are combined into a framework which is elaborated to analyse the formation of social capital in online development networks.

Before starting, it needs to be clear that the sort of online networks we are considering are not at the grassroots and are not directly relevant to the rural poor. These networks, made possible by recent development in ICTs, are the medium through which development professionals, from all types of development organisations – multilateral, bilateral, governmental and non-governmental – are communicating and collaborating with each other.

A. Knowledge, Learning and Networks

> *International institutions, country donors and the broader development community are rapidly coming to the conclusion that knowledge is central to development – that knowledge is development.* (World Bank 1998)

Knowledge management has become increasingly adopted in development circles since the mid-1990s, illustrated by the quote from the World Bank above. Knowledge management originated in management science, has been applied (apparently) successfully in commercial organisations, and has now been partially accepted by the development establishment. In its most simple sense, it refers to managerial support for learning within and between organisations and, consequently, for the effective use of organisational knowledge. This

knowledge is largely shared by people, with printed documents and databases offering limited access to the total knowledge resources of any organisation. Many factors have transformed the way organisations view knowledge and knowledge sharing but perhaps the most pivotal is the dramatically extended reach of knowledge through new ICTs.

The diverse efforts of organisations around the world are being pursued under various labels: knowledge management, knowledge sharing, intellectual capital management and intellectual asset management. In a more complex sense, knowledge management is four things at the same time: it is a concept, a business discipline or theory that reflects the increasing importance of knowledge as a corporate asset, a collection of technologies, and a philosophy. Many of the varied definitions focus on one or more of these aspects.

For development, knowledge management offers a number of new opportunities. Development organisations are becoming more conscious of the use of knowledge within their organisations and also how it is to be shared with the outside world: other organisations and individuals. This focus on knowledge is certainly not out of place in the development sector because development initiatives themselves are comprised of knowledge-based practices. Only with increased understanding of development, in all its various dimensions, can these practices be improved. Key to this process is learning, particularly social learning in groups and organisational learning. Social (or collective) learning, fundamental to how development practices are improved, is taking place in informal and formal networks. Since the explosive growth in the use of ICTs, much of this networking is taking place through the medium of online networks. Thus, development networks are increasingly going online.

B. Knowledge and Learning in Online Development Networks

Since the 1990s, the role of online networks of development organisations has received increasing attention. Such development networks, including so-called 'communities of ideas' (Engel 1997), 'communities of practice' and 'communities of purpose' (Wenger 1999), 'formal knowledge networks' and 'virtual teams' (Willard 2001) 'thematic networks' (IICD website) and 'thematic groups' (World Bank website) have been used to upgrade the quality of the activities, outputs and impact of development organisations; to facilitate a collective learning process; and to contribute to a 'shifting up' of development activities to an international audience.

Among the development organisations which are positively exploiting the potential of these online networks and virtual communities, the prime example is probably the World Bank. As part of its wider knowledge-sharing strategy, the Bank has created intra-organisational and inter-organisational, global virtual communities. The World Bank argues that these communities are critical because:
- They serve as an ongoing learning venue for Bank staff and outside practitioners who share similar goals, interests, problems, and approaches.
- They respond rapidly to individual inquiries from members and Bank clients with specific answers.
- They develop, capture, and transfer best practices on specific topics, by stimulating the active sharing of knowledge.
- They influence development outcomes by promoting greater and better-informed dialogue.

- They link diverse groups of practitioners from different disciplines – thematic groups, for example, represent the nexus between experts in the Regions and the Sectors, and are thus intertwined with the Bank's organisational structure.
- They promote innovative approaches to address specific development challenges.

Although it is not possible to estimate exactly how many intra-organisational virtual communities there are, the World Bank comments that they are 'extremely numerous and diverse'. For example, there are more than 100 thematic groups. The World Bank also has a number of other inter-organisational online communities which aim to reach out to external audiences and partner organisations. Three examples include Ayuda Urbana, the Water and Sanitation Think Tank, and the Investigative Journalism group.

Another development organisation exploiting and analysing the potential of these virtual communities is the International Institute for Sustainable Development (IISD), Canada. IISD is researching the functioning of the 'formal knowledge networks' with which it is involved. A further example is the International Institute for Communication and Development (IICD), Netherlands, which uses thematic networks as the key way to disseminate sector specific lessons, news and ideas. Working with existing networks or forming something new when it is needed, each network supports IICD's local partners by bringing expertise and knowledge to them; and by providing a platform where their experiences can be shared more widely. They also serve as a way to more generally mobilise and disseminate information on ICT-enabled development.

Interest in online networks from a group of development organisations led to the creation of Dgroups (http://www.dgroups.org), a platform of collaborative tools and services. By mid-July 2003, Dgroups supported 360 virtual communities, containing 8125 members[5]. Partners in Dgroups include Bellanet, the Institute for Connectivity of the Americas, IICD, OneWorld, the United Nations AIDS Organisation, and the British Department for International Development.

A Short Terminological Discussion

> *Social actors are continuously, either spontaneously or in a more organized way or both, building relationships with each other to create opportunities for joint learning, increasing their understanding and improving upon current practices.* (Engel 1997)

> *Over time, this collective learning results in practices that reflect both the pursuit of our enterprises and the attendant social relations. These practices are thus the property of a kind of community created over time by the sustained pursuit of shared enterprise. It makes sense, therefore, to call these kinds of communities: communities of practice.* (Wenger 1999)

In the knowledge management literature, ICT-enabled communities are generally referred to as 'communities of practice' and 'communities of purpose' after the terminology developed by Wenger (1999). In the development literature, they are generally referred to as online networks or virtual communities. For the purposes of this paper, the development

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[5] When the first draft of this paper was prepared in mid-May 2003, there were 303 groups with 6656 members.

terminology of online networks will be used, unless specifically referring to the literature on communities of practice.

Communities of practice come into existence when people with a shared practice feel a need to share what they know and to learn from others (Wenger 1999). Professional associations, groups of software developers and skilled craft guilds are examples of work-related online communities of practice outside of development. In past years, electronic discussion groups, email and electronic chat rooms have facilitated the development of communities where the members are not in close proximity. Regardless of the mode of interaction, the traditional notion of a community of practice is that it emerges from a work-related field, and that members volunteer to join. A related sort of community is the 'community of purpose' where members join to campaign over a particular issue. These issues can include women's rights, for example, or anti-globalisation campaigns.

The terminology of online networks will be used in this paper. This is for ease of reference and also partly in recognition of the fact that 'communities of practice' is not a widely-used terminology outside of knowledge management circles. However, understanding of online networks here will be assumed to be informed by an understanding of communities of practice.

Two further types of online community should be recognised, so-called communities of circumstance and communities of interest. Communities of circumstance are online communities in which members share the same position, circumstance or life experiences, rather than profession. For example, women's groups or sufferers from a particular disease. Communities of interest are online communities of people who share a common personal interest or hobby. Although these latter two types of community are not directly relevant to development, they do demonstrate a more sophisticated description of the different communities when compared with the simple form of 'networks' more generally used in the development discourse.

Although the development terminology is used here, there is a risk that this terminology may inadvertently obscure power relations in these communities. For example, communities of practice are generally made up of like-minded individuals who are trying to work together to improve development practices. Although there will be power issues here related to access to resources and the roles of different individuals, such issues are rather limited in scope. On the other hand, climate change discussion groups, for example, may be subject to outright political manipulation (Ton Dietz, personal communication). This sort of political manipulation may be more common because of the very campaigning nature of communities of purpose; in which category such climatic change groups could be placed. Indeed, where 'networks' is used to describe both communities of practice and purpose within development, there is a risk that political differences between these communities are being obscured.

Issues in Online Development Networks

Much of the wider literature from academic knowledge management on communities of practice deals with intra-organisational communities within particular business organisations. Although by no means unique, the online networks in the development arena are generally inter-organisational: made up of individuals from different organisations who share common professional interests. If complexity of networks can be characterised by the number of

boundaries they cross, online networks in the development field are characterised by high complexity (Duarte and Snyder 1999) (see Table 1). These networks are crossing organisations, job functions, time zones, many national cultures and often language barriers, as well as including some individuals who do not have full access to electronic technology. Some networks even go off this scale in terms of complexity by having a secretariat, for example.

Table 1: Estimating Complexity of Virtual Teams

1. Has members from more than one organisation
2. Has members from more than one function
3. Has members who transition on and off the team
4. Is geographically dispersed over more than three contiguous time zones
5. Is geographically dispersed so that some team members are 8-12 hours apart
6. Has members from more than two national cultures
7. Has members whose native language is different from the majority of other team members
8. Has members who do not have equal access to electronic communication and collaboration technology

1-2 'yes' answers indicates some complexity; 3-5 moderate complexity; and 6-8 high complexity.

Source: Duarte and Snyder (1999), cited in Willard (2001)

As well as being complex, these development networks could also be unrepresentative. Non-governmental organisations (NGOs) are active in these networks, and yet most have not invested strongly in results-based human resource policies, training and development, standardised organisational policies, and communication and collaborative technologies. For that reason, Willard (2001) argues that emerging 'civil society knowledge networks' tend to include primarily elite institutions from around the world.

In practice, though – despite 'North-North' membership in some networks (and 'South-South') – online networks in development often comprise members from both South and North. The facility to create dialogue, learning and collaboration between these groups, provided by the new technology, makes these networks a very attractive proposition for development organisations. Following Engel's arguments, it is probable that these communities of practice are the place where innovation is occurring, where new practices are being formulated and where social learning is taking place. This, for example, appears to be the case for the LEAP IMPACT community of information professionals which seems to be successfully facilitating shared understanding of the model of evaluation (Cummings and Mchombu 2003). Indeed, these communities might be the 'engines of innovation' within development.

There is a general understanding, then, that online development networks could positively contribute to knowledge sharing between development organisations. However, the functioning of these ICT-enabled networks and the role of issues like complexity and representation are not yet clearly understood. For example, staff of many development organisations are involved in such virtual networks – these networks may even represent a vital component of their work – but most development organisations have no mechanism for

exploiting this participation or for analysing the networks themselves. Members of these networks may even have considerable loyalty to their fellow community members leading, for example, to the reciprocal sharing of internal organisational documents in an informal benchmarking process. In some cases, the organisation may not know that their staff members are collaborating with others in this way or even that such networks may, indeed, be the engine of innovation within development. This also means that organisations are often unable to leverage participation in such networks in a way which is useful to their own ends.

Therefore, we need new tools and concepts to help us understand better how ICT can be used to share knowledge among development professionals, how to manage these online networks, and how to get the best out of them. An approach that is beginning to be used in academic knowledge management is that of the analysis of social capital in such networks (for example, Huysman 2004) . In the next section, we will look at social capital and consider whether it is applicable to development and to online networks and whether, in this sense, it might help us understand what is happening in online development networks.

C. Social Capital

Before looking at the application of social capital to online networks, it is first important to examine the nature of social capital and to define it.

What is Social Capital?

According to Nahapiet and Ghoshal (1998), the term 'social capital' initially appeared in community studies, highlighting the central importance – for the survival and functioning of city neighbourhoods – of the networks of strong personal relationships developed over time that provide the basis for trust, cooperation and collective action (Jacobs 1965, cited in Nahapiet and Ghoshal). Early usage also indicated the significance of social capital for the individual (Loury 1977, cited by Nahapiet and Ghoshal 1998). Since then, the concept has been applied to a wide range of social phenomenon, particularly the role of social capital in the development of human capital, and in the economic performance of firms, geographical regions (Putnam 1993) and nations (Fukuyama 1995).

The central tenet of social capital theory is that networks of relationships constitute a valuable resource for the conduct of social affairs, providing their members with 'collectively owned capital, a "credential" which entitles them to credit, in the various senses of the word' (Bourdieu 1986, cited in Nahapiet and Ghoshal 1998). Much of this capital is embedded within networks of acquaintance and recognition. Other resources are available through the contacts or connections networks bring. For example, through 'the strength of weak ties' and 'friends of friends' (Boissevain 1974), network members can gain privileged access to information and to opportunities. Finally, significant social capital in the form of social status or reputation can be derived from membership of specific networks, particularly those in which such membership is relatively restricted (Bourdieu 1986).

Like other forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible. Like physical capital and human capital, it is not completely transferable. Moreover, although it has value in use, social capital cannot be traded easily (Nahapiet and Ghoshal 1998) although Burt (1998) says that it can be borrowed. Useful capital resources for individuals in social relations include obligations,

expectations and trustworthiness of structures; access to information channels; and norms and effective sanctions.

Although many of these authors agree on the significance of relationships as a resource for social action, they lack consensus on a precise definition of social capital. Many commentators argue that the concept of social capital is 'hazy and fluid' (Syrjanen and Kuutti 2004) and that 'social capital means different things to different people' (Dasgupta and Serageldin 2000). Some limit the scope of the term to only the structure of the networks, whereas others like Bourdieu and Putnam also include in the conceptualisation of social capital the actual and potential resources that can be accessed by such networks. Nahapiet and Ghoshal (1998) define social capital 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 a social unit'. Van der Gaag and Snijders (2002) define an individual's social capital as:

> *The collection of resources owned by the members of an individual's personal social network, which may become available to the individual as a result of the history of these relationships.*

For the purposes of this paper Nahapiet and Ghoshal's (1998) definition will be preferred, with the addition of the historical element proposed by Van der Gaag and Snijders (2002). Thus, social capital will be 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 a social unit, as a result of the history of these relationships.

Social Capital in Societies and Organisations

Van der Gaag and Snijders (2002) consider that social capital applies to both the individual (micro) and collective (macro and meso) level, and that its qualification therefore involves phenomena at both levels of analysis. Putnam, for example, has particularly elaborated theories and approaches at the macro-level. He studied regional governments in Italy for more than 20 years from 1970 onwards and sought to explain their strikingly contrasting performance (Putnam 1993). He demonstrated statistically that both variations in government performance and levels of socio-economic development in different parts of the country are explained by civic engagement, measured in terms of the extent and type of political participation, newspaper readership, and density of voluntary associations of different kinds. Later, civic engagement is described as 'social capital'. Putnam's interpretation of the Italian case fuelled a debate that linked analysis of social capital to the field of development studies (Portilla Rodriguez 1997). Contrary to both Bourdieu's and other's original conceptualisations, social capital had now become the property of a whole society.

Putnam later applied this approach to levels of social capital in the USA. Using data from Roper Social and Political Trends and the Needham Life Style surveys, Putnam (2000) argued that in the past 25 years, Americans have become increasingly disconnected from their family, friends, neighbours and social structures, particularly from local associations and social clubs. He argues that the correspondent shrinking access to social capital is a serious threat to civic and personal health because communities with less social capital have lower educational

performance, higher crime rates and poorer health. He estimates that the factors that have contributed to the decline in civic engagement include: (a) pressures of time and money, including two career families (10%); (b) suburbanisation, commuting and sprawl (10%); (c) electronic entertainment, particularly television (25%); and (d) generational change – the slow, steady replacement of the long civic generation by their less involved children and grandchildren (50%).

While social capital in societies has been examined at macro and micro level, it has also been applied at the organisational (meso) level to reach conclusions about the functioning of firms. Typically, researchers see organisational advantage in the particular capabilities organisations have for creating and sharing knowledge. In this context, Nahapiet and Ghoshal (1998) argue that social capital facilitates the creation of new intellectual capital; that organisations, as institutional settings, are conducive to the development of high levels of social capital; and that it is because of their more dense social capital that firms, within certain limits, have an advantage over markets in creating and sharing intellectual capital. These authors then make distinctions between the structural, relational and cognitive dimensions of social capital, focused at the level of organisations:

1. Structural dimension: the overall patterns of connections between the actors, including the presence or absence of network ties between actors; network configuration or morphology. Descriptors include density, connectivity, hierarchy, and appropriate organisation.

2. Cognitive dimension: those resources providing shared representation, interpretation and systems of meaning among parties. They include shared language and codes, and shared narratives.

3. Relational dimension: personal relationships people have developed with each other through a history of interactions, also called 'actor bonds' (Hakansson and Snehota 1995). Among the key facets in this cluster are trust and trustworthiness, norms and sanctions, obligations and expectations, and identity and identification.

The consequences of social capital for knowledge in organisations and networks cover two distinct themes. First, social capital increases the capacity for knowledge sharing. For example, networks of social relations, particularly those characterised by weak ties or structural holes (i.e. disconnections or non-equivalences among actors in an arena) increase the efficiency of information diffusion through minimising redundancy (Burt 1992). Second, social capital is an aid to adaptive efficiency and to creativity and learning. Researchers have found that social capital encourages cooperative behaviour, thereby facilitating the development of new forms of association and innovative organisation. The concept is therefore central to the understanding of institutional dynamics, innovation and value creation (Nahapiet and Ghoshal 1998).

This short literature review indicates that social capital can be used to examine the knowledge sharing of organisations and networks, namely the 'meso' level. But to what extent does the concept contribute to our understanding of development and of online networks?

Social Capital in Development

Social capital has been applied and does seem relevant to development. A growing body of empirical evidence suggests that the density of social networks and institutions, and the nature of the interpersonal interactions that underlie them significantly effect the sustainability of development programmes. However, the exact channels through which this social capital impacts development outcomes have only just begun to be explored and many of the lessons to be drawn from these observations for programme design and implementation remain to be formulated (Grootaert and van Bastelaer 2002). These lacunae led to a large empirical exercise being undertaken by the World Bank from 1996 onwards, funded by the Government of Denmark, which was designed to advance the theoretical understanding of this concept. The Social Capital Initiative (SCI) had three objectives: to assess the impact of social capital on project effectiveness; identify ways in which outside assistance can help in the process of social capital formation; and contribute to the development of indicators for the monitoring of social capital together with methodologies for measuring its impact on development (Grootaert and Bastelaer 2002).

As part of the SCI, some 12 studies were solicited by the SCI team, representing a broad methodological spectrum of quantitative and qualitative analysis, and having a wide geographical and sectoral coverage. They examined the role of social capital at the micro, meso and macro levels. Case studies from developing countries, undertaken as part of the SCI, show that the benefits from the stock of social capital can flow either to communities or to individuals and households (see Table 2). At an early stage in the SCI, Grootaert (1998) of the World Bank was claiming that there is growing evidence that social capital, however it was defined, can have an impact on development outcomes: growth, equity and poverty alleviation; even that it is the 'missing link' in development.

Table 2: Benefits from Stocks of Social Capital: Some Cases

Ghanaian entrepreneurs: accessing technologies; accessing markets; helping to reinforce contracts; supporting informal credit; supporting insurance arrangements.

Agricultural traders in Madagascar: more accurate information (on prices and credibility of clients) reduces transaction costs and acts as an informal channel for acquiring insurance against liquidity risk.

Farmer groups in Rajasthan: local and structural and cognitive social capital to build consensus on the use of watershed land resulting in more productive use of this land as well as improved broader development outcomes.

Agricultural extension in Mali: trust is the key factor in making extension successful.

Water projects in Indonesia: social capital increases the ability of villagers to organise in order to design and manage water supply systems.

Solid waste removal in urban Bangladesh: social capital increases the ability of villagers to organise in order to design and manage water supply systems.

Russia: social capital is the most important source of income security.

Source: Grootaert and van Bastelaer (2002)

Social Capital in Online Networks

Could new "virtual communities" simply be replacing the old-fashioned physical communities in which our parents lived? (Putnam 2000)

Not only does social capital appear to be applicable to networks and development, it has also been used in knowledge management to reach conclusions about online networks. Indeed, there is much optimism over the role that virtual communities will have on social capital in the future. Lin (2001), for example, argues that 'the growth of cyberspace and the emergence of social, economic and political networks in cyberspace signal a new era in the construction and development of social capital'. Putnam (2000) also argues that the Internet may lead to a reversal in the decline of social capital in the USA. However, these predictions appear to be based on a form of ICT enthusiasm rather than hard facts. It seems difficult to understand how use of ICTs for entertainment and shopping by the general public can lead to an accumulation of social capital that can be applied to some form of productive use. Castells (2000) argues that Internet-mediated communication is too recent a social phenomenon to have provided the opportunity for scholarly research to reach firm conclusions. This appears to be the most reasonable position to take at the present time, with concerns that overt enthusiasm may not be vindicated.

Granovetter (1973), an economic sociologist at Stanford University, makes a distinction between two sorts of social capital: resources of 'bridging' capital (or weak ties between numerous people) and 'bonding' capital (or strong ties within small groups). As Hopkins and Thomas (2002) at the Institute for Social Research of Swinburne University, Australia, argue, this distinction between two dimensions of social capital is an important one in the context of electronic networks:

> *At first glance, online relationships would seem more likely to contribute to the relatively weak ties that constitute "bridging" capital than to the strong, multifaceted, and highly personal relationships which underpin "bonding" capital. But they may also contribute to bonding capital, not only in situations where families and communities are divided by distance, but also when particular media, for instance instant messaging, make a useful and economical addition to people's existing repertoire of communications channels.*

Even if this optimistic view is unfounded – and online networking leads to an erosion of various forms of social capital – we can still say that there is an important relationship between online networks and the formation of social capital. We equally have some limited evidence that social capital is important in the formation of online networks (Alkalimat and Williams 2001). Thus, despite the currently-limited evidence and questions about the direction and nature of the relationships, we can conclude that the concept of social capital has relevance and application to online networks.

D. Criticisms of Social Capital
(or How two professors from LSE and SOAS – and others - disagree with the World Bank)

> *Institutions, customs, culture and so on, social capital especially, become the response to market (informational) imperfections as opposed to the form and means of expression of economic and social relations, processes and structures.* (Fine 2002)

There has been considerable and very serious criticism of the use of the concept of social capital both from outside and within the development community which needs to be taken into account before going further in its application. Some of the most serious criticism comes from John Harriss' book 'Depoliticizing Development: The World Bank and Social Capital' (2002). Most of these criticisms are relevant to the general discussion of social capital but have particular relevance to the development discourse. Harriss argues that:

> *"Social capital" and the closely related idea of "trust", the ideas and activities around "civil society" (held to be the sphere of association, outside the state, in which people freely participate) "participation" and non-governmental organizations have ... come to constitute new weapons in the armoury of the "anti-politics machine" that is constituted by the practices of "international development".*

Harriss considers that this approach to social capital contributes to a hegemonic social science that obscures power, class and politics; a hegemony which suits the interests of global capitalism and US-centred imperialism.

Fine (2002) also has serious problems with the 'anodyne concept' of social capital. Like Harriss, he argues that social capital is a fashion:

> *Precisely because social capital has no historical grounding ... it both excludes specificity at the outset and, like blank canvas, allows the historical or socially specific to be added to order from an ever expanding menu of variables to an equally exhaustive range of methodological recipes.*

Fine considers that the current interest in social capital is part of a silent revolution which has been taking place in mainstream economics which is now starting to 'colonise' the social sciences. Named the information-theoretic approach by Joseph Stiglitz, one of its main proponents and previously of the World Bank, it stresses that markets are imperfect, especially in terms of information available to buyers and sellers. The presence of market imperfections is also used to explain non-market behaviour, such as institutions, customs and so on, as the rational response of optimising individuals. This allows the new approach to purport to explain what has traditionally been the concern of other social sciences.

Fine first argues that what is striking about social capital is the extent of its influence, the speed with which this has been achieved, and its ready acceptance by the World Bank and others as both an analytical, empirical and policy panacea. There are a number of policy implications that inevitably flow from this panacea: commitment to education is lessened as other aspects of civil society are targeted for their high returns; and social capital provides the World Bank with ideology and rhetoric with which to justify intervention more widely across civil society, preserving its bias against state intervention and trade unions. Second, he argues that despite the rush of survey articles, most commentators agree that the concept is difficult to define. Social capital becomes an 'analytical sack of potatoes'. The result has been to

create a field for middle-range theory in which analysis is suspended somewhere between grand systemic theory and mere description. Fine is rather supported in this claim by Edwards' description of working at the World Bank:

> *On a good day in my old job at the World Bank, I would be asked to define "civil society" by any number of sceptical colleagues – a notoriously slippery task at the best of times, though at least it showed they were interested. On a bad day, they would ask me an even trickier question ("what is social capital?"), but worst of all was the inevitable sequel: what is the difference between social capital and civil society?*
> (Edwards 1999)

Given this certain weight of scholarly opinion against social capital, it is important to consider how our current approach, based on potential accumulation of social capital in online networks, can still be justified for the purposes of this paper. Firstly, much of the criticism has focused on the role of social capital at a (macro) regional and national level which does not have much relevance to the approach proposed here where the objective is to consider online networks at the meso level. Secondly, there has probably rightly been considerable criticism of the way in which proponents of social capital ignore issues of power and conflict. Although these issues are not the central focus of our analysis, there should be some effort to look at the power relations and conflicts within online development networks, in particular by looking at linking capital which represents ties between poor people and those in positions of influence in formal organisations (Woolcock 2000) and at the social value of these networks. This will need to be incorporated into the framework to be developed below. Thirdly, the application of social capital in development has been criticised for being ahistorical. To try to counteract this in the examination of social capital in online networks, particular emphasis will be placed on historical elements within these networks. Indeed, it is our contention that this history may be a particularly important factor in development networks. Finally, it is important to have a framework that facilitates the investigation of social capital in online networks. Indeed, middle range theory probably is just where we want to be because the stated purpose of the paper lies between theory and practice.

E. Models of Social Capital in Networks

Given that the objective is to produce a framework which facilitates understanding of social capital in online networks in development, some existing approaches and classifications, relevant to online networks in general, will be reviewed with a view to incorporating elements of them into the proposed framework. It should be noted that this approach to online networks is still in its infancy.

The MOTA Model

To understand how social capital is built and maintained in online communities, Van der Spek and colleagues at the Telematics Institute in Enschede, Netherlands (2002) have identified a number of factors that are widely acknowledged to influence social capital in general: motivation; obligations; technology; affordances[6]. The characteristics of these factors have

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[6] Affordances are defined as 'an action possibility available in the environment to an individual, independent of the individual's ability to perceive this possibility' (McGrenere and Ho 2000)

been derived from the literature and are reflected in their MOTA model which aims to benchmark and repair virtual communities' social capital (see Table 3). This approach has many similarities with that of Adler and Kwon (2002).

Table 3: The MOTA Model

Characteristics of motivation include:
- Fellowship, goodwill, and trust
- Fun and enjoyment
- Emotional support
- Appreciation and honourable attention for contributors
- Ethical virtues developed as a long-term self interest
- Intrinsic motivation

Characteristics of obligations include:
- Willingness to invest in and thus maintain the group
- Exchange of goods and services with one another
- Willingness to work together for a common purpose
- Habituation to the moral norms of the community
- Willingness to work harder and achieve more as a group member

Characteristics of technology for community support include:
- Technology as a promoting factor for social relations e.g. anniversary calendar
- Technology as a coordinating factor e.g. meeting support agent
- Technology as a means of communication e.g. virtual gathering, bulletin boards, wired coffee pots and shared open spaces

Characteristics of community affordances include:
- Intensification and improvement of the communication between members
- Ease of connection to peers and experts
- Improved productiveness and prospectiveness for the members
- Ease of access to good and services
- Answers to frequently-asked questions
- Knowledge that people are willing to act upon socially constructed understanding
- Improved community mind: a sense of being through a sense of participation e.g. 'we participate, therefore we are'
- A place to unleash tacit knowledge
- In-group solidarity, sometimes purchased at the price of hostility to other group members

Source: Van der Spek et al (2002)

Questionnaire and the 'Mind Map'

Lesser and Storck (2001) have surveyed social capital in intra-organisational communities of practice. The methodology they used was based on a questionnaire, followed by the construction of a 'mind map'. Although it was not possible to gain access to the questionnaire which was used, it was possible to establish the subject categories which were investigated (Lesser, personal communication, 2003):

- Demographics
- Strategy and Objectives (why and how did the community come about)
- Membership (who belongs to the community and how did they get connected)
- Participation (what activities do community members participate in)
- Environment (including information technology)
- Communication (how does the community use language to share knowledge)
- Identification (to what extent do people see themselves as part of a community)
- Perceptions of Value (how does the community benefit the individual and the organisation as a whole)

A number of these elements will be incorporated into the framework proposed in Part F.

Three Dimensions of Social Capital

This dimensional classification, developed by Nahapiet and Ghoshal (1998) and reviewed above, has been further developed by Huysman (2004) (see Table 4).

Table 4: Classification of Social Capital

Classification	Dimension of social capital		
Original Nahapiet and Ghoshal dimension	Structural dimension	Cognitive dimension	Relational dimension
Adler and Kwon	Opportunity	Ability	Motivation
Content of dimension	Network ties, configuration and organisation	Shared codes and language, shared stories	Trust, norms, obligations, identification, respect, generalised reciprocity
Research question	Who and how	What	Why and when
Revised dimension	Structural opportunity to share	Cognitive ability to share	Relation-based motivation to share

Huysman, like Nahapiet and Ghoshal, has divided social capital into three dimensions but she has combined their classification with that of Adler and Kwon to produce three revised dimensions:

1. The structural opportunity to share which is related to 'who' and 'how' research questions, including network ties, configuration and organisation;
2. The cognitive ability to share which is related to 'what' research questions, including the production of the shared language, codes and stories; and

3. The relation-based motivation to share, related to 'why' and 'when' research questions, which includes elements of human relationships: trust, norms, reciprocity, etc.

For reasons of clarity and the fact that it incorporates a range of other methodologies, Huysman's classification will form the basis of the framework to be elaborated below.

F. The Proposed Framework

On the basis of the discussion above, we now propose a framework for the investigation and assessment of social capital in online development networks. The proposed framework is founded on the three dimensions of social capital identified by Huysman: the structural opportunity to share; the cognitive opportunity to share; and the relation-based motivation to share. Elements of the MOTA model are also incorporated. Table 5 presents the main elements of the framework – a more detailed version is to be found in the Appendix. Although the main components and many of the elements in this framework originate from the earlier frameworks, there are a number of innovative and development-related elements. These latter include the combination of the 'historical' dimension: when, where and how a network started; the intellectual heritage; and the history of personal relationships. The latter two elements may be particularly important in online networks in development which are elaborating new practices, grounded in experience and knowledge of what has gone before.

This framework aims to facilitate our understanding of online development networks, even to provide a structure for network evaluation. Huysman (2004) argues that online networks are only effective if there is a high degree of social capital among the members of the network. With high levels of social capital, people are motivated, able and have the opportunity to share knowledge with each other in a network. In this context, analysis of social capital within networks should increase our understanding of how these networks function.

Each of the three dimensions will now be discussed in some further detail.

Structural Opportunity to Share

As mentioned above, the 'structural opportunity to share' relates to the structure of the network, including network ties, technological configuration and organisation. Four main elements are identified within this component: general issues; information technology; activities of the network; and structural affordances. In a development context, particular attention needs to be given to governance issues, including leadership, the North-South balance and, in particular, encouraging participation from Southern members. As Wellman et al (1996) (see also Wellman and Gulia 1998) noted (cited in Castells 2000), many online networks are governed by a democratic, inclusionary ethic. For development networks, this – at least according to a main strand of development thinking – needs to demonstrably the case. One way of ensuring this would be to agree an ethical code of conduct in the development community on how this should operate in practice.

Another issue which needs to be particularly addressed in online networks in the development arena is the issue of connectivity and access to technology. In many current networks, membership in the South is restricted by lack of access, including total lack of access to ICTs, access to email alone from an Internet café, or access to email alone from a work PC. Where

there are connectivity issues relating to different members, methods should be found to try to overcome these, for example by restricting file size of attachments or by introducing an informal 'buddying' system when one members tries to ensure that another member, with less full access, does receive necessary messages, and possibly by web-to-email solutions. An informal buddying system could be likened to linking capital described by Woolcock (2000).

Finally, a further important element which needs consideration is the complexity of networks. This complexity could be analysed using the indices developed by Duarte and Snyder (1999, cited in Willard 2001) and presented in Table 1. However, further elaboration at the higher end of the scale is needed as most online development networks will fall into the 'high complexity' category.

Cognitive Ability to Share

The 'cognitive ability to share' relates to what people are sharing. This component is divided into four elements – inputs, cognitive affordances, outputs and outcomes – following the model of evaluation. Cognitive inputs cover the time and work, the intellectual heritage and volition. Volition emphasises both sense-making (creating comprehension and purpose) and commitment to stick to decisions that have been made (Engel 1997, citing from Lindblom 1990). Engel argues that this also entails fluidity: an informed and thoughtful volition which is never in error and which is always subject to challenge and re-formulation. In addition, volition shows purpose and determination, even if no objects and results are specified in advance. This reminds us that it is not a question of being right in the development of new practices. Instead, what is needed is a thoughtful volition, adapting to new challenges.

In a development context, cognitive outputs can include new models, shared language and joint publications while cognitive outcomes include social learning and organisational change.

Relation-Based Motivation to Share

This dimension is concerned with the human relationships within online networks, including bringing, bonding and linking capital. Trust and reciprocity are recognised as being key elements in the knowledge sharing of these online networks. An innovative element here is the 'history' of the relationships which may even form the backbone of successful online networks. There is general anecdotal evidence that these networks stand or fall based on the skills of the moderator. However, it is possible that successful networks are founded on a small group of individual members who have developed reciprocal trust and even friendships over a period of years.

The Proposed Framework

Putting all these elements together, we arrive at Table 5, summarising the components of social capital that can be used for analysis of online development networks.

Table 5: Proposed Framework For Analysing Online Development Networks

Dimension of social capital	Research question	Community characteristics	Main criteria
Structural opportunity to share	Who and how	General	Complexity value (based on Willard 2001; see Table 1)
			Membership: number of members; roles; professions; experts/practitioners; and demographic characteristics
			Strategy: mission, vision and objectives
			History: when, where and how it started
			Governance: leadership issues; North-South balance; ethics/politics
		Information technology	Platform/workspace: technology
			Access and connectivity
		Activities	Face-to-face meetings (informal and formal), online messages and e-conferences
		Structural affordances	Improved communication
Cognitive ability to share	What	Inputs	Intellectual heritage
			Time and work
			Volition
		Cognitive affordances	Improved productivity
			Improved quality
			Improved access
		Outputs	New models
			Shared language
			Publications
			Other
		Outcomes	Social learning
Relation-based motivation to share	Why and when	Bonding, bridging and linking capital	Personal relationships within the community, and their history
		Relational affordances	Access to new contacts

Concluding Remarks

That social capital does have a 'dark side' is agreed by most researchers. Indeed, this dark side has been christened 'social liability'. Harriss (2000) argues that this dark side has several aspects: firstly, there is obviously a whole range of strong associations – mafias, gangs, cartels, and the like – which are anti-social and detrimental to the needs and interests of society as a whole. Second, 'one person's social capital is another person's exclusion'. Strong groups are often characterised by exclusivism and, in circumstances in which there are few cross-cutting links between such strong groups, it is possible that high levels of social capital will be associated with conflict. For online networks, this is also likely to be the case.

Representation and participation are still key issues. As Willard (2001) argues, most of the participants in online development networks are from the elite of institutions because not all development professionals who could participate are in a position to do so. This relates partly to issues of skills, motivation and existing social capital. It also relates to the ongoing digital divide which will continue to affect development professionals in the South.

Although social capital is a much criticised concept, particularly in its application in the development arena and to national level phenomena, it is still an interesting concept for examining what is taking place in online networks. The development field is characterised by a high number of complex, inter-organisational online networks. It is important to consider what is happening inside these networks because not only may they be the engine of innovation within development but also because there is currently insufficient understanding of the implications of investments in such networks. The framework developed in this paper aims to facilitate understanding of online development networks in terms of the social capital within them. This approach has been founded on new literature which indicates that social capital has an important positive influence on knowledge sharing within such networks.

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Appendix: Proposed Framework for Understanding the Functioning of Online Networks in Development

Dimensions of social capital	Research question	Community characteristics	Main criteria	Relevant sub-criteria and/or indicators
Structural opportunity to share	Who and how	General	Complexity	Members from number of organisations
				Has members from more than one function
				Geographically dispersed over time zones
				Number of national cultures
				Members whose native language is different from the majority of other members
			Members	Number of members: individual/institutional
				Roles: reviewers, boosters, commuters, experts, etc.
				Professions
				Experts/practitioners
				Other demographic characteristics: gender, age, educational level
			Strategy	Mission, vision and objectives
			History	When, where, who and how started
			Governance	Leadership issues/North-South balance in terms of balance and contributions/virtual democracy
		Information technology	Platform/workspace	Technology as a factor for promoting social relations
				Technology as a co-ordinating factor eg. Meeting support agent
				Technology as a means of communication eg. Virtual gathering, bulletin boards, wired coffee pots, and shared open spaces
			Access and connectivity	Poor connectivity, for example, not having WWW access, only being able to receive e-mails and how these are overcome
		Activities	F2F meetings (informal and formal) Online messages E-conferences	Frequency of contact
				Balance online/offline
				Time investments
		Structural affordances	Improved communication	Intensification and improvement of communication between members
				Easy connection to peers and experts

Cognitive ability to share	What	Inputs	Intellectual heritage	Relationship with other initiatives in this subject area: either preceding or at the same time
			Volition	Sense-making, commitment to stick to decisions that have been made, fluidity, purpose and determination.
		Cognitive affordances	Improved productivity	Improved productivity of members
			Improved quality	Informal benchmarking
			Improved access	Easier access to goods and services
				Access to insider tacit and explicit knowledge eg. non-public/confidential reports and documents
				Access to FAQs
		Outputs	New models	Relationship with previous models
			Shared language	Concrete expression in glossaries
			Publications	Journal articles, workshop reports, other
		Outcomes	Social learning	Increased understanding and improvement of current practices leading to institutional change
Relation-based motivation to share	Why and when	Bonding, bridging and linking capital	Personal relationships within the community	Trust Fellowship and goodwill Emotional support Appreciation and honourable support for others Ethical values developed as long-term self-interest/reciprocity Norms Obligations Friendships History
		Relational affordances	Access to new contacts	Easy access to experts and peers