

Paper presented to the Political Studies Association Conference 2006
Reading, 4th – 6th April

The Role of Social Networks in the Development of English Local E-Government

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The paper is based on doctoral research in progress. The research is jointly funded by the Economic and Social Research Council, the Office of the Deputy Prime Minister and Price Waterhouse Coopers, as part of the Governance and Quality of Life Postgraduate Research Programme.

Abstract

An increased role for electronic government is a central plank of the government's modernisation agenda, with the aim of improving local government efficiency and increasing its accessibility and responsiveness to local citizens. The implementation of electronic government best practice in local authorities is influenced by a number of different initiatives, including IEG Statements, the National Projects, regional partnerships, and the e-Innovations Programme. The research explores how organisations work together to deliver local government service innovation and examines the influence of the different initiatives on the diffusion of innovation in local authorities.

The research examines the network of relationships between individuals and organisations as they innovate and share local electronic government best practice. The development of local e-government projects can involve individuals from different departments within the local authority, other local authorities, regional partnerships, national projects, other public organisations and the private sector. The research will map out the key relationships and identify barriers to knowledge sharing and service improvement. The policy contribution will evolve from an increased understanding of the social networks underpinning complex service innovation spanning central and local government and private sector suppliers.

This paper presents a review of relevant literature, outlines the research methodology and offers a preliminary description of a case study of a sub-regional e-government partnership.

Introduction

The research examines the network of relationships between individuals and organisations as they innovate and share local electronic government best practice. The development of local e-government projects can involve individuals from different departments within the local authority, other local authorities, regional partnerships, national projects, other public organisations and the private sector. The research will map out the key relationships and identify barriers to knowledge sharing and service improvement. The policy contribution will evolve from an increased understanding of the social networks underpinning complex service innovation spanning central and local government and private sector suppliers. The research addresses the question “How do local authorities and their partners work together in sub-regional partnerships to implement electronic government? Issues, challenges, successes” A cross-disciplinary approach will be adopted, informed by learning from diverse fields including management, political science, network studies and diffusion studies.

This paper first introduces the literature in four areas relevant to the research: local governance and networks, local electronic government, dissemination of best practice, and social networks. It then outlines the systematic literature review which is being undertaken. It goes on to explain the methodology to be adopted during the study: comparative case studies of three sub-regional e-government partnerships, using social network analysis and qualitative methods. It finishes with some a preliminary description of the first case study

Local governance and networks

The literature on local governance raises a number of issues of particular relevance to empirical research on the partnerships or social networks involved in local e-government.

Local governance literature suggests that local authorities continue to operate mainly through individual services such as housing, education or refuse collection, rather than addressing broader issues such as community safety or public health (Cowell and Martin, 2003; Snape, 2003; McAdam and Walker, 2004). This narrow approach, it is suggested in the literature, has been compounded by the ‘silo’ approach of national government, with separate local services answerable to different government departments, each with its own priorities, desired outcomes and inspection frameworks (Geddes and Root, 2000; Cowell and Martin, 2003). Silos may act as barriers to knowledge sharing, dissemination of best practice and to service improvement. This research into the social networks involved in e-government will help shed some light on the extent to which silos still operate by exploring the relationships between individuals in different council departments and also their relationships with others within their profession from other councils and other public, private and community organisations. It may touch on the national government picture, by examining where innovative e-government ideas have emerged from. In some cases, national advisors or national projects may be involved in local networks.

Research exploring the internal dynamics of partnership working indicates the importance of individuals to the activities and success of partnerships. The activities, influence and legitimacy of the partnership will be affected by the standing and activity of not just the partnership leaders, but also by other local leading figures and ‘brokers’ (Painter and Clarence, 2001; Raco, 2002; Cowell and Martin, 2003). Partnership success and activity will also be influenced by the seniority of the individual representatives and their capacity to commit to decisions on behalf of their organisation. Staff working on partnership projects bring with them their own social networks or contacts, which can influence the introduction and implementation of policy (Raco, 2002). Our study will take forward this discussion on the importance of individual connectedness to the activity of partnerships, using social network

analysis (Wasserman and Faust, 1994; Scott, 2000) to explore the relationships and influence of participants in e-government projects.

New political arrangements, brought in since 1997 include increased powers for the executive decision making structures, most often a cabinet, and the development of a number of overview and scrutiny committees where councillors outside the executive examine decisions taken by officers and the political leadership. The literature highlights a changed role for councillors, both for the small group of cabinet members who are expected to fulfil a bold community leadership role, and the majority of councillors outside the executive whose focus is expected to be directed towards the needs of their local communities (Midwinter, 2001; Copus, 2003; Hambleton and Sweeting, 2004). The study will explore the extent to which councillors are involved in e-government networks and the roles they play. It will also consider the effect of a commitment of cabinet members to e-government.

Local Electronic Government

The UK government's national strategy for local e-government, published in November 2002, identifies three central themes of local e-government: Transforming Services, Renewing Local Democracy, and Promoting Economic Vitality (ODPM, 2002). There are a number of elements within the UK approach to local e-government:

Priority Outcomes. Local authorities have been guided to focus their development of e-government on a set of 14 priority areas. Against each priority area, the ODPM has set a number of priority e-government outcomes.

IEG Statements. Each local authority has been required since 2001 to submit an annual Implementing Electronic Government (IEG) statement, in which they set local e-government targets and monitor progress in achieving them. From 2004 (IEG4) local authorities have been required to directly report on progress in achieving the priority outcomes in their IEG statements. They are asked to score themselves as red, amber or green against each of the priority outcomes and funding for e-government implementation is dependent on successful progress.

National Projects. 22 national projects were established in 2002 to develop and disseminate best practice solutions for local authorities. Each national project is a partnership between councils and was expected to cover either a priority service (e.g. schools admissions, planning services) or a technical building block (e.g. smart cards, customer relationship management, and websites). The aim was to ensure that local authorities had access to key service improvements and building blocks without having to build them from scratch (ODPM, 2003).

Partnerships. Local and regional partnerships have been awarded funding to help councils develop e-government strategies, encourage joint service delivery and share good practice. In recent years, particular emphasis has been placed on the importance of local authorities working together with others in their region (ODPM, 2005).

Research into the adoption of e-government among local governments suggests that there are a number of factors influencing the sophistication and successful implementation of e-government solutions. These include: professionalism and attitude of the council leadership (Ho, 2002; McNeal et al. 2003; Hinnant and O'Looney, 2003); participation in wider networks beyond the immediate locality (McNeal et al. 2003); extent of support from other departments outside the IT section (Ho, 2002); how long the local council has operated a website (Ho, 2002; Moon and Norris, 2005); existence of a local e-government strategy (Moon and Norris, 2005); population size (Ho and Ni, 2004; Norris and Moon,

2005) and staff workloads (Ho and Ni, 2004). Opinions differ on whether financial and other resources have an impact on the development of advanced local e-government. Many of these factors will be explored during the research.

Dissemination of Best Practice

The requirement for policy and practice to be based on evidence of what works is becoming a growing feature in both government and academic circles. This emphasis on what works is driven in part 'as a response to the poor utilisation of academic research in practice' (Lesure et al. 2004a), but also by government policies which require that public organisations implement best practice both in their service delivery and their methods of organisation. 'Finding out 'what works' has once more become part of the mission of government' (Boaz et al. 2002). A focus on identifying and spreading best practice is evident in a number of initiatives relating to local governance including health and education action zones, New Deal for Communities, public service agreements and beacon councils. The local e-government strategy is being driven forward by national projects developing key electronic services and building blocks; pathfinder projects developing new ways of implementing e-government; partnerships to develop joined up solutions and build local capacity; and e-innovations to drive forward cutting edge projects. A key element of all these initiatives is the identification of best practice relating to local e-government and dissemination to other local authorities (ODPM, 2003). "Best practice is a relevant example that yields better results than any known alternative" (Szulanski, 2003 p11). Factors which encourage the adoption of best practice by organisations include absorptive capacity, a knowledge of how and why the innovation is beneficial, strong relationships between the source and the recipient and the motivation of the recipient (Szulanski, 2003; Burgess et al. 2005). The diffusion of innovation literature suggests a number points relating to the adoption of best practices by organisations which will be explored during this study (Rogers, 2003). Firstly, organisational innovativeness is related to structural characteristics, including attitudes of the leadership towards change, interconnectedness and centralisation. Secondly, the importance of innovation champions who occupy a linking role, understand the aspirations of others and have suitable negotiating skills. The research will explore how and where local networks seek out best practice, considering in particular the role of: involvement in national projects; access to products developed by national projects or e-innovations; regional and sub-regional networks; advisors; national guidance and links with other local authorities or public and private bodies.

Inter-organisational social networks

The literature on social networks included in this review covers a variety of different inter-organisational settings. A number of articles explore inter-firm alliances in a range of industries (Gulati and Gargiulo, 1999; Ahuja, 2000; BarNir and Smith, 2002; Hagedoorn and Duysters, 2002), new product alliances (Rindfleisch and Moorman, 2001) and strategic alliances (Hutt et al. 2000; Olk and Elvira, 2001; Cross et al. 2002). Others explore the spread of knowledge through social networks (Cross et al. 2001), including the adoption of new organisational forms (Lee and Pennings, 2002). A section of the literature examines partnerships involving public sector organisations (Provan and Milward, 1995; Clegg and McNulty, 2002; Thacher, 2004).

Several different methodological approaches are used to examine inter-organisational social networks. One approach has been to restrict research to ego-centric networks, using postal questionnaires to collect data from a random sample of organisations (Rindfleisch and Moorman, 2001; BarNir and Smith, 2002). These studies collect data on the ego networks of each organisation and compare the number and strength of their ties with those of other organisations. No information is gathered on the

relationship ties between the different organisations in the sample. The interest is in comparing the networking of different organisations rather than examining their relationships with each other. This approach does not use social network analysis, although it makes extensive use of social network concepts. A second approach has been to examine networks between organisations in a specified industry, using information gathered from industry and university data banks, business print media and government publications (Gulati and Gargiulo, 1999; Ahuja, 2000; Lee and Pennings, 2002; Hagedoorn and Duysters, 2002). These studies combine social network analysis with variable analysis. They use social network analysis to calculate network variables, which are then used as independent variables for statistical analysis alongside attribute variables (size, resources, geographical proximity) in variable analysis models to identify factors affecting alliance related outcomes. These outcomes include: whether an alliance is formed (Gulati and Gargiulo, 1999), technological performance (Hagedoorn and Duysters, 2002), number of new alliances (Ahuja, 2000) and adoption of a new form of organisation (Lee and Pennings, 2002). Some of these studies include a longitudinal element, showing how inter-firm alliances have changed over time (Gulati and Gargiulo, 1999; Ahuja, 2000).

A third approach, and the one being adopted in this study, is the use of case studies. Social Network Analysis has been used effectively to examine data collected during case study research (Provan and Milward, 1995; Hutt et al. 2000; Cross et al. 2001; Cross et al. 2002). It can 'provide a vivid and comprehensive portrait of the intricate web of relationships that forms in a working alliance and ... examine the flow of communications within and across the partnering organisations' (Hutt et al. 2000 p52). Hutt et al studied the network of relationships between two US firms that formed a strategic alliance to develop a co-branded product (Hutt et al. 2000). The study focussed on the relationships between individuals. 18 managers were initially interviewed to identify the key issues and the people involved. This was followed by a postal survey of the 'primary alliance participants' followed by a personal interview with each. Many of the concepts used in the research could be useful in examining e-government, including the important role of 'boundary spanners', individuals well-connected both in their own organisation and in the partnership. During Provan and Milward's research on the community mental health systems in four US cities, data was gathered from each agency by a postal questionnaire, followed by an in-depth interview (Provan and Milward, 1995).

Cross et al (2001) set out to discover what relationship factors contribute to effective knowledge sharing within firms. They undertook social network analysis case studies in a number of firms, examining the role of informal social networks in the flow of information across their firm. Their intention in each case study is to make hidden networks of knowledge creation and sharing more visible, so organisations can take action to change and improve their internal collaborative relationships. Cross et al (2002) use examples from a number of case studies to demonstrate the usefulness of social network analysis as a diagnostic tool. In each case study, network diagrams have been presented to group members to identify issues, define solutions and gain agreement on actions for improvement. 'One of the most powerful ways to apply SNA as a diagnostic tool and a catalyst for change is to put people's names on a network diagram and make the diagram available to all group members as a basis for dialogue' (Cross et al. 2002 p28). The article identifies the use of social network analysis as a diagnostic tool to be particularly useful in: promoting collaboration between strategically important groups; supporting collaboration across boundaries; and ensuring integration after restructuring.

A number of key concepts which lie at the heart of the social network approach will be important to this study:

Actor An actor is a social entity; the term can refer to individuals within a group, departments within a company, public bodies within a city or nations within a world system (Wasserman and Faust, 1994 p17). Within the reviewed literature, actors are variously *individuals* involved in building a strategic alliance (Hutt et al. 2000), *organisations* working together to deliver health services (Provan and Milward, 1995) or *firms* within an industrial sector (Gulati and Gargiulo, 1999). For this study, actors could be either the individuals involved in e-government partnerships or the organisations involved. It has been decided that the actors will be individuals, because this allows for the study of relations within organisations as well as between them and it avoids the difficulty of ensuring an accurate representative voice for each organisation.

Relation A relational tie is a linkage between a pair of actors. A relation is the collection of ties of a specific kind among members of a group (Wasserman and Faust, 1994 p20). There are many possible types of relation. Examples from the reviewed literature include communication and friendship (Hutt et al. 2000), referrals of clients, and contractual arrangements between agencies (Provan and Milward, 1995), communication, information-seeking, problem solving and knowledge of another's skills (Cross et al. 2002). The relations of interest to this study or e-government partnerships are frequency of communication, information-seeking, influence, previous contact and knowledge of another's skills.

Subgroups A subgroup is any subset of actors and all the relations between them (Wasserman and Faust, 1994 p19). An example of a subgroup could be a section of employees within a firm who group together because of geographical proximity (Cross et al. 2002). Analysis can show where there are any separate sub-groups within the network, groups that communicate with each other but not with others.

Centrality Centrality is a measure of a person's position within the network, the extent to which they are more or less a central player. There are several different measures of centrality, and their suitability depends on the nature of the network relationship under examination and the type of data being explored. For a full review of centrality in social networks see Freeman (1979). Centrality is used in a number of different ways in the reviewed literature. Ahuja (2000) calculates the degree centrality of firms in the chemical industry, examining the number of linkages a firm has with others. The degree centrality score is used as a measure of a firm's social capital. Hagedoorn and Duysters (2002) combine a number of centrality measures in their study of alliances between computer companies. Of most interest here is their use of the normalised eigenvector centrality score to represent "network status", the extent to which a firm is associated with powerful partners. Gulati and Gargiulo (1999) set out to test whether two organisations with similar centrality levels are more likely to build an alliance than if they have differing centrality levels. Cross et al. (2002) stress the importance of interpreting centrality. Often people are central for legitimate reasons such as workflow demands or unique expertise. Alternatively, a person may be very central because they are overburdened by work or tend to hoard information. An actor with no relational ties to others in the network is an isolate.

Core-periphery Structure Social network analysis can be used to assess the extent to which a network has a core-periphery structure; a core group of actors with dense relational ties and a periphery that are linked to the core group but have few ties with each other. Core-periphery structures have been found within particular industries, with a small number of firms closely linked together and a larger number of satellite firms with some alliances to the centre, but few with other peripheral firms (Gulati and Gargiulo, 1999). In their study of an alliance between two firms, Hutt et al (2000) identified a network of core and peripheral participants. The core group were those with strong links to others in the network, those who were "in the know" (p56). The peripheral participants were on the edge of the alliance, less involved and less well-informed. The study examines who the core participants were; their role and status in the alliance and in their own organisation (Diagram 1). Among the core

participants, some are identified as boundary spanners; those with close ties both within their own firm and to those involved in the alliance.

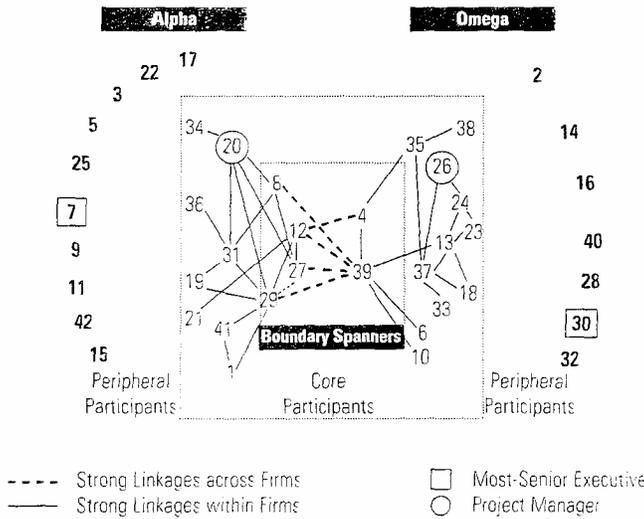


Diagram 1 Social Connections in an Alliance
(Hutt et al. 2000 p56)

This study of e-government partnerships will examine the extent to which a core-periphery structure is evident in each network and if so, look at the role and status of the core participants.

Embeddedness A common thread running through the literature on inter-organisational ties is the idea that economic action is embedded in social networks. “Beneath the formalities of contractual arrangements, multiple informal interpersonal relationships emerge across organizational boundaries, which facilitates the active exchange of information and the production of trust that foster interorganizational cooperation” (Gulati and Gargiulo, 1999 p1445). Embeddedness acts as a theoretical framework for some inter-organizational studies. “Economic activity cannot be analyzed without consideration of the social context in which it occurs” (BarNir and Smith, 2002 p220). The concept of embeddedness was developed by Granovetter and is now a key concept of social network analysis.

Most people working within organisations are embedded in a varied social network. Within local government, for example, one individual can build up a rich social network by having worked for a number of different local authorities, perhaps having worked for another public body or a private firm, being involved in local, sub-regional or regional partnerships, joining a trade union and/or a profession association, plus relationships outside work including friendships and membership of community organisations or clubs. When deciding who to trust, people rely on their own past experience of interacting with a person, or they take recommendations from others who they know well. Research suggests that managers rely on their social network to find *trustworthy* and *timely* information about the reliability and suitability of potential alliance partners (Gulati and Gargiulo, 1999). The number of alliances a firm engages in has been linked to the networking activity of its leading executives (BarNir and Smith, 2002). Alliance formation is more likely where executives have: a strong propensity to network, measured by involvement in a range of organisations; close personal ties with business associates; and links to prestigious people. It seems that the closeness of ties is more important than the number of ties, suggesting that “it is not so much the quantity of personal contacts that leads to firm-level cooperation, but rather their quality” (BarNir and Smith, 2002 p229).

Systematic Literature Review

An increased role for electronic government is a central plank of the government's modernisation agenda, with the aim of improving local government efficiency and increasing its accessibility and responsiveness to local citizens. The diffusion of innovation and best practice both within and between organisations is regarded as an important element in improving the effectiveness of local government. Social network analysis has been used throughout the social sciences and is a growing field within management research. There is no existing research which combines these three strands to examine the social networks involved in the diffusion of best practices relating to electronic government. A systematic review of the literature in these areas is being undertaken to provide a base of knowledge to inform the design and execution of the field research element of the PhD.

Systematic reviews were developed from the late 1980s onwards in the medical and healthcare research fields to synthesize the available evidence on medical interventions and ensure that patients received the most effective treatments (Tranfield et al. 2003). Over the following two decades, the systematic review has been adopted in many other research domains including social policy, criminal justice, regeneration, nursing, housing, social care, education welfare policy, urban policy and, more recently, management (Boaz et al. 2002; Tranfield et al. 2003).

The use of systematic reviews in management research is still in its infancy. A prototype methodology has been developed by Professor David Tranfield and Dr David Denyer at the Cranfield School of Management (Tranfield et al. 2003) and adopted in the production of three linked reviews of the evidence on innovation and productivity performance in the UK, conducted by the Advanced Institute of Management Research (Pittaway et al. 2004; Edwards et al. 2004; Lesure et al. 2004b). The current review attempts to follow the methodology described by Tranfield and Denyer and implemented in the three recent reviews. It has also been informed by the work of the ESRC UK Centre for Evidence Based Policy and Practice (Boaz et al. 2002). The systematic literature review for this study is still in progress.

Research Methodology

Comparative case studies will be undertaken of three sub-regional partnerships in three English regions. Each of the three case studies will examine the social network involved in the development of e-government. A research protocol (Yin, 2003) has been prepared to guide each of the case studies, outlining key concepts, field procedures and case study questions. The following steps will be followed:

- Interviews with key informants in each locality to establish the relevant areas of e-government activity and identify goals, issues and participants.
- Study of local documentation.
- A short written questionnaire will be sent to all participants in the network to ascertain who they deal with and the frequency, importance and closeness of those interactions.
- Construction of social network maps, using suitable software, to identify the community of practice active around e-government and the relationships between actors.
- Qualitative interviews in each locality to discuss the social network maps with participants to isolate specific themes and contexts.

Social Network Analysis is a useful tool to present a picture of the relationships within a local e-government network. It can help identify the extent to which the network is connected and whether

there are any sub-groups, cliques or clusters. Social network analysis offers measures of centrality which can be used as a starting point to examine concepts of power, influence and trust. Different types of relationship (e.g. communication, previous contact, advice) can be compared to see whether one relationship is influenced by another. NetDraw provides a valuable tool for visual representation of a network. In all these respects, social network analysis can be an extremely effective tool (Wasserman and Faust, 1994; Scott, 2000). However, it cannot provide details of *why* the network looks the way it does or the meaning behind the surface of relationships. Social network analysis is most powerful when combined with qualitative research to provide a more complete explanation of network relationships. Future research for this project will draw on the learning from earlier studies (Provan and Milward, 1995; Hutt et al. 2000; Cross et al. 2001) which have used social network analysis and diagrams as tools to initiate discussion in qualitative interviews and workshops. This will help create a richer picture than can be found from social network analysis alone.

The ethical implications of social network research are similar to those occurring in all social science research, but there are a number of key differences (Borgatti and Molina, 2003). Anonymity at the data collection stage is not possible, because each actor needs to be provided with a list of the other actors in the network. Non-participation does not necessarily mean the person is excluded from the study, because others will provide information about their relationships. Identification of the individuals can be a powerful tool in enabling discussion about the network of relationships, but disclosure of names can have important implications for those individuals. Network surveys are fairly new, so respondents may not be as aware of the consequences of involvement as with established survey techniques, making informed consent more problematic.

A pilot social network study was undertaken during June-July 2005. The purpose of the study was to enable the researcher to learn more about the practical application of social network analysis, including questionnaire design, selection of participants, coding of data, use of UCINET software (Borgatti et al. 2002) for data analysis and production of appropriate reports. The research focussed on a small e-government project relating to knowledge management.

Description of the First Case Study

A meeting was held with a senior local government officer from one of the participating councils to discuss the research idea and gather an initial impression of the sub-regional partnership he was a leading member of. Following this initial meeting a short project plan was produced, providing an outline of the steps to be taken and a research timetable. This plan served both as a tool for the researcher and a project description for wider circulation in the partnership. A list of suggested participants was provided by the initial key informant, based on his knowledge of the partnership. Subsequent discussions with two other long standing members of the partnership suggested a more complicated pattern of e-government activity in the sub-region, and it was decided, together with these three informants, to expand the list to include a wider body beyond those involved in the original group. Snowball sampling was used to check this list and identify any further participants (Milward and Provan, 1998): the list of names, together with a revised project plan was circulated to all those suggested, asking for any comments, deletions or additions. Amendments were taken up where they were of people working for organisations based in the sub-region. The final list included 37 people from ten organisations, including all of the local authorities, police force, fire service, health service and the passenger transport executive.

A short questionnaire was developed for distribution to all members of the network. It was circulated and returned by email. Six questions asked about network relationships: frequency of communication,

providing and seeking information and advice, influence, previous contact and knowledge of each other's skills. The remaining questions related to the respondent's involvement in the project and brief contact details. The wording of the questions was developed with reference to previous network studies (Hutt et al. 2000; Cross et al. 2002; Shaw, 2004; Cross and Parker, 2004), questions used in government surveys (University of Surrey, 2002), discussion with colleagues at Leeds University Business School and lessons learned from an earlier pilot. The questionnaire included a brief introduction which served to explain the purpose of the study and assure participants that their responses would be treated confidentially. Of the 37 questionnaires circulated, 32 were completed and returned. One person replied that they were no longer in post and was omitted from the study. Most questionnaires appeared to have been completed fully and accurately. Information was first entered into excel spreadsheets. It was then copied and pasted into UCINET 6 for analysis (Borgatti et al. 2002).

Interviews have taken place with 11 of the respondents, including at least one person from each of the organisations involved in the partnership. An interview schedule was used as a loose guide. All interviews were recorded on tape and later transcribed. Topics of discussion included: motives and benefits of the collaboration, why these particular partners were involved, how regional activity related to local service delivery, sources of best practice, involvement in wider networks and leadership.

The data is currently being analysed and some preliminary findings will be presented at the panel session.

Contribution to Knowledge

It is anticipated that this study will develop ideas of interest to both academics and those working in and around local government. Firstly, increased knowledge about building effective local partnerships for improved service delivery. Secondly, an exploration of the importance of social networks in local government. Thirdly, learning about the dissemination of best practice within and between local governments. Fourthly, it can offer a contribution to the fledgling knowledge of e-government.

References

- Ahuja, G. (2000) The duality of collaboration: Inducements and opportunities in the formation of interfirm linkages. *Strategic Management Journal* **21** (3):317-343.
- BarNir, A. and Smith, K.A. (2002) Interfirm alliances in the small business: The role of social networks. *Journal of Small Business Management* **40** (3):219-232.
- Boaz, A., Ashby, D. and Young, K. (2002) Systematic Reviews: What have they got to offer evidence based policy and practice? ESRC UK Centre for Evidence Policy and Practice: Working Paper 2. <http://www.evidencenetwork.org/Documents/wp2.pdf> (date accessed 10/11/04).
- Borgatti, S.P., Everett, M.G. and Freeman, L.C. (2002) Ucinet for Windows: Software for Social Network Analysis. Harvard, MA: Analytic Technologies.
- Borgatti, S.P. and Molina, J.L. (2003) Ethical and strategic issues in organizational social network analysis. *The Journal of Applied Behavioral Science* **39** (3):337-349.
- Burgess, T.F., Burkinshaw, S.M. and Vijayan, A.P. (2005) Adoption of a Focal Production Innovation Within a Supply Network (Unpublished paper developed by invitation from a paper presented to the 2004 EUROMA conference).
- Clegg, S. and McNulty, K. (2002) Partnership Working in Delivering Social Inclusion: Organizational and Gender Dynamics. *Journal of Education Policy* **17** (5):587-601.
- Copus, C. (2003) Re-Engaging Citizens and Councils: the Importance of the Councillor to Enhanced

- Citizen Involvement. *Local Government Studies* **29**, 32-51.
- Cowell, R. and Martin, S. (2003) The Joy of Joining up: Modes of Integrating the Local Government Modernisation Agenda. *Environment and Planning C-Government and Policy* **21**, 159-179.
- Cross, R., Borgatti, S.P. and Parker, A. (2002) Making Invisible Work Visible: Using Social Network Analysis to Support Strategic Collaboration. *California Management Review* **44** (2):25-46.
- Cross, R. and Parker, A. (2004) *The Hidden Power of Social Networks*. Massachusetts: Harvard Business School Publishing Corporation.
- Cross, R., Parker, A., Prusak, L. and Borgatti, S.P. (2001) Supporting Knowledge Creation and Sharing in Social Networks. *Organizational Dynamics* **30** (2):100-120.
- Edwards, T., Battisti, G. and Neely, A. (2004) Value creation and the UK economy: a review of strategic options. *International Journal of Management Reviews* **5/6**, 191-213.
- Freeman, L.C. (1979) Centrality in social networks: Conceptual clarification. *Social Networks* **1** 215-239.
- Geddes, M. and Root, A. (2000) Social exclusion - New language, new challenges for local authorities. *Public Money & Management* **20** (2):55-60.
- Gulati, R. and Gargiulo, M. (1999) Where do Interorganizational Networks Come From? *American Journal of Sociology* **104** (5):1439-1493.
- Hagedoorn, J. and Duysters, G. (2002) Learning in Dynamic Inter-Firm Networks: the Efficacy of Multiple Contacts. *Organization Studies* **23** (4):525-548.
- Hambleton, R. and Sweeting, D. (2004) U.S.-Style Leadership for English Local Government? *Public Administration Review* **64** (4):474-488.
- Hinnant, C.C. and O'Looney, J.A. (2003) Examining Pre-Adoption Interest in Online Innovations: an Exploratory Study of E-Service Personalization in the Public Sector. *IEEE Transactions on Engineering Management* **50**, 436-447.
- Ho, A.T.-K. (2002) Reinventing local governments and the E-government initiative. *Public Administration Review* **62** (4):434-445.
- Ho, A.T.-K. and Ni, A.Y. (2004) Explaining the Adoption of E-Government Features - a Case Study of Iowa County Treasurers' Offices. *American Review of Public Administration* **34**, 164-180.
- Hutt, M.D., Stafford, E.R., Walker, B.A. and Reingen, P.H. (2000) Defining the Social Network of a Strategic Alliance. *Sloan Management Review* **41** (2):51-62.
- Lee, K. and Pennings, J.M. (2002) Mimicry and the Market: Adoption of a New Organizational Form. *Academy of Management Journal* **45** (1):144-162.
- Lesure, M., Birdi, K., Bauer, J., Denyer, D. and Neely, A. (2004a) Adoption of Promising Practice: A Systematic Review of the Literature. Advanced Institute of Management Research. <http://www.aimresearch.org/publications/adoption.pdf> (date accessed 10/11/04).
- Lesure, M.J., Bauer, J., Birdi, K., Neely, A. and Denyer, D. (2004b) Adoption of promising practices: a systematic review of the evidence. *International Journal of Management Reviews* **5/6**, 169-190.
- McAdam, R. and Walker, T. (2004) Evaluating the best value framework in UK local government services. *Public Administration & Development* **24** (3):183-196.
- McNeal, R.S., Tolbert, C.J., Mossberger, K. and Dotterweich, L.J. (2003) Innovating in Digital Government in the American States. *Social Science Quarterly* **84**, 52-70.
- Midwinter, A. (2001) New Labour and the modernisation of British local government: A critique. *Financial Accountability & Management* **17** (4):311-320.
- Milward, H.B. and Provan, K.G. (1998) Measuring Network Structure. *Public Administration* **76** (2):387-407.
- Moon, M.J. and Norris, D.F. (2005) Does managerial orientation matter? The adoption of reinventing government and e-government at the municipal level. *Information Systems Journal* **15** (1):43-60.

- Norris, D.F. and Moon, M.J. (2005) Advancing E-Government at the Grassroots: Tortoise or Hare? *Public Administration Review* **65** (1):64-75.
- ODPM (2002) The national strategy for local e-government. London: HMSO.
- ODPM (2003) One Year On: the national strategy for local e-government. London: HMSO.
- ODPM (2005) Two Years On: realising the benefits from our investment in e-government . London: HMSO.
- Olk, P. and Elvira, M. (2001) Friends and strategic agents: The role of friendship and discretion in negotiating strategic alliances. *Group & Organization Management* **26** (2):124-164.
- Painter, C. and Clarence, E. (2001) UK Local Action Zones and Changing Urban Governance. *Urban Studies* **38**, 1215-1232.
- Pittaway, L., Robertson, M., Munir, K., Denyer, D. and Neely, A. (2004) Networking and Innovation: a systematic review of the evidence. *International Journal of Management Reviews* **5/6**, 137-168.
- Provan, K.G. and Milward, H.B. (1995) A preliminary theory of interorganizational effectiveness: A comparative study of four community mental health systems. *Administrative Science Quarterly* **40** (1):1-34.
- Raco, M. (2002) The Social Relations of Organisational Activity and the New Local Governance in the UK. *Urban Studies* **39**, 437-456.
- Rindfleisch, A. and Moorman, C. (2001) The acquisition and utilization of information in new product alliances: A strength-of-ties perspective. *Journal of Marketing* **65** (2):1-18.
- Rogers, E.M. (2003) *Diffusion of Innovations*. 5th edn, New York: Free Press.
- Scott, J. (2000) *Social Network Analysis - A Handbook* . 2nd edn, London: Sage.
- Shaw, N. (2004) Questionnaire used to assess social networks for innovation sharing in water industry (unpublished). University of Leeds.
- Snape, S. (2003) Health and Local Government Partnerships: the Local Government Policy Context. *Local Government Studies* **29**, 73-98.
- Szulanski, G. (2003) *Sticky Knowledge: Barriers to Knowing in the Firm*. London: Sage.
- Thacher, D. (2004) Interorganizational Partnerships as Inchoate Hierarchies: A Case Study of the Community Security Initiative. *Administration & Society* **36** (1):91-127.
- Tranfield, D., Denyer, D. and Smart, P. (2003) Towards a Methodology for Developing Evidence-Informed Management by Means of Systematic Review. *British Journal of Management* **14**, 207-222.
- University of Surrey. The Question Bank, <http://qb.soc.surrey.ac.uk>, accessed 16/06/05 . 2002.
- Wasserman, S. and Faust, K. (1994) *Social Network Analysis: Methods and Applications*. Cambridge University Press.
- Yin, R.K. (2003) *Case Study Research Design and Methods*. Third edn, London: Sage Publications.