

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

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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. Local authorities have been encouraged by the government to develop e-government solutions in partnership with others. Literature from the fields of e-government and the diffusion of innovations suggests that participation in wider networks is a factor affecting successful e-government implementation.

This 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 people from different departments within the local authority, councillors, other local authorities, national projects, other public organisations and potentially the voluntary and private sectors. The research explores how these individuals work together, mapping out the key relationships and identifying barriers to knowledge sharing and service improvement. The policy contribution will evolve from an increased understanding of the social networks underpinning complex service innovation.

This paper first introduces the literature in four key areas: local governance and networks, e-government, diffusion of innovation and social networks. It goes on to explain the methodology adopted during the study: comparative case studies of three sub-regional e-government partnerships using social network analysis and qualitative interviews. It finishes with a description of the first of these case studies and presents some preliminary findings.

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1. Introduction

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. E-government is the use of computer technologies by government to transform the provision of services and information to citizens, encourage citizen participation and modernise local government. Local authorities have been encouraged by the government to develop e-government solutions in partnership with others. Literature from the fields of e-government and the diffusion of innovations suggests that participation in wider networks is a factor affecting successful e-government implementation.

This 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 people from different departments within the local authority, councillors, other local authorities, national projects, other public organisations and potentially the voluntary and private sectors. The research explores how these individuals work together, mapping out the key relationships and identifying barriers to knowledge sharing and service improvement. The policy contribution will evolve from an increased understanding of the social networks underpinning complex service innovation.

This paper first introduces the literature in four key areas: local governance and networks, e-government, dissemination of best practice and social networks. It goes on to explain the methodology adopted during the study: comparative case studies of three sub-regional e-government partnerships using social network analysis and qualitative interviews. It finishes with a description of the first of these case studies and presents some preliminary findings.

2. Literature Review

2.1. Local governance and networks

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.

Research exploring the internal dynamics of local partnerships 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). This study will take forward this discussion on the importance of individual connectedness to the activity of partnerships, using social network analysis to explore the relationships and influence of participants in e-government projects.

2.2. Local Electronic Government

The UK government's national strategy for local e-government, published in November 2002, identified three central themes of local e-government: Transforming Services, Renewing Local Democracy, and Promoting Economic Vitality (ODPM, 2002). There have been 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 (Table 1)

Table 1 Priority Service and Transformation Outcomes for Local e-government

Priority Service Areas
Schools – To help raise education standards and allow e-enabled processing of pupil support services to the public
Community information – to deliver integrated information about services for the community, delivered by local and regional partnerships where appropriate and connected to a national infrastructure
Democratic renewal – to promote greater public involvement in local decision making and to enhance the representative role of councillors in the community through the use of technology
Local environment – to help improve the quality, cleanliness and safety of our public space by using technology to integrate relevant functions more closely.
e-Procurement – to support business improvement through cost effective and efficient purchasing of goods and services through corporate implementation of e-procurement. Working with local suppliers to equip them to take advantage of e-procurement services.
Payments – to support service improvement and collection efficiency by providing for all payments to the council for goods and services to be made online or by telephone.
Libraries, sports and leisure – to provide easy and convenient access to a range of online information to encourage productive use of leisure time and healthier lifestyles, including e-enablement of local library, sports and leisure facilities.
Transport – to meet transport needs more effectively through the provision of real time local transport information and utilising technologies to improve traffic and transport management.
Benefits – to meet the needs of claimants and their agents through the provision of online access to the Housing and Council Tax Benefit claim process, or via intermediated technology in their homes.
Support for vulnerable people – to meet the needs of vulnerable children and adults and their carers by increasing the accessibility of services, offering quick, comprehensive assessment and reducing risk by improving communication and access to information between agencies.
Transformation Priority Areas
Supporting new ways of working – active policy and practice enabling council members and staff to work from home or away from the office base.
Accessibility of services – all council services are supported outside of standard working hours via the Internet or telephone contact centres.
High take up of web-based transactional services – development of web based services as a major access channel for interactions between the citizen and the council.
Making it easy for citizens to do business with the council – systems are in place to ensure effective customer relationship management.

Source: (ODPM, 2004)

Against each priority area, the ODPM set a number of priority e-government outcomes. For example, the priority outcomes relating to the Benefits service area include: “one stop” resolution of Housing and Council Tax Benefit enquiries by phone or in person using Customer Relationship Management software to provide information and connect the front and back office; provision for citizens to calculate benefit entitlement on-line and download relevant forms; use of mobile technology to process benefit claims from citizens’ homes; eligibility checks for other entitlements such as free school meals when citizens claim Housing or Council Tax Benefit. Each local authority has been required since 2001 to submit an annual Implementing Electronic Government (IEG) statement, in which they report on progress in achieving the priority outcomes. Funding for e-government implementation has been 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 was 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. The ODPM’s Partnership Programme funded 101 Local e-Government Partnerships between 2002 and 2006 with a total of £68 million. The Partnership Programme aimed to “deliver more effective, more efficient and more joined up local government services” (ODPM, 2005a p4). The programme identified a number of reasons why local authorities work in partnership on e-government:

- i. Improving front-line customer service;
- ii. Joining up front-line service delivery;
- iii. Improving corporate services;
- iv. Reducing the costs and risks of procurement;
- v. Enhancing organisational learning;
- vi. Building people’s skills (ODPM, 2005a p5).

In recent years, particular emphasis has been placed on the importance of local authorities working together with others in their region (ODPM, 2005b). These Local e-Government Partnerships, the focus of this study, exist in a changing climate. The funding from the ODPM’s Partnerships Programme, which has supported their activities, has ended. The national strategy for local e-government has reached the end of its term and local authorities now face new national priorities including the Transformational Government agenda, the drive for efficiency, a campaign to encourage citizen take-up and Government Connect.

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. McNeal et al (2003) found that the involvement of state officials in professional networks was an indicator of e-government innovation, but that access to resources and citizen-related factors such as education level, voter turn-out and rate of internet use do not drive e-government implementation. They conclude that e-government is largely an administrative reform, driven by officials seeking efficiency, rather than a mechanism for democratic participation. Both McNeal (2003) and Ho and Ni (2004) identify the need for future research seeking to understand the role of networks in the diffusion of e-government and other administrative reforms.

2.3. 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' (Leseure 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 has been 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). The diffusion of innovation literature suggests a number of points relating to the adoption of best practices by organisations which will be explored during this study. Firstly, organisational innovativeness is related to structural characteristics, including attitudes of the leadership towards change, interconnectedness ("the degree to which the units in a social system are linked by interpersonal networks") and centralisation ("the degree to which power and control in a system are concentrated in the hands of relatively few individuals") (Rogers, 2003 p412). This study is interested in two aspects of interconnectedness; the extent to which the organisations working in e-government partnerships are interconnected and the extent to which those attending the partnership are interconnected with other departments in their organisation. Secondly, the importance of innovation champions who occupy a linking role, understand the aspirations of others and have suitable negotiating skills (Rogers, 2003).

2.4. Inter-organisational social networks

Social network analysis is used to explore relational data. It focuses on a set of actors and the relations between them. It can be used to analyse data from a range of sources including surveys, documents, interviews or participant observation. The origins of social network analysis lie in work done by psychologists and anthropologists in the 1930s and 1940s using sociograms to explore ties of friendship, community and kinship. A sociogram is a map in

which nodes representing individuals or organisations are connected by edges representing their relationships with one another. A team from Harvard University (Granovetter, Lee and others) introduced mathematical concepts, primarily graph theory, to allow statistical analysis of network structure. Social network analysis has been used in a number of disciplines including sociology, health, psychology and management.

The process of social network analysis is described in some detail by Scott (2000) and Wasserman and Faust (1994). Relational data is organised in matrices, indicating the relationships between each of the cases. Many of the conventions of variable analysis apply, but there are some important differences. The levels of measurement are directed/undirected and binary/valued rather than nominal, ordinal or interval. Data can be collected on the attributes of the actors, such as age, organisational affiliation, ethnicity, and stored in an attribute matrix.

Different methodological approaches can be used to examine inter-organisational social networks. Work ranges from studies which are very mathematical to others which are more descriptive and qualitative. One 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. 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) 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).

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. 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 Local 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 of Local e-Government Partnerships are frequency of communication, information-seeking, influence, previous contact and knowledge of another's skills (see questions in Appendix 1).

Social Network A social network is a set of actors and the relations between them. For this study, the social network consists of individuals from all of the organisations involved in a Local e-Government Partnership. The relationships explored in the study are those directly concerned with e-government, rather than friendship or other work relations. For example, participants were asked "How often do you typically communicate with the following people about e-government" (see questions in Appendix 1).

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 (Freeman, 1979). Degree centrality was chosen as a suitable measure of centrality in this network study. It measures the number of relationship ties each actor has. An actor with a high level of degree centrality is 'where the action is' (Wasserman and Faust, 1994 p179). It can be a useful measure of power and leadership. 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.

Boundary Spanners In their study of an alliance between two firms, Hutt et al (2000) identified those who were "in the know" (p56). These are the boundary spanners, those with close ties both within their own firm and to those involved in the alliance. This study of Local e-Government Partnerships will examine the role and status of these boundary spanners.

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). Alliance formation between firms has been found to be 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). There are parallels here with a section of the social capital literature: people and organisations can gain advantage if they are well-supported and well-informed, by having strong and numerous connections with others (Putnam, 2000)

3. Research Aims and Objectives

The research addresses the question “How do local authorities and their partners work together to implement electronic government? issues, challenges, successes.” Subsidiary questions to be explored are:

- i. How important to the development of e-government solutions are:
 - a. Involvement in wider networks such as national projects or regional organisations?
 - b. Organisational characteristics such as: leadership attitudes to change; interconnectedness; centralisation?
- ii. To what extent do ‘silos’ still operate within local government? How well do departments work with each other to improve service delivery? What role do IT specialists play?
- iii. What is the role and importance of innovation champions in e-government networks?
- iv. What is the extent and nature of any citizen or councillor participation in the development of e-government?
- v. How important is citizen quality of life as an outcome of e-government, relative to other considerations such as service delivery, administrative efficiency or cost savings?
- vi. What impact do the role, standing, activities and influence of individuals have on the success of e-government partnerships?

4. Research Methodology

A systematic literature review is being undertaken. It includes literature on local governance, e-government, the diffusion of innovations, inter-organisational social networks and quality of life. 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; Leseure 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. The review is guided by a protocol which sets out the purpose, objectives and strategy being followed.

Comparative case studies are being undertaken with three Local e-Government Partnerships funded by the ODPM's Partnership Programme. Each one covers a sub-region. They are located in three different 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 have been followed:

- i. Interviews with key informants in each locality to establish the relevant areas of e-government activity and identify goals, issues and participants.
- ii. Study of local documentation.
- iii. A short written questionnaire sent to all participants in the network to ascertain who they deal with in relation to e-government (see questionnaire at appendix 1).
- iv. Analysis of the questionnaire data, using Ucinet, and construction of social network diagrams, using NetDraw, to identify the community of practice active around e-government and the relationships between actors.
- v. Qualitative interviews and a workshop in each locality to discuss the social network diagrams 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 (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. This study draws 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.

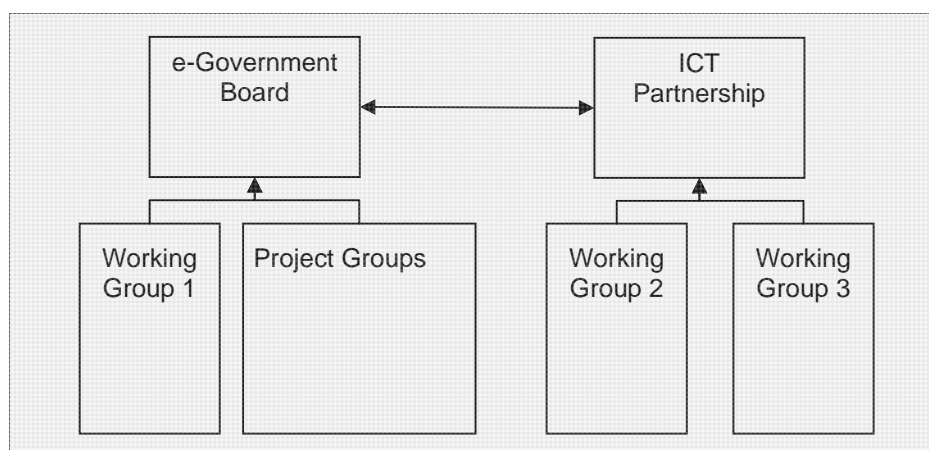
All participants were sent an outline of the research project in advance. The outline included a list of suggested participants and details of how the research would be reported (as follows). The research findings were fed back to participants via a workshop and a written report.

Individuals were not named in the workshop or report. Organisations were named. Every attempt was made to provide anonymity but, given the small number of people involved, it may be possible for those involved in the network to identify one another. A draft copy of the report was circulated to all participants, inviting comments. All comments were discussed with those who raised them and resolved to their satisfaction, with some amendments being made to the final report. The local report will not be circulated by the researcher beyond the participants. A summary report of all three case studies will be made available to participants and circulated more widely. In this summary report and in any articles or conference papers, the names of local authorities and their partners will be omitted and every attempt will be made to ensure anonymity.

5. Case Study of a sub-regional e-government partnership

This case study focussed on a Local e-Government Partnership, one of 101 local partnerships funded by the ODPM's Partnership Programme. The Partnership consists of 10 organisations: 5 neighbouring local authorities plus 5 public organisations operating in the area (police, fire, health, passenger transport executive and an organisation delivering some of the shared services residual from the defunct county council).

Diagram 1 Local e-Government Partnership Activity in the Sub-Region



The sub-regional e-Government Board was formed in 2002, with an initial focus on a small number of projects funded by the ODPM's Partnership Programme. Since then it has developed into a board which provides a strategic and business focused lead for e-government project activity. Its activities include sharing information, identifying opportunities for new shared business opportunities and overseeing a number of discreet project groups. There is a separate ICT Partnership which works closely with the e-Government Board. It is a long established group which had fallen dormant and was resurrected to co-ordinate the technical and infrastructure components of the efficiency agenda. Both the e-Government Board and the ICT partnership have representatives from all of the 5 local authorities. The other 5 public organisations are involved in one or both bodies. Both report periodically to the Association of Chief Executives, a meeting of the senior management of the 5 local authorities. Reporting to these two boards are a number of working groups which are involved in the exploration or development of particular initiatives.

Separate discussions were held with three long-standing members of the partnership to discuss the research idea, gather an initial impression of the sub-regional partnership and agree a list of participants. The criterion for inclusion was a current, on-going involvement in the e-Government Board, the ICT Partnership or any of the working groups (shown in the grey area of Diagram 1). Snowball sampling was used to check this list and identify any further participants (Milward and Provan, 1998): the list of names, together with a 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 10 organisations, including 5 local authorities (all single-tier), police force, fire service, health service, the passenger transport executive and an organisation delivering some of the shared services residual from the defunct county council.

A short questionnaire was distributed to all of the 37 people involved in the partnership (see appendix 1). 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 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 analysed using UCINET 6 (Borgatti et al. 2002).

A workshop was held at an e-Government Board meeting and interviews were completed with 13 participants, including at least one person from each of the organisations involved in the partnership. Interviews were recorded on tape and later transcribed. They were analysed using NVivo software.

6. Preliminary Research Findings

6.1. Motives for working in partnership

Participants report strong motives for working in partnership with one another. All of the organisations are looking to the partnership to offer economies of scale, including bulk purchasing, discounts from shared contractors and a combined approach to Government Connect. The participants are motivated by a desire to share knowledge and learn from each other; several spoke of the need to "avoid re-inventing the wheel". One participant from an ICT department felt that they were facing increasing demands from directorates, which could only be satisfied by sharing the knowledge and experience of others. Many mentioned pressure from central government as a motive to work in partnership. It was widely felt that making a collective sub-regional case to government was more effective than arguing a point as a single organisation. Examples include interpretation of what is required to meet a specific priority outcome and applying to implement Government Connect jointly.

"The other big advantage is the collective voice ... if we are all of the same mind we've more of a collective voice to argue the case" (Interview).

Working together has enabled access to additional central government funding. For non-Council participants, an additional motive is to seek better connections with local councils, either to negotiate co-location of staff or to increase take up of services by promoting each other's activities.

“Getting involved in these sorts of partnerships is central to us because it allows more people in key positions in local authorities to be aware of us and for non-obvious connections to be made”. (Interview)

6.2. Benefits of working in partnership

Reported benefits of working together include sharing skills and knowledge, a better understanding of what each other does, and access to each others' resources and expertise. Shared work on the priority outcomes is felt to have helped local authorities deliver on these national targets.

“It is very difficult to quantify the benefits of collaboration from a knowledge perspective, because, you know, having these discussions and understanding what others are doing, gives us some, maybe knowledge we wouldn't have had to help feed in to what we are doing. It is like an intangible benefit” (Interview)

“Probably the main things, the actual concrete things at the moment for us probably aren't enormous, but the potential I think is there and the things that will happen are there, but perhaps haven't happened yet” (Interview)

The partnership has identified substantial efficiencies resulting from partnership working, for example by jointly procuring staff training. A few shared projects have already been introduced and others are being investigated or developed. One of the partnership's early projects was to combine capital resources to build a shared microwave network. The network is used extensively by the police and has been used to site police officers in council buildings. It has been utilised in a pilot to explore the potential for local authority staff to work from home. Discussions are underway about shared approaches to Geographical Information Systems and disaster recovery. A small sub-group are working on the development of a shared proof of age smartcard for young people. The partnership has developed broadband access for small businesses in one part of the sub-region and is discussing the development of a shared business database and a single business account.

Some of the projects initiated by the partnership are reliant on take-up by other directorates for their success. The home working project, which has produced a network design and policy guidelines for home working has not yet been expanded beyond the small number of ICT staff who took part in the pilot. The microwave network, which allows communication between partners, has many potential applications which could be explored in the future.

6.3. Partnership Connections

6.3.1. Communication in the partnership

Everyone in the partnership was asked about the frequency of their communication with others: “How often do you typically communicate with the following people about e-government?” This question is framed to focus on communication directly relating to e-

government, rather than other communication which may take place between the participants. Diagram 2 represents frequent communication between members of the partnership. The lines represent communication more often than monthly; the data has been symmetrised, so a link is only recorded when both people report a connection. Each node represents an individual.

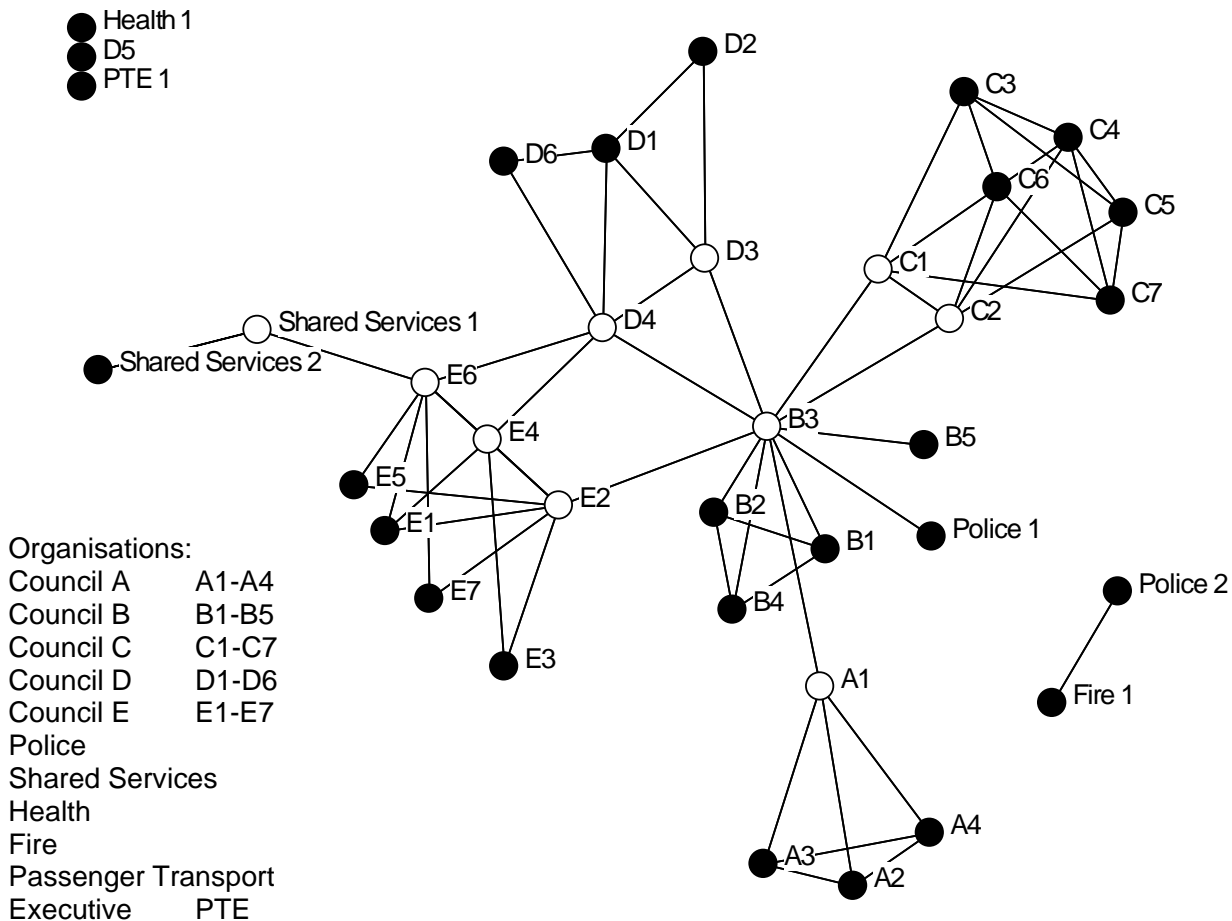


Diagram 2 - Communication more often than monthly
(See start of Section 5 for details of the organisations involved)

The connectedness of the main group in the diagram suggests that news and information about e-government can reach most participants fairly regularly. Of the 36 respondents, 20 communicate with three or more people each month. There are no cliques or sub-groups in the network; nor is there a core of activists communicating with each other to the exclusion of the periphery. Within each local authority there is a high level of internal communication; with very few exceptions, most local authority representatives are in weekly or daily communication with their colleagues, allowing for a high level of information exchange and discussion.

Between organisations, a number of individuals play an important role as boundary spanners, i.e. they are in regular communication both with members of their own organisation and with at least one other organisation. They are shown in white in Diagram 2. Without these individuals their organisations would not be in such regular communication with others in the

partnership. B3 plays a particularly central role; he is in regular contact with six people from five different organisations.

There are five isolated individuals who are not in regular communication with the main body of participants. Four of the five are from non-Council organisations.

6.3.2. Getting hold of information

Getting hold of accurate information in a timely fashion may be expected to help organisations work together. Participants were asked, “Who do you typically go to for information relating to e-government?” and “Who typically comes to you for information relating to e-government?” The results of these two questions, combined together, are shown in Diagram 3.

• D5

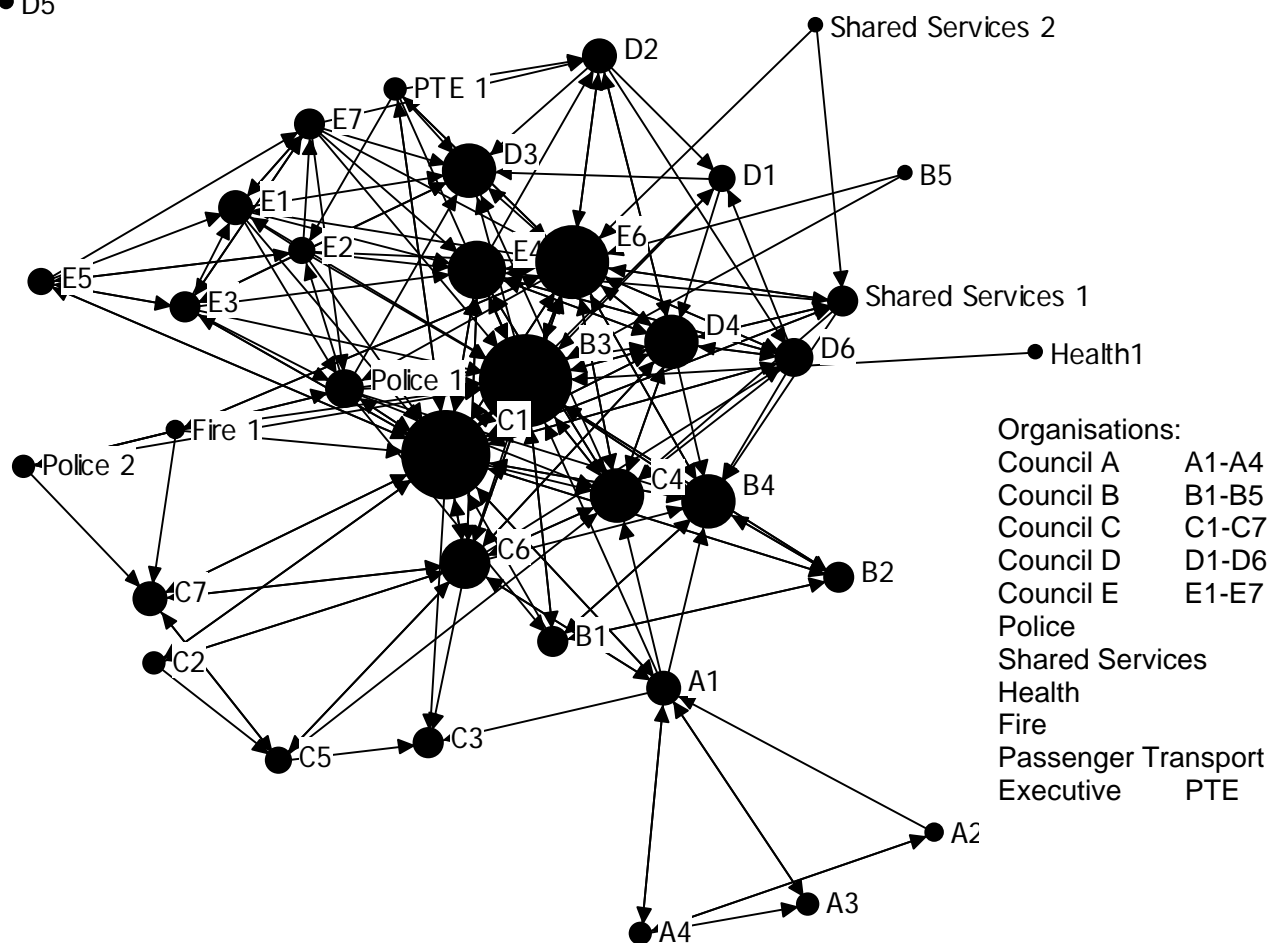


Diagram 3 – Seeking information, sized by centrality

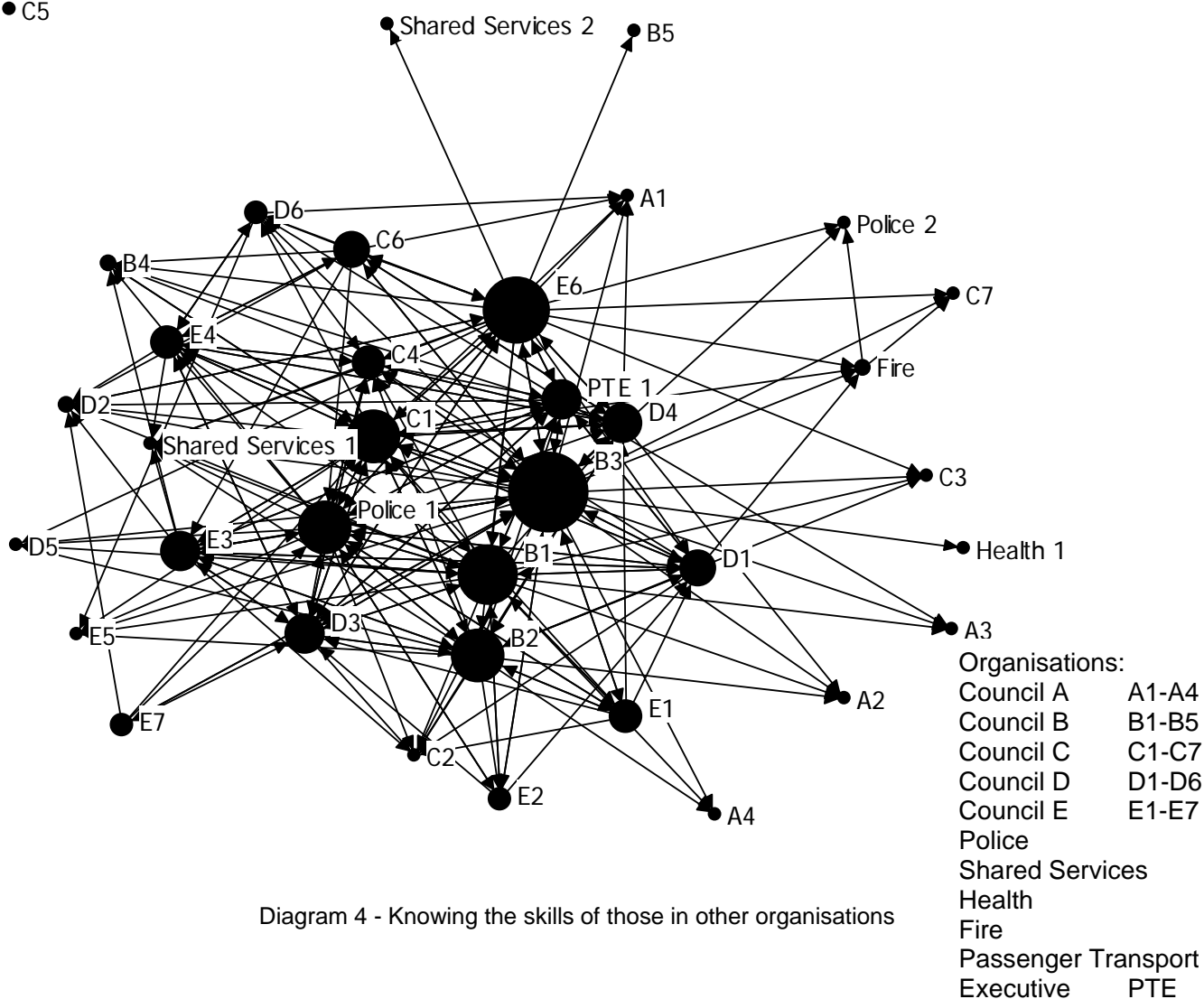
The lines represent information seeking. The size of the node indicates how many people seek information from that person; a larger node indicates someone from whom many people seek information; the smallest nodes indicate someone who is not sought out for information by anyone. There are three people in the partnership who are called on by many others for information. They are each sought out by more than 15 others. A further 5 people are also

sought out by a sizeable number of others; they are each contacted for information by 10-12 others. Participants from Council A rely for all their information on A1.

Among the non-Council organisations there is some variation. Organisations who have been involved in the partnership for some time have a number of people who they can go to for information, and they tend to have contacts in a good spread of organisations. For example, a police representative, Police1, a long standing member of the partnership, goes for information to 9 people and provides information to 6 people across five organisations. The health service, which is a very recent addition to the partnership, has only one person to seek information from, but their contact is very centrally placed in the network.

6.3.3. Knowing each others' skills

● C5



Understanding each others' skills is an important element of partnership working. Whether or not people are currently in regular contact, if they are aware of each others' skills, they can quickly get together the right people for a particular project or can contact the people they need for advice or information. Participants were asked "About whom can you say "I

understand what skills & knowledge this person has”?” In general, as might be expected, people were well aware of the skills and knowledge of those in their own organisation. Diagram 4 omits these internal connections and focuses on the awareness of skills and knowledge of those in other organisations. The nodes are sized by how many people’s skills the person knows: those who know the skills of lots of others will be indicated by large nodes; the smallest nodes indicate those who do not know the skills of any others. Three people know the skills of over twenty others outside their own organisation, almost all of the other people in the partnership. Another twelve people know the skills of ten people or more.

Table 2 How many people do you know the skills of?

How many people do you know the skills of?	Number of respondents
Over 20 people	3
10-19 people	9
1-9 people	9
0 people	11
Not answered	4
Total	36

By contrast, more than a third of participants do not understand the skills and knowledge of anyone outside their own organisation, so would be unable to directly contact people e.g. for help and advice with a particular project. This is likely to contribute to the pressure on the most central people in the partnership. Partnership working could be further improved by identifying ways of sharing information on what skills and knowledge people have to offer, for example by compiling a shared skills database or holding a facilitated awareness session.

6.3.4. Partnership connections – an overview

Looking across all of these partnership connections – communication, providing information, knowledge of the skills of others – some people emerge as key figures in the partnership. These are the individuals who are in frequent communication with many others, provide information widely and have a good awareness of the skills and knowledge in the partnership. Three people are very central to the partnership, B3, C1 and E6. They are seen by others as key to driving the partnership forward:

“He is useful in building up the links to the other organisations, which I think is important in getting something forward like this ... you need somebody to be able to bring people together and embrace them and say we could do this together” (Interview)

“[name] is a driver. If he was no longer involved the partnership would flounder... He is the most valuable resource” (Interview).

These three all seem to be supported by their organisations to play this role. Two are relatively senior in their organisations and the third, while more junior, has been encouraged by a senior manager to play an active role, having been freed up from other commitments to focus on the partnership. All three are perceived by others as approachable, likeable and knowledgeable.

If these individuals left or reduced their commitment and were not replaced, the partnership would suffer. B3 plays a particularly important role in the partnership: he communicates frequently with many people, knows the skills of more people and is sought out for information by more people than anyone else. The partnership may want to explore whether these three people playing very central roles in the partnership are willing and available to continue in those roles longer term, particularly if activity increases.

Of the ten most central people in the partnership, nine are from the four most active councils and one is from the Police. All except one are members of the longest established of the partnership groups, so it is likely they have been working together for some time. These people act as boundary spanners, i.e. they work closely with members of their own organisation and with other organisations on partnership activities.

Among the non-local authority organisations involved in the partnership, one of the police representatives is a key player. His involvement was initially encouraged by having previously worked alongside B3, one of the three key activists. He has been very involved over a few years in one of the partnership's projects, which may suggest that working together on a project strengthens a partnership more than simply sharing information and ideas. The representatives of Shared Services and the Passenger Transport Executive are less involved, but still fairly well connected. The Passenger Transport Executive representative is not in very frequent communication with others, but does exchange information with five people from three different organisations and has knowledge of the skills of eleven others. For the local authorities, their knowledge of the partnership is spread among a group of people, but for these other organisations, it all rests with one individual. This reliance on one person makes their involvement vulnerable to changes in role or moves to new employment.

Council A has played a lesser role in the partnership until recently, partly because it has been focussing on a major internal reorganisation, and partly because Council A's leadership has been less enthusiastic than others towards partnership working in general. The reorganisation is now complete and this, together with some leadership changes, has placed Council A in a position where it has recently become more involved in the e-government partnership. It is anticipated that this involvement will increase further over coming months.

If the fire service and the health service are to be fully involved in the partnership, more needs to be done to engage with them. That said, the health involvement is in its earliest days and there have been recent personnel changes among the fire service representatives, with a longstanding member moving on to a new post.

6.4. Who is involved in the partnership?

Table 3 - The Role of those involved in the partnership

Role	Number of people
ICT Department	21
Head of ICT	5
e-Government	4
Communications	3
Policy	2
Multi-media	1
Total	36

26 of the 36 participants are members of ICT departments (see Table 3). The remainder are a mixture of policy, communications and e-government managers. All of the organisations that have more than one person involved send at least one non-ICT representative. There are very few people who work in customer services or citizen-facing departments. There is no direct involvement of citizens or councillors. One person is from the private sector.

Some of the projects initiated by the partnership are reliant on take-up by other directorates for their success. There are indications that these projects have not been adopted as widely as might have been anticipated. This makes it important to have clarity about how shared e-government initiatives are successfully planned and implemented, particularly when the partners work together to develop joint services for citizens, which will impact on directorates and organisations beyond those represented in this partnership. This issue is recognised and has already started to be addressed. The e-Government Board and the ICT Partnership now both report to the Chief Executives' group, who have agreed to provide "strategic guidance and adjudication" on "cross-cutting projects"¹, i.e. those projects which impact on other directorates not represented here, such as housing, social services or planning.

"One of the reasons for that is because when you are looking at a shared services agenda, even when it's very early days, you need the top level. So the idea is that business opportunities, technical opportunities come together, OK, and the opportunities are flagged up to the top table and the top table then says, yes we like that one, or no we don't like that one" (Interview).

Further clarity about the powers of the e-government partnership bodies and their relationship with each other and other partnerships beyond e-government could be helpful, including the development of an up to date e-government strategy for the sub region. It would be useful if the strategy included clarity on: the decision making structure; the powers, influence and accountability of the various groups; targets and project plans. It should also outline the connections with other partnerships in the sub-region and in the wider region, particularly in relation to cross-cutting projects. The production of annual reports would enable partners to outline progress in e-government and publicise their achievements more widely.

6.5. Leadership

Partnerships rely for their success on a commitment at the highest level. "This means the chief executive, with political approval, supporting the partnership approach in his/her own organisation and ensuring that the support is cascaded down through their organisation" (ODPM, 2005a p15). Senior management play a key role in determining goals, signifying the importance of the network, creating a clear identity and galvanising support (Hutt et al. 2000). This study has focussed on those directly involved in e-government partnerships and so cannot comment in detail on the attitudes of chief executives. However, a few pertinent points arise from the research which can confirm the importance of having leadership commitment from the top. The initiative for setting up the e-Government Board came from one of the local authority chief executives. All of the chief executives meet together on a board, to which both the e-Government Board and the ICT Partnership report.

¹ Partnership internal report

Changes in leadership attitudes were important drivers for partnership working for two of the partners. A senior officer from one council was clear that changes in the political leadership of his council, together with a change of chief executive meant that he was now getting much more encouragement than previously to be involved in partnership with other councils. An e-government manager from another council perceived a changed attitude to partnership working from his council leadership following the award of a poor rating in the comprehensive performance assessment: there was a drive to raise performance by sharing the knowledge, skills and expertise of others.

Successful partnerships rely on leaders within the group to ensure that meetings are well structured, decisions are followed up on and regular communication is maintained between meetings (ODPM, 2005a p16). Leadership roles are spread between the four most active local authority partners, with each taking on the chair of one of the partnership groups. The chairs provide leadership and continuity for the groups which helps keep them focussed. They are all among the group of boundary spanners in the partnership, in regular contact with others.

“We used to have some years back [ICT Partnership] meetings which were nothing on the lines of this, it was just more informal and we used to rotate the chair and it really didn't work and it collapsed really to be honest and we stopped meeting” (Interview).

In some partnerships a co-ordinating role has been provided by funded dedicated programme management support, either by appointing staff or via consultancy. This partnership has decided not to go down this route.

6.6. Size of organisation

Among the local authority partners, the smaller councils appear to make a larger staffing contribution to the activity (Table 3). Of the 10 most central people in the partnership, 3 are from Council B (the smallest council), 2 from Council E (the second smallest) 2 from Council C, 2 from Council D, and 1 from the Police. So, 7 of the 10 key activists in the partnership are from the three local authorities with the smallest resident populations. Of the 3 people who are at the forefront of activity in the partnership, there is one each from Council B, Council C and Council E, the three authorities with the smallest resident populations.

Table 4 Activity of Local Authorities by size of their resident population

Local authority	Population size*	Number of key activists in the partnership
Council D	719,600	2
Council A	481,100	0
Council C	393,200	2
Council E	319,800	2
Council B	194,300	3

*Source: Audit Commission area profiles,
Compiled using data from the ONS mid year population estimates 2004
www.areaprofiled.audit-commission.gov.uk accessed 15/06/06

This may be because smaller councils can see more gains from the economies of scale and sharing of knowledge offered by e-government partnerships. For example, in relation to discussions about a shared approach to disaster recovery,

“Council D is a large City Council so they have resources that we can use and they are quite happy to share” (Interview)

E-government research suggests that population size is a factor in adopting e-government, with large councils being more likely to adopt more sophisticated approaches (Ho and Ni, 2004; Norris and Moon, 2005), so it may be that the smaller council lack the capacity to go it alone and are more likely to seek out partnerships.

6.7. Embeddedness

The literature indicates that partnership arrangements are influenced by social connections. Therefore, it might be anticipated that there would be more frequent communication between actors who have previously worked or collaborated with one another prior to joining this partnership. A QAP correlation of the two databases for communication and worked together before indicates that there is some correlation between the two. The Pearson’s correlation statistic is 0.45. This indicates a high level of correlation, suggesting that actors are more likely to communicate more often with those they have worked or collaborated with before.

Similarly, there is some correlation between seeking out information and having worked or collaborated together. There is a Pearson’s correlation statistic of 0.37 between these two databases, suggesting that actors who have worked together in the past are more likely to contact each other for information.

It would be inappropriate to use some of the more common statistical models to test the significance of this result, because social network data does not meet the requirements of being a random sample, the distribution is not normal and the observations are not independent of one another. As an alternative, UCINET uses a permutation test; exploring the correlations between 10,000 different possible permutations and counting what proportion of those correlations are as large as those observed. Using a permutation test, the correlation statistics have a p-value of less than 0.05. The relationships are therefore statistically significant.

7. Conclusions

There is strong support within this sub-regional partnership for continued work together on e-government and a commitment to develop further. It takes time to build the relationships and understanding required for effective partnership working. The structures and relationships are now well-established, which should make any future work together easier. Some benefits have already been seen and more are anticipated by the participants. The partnership is reliant on a small group of people to drive it forward. There is also a larger group of boundary spanners, those with close ties both within their own organisation and to those involved in the partnership. Further work will be done to identify the role and characteristics of these individuals.

The e-government activity initiated by sub-regional partnerships will impact on directorates and organisations beyond those who attend the partnership. If the activities are to be relevant

and successful, partnerships need to adopt a shared strategy, have clear lines of accountability and the relationship to other partnerships in the sub-region (and beyond) will need to be established. These issues will increase in urgency with the growing emphasis on shared services. Leadership is important to partnership activity, both in terms of commitment from chief executives and the need for leaders on the ground to drive the partnership activities forward. In this study, smaller councils appear to play a greater role in the partnership than larger authorities, possibly because they lack the capacity to develop e-government solutions on their own.

The preliminary findings from this first case study suggest that social networks can have some effect on the adoption and implementation of e-government. The case study throws up some possible answers to the questions arising from the literature review. Participation in this Local e-Government Partnership has contributed to: the sharing of knowledge and expertise among organisations; better awareness of what each other does; and substantial savings through joint procurement. A small number of shared projects have been introduced and it seems that the foundations have been set for further initiatives. Commitment from the leadership of partner organisations seems to have been a factor in forming and sustaining the partnership and has influenced how involved organisations have been. The case study suggests that “silos” still operate to some extent: the bulk of participants were IT managers and there does not seem to be a clear formal link into other customer facing directorates, although the extent to which there are less formal links from the partnership into their own organisations will vary. There are a few key figures in the partnership. They play a dual role of driving the group forward and acting as a glue to bring everyone together. Beyond this, there is a core group of “boundary spanners” who act as champions of the group in their own organisations and vice versa. There is no involvement of citizens or councillors in this partnership. The initiatives have so far focussed on administrative efficiency and cost savings rather than project which will directly impact on citizen quality of life, but planned developments include the piloting of smartcards for young people.

Further research is currently being undertaken with two other English sub-regional e-government partnerships. The issues highlighted by this study will be explored further in relation to these other partnerships to discover more about the importance of social networks in implementing new programmes. Additionally, each partnership will be re-visited after 6 – 9 months to carry out some further research, providing a longitudinal element, exploring how the partnerships change over time.

Appendix 1

Local e-Government Partnership Questionnaire

The Local e-Government Partnership has agreed to take part in a research study looking at how organisations are working together to develop local e-government. The research examines the social networks between individuals and organisations as they innovate and share local electronic government best practice.

Benefits of taking part

With an increasing emphasis on organisations working together to develop local services, the research can help participants learn more about partnership arrangements. The local report may be of use to you and your organisation in helping to demonstrate your approach to partnerships.

The answers you provide will be used for:

- A local report providing information for the partnership;
- An overview of the findings from this and other local e-government partnerships, which will be passed to all of the partnerships involved in the research and the research funders.
- Academic articles and reports.

Your responses will be treated confidentially. Individuals will not be named in any reports. Organisations may be identified. Every attempt will be made to provide anonymity, but, given the small number of people, it may be possible for those involved in the project to identify one another.

The research will be done by Sarah Cotterill, a postgraduate researcher at Leeds University Business School. Her research is jointly funded by the Economic and Social Research Council, the Office of the Deputy Prime Minister and Price Waterhouse Coopers. For more information, contact Sarah Cotterill [insert email]. It is important that everyone replies, so we get a complete picture of the partnership network.

[Questions 1-6 each were followed by a list of those involved in the network, inviting respondents to indicate their relations with each other person in the network]

Q1 How often do you typically communicate with the following people about e-government?
(Daily, Weekly, 2 or 3 times a month, Monthly, Less than monthly, Never)

Q2 Who do you typically go to for information relating to e-government?
(enter 'X' against all that apply)

Q3 Who typically comes to you for information relating to e-government?
(enter 'X' against all that apply)

Q4 Who has most influence on e-government decisions in the sub-region?
(enter 'X' against all that apply)

Q5 Who have you worked or collaborated with before joining the partnership?
(enter 'X' against all that apply)

Q6 About whom can you say “I understand what skills & knowledge this person has”?
(enter ‘X’ against all that apply)

Q7 Please list any sub-regional e-government groups you have participated in during the last year

Q8 Please list any other e-government networks you have participated in during the last year:
National Projects (please name):
Regional Networks (please name):
Other (please name):

Your details:

Q9 Your name

Q10 Your phone number

Q11 Your email address

Q12 Your employer

Q13 Your job title

Thank you for completing this questionnaire

Please save a copy of this form, complete it, and return to [insert email address] by [insert date]

If you have any questions please contact Sarah Cotterill [phone number]

References

- 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.
- 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., 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.
- 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.
- Leseure, 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).
- Leseure, 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.
- 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 (2004) *Priority Outcomes 2005*. London: HMSO.
- ODPM (2005a) *Local e-Government Partnerships*. London : ODPM.
- ODPM (2005b) *Two Years On: realising the benefits from our investment in e-government* . London: HMSO.
- 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.
- Putnam, R.D. (2000) *Bowling Alone: the collapse and revival of American community*. New York: Simon and Schuster.
- Raco, M. (2002) The Social Relations of Organisational Activity and the New Local Governance in the UK. *Urban Studies* **39**, 437-456.
- 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.
- 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.
- 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.
- 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.