

**Collaboration in English Local Government:
Mapping Shared Services using Affiliation Network Analysis**

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Abstract

Traditionally, joint provision of local public services by multiple councils working collaboratively has not been widely practiced in England. Unlike in Europe and the USA, where scale diseconomies have often prompted inter-local collaboration, English councils have long aspired to be “self-sufficient.” But it appears no longer. In 2017, almost all local councils (97%) participated in one or more frontline or back-office “shared service,” involving 338 distinct partnership arrangements. We analyse this new collaborative landscape by performing an exploratory affiliation network analysis on organizational and financial data for all 353 English councils. We examine factors predicting participation in inter-local collaborations, and the characteristics of the service networks that result, focusing on resource, organizational and political considerations. Our results indicate that the question for English local authorities is not “whether” to collaborate but “how” and “with whom.” Partner choice is driven mainly by geographical proximity and similarity in organizational and resource characteristics.

Key words

Collaboration; efficiency; inter-local agreements; local government; shared services

“Why ... is there such unyielding local resistance to voluntary joint schemes? ... In the first place, [councils] are afraid that entrance to a joint scheme will be a confession of the need for a larger area, and will risk annexation of their own.... [Secondly,] if they enter into a joint arrangement, they will be admitting the need for the service [and] new expenditure. Thirdly, there is sheer infatuation with the idea of their own independence, and jealousy of their neighbours. Such jealousy may seem ... improbable.... It, nevertheless, exists.”

– Herman Finer, 1933, *English Local Government*

INTRODUCTION

Shared services, or “inter-local agreements,” are a common mechanism for delivering local public services in many countries (Bel & Warner, 2016; Teles & Swianiewicz, 2018). The rationale is that coordination problems and scale diseconomies arising from the dispersal of authority among multiple small organizations can be overcome by councils working in partnership to provide services across their separate jurisdictions (Elston et al., 2018; Feiock, 2007; Ostrom et al., 1961). But not in England. Here, joint provision of local services by multiple local authorities working collaboratively has not been widely practised (Hulst & van Montfort, 2012; Kelly, 2007). As long ago as the 1930s – the “golden age” of English local government, when council responsibilities were aplenty and their freedom from Whitehall considerable – Herman Finer attributed this lack of inter-council collaboration to the “sheer infatuation with the idea of their own independence” (epigraph). Many decades later, Stewart (2000, p.67) similarly observed a continuing aspiration for “self-sufficiency” and persistent “scepticism about joint working.” Somewhat ironically, therefore, it has been through the imposition of far more disempowering reforms – to council size and responsibilities – that central government has sought to tackle local fragmentation (John, 2010). While such “restructuring” of local government became “an addictive habit to which British government ministers and civil servants are peculiarly prone” (Elcock et al., 2010, p.331), joint working was simply “not taken seriously” (Stewart, 2000, p.267).

But it appears no longer. The Conservative–Liberal Democrat Coalition Government elected in 2010 ruled out further restructuring of councils, but enthused about shared services. “I am not at all interested in the structure of local government” said Eric Pickles while shadow Secretary of State for Local Government, “but we will expect councils to ... cooperate and work together” (Conservative Home, 2008). His wish was granted. By 2017, more than 97 per cent of councils participated in at least one inter-council collaboration. Services areas include social care, waste collection, libraries and back-office administration; and partnerships range from two-member “dyads” to multi-council conglomerates. Our purpose in this article is to understand how this significant and apparently “un-English” reform has been implemented. Using affiliation network analysis (Borgatti et al., 2018), we establish the types of council most prone to collaboration and the characteristics of the inter-local networks that result, focusing on resource, organizational and political considerations. We also test for differences relating to political salience and partnership size. Our results indicate few consistent predictors of collaboration. However, partner selection is important, and is driven mainly by geographical proximity, and similarities in organizational characteristics and resource requirements. Political similarity does not appear to matter.

We begin by describing the structure and powers of English local government. Using organization theory and international research on inter-local collaboration, we then identify the main factors that could influence reform implementation. Next, we describe our methods and data sources, before presenting the analysis and conclusions.

ENGLISH LOCAL GOVERNMENT:

STRUCTURE, SIZE AND SELF-SUFFICIENCY

In 2017, local government in England consisted of 353¹ elected councils and bureaucracies providing services, regulation and infrastructure, directly or through commissioned third parties, within a defined locale. (Policy on local government is devolved in Scotland, Wales and Northern Ireland, and these councils are excluded below.) In the 2016-17 financial year, almost one quarter of all public expenditure in England was channelled through local authorities (Local Government Information Unit, 2017), which collectively employed a workforce exceeding one million FTE (Office for National Statistics, 2017). Councils vary in numerous respects, but each belongs to one of five types which largely predict its service portfolio and geographic attributes.

“District councils” (currently totalling 201) and “county councils” (27) co-exist in those predominantly-rural parts of the country that still operate a two-tier system of local government. Up to twelve districts sit within each county boundary. Although there is no hierarchical relation between the upper and lower tiers, counties have far larger responsibilities, including education and social care. In the mid-1990s and again in the late 2000s, this two-tier system was replaced in some areas by single-tier “unitary” authorities (currently totalling 56) – the third council type. These combine the functions of districts and counties, aiming to improve coordination and efficiency. Similarly, the fourth and fifth council types largely mirror the responsibilities of unitary authorities, but predate them and govern in urban areas – “metropolitan districts” (36) in the Midlands and the North, and “London boroughs” (33) in the capital.

In comparative perspective, English local government has several unusual features (Norton, 1994). Councils are established legislatively rather than constitutionally, have limited

¹ These “principal” councils exclude town and parish councils which have no major responsibilities.

rights for policy initiative, and only gained a “power of general competence” to tackle issues beyond those prescribed by statute in 2011 (Lowndes & Pratchett, 2012). They have few tax-raising powers, meaning that “there are few Western countries in which local government is more financially dependent on central government” (Wilson & Game, 2011, p.232). Councils in England are also on average also far larger in terms of population served than elsewhere (John, 2010). Stewart (2000, p.66) attributes this to a “sizism” bias in English reforms, which prioritize organizational enlargement over legitimacy, local identity and representation. Since the early 1990s alone, restructuring has eliminated some 7,000 council seats.²

One further difference concerns the degree of inter-council cooperation traditionally practised in England. Kelly (2007) writes of a “curious absence of inter-municipal cooperation” compared with Europe, and an eight-country study by Hulst and van Montford (2012) confirmed that England made little or no use of the main kinds of collaboration found on the continent. The USA, another jurisdiction to which England is traditionally likened, also employs inter-local agreements far more extensively (Hefetz & Warner, 2012). This English exceptionalism has several explanations. As noted, the early view was that councils vigorously defended their autonomy and individual identity (Finer, 1933; Hasluck, 1936). Yet Kelly (2007) maintains that, latterly, it is central government’s use of rankings and league tables that encourages competition over collaboration. Other barriers include councils’ accountability to separate electorates (Travers et al., 1995, p.9); their diminishing role in providing utilities and healthcare – which are commonly delivered inter-locally elsewhere (Kelly, 2007); and their large size, which may undermine the financial case for sharing (Dixon & Elston, 2019).

² Compare figures in Newman and Thornley (1997) and Local Government Information Unit (2017).

Yet English councils are far from uncollaborative in a general sense. One count in 2002 identified, conservatively, some 5,500 partnerships with non-local-government agencies (Sullivan & Skelcher, 2002). Council-to-council collaboration in service delivery also has some precedent historically. During the inter-war years, Hasluck (1936, p.170) identified some 223 “joint boards” for isolation hospitals, 50 for water supply, 45 for sewerage, and others for electricity, gas and town planning. All barring the last of these is no longer performed by local government. Abolition of the Greater London Council and six metropolitan county councils in the 1980s brought a partial renaissance in urban areas, when lower-tier London boroughs and metropolitan districts were required to maintain some county-wide services through joint working (Leach & Game, 1991; Norris, 2001). Nonetheless, such arrangements operated far less extensively and consistently than is the case internationally.

Recent developments and research questions

The arrival of Eric Pickles MP as Secretary of State for Local Government in 2010 signalled a new era. A former council leader, one of his first decisions was to halt a series of in-progress amalgamations initiated by the previous Labour administration (Elcock, et al., 2010). Although Whitehall already encouraged councils to share administration, Pickles wanted an expansion – and austerity provided the impetus (Bello et al., 2018). As the Coalition Government implemented major spending reductions following the global financial crisis, cutting council grants by 40 per cent in real-terms over four years (Hastings et al., 2015), guidance was issued to councils that ranked shared services first among “fifty ways to save.” There was technical support and limited financial incentives for reform, and the Chartered Institute of Public Finance and Accountancy and Local Government Association also endorsed the new approach (Cipfa, 2010; LGA, 2012). The stage was set for significant reform.

This clear departure from established methods of local public service provision in England raises a series of questions about how such a change has been implemented. We focus on the following three:

1. Which types of councils collaborate most?
2. Do councils choose partners similar to themselves?
3. Do partnership size and political salience affect choices about collaboration?

CONSIDERATIONS IN SHARED SERVICE DESIGN

Although our analysis is exploratory, organization theory, existing research on English councils and evidence of the drivers of inter-local collaboration internationally suggest three main factors that may influence shared service adoption.

Resource considerations

Availability of resources to deliver organizational objectives is a key consideration for any organization (Lee & Whitford, 2012), and is known to affect inter-organization relations (Barney & Clark, 2007). Abundance of, or deficiency in, the human, financial and technological resources necessary to deliver council objectives may influence both the motivation to collaborate inter-locally and the ability to do so successfully.

Council characteristics

Resource availability often correlates with organizational size, since quantity and quality of resources depends on investment levels and/or establishing a “critical mass.” Small volumes of purchasing activity prevent district councils in England from employing top-quality procurement expertise (Murray et al., 2008), and low demand for services restricts investment in information technologies (Elcock, 1994). Thus, smaller councils may be especially keen to collaborate. In

fact, research in the USA tends to find inter-local cooperation to be negatively related to council population size (Carr et al., 2009; Shrestha & Feiock, 2011). In Europe, some studies concur (Bel et al., 2014; Eythórsson et al., 2018) while others disagree (Puey et al., 2018).

Resource deficiencies might also be related to other characteristics such as local labour market conditions. Those councils identified for possible amalgamation into unitary authorities in the late 2000s might have experienced such difficulties, in which case the Coalition Government's moratorium on further restructuring after 2010 could encourage the candidates that were not amalgamated to pursue shared services (Bello, et al., 2018). Internationally, inter-council cooperation often develops as an alternative to amalgamation, as evidenced by its significance in countries disinterested in mergers, like France (Teles & Swianiewicz, 2018), and its decline after amalgamation has occurred, as in Germany (Norton, 1994).

Councils in areas of greatest social need may also experience higher demand for specialist resources, making them more prone to collaboration. Several studies relate the propensity to cooperate to such demographic characteristics (Joassart-Marcelli & Musso, 2005; LeRoux & Carr, 2007; although see Krueger & McGuire, 2005 for contrary evidence).

Financial health

Lack of finance is particularly challenging resource deficit, preventing the acquisition of other performance-enhancing capabilities (Lee & Whitford, 2012). This provides strong motivation for cooperation. Yet, internationally, there is mixed evidence about the importance of financial resources. Fiscal burden does not predict cooperation in Spain (Bel, et al., 2014) or Switzerland (Steiner, 2003). In the US, Joassart-Marcelli and Musso (2005) and Kwon et al. (2014) find a positive association between fiscal stress and cooperation, while Morgan and Hirlinger (1991) and LeRoux et al. (2010) report little or no relation. LeRoux and Carr (2007) find variation

across service areas. Although these results may appear surprising, since shared services are widely expected to produce cashable savings, they may be explained by barriers that poor financial health poses to would-be collaborators. Partnering requires upfront investment, which may exclude those cash-strapped councils most likely to benefit. Hefetz and Warner (2012, p.307), for instance, find that fiscal stress inhibits cooperation. Furthermore, authorities in poor financial health might be regarded as liabilities by prospective partners, and thus struggle to secure cooperation opportunities.

Administrative capacity

Lastly among the resource considerations, collaboration requires spare administrative capacity. “Successful adoption of innovations depends largely on the leadership, support, and coordination [that] managers provide” (Damanpour, 1991, p.559). Although councils with larger administrative workforces are often criticized as bloated, they may have greater capacity for reform. McGuire and Silva (2010) demonstrate this in the case of local emergency management collaboration in the US.

Organizational considerations

Formal organizations integrate diverse resources to achieve interdependent objectives (March & Simon, 1993). Coordination is essential but creates administrative overheads; hence, managers strive to achieve tolerable levels of coordination at minimum cost. Involvement of resources beyond the organizational boundary, as occurs with the delegation of work between shared service partners, is especially challenging. External actors are inert to the most efficient means of coordination – the unified command structure (Chisholm, 1989). Alternative coordination mechanisms thus become necessary, typically involving lateral relationships among separate workforces guided by a sense of common purpose rather than top-down executive authority.

How such “network” coordination unfolds may depend on partnership size. In the private sector, evidence suggests that informal coordination arrangements are most effective for two-member (dyadic) alliances, with multi-member collaborations requiring more formal controls (García-Canal et al., 2003). Either way, external collaboration increases the bargaining time required to reach decisions. Thus, “the potential costs of coordination are an important factor in predisposing an organization to [collaborate or not]” (Alexander, 1995, p.18).

Similarity

One way for councils to avoid excessive coordination costs is to partner with “similar” councils – that is, to demonstrate “homophily” (defined below). Alter and Hage (1993, p.242) maintain that: “it is much harder to get a set of diverse agencies to work together than it is to manage a set of similar organizations.” Councils that are alike may experience common challenges, and interpret them comparably, reducing the need for information exchange and bargaining time. Homophily might occur on a number of dimensions, including: council type, which predicts service responsibilities and basic geographical attributes; population characteristics, which signal potential compatibility in citizen needs and preferences (Feiock, 2007); and location, because geographically proximate councils may (perceive that they) experience common challenges (Alonso et al., 2016), or share a regional identity that facilitates a sense of mutual endeavor (Tomaney & Ward, 2000), or be more able to share physical resources and hold face-to-face meetings.

International research on inter-local collaboration has indeed identified homophily between partnering organizations in terms of socio-economic characteristics (Dye et al., 1963), region (Klok et al., 2018), and political ideology (discussed further below). LeRoux, et al. (2010) find that participation of bureaucrats in regional associations increases the likelihood of

their councils forming inter-local agreements, although LeRoux and Carr (2007) and Kwon, et al. (2014) downplay this social-networking effect.

Partner familiarity

Partnering with organizations about which there is greater knowledge regarding motivations, preferences and abilities should also limit coordination costs (Gulati, 1995). Familiarity lessens the chance of “unwelcome surprises,” facilitating credible commitments and reducing transaction costs. Again, councils will be more familiar with near neighbours than distant authorities (Alonso, et al., 2016). Those operating in a two-tier structure will have already worked with others within the county boundary on county-wide matters like transportation (Kelly, 2007). And those in the same English region (of which there are nine) will similarly have interacted through various (now defunct) regional fora (Tomaney & Ward, 2000).

Structural complexity

A third strategy for coordination-cost minimization is to select partners with low *internal* coordination challenges. English councils are multi-purpose and often suffer from poor cross-departmental working (Elcock, 1994). Since inter-local cooperation depends not only on reaching agreement between partners, but also on implementing agreed policies within each council’s departments, those experiencing more acute departmentalism – or high “structural complexity” (Dooley, 2002) – may make less reliable partners. For instance, McGuire and Silva (2010) find that low agency complexity facilitates collaboration.

Political considerations

A final set of considerations relates to English councils’ status as institutions of local *government*, not simply local *administration* (Stewart, 2000). Local authorities are overseen by elected representatives accountable to the public and influenced by various local and national

party-political processes. This could affect inter-local cooperation significantly. As Krueger and McGuire (2005, p.31) explain: “Collaboration is political in the sense that, because there is no formal hierarchy among the participants, decisions ... are made collectively. And collective choice is difficult. It requires discussion, information gathering, and compromise.”

Political ideologies

Councils more sympathetic to the national government’s ideology and policies may be more willing to pursue centrally-advocated reforms. In the 1980s, for instance, “hard-left” councils resisted Margaret Thatcher’s right-wing policies (Wilson & Game, 2011). Councillors may also choose to cooperate with others of similar political outlook, whether because of agreement on objectives or for party solidarity. Leach and Game (1991, p.169) found “the dominance of the Labour Party in five of the six areas was unquestionably a key factor” in facilitating lower-tier cooperation after the abolition of metropolitan county councils. International experience also consistently indicates that “political homophily” facilitates inter-local collaboration (Bel, et al., 2014; Gerber et al., 2013; Song et al., 2018).

Political stability

Democratic events may change councils’ political control and preferences about joint working, destabilizing partnerships and wasting investments (Feiock, 2007). A track record of electoral instability may thus deter prospective partners. Evidence also suggests that “hung” councils, where no party is in overall control, are less likely to collaborate, since time spent “brokering internal deals within and between parties ... impede[s] externally responsive and speedy decision-making” (Gains et al., 2009, p.84).

Political salience

Finally, political support for inter-local working may vary by service area. Some council activities affect large and vocal constituencies and attract significant media attention. As Ferris and Graddy (1986, p.334) explain: “to the extent that a service constituency is an important voting component of the local government, we would expect less contracting out in that service.” Experience with metropolitan cooperation in England confirms that this “tend[s] to be on peripheral and relatively noncontroversial matters, and not on matters of significance” (Norris, 2001, p.540). International evidence also supports this proposition (Hefetz & Warner, 2012; although see Eythórsson, et al., 2018).

RESEARCH METHODS

To explore the impact of these three sets of considerations on the implementation of shared service reforms, we use social network analysis (Borgatti, et al., 2018). First, to establish what types of council are most prone to collaboration, we relate multiple council-level variables pertaining to resource, organizational and political considerations to each council’s “centrality.” In a bimodal affiliation network (that is, one containing members and their affiliated organizations, i.e., councils and partnerships), “centrality” describes the number of partnerships to which each council belongs. Second, to understand the character of shared service partnerships, we explore how similar (or different) councils are to their partners using homophily analysis (Borgatti, et al., 2018; McPherson et al., 2001). Homophily occurs when individuals choose partners with similar characteristics; heterophily describes dissimilarity. This analysis allows us to determine the tendency towards like or unlike pairings across the whole network of council-council partnerships, again based on specified council characteristics determined by

theory. Third, we applied the same centrality and homophily analyses to subsets of the network to explore the impact of partnership size and political salience on the results.

Variables and data sources

Dependent variables (DVs) are drawn from the Local Government Association's (LGA) "Shared Services Map" published in 2017, supplemented with information from the 2016 edition. This dataset contains the names of English councils participating in shared service arrangements. We excluded collaborations if they contained fewer than two council partners, were duplicated in the database, or were not operational in 2017. Other public bodies, such as police authorities, were also excluded, and mislabelled councils were corrected.

To perform additional analyses on partnership size, political salience and intra-county loyalties, the dataset was split into four subsets. Given private-sector evidence on the uniqueness of two-member alliances (García-Canal, et al., 2003), we created (i) a separate network comprising all dyadic partnerships. To test whether political salience affects collaboration decisions, we coded the dataset by whether shared activities involved frontline, back-office, or mixed functions, and created separate (ii) "programme" and (iii) "administrative" networks accordingly. Finally, to test whether intra-county loyalties matter for two-tier councils, we created (iv) a dataset containing only county and district councils, each assigned to the appropriate geographical county group.

Each dataset was initially arranged as a bimodal network in which councils formed one mode and partnerships the other. The bimodal network provided our centrality measure, which was the number of partnerships that each council belonged to. Conversion of the bimodal network to a unimodal "council-only" network resulted in a matrix of councils linked by membership of the same partnerships, which was used as the DV for the homophily analysis.

Our independent variables are taken from official statistics and documentary sources (see Table 1). Variables are for the year 2010 where available, as that year marked the start of the current reforms, and 77% of existing partnerships were launched on or after that date. The following computations were necessary. In terms of resource considerations, we calculated age and ethnic diversity in each council area as measures of social need using Gini-Simpson indices (Jost, 2006). For financial health, following Jacob and Hendrick (2013), we derived measures of fiscal risk and fiscal slack. We operationalized fiscal risk as the proportion of revenue expenditure in 2010-11 derived from sources other than council tax. This reflects each council's dependence of on external funding such as central government grants (Andrews, 2015). For fiscal slack, we calculated unallocated financial reserves relative to revenue expenditure, again for 2010-11. In addition, to capture the initial impact of austerity, we include each council's two-year projected budget change for 2011-2013. This represents the anticipated funding shortfall that councils planned for at the outset of austerity.³ Administrative capacity at this time is the proportion of administrative spending within total gross expenditure ("administrative intensity"; see Elston & Dixon, forthcoming).

Regarding organizational considerations, geographical distances between councils' administrative centres were calculated by converting the latitude and longitude coordinates from the LGA dataset to statute miles and calculating the linear distance between each pair. The number of councils within a thirty-mile radius was also calculated. Each council's internal coordination burden was calculated by assuming that reported cost centres correspond to discrete departments (Andrews & Boyne, 2014). To accommodate the distribution of spending across

³ Transitional funding capped annual reductions at 8.8%; but this was temporary and so we use uncapped figures.

categories, we calculate structural complexity as the sum of $-x_i \ln(x_i)$ where x_i is the proportion of spending in category i (Jacquemin & Berry, 1979).

For political considerations, a dichotomous variable indicates whether or not the party controlling the council in 2010 was Conservative or Liberal Democrat and thus reflective of the national Coalition Government. Political instability was measured by the number of times political control changed during 2008-2017, and whether the council had no overall control in 2010.

Table 1 contains our variables, data sources, and descriptive statistics.

<<<Table 1 here>>>

Network preparation and analysis

Analysis was performed with UCINET (Borgatti et al., 2002; Borgatti, et al., 2018) and visualisations were created with NodeXL (Smith et al., 2010). The cleaned data from the LGA map was initially prepared in NodeXL, then imported as a bimodal network into UCINET. The dependence of council centrality on each explanatory variable was analysed by network regression analysis, an analogue of ordinary least-squares regression which accounts for the auto-correlation of network data (Borgatti, et al., 2018, p.157).⁴ Variables were transformed as described in Table 1 to improve normality and reduce skew. Homophily was assessed by multiple regression–quadrature assignment procedure (MR-QAP) (Dekker et al., 2007; Krackhardt, 1988). The dependent variable was the unimodal matrix of inter-council links. This

⁴ Regressions were also performed by ordinary least-squares regression in R to compute additional fit parameters. In practice, almost identical significance levels were obtained showing that council centrality was only weakly auto-correlated.

matrix was dichotomized – i.e. it took no account of multiple links between the same two councils. Similar matrices were prepared for network subsets (i)-(iv). Independent variables were matrices of absolute differences between continuous variables for each pair of councils, and dichotomous matrices (0=same, 1=different) for categorical variables.

RESULTS AND DISCUSSION

Overview and maps

In 2017, 344 (97.5%) of English local authorities participated in a total of 338 partnerships. Partnerships contained from two to 80 councils (median = 2, mean = 4), with individual councils belonging to between one and 33 partnerships (median = 3, mean = 4). EM LawShare was by far the largest (with 80 members), followed by North West Legal Consortium (33) and London Highways Alliance (33). Rutland unitary authority belonged to the most partnerships (33), followed by Leicestershire county council (22), and district councils Redditch (21) and Bromsgrove (20), which mainly partnered with each other.⁵ Overall, sharing services produced 5,519 links between different pairs of councils across the whole network, which is just under 9% of all possible inter-council links. We found no partnerships linking English local authorities to those in Scotland, Wales or Northern Ireland. But 56 partnerships (17%) included public bodies other than local governments, such as health, fire, and police authorities. Those bodies are excluded from this analysis.

Of the 338 partnerships, 176 (52%) were dyads involving just two councils; and 182 had frontline (“programme”) functions, 127 were administrative, and 29 were mixed (Figure 1). (In

⁵ These are counts of partnerships rather than activities. Some partnerships cover several (or “all”) council activities, so councils that took part in only a few such partnerships might nonetheless be sharing a significant amount of activity. We did not attempt to assess the level of shared activity represented by each partnership.

the graphs and analysis that follows, mixed partnerships are included in both the programme and administrative datasets.) Frontline services thus occupy the larger part of the network; although, relative to the volume of administrative support actually performed in councils, back-office work is significantly over-represented.

Programme and administrative partnerships had a similar proportion of dyads, and a similar range of sizes. But the distance between partnering councils differed between dyads and the whole dataset, and between frontline and back-office services. As shown in Figures 2a and 2b and Table 2, partners were closer together in dyads than in all partnerships, and closer in programme than in administrative partnerships.⁶ At least 80% of links in dyadic and programme partnerships were under 30 miles, compared with 41% and 33% for all partnerships and administrative partnerships, respectively. Regardless of size or type of activity, however, the distance distribution was shifted towards shorter distances than the average distance distribution of English local councils (shown as a dotted line in the figures).

<<<Figures 1 and 2 here>>>

<<<Table 2 here>>>

Council centrality and partnership homophily

The results of the centrality and homophily tests on the network containing partnerships of all sizes and types of activity are shown in the first column of Tables 3 and 4. Since council type co-varies with a number of variables, this was controlled for when assessing the relationship of

⁶ These distributions are dominated by the larger partnerships. For example, the 80 partners of EM LawShare contribute 3160 inter-council links to the whole and the administrative distributions, or over half of all unique inter-council links in the entire network.

centrality with the other variables. Several council characteristics also vary systematically by region, and as region showed strong homophily both this and council type were controlled when assessing homophily on other variables. Finally, although guided by theory, there remains a wide range of “researcher degrees of freedom” in selecting variables and network-analytic techniques. Therefore, following guidelines in Simmons et al. (2011) for exploratory analyses, we report all of the analyses performed.

<<< Tables 3 and 4 here>>>

As Table 3 indicates, resource considerations showed little relationship with propensity to collaborate. Only ethnic diversity showed a weak negative relationship. Given the marketing of shared services as a cost-reduction mechanism, the non-significance of the financial health measures is perhaps most surprising. And despite fairly consistent international evidence of inter-local collaboration substituting for amalgamations and being used to address diseconomies in small jurisdictions, neither population nor prior listing as a candidate for amalgamation predict shared services. Administrative capacity for handling innovations was also non-significant.

However, as described in Table 4, resource *similarity* was associated with partner selection (homophily) for the variables ethnic diversity, age diversity, external income ratio, and financial reserves. Councils measuring similarly on these indicators of social need and financial health show some tendency to work together, although these variables did not add a great deal of explanatory power to the model containing region, council type, and proximity only.

Among the organizational variables, only council type was significantly related to collaboration (Table 3). Metropolitan districts partnered less than others, despite being legally

required to cooperate since the 1980s (Leach & Game, 1991). Neither opportunities for collaboration within a thirty-mile radius, nor internal coordination burden, predict collaboration.

Yet, substantial homophily was demonstrated for organizational variables, with region,⁷ proximity, and council type each remaining significant when tested with the others (Table 4). The geographic relationships can be seen in Figure 1. Intra-regional partnerships are much more common than expected from proximity alone. To investigate whether this strong regional preference extends to the two-tier county system that continues in parts of the country, a dataset containing only county and district councils (subset iv) was analysed. Membership of the same county group was a highly significant predictor, even after controlling for region and distance (data not shown). Among the remaining organizational variables, only population density contributed a slight additional homophily.

Contrary to expectations, political control, alignment with the national government, and political stability were not associated with council centrality. When tested alone, councils did seem to partner on the basis of political similarities, consistent with international evidence. But politics varies greatly between regions. The North East, for instance, had no Conservative councils in 2010, while the South West had no Labour councils. Thus, political homophily disappeared when region was accounted for; indeed, slight heterophily was shown. Given the strong correlation between region and politics, it is not possible to fully disentangle these effects, and politics may contribute to the observed regional homophily.

⁷ As council type “London borough” is identical to region “London,” homophily based on region or council type cannot be distinguished for London councils.

The impact of partnership size and political salience

For the network as a whole, therefore, while we find few good predictors of councils' propensity to collaborate, organizational factors and, to a lesser extent, resource factors do predict partner selection. To explore whether size of partnerships or political salience of the shared activities make a difference beyond our earlier observation that two-member and programmatic partnerships are arranged at markedly shorter distances (Table 2 and Figures 2a and 2b, above), we repeated the above centrality and homophily analyses on network subsets (i-iii). Results are reported in the remaining columns of Tables 3 and 4.

Resource considerations again showed few correlations with centrality for any size or function of partnership. Dyadic and administrative partnerships had a slight positive association with budget change at the outset of austerity: smaller projected cuts were associated with slightly more partnerships of these types. But no other financial indicators were significant. For programme partnerships, ethnic diversity showed a weak negative relationship. As before, resource *similarity* was significant for partner choice on several variables. External income ratio showed homophily for all partnership types, while homophily in administrative intensity and financial reserves was found for both dyadic and programme partnerships. Similarity in projected budget cuts was not significant for any partnership type. Programme partnerships, uniquely, showed *heterophily* for two social-need variables (proportion of lone parent households and age diversity), in contrast to administrative partnerships (and the whole network) which showed the expected homophily for these variables.

Organizational considerations were generally consistent across network subsets. Metropolitan districts still had the lowest partnering activity of the five council types across all partnership types, although not significantly so for programme partnerships. District and county

councils were most likely to share administrative services. Regions varied somewhat, with councils in the East of England most likely to join administrative partnerships, while those in London, the North East, and the North West joined more programme partnerships. Councils with lower structural complexity tended to join more administrative partnerships. Partnerships of all types displayed similarly strong regional and distance homophily, and council type homophily was significant for all except administrative partnerships.

Political considerations remained generally unimportant. Other than, as noted, administrative shared services being significantly over-represented in the network as a whole relative to the proportion of council activities that are in fact administrative, the greater political salience of frontline activities appears not to affect collaboration decisions. Both administrative and programme partnerships were unrelated to political control, stability or alignment with the national government, either in propensity to collaborate or choice of partners. Slight *heterophily* of political control was again demonstrated for programme partnerships specifically.

Overall, then, we found similar patterns in the subsets as for the whole network.

This study has a number of limitations. The LGA shared services dataset is compiled from a self-reported survey of council officials and does not claim the status of official statistics. Nevertheless, almost all councils are represented suggesting that it is reasonably comprehensive. As noted, we record only the presence or absence of partnerships and do not attempt to assess the amount of shared activity that each represents. And, as the dataset reports partnerships operational in 2017, this is necessarily a cross-sectional study.

CONCLUSIONS

Inter-council shared services, which have been strongly encouraged by central government since 2010, represent a significant departure for English local authorities that have long sought “self-sufficiency.” This article has explored how the change has been implemented using a number of data sources and techniques of social network analysis.

Regarding our first research question, propensity to collaborate is explained partly by council type – the status and service responsibilities conferred by national government, which then correlates with several other characteristics. Whereas inter-local collaboration in England had been “considerabl[y] more common in the metropolitan areas” (Travers, et al., 1995, p.1) following the abolition of metropolitan county councils, our analysis reveals metropolitan districts now collaborate least out of the five council types. Yet the remainder of our centrality model proved inadequate. Even characteristics that in theory predict the level of value that a council should derive from inter-organizational working, such as low population size, or the urgency for reform, like financial circumstances, were non-significant. By contrast, partnership composition was far more predictable. Region, county (when applicable), distance and council type help explain partner selection, as do, to a lesser extent, comparability in certain demographic and financial characteristics. Politics, notably, did not add explanatory power once region was accounted for. And although we observed that councils manage two-member and programme partnerships differently than multi-member and administrative arrangements (favouring partner proximity), splitting the data along these lines and re-testing for centrality predictors and homophily provided little additional explanatory value.

The main question raised by these results is, perhaps, why partner selection is more predictable than propensity for reform. While caution is needed, since a comprehensive

understanding of all relevant local organizational circumstances is not possible in quantitative analysis, one interpretation is that the main question considered by councils since 2010 has not in fact been *whether* to implement shared services, but *how* to. The large take-up of the reform irrespective of financial, organizational and political circumstances, coupled with the strong preferences for geographical proximity and homophily on region, county, council type and certain resource indicators, supports the view that collaboration has become a “default” proposition – albeit one requiring careful partner selection. Research indicates that management fads often command significant influence over decision-making, being implemented regardless of organizational requirements (Pfeffer & Sutton, 2006). This suggests that research drawing on institutionalist accounts of organizational behaviour, which explain the diffusion of organizational fashions by the pursuit of legitimacy, could bring a fuller understanding of the drivers behind shared service adoption.

Future research can also interrogate further the important role of location uncovered in our analysis. Is it purely for logistical and practical reasons that geography matters so much? For instance, aside from political-salience, does the possibility of teleworking explain why administrative functions are shared over greater distances than programme functions where significant capital or public-facing operations may be required? Does proximity facilitate coordination and trust? Does a sense of regional “place” help overcome some of the barriers to cooperation which for so long contributed to the “curious absence” of inter-local collaboration in England (Kelly, 2007)? And if regional networking among bureaucrats and councillors matters for establishing cooperation, as is often suggested, how does the loss of central government’s regional administrative structures but retention, for now, of the two-tier district-county arrangements affect prospects for inter-local collaboration?

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Table 1. Variables, data sources and descriptive statistics for all English local authorities

	Concept	Variable	Data source	Mean [count for dichotomous variables]	Standard deviation
Dependent variables	Council centrality	Number of partnerships joined by each council in Whole dataset	Derived from LGA Shared Services Map dataset 2016 and 2017 editions	4.05	3.59
		Dyadic partnerships		1.00	2.11
		Programme (and mixed) partnerships		2.34	2.81
		Administrative (and mixed) partnerships (arcsinh transformed (Lupton et al., 1999))		1.96	1.67
	Homophily or heterophily	Matrix of links between councils in Whole dataset	As above.	[5519]	
		Dyadic partnerships		[106]	
		Programme (and mixed) partnerships		[1639]	
		Administrative (and mixed) partnerships		[4682]	
Independent variables					
Resource considerations	Council size	Population served (log) [C, H]	Office of National Statistics (ONS)	217194	219728
		Lower-tier (district) council [C]		[201]	
		Councils considered for amalgamation in 2007-9 (but which did not amalgamate) [C]		[57]	
	Local conditions	Level of deprivation, estimated as the proportion of lone-parent households [C, H]	ONS	0.065	0.017
		Age diversity of population (Gini-Simpson index) (squared) [C, H]	ONS	8787	69
		Ethnic diversity of population (Gini-Simpson index) (log) [C, H]	ONS	1755	1757

Concept	Variable	Data source	Mean [count for dichotomous variables]	Standard deviation	
Financial health in 2010	Fiscal risk, measured as proportion of revenue expenditure derived from sources other than council tax [C, H]	<i>Local Authority Revenue Expenditure Statistics, 2010-11</i>	0.64	0.14	
	Fiscal slack, measured as unallocated financial reserves relative to revenue expenditure (arcsinh) [C, H]	<i>Local Authority Revenue Expenditure Statistics, 2010-11</i>	0.12	0.17	
	Initial impact of austerity, measured as projected proportional change in spending power 2011-13 [C, H]	<i>Local Government Spending Settlement 2011-2013</i>	-0.11	0.04	
Administrative capacity in 2010	Administrative intensity, measured as proportion of gross service expenditure spent on administration (management & support services) (log) [C, H]	<i>Local Authority Revenue Expenditure Statistics, 2010-11</i>	0.25	0.20	
Organizational considerations	Council type	London borough, metropolitan district, unitary authority, county council, district council [C, H]			
	Location	English region (nine regions) [C, H]			
		Urban-rural character, estimated as population density (persons/km ²) (log) [C, H]	ONS	1616	2454
		Geographical distance (miles) between council pairs [H] and number of councils within 30 miles [C]	LGA Shared Services Map dataset	116 25	66 20
	Location within the same two-tier county (county and district councils only) [H]				
Internal coordination burden in 2010	Structural complexity, calculated from the distribution of spending across categories as described in the text [C, H]	<i>Local Authority Revenue Expenditure Statistics, 2010-11</i>	1.53	0.14	

	Concept	Variable	Data source	Mean [count for dichotomous variables]	Standard deviation
Political considerations	Political ideology in 2010	Party in control of council [C, H]	House of Commons Library		
	Alignment with national government in 2010	Conservative or Lib Dem control [C]	Ibid.	[224]	
	Political instability	Number of changes in council control, 2008-2017 (log) [C]	Ibid., 2008-2017	0.71	0.90
No overall political control (“hung council”) [C]		Ibid., 2010	[73]		

[C] Variables used in centrality analysis: absolute or categorical values for each council (transformed when necessary to reduce skew). Population and household data are mid-2015 estimates; age and ethnicity are taken from the 2011 UK-wide census.

[H] Variables used in homophily-heterophily analysis: for continuous variables, a matrix of absolute differences between untransformed values for each pair of councils; and for categorical variables, a matrix showing same = 0 or different = 1, for each pair of councils.

Table 2 Descriptive summary of partnerships

	All partnerships	Dyadic	Programme	Administrative	All councils
Number of participating councils	344	148	281	303	353
Number of partnerships	338	176	211	156	na
Percentage of possible inter-council links (“density” of unimodal network)	8.9%	0.2%	2.6%	7.6%	na
Median inter-council distance (miles)	36.8	14.2	15.7	42.2	107.7
Percentage of distances under 30 miles	40.8	87.7	81.8	32.6	7.8

Table 3. Factors associated with council centrality (number of partnerships joined).

Variable	Type of partnership			
	All	Dyadic	Programme	Administrative
Council type (district councils omitted)	aR ² = 0.02, Metropolitan districts -ve	aR ² = 0.04, Metropolitan districts -ve	aR ² = 0.03	aR ² = 0.11, Metropolitan districts, London boroughs, unitary authorities -ve
Akaike information criterion (AIC)	740	827	876	603
Region (East of England omitted)	aR ² =0.03	aR ² =0.02	aR ² =0.11 London, North East, and North West +ve	aR ² =0.15, all regions -ve
AIC	742	836	848	591

The following variables were each tested separately while controlling for council type

Resource considerations

Population

Restructuring candidate

Lone parent households

Age diversity

Ethnic diversity aR²=0.04, -ve,

aR²=0.05, -ve,

External income ratio

Financial reserves

Projected budget change aR²=0.06, +ve,

aR²=0.13, +ve,

Administrative intensity

Organizational considerations

Population density

Neighbours in 30 miles aR²=0.05, -ve,

Structural complexity aR²=0.13, -ve,

Political considerations

Political control

Aligned nationally

No overall control

Political changes 2008-17

Notes: Fit improvement was judged by the difference in Akaike information criterion (Akaike, 1974) between a model including council type only, and a model including council type and the tested variable. Where tested variables improved the fit (AIC fell by at least 6) and coefficients were significant at the p<0.01 level (uncorrected for multiple comparisons), adjusted R² (aR²) and the sign of the coefficient are shown.

Table 4 Factors associated with homophily or heterophily. Adjusted R² (aR²) and standardised coefficients (Std coeff) are shown where p<0.01, uncorrected for multiple comparisons. Negative coefficients indicate homophily and positive coefficients (shaded cells) indicate heterophily.

Variable	Type of partnership							
	All		Dyadic		Programme		Administrative	
	aR ²	Std coeff	aR ²	Std coeff	aR ²	Std coeff	aR ²	Std coeff
Council type	0.01	-0.11	0.001	-0.03	0.02	-0.04	0.01	-0.07
Region	0.20	-0.45	0.009	-0.09	0.17	-0.41	0.13	-0.35
Geographical distance	0.12	-0.34	0.004	-0.07	0.06	-0.24	0.09	-0.30
All three variables tested together (coefficients ordered as council type†; region; distance)	0.23	-0.04; -0.36; -0.19	0.009	-0.01; -0.08; -0.02	0.18	-0.07; -0.36; -0.08	0.15	-0.02; -0.28; -0.18
The following variables were each tested separately while controlling for homophily in council type, region, and distance								
Resource considerations								
Population								
Lone parent households					0.18	0.04	0.16	-0.04
Age diversity	0.24	-0.06	0.010	-0.01	0.18	0.04	0.16	-0.10
Ethnic diversity	0.23	-0.04					0.16	-0.04
External income ratio	0.24	-0.06	0.010	-0.01	0.18	-0.04	0.16	-0.06
Financial reserves	0.23	-0.04	0.010	-0.01	0.18	-0.07		
Projected budget changes								
Administrative intensity			0.010	-0.01	0.18	-0.07		
Organizational considerations								
Population density	0.23	-0.04			0.18	0.06	0.16	-0.09
Structural complexity								
Political considerations								
Political control	0.23	0.03			0.18	0.04		

† For back-office partnerships, council type was non-significant when tested with other variables

Figure 1. Map of shared services in England. Local authorities are shown at the approximate position of their administrative centres (Isles of Scilly are shown inset). Key: unitary authority (black disc), metropolitan district (grey circle), London borough (dark grey disc), county council (dark grey diamond), district council (light grey disc). Grey lines link each partnership (black triangles) to its member councils. Outline map obtained from <https://d-maps.com/m/europa/uk/angleterre/angleterre04.pdf>

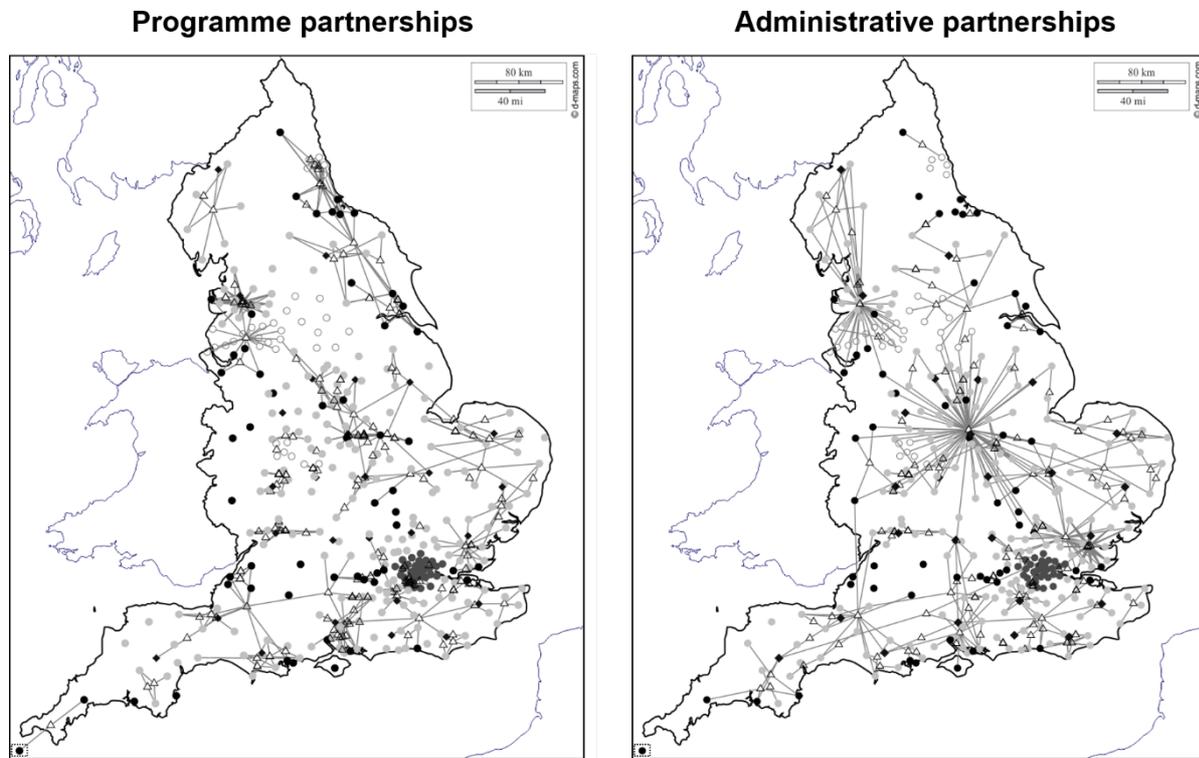


Figure 2: Frequency distributions of distances between partnering councils (measured as a straight line between their administrative centres). 2a: all partnerships and dyadic (2-member) partnerships; 2b: programme and administrative partnerships. Dotted lines show the distribution of distances between all possible pairs of English councils.

