

# Facilitating Networks and Network Learning Through the Provision of a Human and IT-enabled Infrastructure

John Burgoyne<sup>1</sup> and Sadie Williams<sup>2</sup>

Lancaster University<sup>1&2</sup> and Henley Management College<sup>1</sup>  
[j.Burgoyne@lancaster.ac.uk](mailto:j.Burgoyne@lancaster.ac.uk), [sadie.Williams@lancaster.ac.uk](mailto:sadie.Williams@lancaster.ac.uk)

## ABSTRACT

This paper presents a case study of a change and development initiative in the National Health Service. The initiative focused on connecting people and institutions across organisational space to create the pre-conditions for collaborative work. The paper includes evidence from an evaluation of this attempt to create a network in a complex, geographically dispersed organisation.

Within the 'theory of change' on which the initiative was based are ideas of collaborative learning organisations, and a resistance to bureaucratic authoritarian managerialism. The paper proposes an alternative based on network theory as an alternative way of interpreting the initiative and its effects.

## Key words

Network, small world, theory of change, evaluation, Health Service.

## THE CONCEPT, THEORY AND PRACTICE OF NETWORKS

The notion of network is a popular and broadly used one. It occurs in biology and psychobiology in exploring neural networks in the functioning of the brain. It is used in corporate strategy in terms of new firms being located with others in networks forming industrial clusters around complex value chains (Porter 2003). It is used in industrial marketing to reframe marketing from selling to purchasing agents to managing positioning in value chain networks (Easton 1998). It is used in systems and complexity theory to model the behaviour of complex systems in volatile and dynamic contexts (Waldrop 1992). It is used in economics, including the development of statistical techniques, to model economic behaviour of complex networks of causal influences (Johnes 2003). In the organisational and social field networks and networking are seen as the source of social capital in human systems, organisations and communities. Network processes are seen as a mechanism of generating and applying knowledge in organisational settings in 'learning organisations' (Pedler, Burgoyne and Boydell 1996). Also leadership (as opposed to the hierarchical management of organisations) is presented in part as the facilitation of productive network processes (Pedler, Burgoyne and Boydell 2003). In everyday life and language, networking, as in creating networks of contacts and acquaintances, reciprocities of informal obligation and information sharing is presented as part of the lifestyle of young professionals. Newer theories related to learning - situated learning (Lave and Wenger 1991), activity theory (see Blackler 1993) and actor network theory (Law and Hassard 1999) - position learning as a process well beyond the intrapsychic processes of the individual, as a property of complex systems with human and non-human components. Information technology and the web present themselves rather obviously as having network structures, seen by some as having major effects (Castells 1996). Finally, for this incomplete list of examples, network learning as significantly supported by IT assisted learning processes, particularly those that support dialogue in creating knowledge for people and in social groups by collaboration, is another example of the usage of the term. At a more meta-theoretical or even philosophical level, critical realism (see Sayer 1999), as an ontological (and following this epistemological) position from which to conduct inquiry suggests that much or all of the world can best be conceived of as an open system with emergent properties (hence not totally predictable), within which stable or relatively stable mechanisms do exist, but are activated depending on context and conditions and the way they interact with other entities in their context. This suggests a complex network of interacting entities and mechanisms always creating new configurations of events.

Whether there is a single unified and clear concept and theory of 'networks' across all the very different domains seems rather unlikely. Rather the term seems to be used in a perhaps loosely metaphorical sense

within and between these domains, and the extent to which they are tightly and rigorously defined even within these domains is quite variable.

However the apparent use and usefulness of the concept seem clear, and some underlying general communalities do appear to exist – as in the existence of a number of entities connected with and influencing each other in a web of connectivity.

The aim this paper is not to resolve these questions but to present a case example of an organisation change and development initiative, and its evaluation, in which concepts of networking and its effects are central to the ‘theory of change’ (a term from Pawson and Tilley 1997) underlying the design and implementation of the initiative.

In the context of this paper, the case is intended to provide some grounded material as a basis for considering some aspects of the theory and practice of networks, their effects, and the considerable methodological problems involved in investigating them and testing claims for their effects.

## **BACKGROUND**

Recent years have seen an increased emphasis on efficiency in the management of the public services, the setting of new performance targets, more auditing, more staff development and changing financial processes. Nowhere has this been more the case than in the NHS, which has both had much larger sums of money injected into it than had previously been the case, and at the same time been reorganised – not just once but several times – in addition to being required to meet new and stringent outcome measures and being subject to scrutiny by a range of new bodies.

Within this shifting framework there have been a considerable number of changes to the structure and organisation of the NHS and a number of new bodies created within it. These have responsibility for different areas, for example, leadership development, performance measurement, primary care, and so on. Many of these bodies have significantly large budgets. The government’s overall objective is to introduce change into the NHS and it seeks through the creation of these bodies to achieve more efficiency in the NHS, better value for money, better patient care, new working practices, improved leadership and more responsiveness to public demand.

Several of these new bodies have been working in different ways with the Primary Care Trusts (PCTs). PCTs were set up in 2002-3 and replaced earlier organisations. A total of 302 PCTs has now been created and they are new organisations with new powers, very large budgets, and a concomitant range of increased statutory responsibilities. Amongst these new responsibilities has been one particular requirement which involves working with specialised groups to improve the services which are delivered.

At the time of the initiative with which we are concerned here, there was little experience ‘on the ground’ of undertaking this new kind of work. Indeed, initially no one was sure what exactly was meant by these new requirements or what kinds of activities might be involved. One of the NHS bodies therefore decided to set up a time-limited initiative (two years) to help PCTs to deal with these new requirements and this particular part of the new agenda.

The research was able to look at the results of the initiative and to carry out a survey into its effectiveness. Wider results of the research are too extensive to discuss here and this paper only reports on one specific aspect of the outcomes.

## **METHODOLOGY OF THE CSN PROJECT**

The leaders of the project decided that what was needed was an initiative that would enable real change to occur on the ground. They felt that giving out information, or having events and workshops based upon issues of content, telling people what their statutory duties were and what would be expected of them, would not be helpful and would not enable people to make the cultural shift necessary. If the new agenda was really going to work, and if the NHS were going to change and shift its priorities towards more stakeholder involvement, then this would require a culture shift in the NHS and a movement of power away from both managers and clinicians towards the people. These were the terms in which the project leaders interpreted their task and their discourse was largely anti-managerialist and counter-cultural in its aspirations.

Out of these ideals and this legal and policy background, the Community Sharing Network (CSN) was born. It was specifically designed to be an attempt at network creation. The methodology of the project would be based on a ‘snowball’ model. For this reason, the first phase of the project involved an approach to twelve specific units, called the ‘pilot sites’. These were chosen because they were known to the team and known to be

sympathetic to the new agenda. These pilot sites were offered intensive consultancy, and regular networking events were also held for them in their areas. The second phase of the project involved contacting another set of PCTs and telling them about what the network was doing and could offer. In this way, numbers were gradually increased and the network extended as new PCTs came on board. These second wave members of the network were not offered the intensive individual consultancy which it had been possible to offer to the initial twelve pilot sites but they were invited to a range of local workshops and national events and also supported with a website. Finally, any remaining PCTs who had not yet been reached were contacted. By the end of the project, therefore, all 302 PCTs had been made aware of the project and several hundred people had participated in some way.

The overall strategy of the project consisted of setting up a series of regional workshops and national events, covering topics associated with the new agenda which was being required of PCTs. The consultants also continued to offer ongoing support to the pilot sites. In the final phase, the pilot sites were encouraged to become self-sustaining, and the project team succeeded in bidding for a small amount of additional funding to enable some support for the network to continue in a very limited way for a further two years.

The organisation of the project involved an office team running the admin side known as the 'hub', two consultant freelance facilitators, a project manager, and a Steering Committee.

## HOW THE PROJECT WAS ENVISIONED

The organisation of the workshops was based on the sharing of problems and the notion of providing a 'safe space' where people were able to work out their difficulties and where change could be enabled and supported. The local and regional workshops had little or no agenda, and little input of content. Attendees were encouraged to decide for themselves what they wanted to do with the day. This approach had both successes and failures. In some cases, the workshops went really well and enthusiastic groups were created who continued to meet together regularly. Thus some small persistent networks were successfully created. However, other workshops worked less well and those people who did not respond to the open-ended approach felt that the workshops were a waste of time.

The national events were slightly different and had more of a content-based agenda, although still keeping within an open, exploratory and sharing dynamic. These were successful in creating a much larger, looser grouping of people from all over the country who came together on an irregular basis at some of the national events.

The snowball method also had both advantages and disadvantages. Working intensively with a small number of 'friendly' PCTs at the beginning meant that strong groupings could be created and that there was enough time and interpersonal interaction for individual change to be enabled. On the other hand, it meant that some PCTs had much greater opportunities to be involved than others, who only heard about the network quite late in the project's existence.

Did these limitations matter? The facilitators would argue that they did not. In their view, those who did not find the workshops useful were committed to a managerialist agenda and not ready to change. The facilitators were happy to be working with those who did want to participate, rather than those who were reluctant. Similarly, they valued the opportunity to work intensively with a smaller group of units, rather than seeking to cover all three hundred units in a shallower way.

The philosophical and epistemological background of the facilitators was psycho-dynamic in its origin and they explained their approach in terms of that discourse. Two examples of what they said are given below as they justify their approach in the following ways:

*[In] Learning networks... relationships are key and ultimately 'trust is the glue'... We are raising the stakes about the nature of engagement, both for those who choose to involve themselves within CSN and engage in its activities and processes, and in relation to how their learning is applied locally... We have set ourselves the challenge of modelling and developing mutuality within the CSN and as 'values in action' in the communities served by PCTs. (Facilitator 1)*

*I thought the learning network [would be] interconnecting the disparate micro organisations across the NHS... for learning, sharing knowledge management... [for] those practising or working on it within each PCT in the country to be able to make 'connections'; through the hub and our events, and our enabling/facilitating to each other... Those who are part of the learning network, to take from it what they need – and for this relationship to iterate to be more self-sustaining, or locally sustaining, so that the 'contract' shifts possibly from them to us... to them to each other. (Facilitator 2)*

The network in this view is seen as sharing, as engagement, as involvement. Indeed, one of the expressed aims was that in small local groups people would find a 'safe space' where they could encounter change and be supported in doing so.

## FINDINGS FROM THE RESEARCH

In researching the outcomes, one of the questions was framed to find out how far people did identify with the network. Just over half of those who had been to events saw themselves as occasional members of the network, a fifth as regular members, and a fifth as non-members.

**Table 1:** Identification with the group

I see myself as	Number	%
An occasional member of a local CSN network/group	98	54.7
A regular member of a local CSN network/group	36	20.1
Not a member of a local CSN network/group	37	20.7
No response	8	4.5
Total	179	100

When asked about their preferences, being a member of local group that meets regularly was not a high priority, as is shown in the table below. What mattered was availability – whether the person was free on that date – and what the topic was. There is a sense therefore in which the facilitators were 'swimming against the tide' and seeking to provide close-knit relationships and groups when this was not what many people wanted. Again, the facilitators were happy to agree that they were swimming against the tide – they saw that as part of their function. In an increasingly managerialist and performance-oriented NHS, they wanted to provide the opportunity and the space for other kinds of things to start happening. They wanted to engage with those who shared that view and wanted to engage with them. They were not interested in a scatter-gun approach.

**Table 2:** Preferences

	Yes (%)	No (%)	Grand Total (%)
National events/workshops	9 (5.0)	170 (95.0)	179 (100)
Regional or local events/workshops	31 (17.3)	148 (82.7)	179 (100)
Mixture of local/national events	79 (44.1)	100 (55.9)	179 (100)
Member of a group that meets regularly	21 (11.7)	158 (88.3)	179 (100)
What interests me i.e. topic	92 (51.4)	87 (48.6)	179 (100)
Depends on availability	94 (52.5)	85 (47.5)	179 (100)
Not to go to any events	7 (3.9)	172 (96.1)	179 (100)

In what way can the initiative be called a success? In terms of engaging all PCTs, it is clear that only some were engaged by the end of the two years. On the other hand, in terms of the stated agenda and creating new

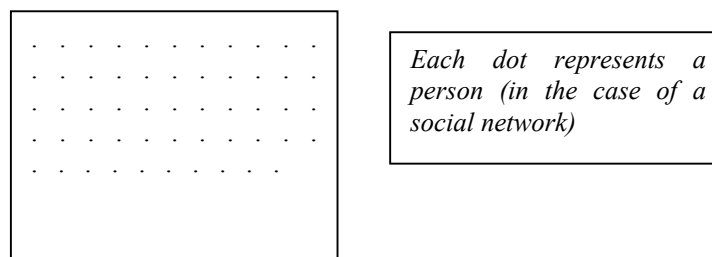
networks, some sustainable small groups, and some changed individuals, the initiative was a success. It achieved a great deal.

However, there is an alternative way of looking at what the project was actually doing and this is outlined in the next section when considering scale free networks.

### ‘SMALL WORLD’ NETWORKS

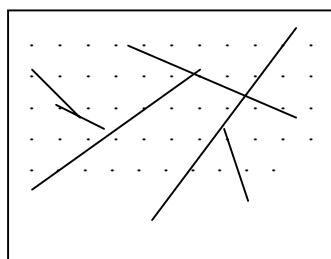
Researchers studying the emerging science of networks originally conceived of a network as a grid of individual points (representing, for example, people, synapses in brain, internet connections). To cross the network from one side to another took a large number of steps as the message or the individual moved from point to point or person to person.

**Figure 1:** Network



Getting a message or other information across such a network would be a slow process. However, if some points were directly connected to more distant parts of the network communication would be much quicker. Research has demonstrated that adding shortcuts across the network considerably reduced the number of steps required to communicate, thus creating a ‘small world’ effect. This is demonstrated in the diagram below in the form of intersecting long and short lines. These represent interconnections of some sort – direct linkages or relationships. (See Buchanan 2003 for a full description of the small world hypothesis). Research has shown that a mixture of long and short lines (very distant and intermediate linkages) is the most effect way of reducing the number of steps needed to communicate between points (Buchanan 2004).

**Figure 2:** ‘Small world’ type network



This kind of linked network formed part of the ‘small world’ hypothesis discussed in Buchanan’s book. Essentially what the addition of random ‘short cut’ links does is to provide a quick way for people or information to get around a network. Where thirty or forty steps might have been necessary, only five or six now enable the individual to reach anyone in the whole network. These findings have implications for a number of fields and their applicability to areas such as internet traffic is being widely studied.

What is suggested here is that without consciously seeking to do so, the CSN project had in fact had the effect of introducing the equivalent of ‘shortcut’ lines. The mixture of small groups locally and larger national events had precisely this result. Local groups only would have created small networks, without the facility to connect to other small networks. Similarly, national events only would have created ‘longer lines’, that is national links, but without the additional shortcuts offered by the local and regional groups. The mathematics of the small world model shows that it is this combination of long and short links that is the most effective (Buchanan 2004).

This hypothesis was supported by the interview data which showed clearly that networking and meeting people were far and away the most important results of the being part of the network. Many respondents had remained in touch with those they had met at the events. Many others reported that although they were not in touch at the

moment, they now had a list of people they could contact at need. This was seen as an extremely valuable resource.

What the network seems to have achieved therefore, in addition to the personal change and development among individuals and the sharing of good practice and information, is an extra dimension, a 'small world' dimension, to an organisation which is very large, very cumbersome and extremely difficult to communicate across. The project has thus facilitated future sharing, in addition to whatever sharing was achieved during the life of the project, and has contributed a long-term overall resource.

## THEORETICAL AND CONCEPTUAL POSTSCRIPT

The case demonstrated that facilitating the formation of a largely human and social network, albeit using hard and soft technology to do so, is a potentially powerful component of a 'theory of change' for an organisation development project. However this was not the theory of change espoused by the facilitators, who saw themselves more as attracting a community of members who could be persuaded towards their own collaborative approach to work. At its simplest, increasing the connectedness of a social and human network, in a sustainable way, as part of capacity building for a complex organisation, seems a promising and, in the right circumstances, feasible idea and in this case proved effective.

As far as evaluation goes, the case does show that it is possible to assess many aspects of increased network capacity as the result of an initiative. The long term sustainability of this capacity, and the effect it may have in enabling practices that increase organisational performance, are beyond the scope and timescale of an evaluation study as set out in this case. However it does provide a basis for visualising what this further evaluation might be. A more longitudinal study with a similar approach should be able to address sustainability. If network capacity is sustained it is likely to be because it is being used, and methodologically it should be possible to investigate what it is being used for, and what performance effects may stem from this use. With additional methodological approaches it should be possible to investigate whether performance increasing projects and initiatives are easier to implement, or work better, as a result of the enhanced network capacity.

## REFERENCES

- Blackler, F. (1993) Knowledge and the theory of organisations: organisations as activity systems and the reframing of management. *Journal of Management Studies*. 30 (special edition on Knowledge Work) 863-4
- Buchanan, M. (2003) Small World: uncovering nature's hidden networks. Orion
- Buchanan, M. (2004) Know thy neighbour. *New Scientist* 17 Jan 2004
- Castells, M. (1996) *The Rise of the Network Society*. Blackwell, Oxford.
- Easton, G. (1998) Case research as a methodology for industrial networks: a realist apologia. Conference Proceedings, otherwise unpublished.
- Johnes, G. (2003) We Don't Need No Education. Inaugural Lecture. Lancaster University.
- Lave, J. and Wenger, E. (1991) *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press, Cambridge.
- Law, J. and Hassard, J. (eds) (1999) *Actor Network Theory and After*. Blackwell and *Sociological Review*, Oxford, (ISBN 0 631 21194 2)
- Pawson, R. and Tilley, N. (1997) *Realistic Evaluation*. Sage, London.
- Pedler, M., Burgoyne, J. G. & Boydell, T. (2003) *A Managers Guide to Leadership*. McGraw-Hill, Maidenhead. pp 284.
- Pedler, M. Burgoyne, J. G. & Boydell, T. (1996) *The Learning Company*. Second Edition. McGraw-Hill, Maidenhead.
- Porter, M. E. (2003) UK Competitiveness: Moving to the Next Stage. LSE Lecture 22nd January 2003.
- Sayer, A. (1999) *Realism and Social Science*. Sage, London.
- Waldrop, W. M. (1992) *Complexity: the Emerging Science at the Edge of Order and Chaos*. Simon and Schuster, New York.