

Business Networking in Oxfordshire: scope and regional dynamics

Helen Lawton Smith & Saverio Romeo
Department of Management, Birkbeck, University of London
h.lawton-smith@bbk.ac.uk (corresponding author)
s.romeo@bbk.ac.uk
&
Oxfordshire Economic Observatory

Chapter 5 in C.Karlsson, B. Johansson and R. Stough (eds) *Entrepreneurial Knowledge, Technology and the Transformation of Regions*
London:Routledge 97-117

Abstract

The growth of informal networks has been identified as one of the distinctive features of the evolution of high-tech economies (Benner 2003). Less attention has been paid to the extent of the role of formal networks in regional economic development in establishing informal interactions. This paper contributes to understanding where and how business networking happens and the value of business networking to participant companies and business professionals. It also indicates the importance of government funding for pump-priming network in contributing to the churn of networks. To do so, the paper uses evidence from a case study of business networks in Oxfordshire in the UK.

It argues that extent, membership and utilisation reflect stages in development of economic activity in particular locations. Moreover, as some aspects of network usage can be quantified through surveys of members, the relative importance of formal networking compared to the firms' other forms of making contact with potential suppliers, customers and collaborators firms and the limitations of networks can be gauged. In addition, the speculation that led to this study that there are too many networks in Oxfordshire is at least in part borne out by the data.

Keywords: business networks, regional economic activity, public policy

Acknowledgements

The Oxfordshire Economic Observatory and the O2C Arc are thanked for sponsoring the studies as are participants in the studies. The authors are indebted to Professor Bob Bennett for observations on the paper at the 2008 RGS-IBG sessions on networks and to Daniele Archibugi and John Slater for their helpful comments.

1. Introduction

Business networks in the form of membership organisations and regularly scheduled network events are generally increasing both in the number and scope of activities and are associated with improved business performance. Studies have shown that business networks and networking have been identified as a means of enhancing business success in East Asian Economies, in Europe and the US (Miller and Besser 2011).

Within countries business networks are not evenly geographically distributed in respect to when they were established, the number or type of network and the rate of turnover. Differing industrial and demographic contexts (regional worlds, Storper 1997) influence the characteristics of networking activities, including participation at the firm level, for example by sector, or at the individual level by profession, gender or ethnicity. The chapter focuses on business networking as an activity and explores both primary and secondary influences that business networks have for the business development of the entrepreneur, the professional, the firm and the region. Empirical evidence to explore these themes is from a case study of formal networks in the high-tech economy of Oxfordshire.

Three research questions are considered, (i) where and how does business networking happen?; (ii) what is the value of business networking (according to companies)?; and (iii) is business networking in Oxfordshire effective and efficient – how could it be improved? The last question arises because the original study was stimulated by a remark that there were perhaps too many networks in Oxfordshire. This implied that the sheer proliferation meant that there were too many choices between competing networks.

To answer these questions, this chapter draws on two types of evidence. The first is a review of the formation by type, age profile and function of business and occupationally-based professional (OBP) networks in Oxfordshire. The second is a survey of members of networks in Oxfordshire. It is shown in this county that networks are increasing in number and that the range of organisations, such as universities and law firms, hosting networks and networking events is growing. The networks are generally valued by the participants, particularly with result to possibilities for increased sales leads and finding other firms to collaborate with. The initial speculation that there are too many networks is at least in part borne out by the evidence. Further research is necessary in order to establish the generalisability of these findings to other regions.

2. Business and occupationally-based professional networks in theory and in practice

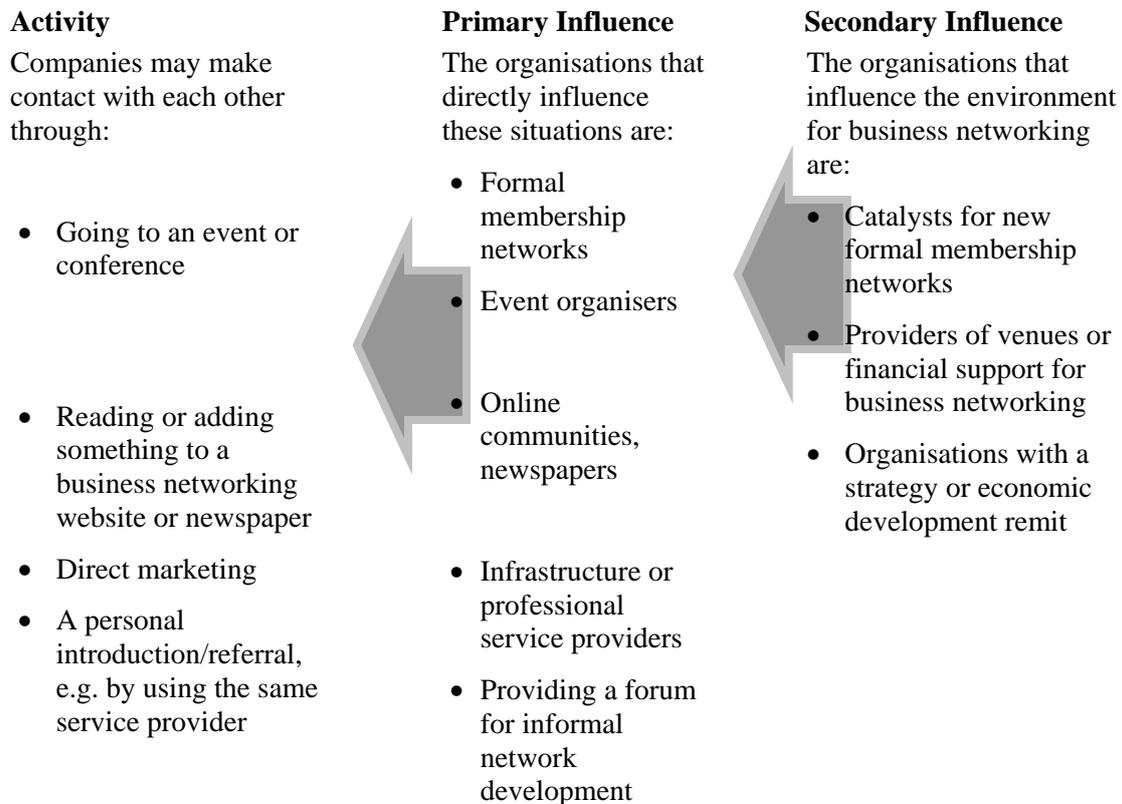
In order to put the evidence from Oxfordshire into context, the chapter next reviews what has previously been found in other studies in order to explain the prevalence, function and success of business networks. The structure follows the order of the three research questions proposed.

2.1 Where and how does business networking happen?

Business *networking* is an activity through which firms and professionals make contact directly and indirectly to access information, market opportunities and resources in order to improve their performance (Bennett 1998). The framework shown in Table 1 sets out business networking as an activity, which includes participation in formal networks, the organisations which have a primary influence on networking opportunities and the secondary influence that such organisations have on influencing the business environment in which business networking takes place.

The “where and how” of business networking as an activity is shown in column one. This shows that companies make contact with each other through a variety of means. Most are face-to-face but others are on-line communities which are personally initiated, while others are organised by third parties.

The second column shows organisations which directly influence these situations. This is the primary influence. Business networks and organisations which host events are examples of these. The third column identifies secondary influences: other functions that such organisations have in influencing the environment for business local economies. This includes having an impact on the availability of resources by incorporating the interests of business into other professional and public discourses.



NB Many organisations have multiple roles.

Table 1 Business networks, activity, primary and secondary influences

Source: Rob Eyre for OEO

As an activity, studies have shown that the propensity to engage in business networks of all kinds varies according to different stages in an entrepreneur's, a firm's, a professional's or a region's development. Rutten and Boekma (2004) explain increasing networking activity as being related to the particular phase of the innovation process as this is significant in the propensity for firms to network. For example, it has been found to be significant in pre-firm formation stages. Johannisson (2000) cites Starr and McMillan (1990) who argue that networks provide the means of mobilising social resources as a way of organising new business activity. Accordingly, nascent entrepreneurs are also found as members of formal networks.

The geography of new network activity therefore appears to be associated with emerging forms of industrial activity. Regions are either network thin or network thick, with economic advantages to the latter. This is because, as Saxenian (1994) has pointed out, if a regional environment is full of information ties, it will be easier to diffuse new knowledge there than in places without dense ties (Waters and Lawton Smith 2008). Patterns of propensity to network affects what kinds of networks emerge, how long they last and to which they become institutionalised by support from external public and private organisations.

At the local or regional scale, a secondary effect of organisations providing networking situations is where such organisations influence the environment for doing business. This is not an influence by itself, but is an outcome of growing concentrations of certain types of economic activities. Spatial concentrations of 'potential co-actors' implies a better matching of potential resource acquisition (Rutten et al 2010, 867). In some cases organisations which themselves may either be or not be providers of business networks, become catalysts for new formal membership or other forms of business networks. These might include local policy bodies which identify a gap in the provision of networks, such as where women or ethnic groups are under represented. If certain groups are excluded then this might create a demand for new networks. For example Benner (2003) drew attention to the lack of the 'good ol' boys' networks that women in Silicon Valley faced which led to the formation of Silicon Valley Webgrrls in 1997.

Others organisations might provide venues such as universities or financial support for business networks such as local authorities. Some have a strategy or economic development remit which might initiate networks as part of that function. Or it might be that networks themselves become involved in economic development, thus representing the interests of members or participants in broader spheres of influence. Activities could include lobbying for successful government rules and regulations.

A secondary influence might also be due to members' perceptions of the network's long-term contribution to the economic climate of a region (Besser and Miller 2011). An increasing demand for networks may therefore reflect business confidence in the possibility of new opportunities and enhanced competitive performance. In Silicon Valley for example, Benner (2003) identifies the crucial role of 'learning communities' of individuals supported by professional associations as providing an important component of a regional economy's ability to learn.

2.2 The value of networks

Networks are important to business and professional business people because exposure to a range of new contacts in these networks results 'in an increased capacity to access new resources' (Huggins 2009, 343), services (Bennett 1998) and markets. Formal business networks provide value by putting in place opportunities for both the development of informal functional relationships as well as those of a contractual nature. Organisations that influence these situations include formal membership networks, event organisers and on-line networks. There are also formal networks that do not have formal membership such as breakfast and lunch clubs which also fulfil particular non-specialist functions. A further distinction is that some have restrictions on membership, such as alumni associations in particular professions or positions. An example is the Institute of Directors in the UK a national organisation which has regional branches. Some networks are open while others have restrictions on membership but not on attendance.

Formal membership networks are essentially economic relationships, albeit oiled by social interaction often around a social event tied to formal activities. They take at least two forms. The first is business networks run by organisations such as Business Links, Chambers of Commerce or sector specific organisations. The cost of running the network is borne by members but is frequently subsidised by public authorities as a public good. Some have specific functions such as business angel-type networks. Participants can also include representatives of firms in related professions such as lawyers, patent agents and policy makers. An increasing trend is that of women-only networks (Miller et al 2007).

The second is OBP networks which are organisations which hold meetings where professionals meet each other. They are formal in the sense that the place/event is organized by an organisation for individuals, and again the cost is borne by the members or is subsidised by a host organisation. Benner (2003, 1810) argues that the formal activities of such occupationally-based professional associations contribute to the establishment of open communities of practice which provide a 'soft infrastructure to facilitate learning' with members on an equal footing. In some cases membership is limited to specific criteria such as in the case of university-based networks open only to current members and alumni of the university. In the case of academic entrepreneurs, the value to individuals may be as a way of gaining legitimacy in the business community while maintaining legitimacy in the academic community. Professional networks are also useful to such founders of companies as a way of keeping in touch with their educational origin (Johannisson 1998).

Event organisers or *network hosts* include a wide variety of organisations such as firms of solicitors, business and science parks. They provide value to their participants through their interest in being involved in delivering networking activity – for reasons to do with their commercial activities or societal mission. An example of the last is universities' professional networking activities, which as in the UK, reflect current political agenda for their greater involvement in local and regional economies (Kitson et al 2009).

Some networks are place-based and are run as part of the service provided by the providers of infrastructure such as science parks and incubators. These include for

example an incubator centre which runs events for its tenants as a service. Other examples of networks are on-line communities such as the Cambridge Network whose mission, 'is to link like-minded people from business and academia to each other and to the global high technology community for the benefit of the Cambridge region'¹, and on-line newspapers which have the possibility of exchange of information and views. Others are more infrequent events where business people get together to explore a particular issue. For example this would include a visit by a politician to address a business community.

The stock of business and other formal networks is not constant and not all are equally successful in what they deliver. Explanatory factors to why some networks are successful relate to social as well as more practical issues. The emphasis on the prevalence of innovation and information ties in favourable locations suggests that locally-organised business and OBP networks can be understood as the conceptual prioritisation of social relations of economic activity in particular places. Social relationships in the business context have been described as occurring in cross-firm 'networks of practice' comprising membership of common occupations and professions as the basis for network formation (Brown and Duguid 2000) thus allowing knowledge accumulation and sharing, and entry to communities of practice (Wenger 1998, Benner 2003).

Conceptually this describes the development and deployment of social capital as being the primary direct influence of networking organisations on the situations in which companies and business professionals make useful contacts with each other. Social capital is defined as the norms and networks that enable people to act collectively (Woolcock and Narayan 2000). Smangs (2006) argues that social capital makes resource exchanges possible. This is because the effective mobilisation of 'weak' social capital bridges for collective purposes means that there is a need first to create 'strong' social capital bonds to form a cohesive social unit that will be able to effectively integrate knowledge that is acquired through members' bridging activity such as in formal networking events (see Newell et al 2004, see Besser and Miller 2011).

Once established such networks can be seen as reflecting the strength of 'weak ties' reflected in the amount of time devoted to the relationship as well as the reciprocal arrangements that characterise the tie (Granovetter 1983). Studies have argued that informal networks that are valued are those based on trust, tacit understandings and reciprocity all of which allow companies to innovate more quickly and to develop innovations that are beyond their individual capabilities (Storper and Venables 2004, Rutten and Boekma 2004). Key social characteristics of networks judged to be successful by members are honesty and reliability of members, relationships and trust between members and willingness to share resources (Sherer 2003, Inkpen and Tsang 2005, and Smangs 2006 in Besser and Miller 2011). Weak ties are therefore one of a wide range network of information ties that help an individual's contact with others contribute to improved business performance, in this case raise market opportunities and access resources and services. Both soft i.e. affective and relational, as well as hard trust, e.g. reliability are needed (Bennett and Ramsden 2007).

¹ <http://www.cambridgenetwork.co.uk/aboutus/>

Strong ties are also important. They take the form of contractual joint ventures and supply chain networks (Miller and Besser 2011). The value of business networks can be therefore judged by the opportunities they provide for commercial activity between members. Hence the importance of business networks' primary influence in organising the situations in which contact occurs is gauged by the value of networks and the relative importance of formal networking compared to the firms' other forms of making contact with potential suppliers, customers and collaborators firms. As Besser and Miller (2011) point out, the most important stakeholders of business networks are the members who will remain actively involve and recruit additional members using their own personal criteria for success. Otherwise networks will lose members and eventually cease to exist.

2.3 How effective are business networks?

Criteria for effectiveness of a business network identified by Besser and Miller (2011) include the network's contribution directly to the short term success of members' business interests through knowledge transfer and resource exchanges, as well as personal and social support for the business owner. More utilitarian explanations include support from member CEOs (Sherer 2003) i.e. they are supported by people who have positions of importance within the member firms, or are seen as worth knowing in professional terms; network leadership in creating structures features which facilitate trust and resource exchanges; networks being of optimal size (Phillipson et al 2006); diversity of business age, size, location and industry and the demographics of individual owners and managers (Besser and Miller 2011).

A further factor in the success of networks is the optimal size and diversity of business network (Phillipson et al 2006). Networks must be sufficiently large to maintain the activity and to make pooling of resources advantageous or sufficiently diverse as to enhance business opportunities. However, larger networks increase the chance of free-riders and opportunism (Bennett 1996), hence attendees might be seeking rather than trading access to markets and resources. In these situations, the benefits to attending for the entrepreneur are diluted.

Explanations for network decline are that the effectiveness of business networks diminishes over time, often resulting from mistakes in the original structure or social processes (Miles and Snow (1992) (in Besser and Miller 2011). Other factors found to be important are that the markets which they serve have disappeared or that the source of funding which subsidised the networks dries up, for example those funded by national, regional or local policy bodies (see Bennett and McCoshan 1993). A further explanation is that the motivation for organisations hosting networks becomes less important over time. As was mentioned above, networks also need to be able to continuously recruit new members in order for the pool of available contacts and resources to be refreshed.

So far the paper has outlined business and occupationally-based business networks from the perspective of what kinds of inter company activity are these part of, the value of networks and their limitations. It also highlights some of the spatial dimensions of business networking – why it might be expected that there would be a dense concentration of networks in Oxfordshire. The paper now turns to the Oxfordshire case study to answer the three research questions.

3. The case study: Oxfordshire

Oxfordshire is one of Europe's leading centres of innovation-led economic development. This is due to a combination of factors including an increasingly entrepreneurial science base, growing numbers of enterprises, a high quality labour market and numerous business networks. Estimates of total high-tech activities for 2004 include about 3500 businesses and 45,000 employees. These account for about 12% of businesses and 14% of employment in Oxfordshire (Lawton Smith et al 2007). This combined with the high level skills in the economy, generally, Gross Value Added (GVA) per capita (2003) was 14% above the regional average, and increased at a faster rate than both the region and the UK as a whole (Waters and Lawton Smith 2010).

Oxfordshire's high tech history is also in part related to the development and changes in the focal points of its networks. Specialist business and professional networks can be dated to the mid-1980s. The Oxford Trust, established by the founders of Oxfordshire's leading high-tech firm, Oxford Instruments in 1985 became established as a key host network for the high-tech economy. Subsequently Oxford Innovation, its spin-off company formed in 1987, was responsible for establishing the Oxfordshire BiotechNet (1997) and the oldest of Oxfordshire's four investment networks is the Oxfordshire Investment Opportunity Network (1995), a technology business angel network that links investors with entrepreneurs seeking early stage funding. The Oxfordshire Bioscience Network (OBN) was launched in 1999 and managed since 2006 by Oxford Brookes University and is supported by membership fees and sponsorship from the private sector. The Network provides a 'wide range of services to facilitate networking and communication, providing a gateway service that partners industry, academia, research and service providers to ensure continued sector growth and sustainability'. Since the demise of the Oxfordshire BiotechNet following the withdrawal of regional development agency funding in 2006 it is the major bioscience network based in the county.

A study in the early 2000s (Lawton Smith 2003) showed that the Oxford Trust was identified as the central network player by local public and private sector organisations with an interest in promoting the Oxfordshire high tech economy. The Heart of England Training and Enterprise Council (abolished in 2001) was second, Isis Innovation, Oxford University's technology transfer company was third, followed by the County Council's Economic Development Advisor, who had played an important role in many of the initiatives in the 1980s.

For many years, Oxford's two universities did not formally participate in initiatives designed to support the Oxfordshire high-tech economy (Lawton Smith 2003), and played a secondary rather than a primary role in influencing where and how networking happened in the county. More recently, the universities have played a larger role in bridging the business and academic communities, and have played an active role influencing networking situations. For example, since 1999, Oxford University's Saïd Business School Science Enterprise Centre, later Entrepreneurship Saïd, has acted as a host for networking events such as Venturefest (an annual two, later one, day fair for bringing entrepreneurs and funders together) and for other high-

profile seminars with a networking function. The aim of Oxford University's Innovation Society (Isis Innovation) is to 'allow companies to have a "window" on Oxford science and to foster links between business and the academic community'. Its Isis Angels Network run as 'a vehicle for the introduction of private individuals and companies with potential interest in investing in spin-out companies from the University of Oxford'. It is against this changing context that the extent and effectiveness of recent business network activity is discussed.

3.1 Methodology

The evidence reported here is drawn from two types of data. The first is about the networks and their composition, with information of how often they meet and what they set out to do. The second is the results of an on-line survey of members of networks. The data were collected in two phases. The first was a study of business networks in Oxfordshire conducted in 2006 for the Oxfordshire Economic Observatory (OEO). The second was a study funded by the Oxford to Cambridge Arc (O2C Arc) as follow-up to that study, with coverage of the rest of the Arc. A central remit of O2C Arc programme was to increase collaboration between organisations in or near to Oxford and Cambridge and link the two city-regions with the innovation community of the central area; its universities, high technology companies, entrepreneurs and skilled labour force. The Arc was jointly funded by the three regional development agencies which have counties that help comprise the Arc "region": South East England Regional Development Agency (SEEDA), East of England Development Agency (EEDA) and the East Midlands Development Agency (EMDA). This paper draws on some of the material from the second phase of the study for comparisons.

Information on the number of networks, their function and their membership was gathered from an extensive range of sources. Locally known networks from previous studies and local organisations such as The Oxford Trust and the Oxfordshire Economic Partnership were contacted. This was followed by a snowballing technique of asking networks for further information on other networks. Information on membership (numbers and cost of membership), activities and frequency of meetings on each network's website was collated and network organisers were contacted for additional information.

An on-line survey was conducted on the OEO website. Each network was asked to send out an email to their members asking them to participate in the survey. In each case, follow-up requests were made for the networks by phone calls and emails to send out reminders. The survey was designed to address questions 2 and 3. The survey asked respondents for information on the value of networks, the kinds of networks they participated in, which they used most, what networks delivered and what initiatives could be traced back to the network(s). It also asked about the limitations/gaps of networks in Oxfordshire and opportunities to improve practical operational efficiency. A total of 114 questionnaires were completed by members of 28 networks including 5 breakfast and lunch clubs. The vast majority were based in Oxford.

Sectors represented included General Business (Retail, Service, Construction and consultancy), law and finance associated businesses, engineering and electronics,

biotechnology, pharmaceuticals and medical, education and research, media and publishing, information and communications technology, and NGOs. Only 2 replies were received from women only networks, hence women are under-represented in this study, which also reflects the much higher incidence of women only networks in Cambridge (Lawton Smith 2010). Respondents were overwhelmingly senior people in the companies for example directors (42%), managers (13%), business owners and traders (12%) and CEOs and Chairmen (9%). There is some evidence therefore that the networking process was largely supported by the top people in the companies (cf. Scherer 2003) as it was they that answered the survey questionnaire on the basis of their experience, rather than delegating the task to a junior colleague.

Not all respondents were members of networks, around half were members. Exceptions to this pattern were events and meetings organised by the Institute of Directors which were primarily attended by members (13 out of 17), whereas of respondents who attended OION events only 8 out of 25 were members. Many business networks therefore provide services over and above those gained by members (Bennett 1998).

Three indicators of the value of the networks are: (i) the value of networks compared to other forms of activity for making contact with other firms; (ii) limitations of existing networks and (iii) ways in which networks can be improved. These are discussed next.

3.2 Findings

Question 1 where and how does business networking happen

Business networking as an activity takes place in a high number of business networks in the O2C Arc. Table 2 shows that Oxfordshire, like Cambridgeshire and perhaps more surprisingly also Milton Keynes, can be described as being 'network thick' having both higher numbers of networks than other counties in the Arc and a lower head of population per network. Some networks are geographically specific to particular locations, others are location-based but the network's participants are from a wider regional scale, while another category is that of local branches of national/regional networks.

Oxfordshire has the most of the sub-regions by number and proportionally by Head of population per network. At the time of the study, the county had 63 business and two OBP networks (Institute of Directors Oxfordshire branch and the Oxford Business Alumni). These 65 networks represented around 30 percent of networks identified across the O2C Arc. It has, however, far fewer women-only networks than in Cambridgeshire.

On this evidence it appears that formal networks are associated with innovation-led high tech economies, as there is similarity to network development in Silicon Valley where communities of practice develop to learn and maintain competences that they need to be successful Benner (2003). This therefore possibly reflects particular phases in the innovation process (Rutten and Boekma 2004).

County	Number of Networks	Population	Head of population
---------------	---------------------------	-------------------	---------------------------

			per network
Oxfordshire	65	605,492	9,315
Cambridgeshire	59	552,655	9,367
Milton Keynes	38	207,063	5,449
Bedfordshire	23	381,571	16,590
Northamptonshire	20	629,676	31,483
Buckinghamshire	16	479,028	29,939
Total	221	2,855,485	12,920

Table 2 Networks in each economic partnership across the O2C Arc showing populations using 2001 Census data

The how of networking covers a wide range of activities in networks of varying size, sector and status hence in diversity and resource availability within them. One of the largest is the Oxford Trust (now Science Oxford) which has some 400 members. The largest of all is the Oxfordshire Chambers of Commerce which has some 1400 members in the county, and includes a wide range of membership but generally does not cater for high tech firms. The Oxford Innovation-run family of business angel networks (OION, Oxford Early Investments and Thames Valley Investment Network) collectively have 150+ members. Others are much smaller, and are more specialised. For example the Oxford Construction Training Network had 50 members at the time of the study.

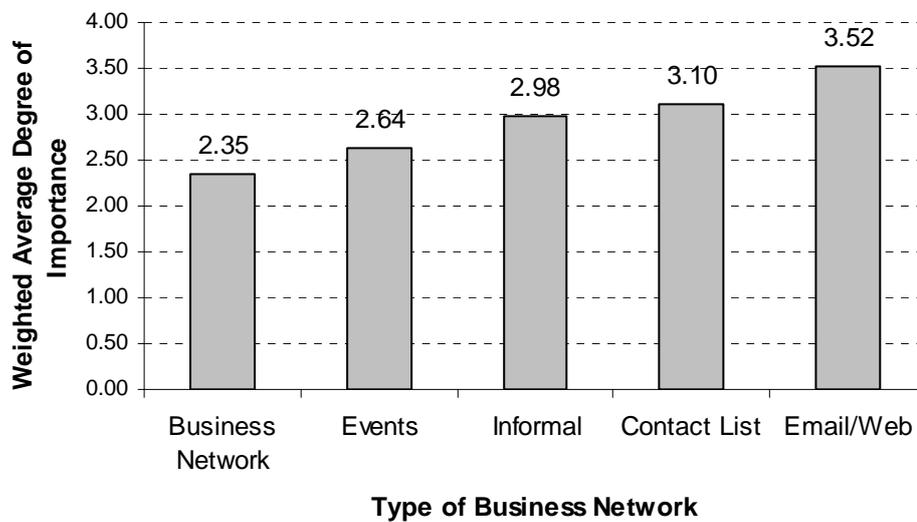
Sector specific networks include those orientated towards high-tech sectors such as biotechnology, medical, engineering and information technology and investment networks, such as OION (above). An example of a sector specific network is Diagnox. This is a private network in the medical sector, which supports, 'all stages of technology transfer, from proof of principle through to market and help to successfully commercialise diagnostics research from the medical, veterinary, environmental and food industries'.

Networks can also be categorised by funding status: non-profit networks, private networks, and joint public-private partnerships. Excluding the breakfast/lunch clubs, out of the 31 formal business networks in Oxfordshire, 21 are private, and the rest are either joint private-public partnerships or non-profit networks/consortiums/forums. Private networks appear to be mainly funded by membership fees and sustained by donations and sponsors. For example, investment networks are funded through members, sponsors, success fees and its activities. They charge fees both from investors and companies that use the network. Some private networks are also sponsored by Oxfordshire's network host and sponsors such as accountant firms and investment banks.

Question 2 What is the value of business networking?

The survey showed that the value of business networks and events is that they are the most important in a portfolio of activities by which firms make contact with other businesses and professionals, ahead of events and informal networks (Figure 1). Other means include companies' contacts lists and internet searches as well as business referrals, targeted research and advertising. Email and web-based interactions were the least important of the main forms of activity suggesting that they had a less direct influence on inter-company/inter-firm interaction, than social resources mobilised in face-to-face contact. Therefore social relations or social capital present in these activities and situations can be deduced as being important in delivering value to their

members (Starr and McMillan 1990, Woolcock and Narayan 2000, Besser and Miller 2011).



Note: Scale of Importance is 1: Most Important to 5: Least Important

Figure 1 relative importance of business networks

Source: OEO.

The survey investigated the value of networks as indicated by their ability to meet the expected objectives of their members (Figure 2). This demonstrates (measured on a scale of 1-5, a lower number indicating higher importance) that expectation of gaining access to new customers was the prime motivation of membership, while gaining access to new investors was the least important. Hence potential contractual, structural, commercial relationships which provide entry into new markets which will involve ‘hard trust’ (Bennett and Ramsden 2007) were the primary target for making contact with other companies. Information sharing was of secondary value as an objective of participation. There is some evidence that diversity in membership (Phillipson et al 2006) was a factor in participation as the value it provides is that companies are able to make contacts outside of their own networks (bridging social capital, Rutten et al 2010).

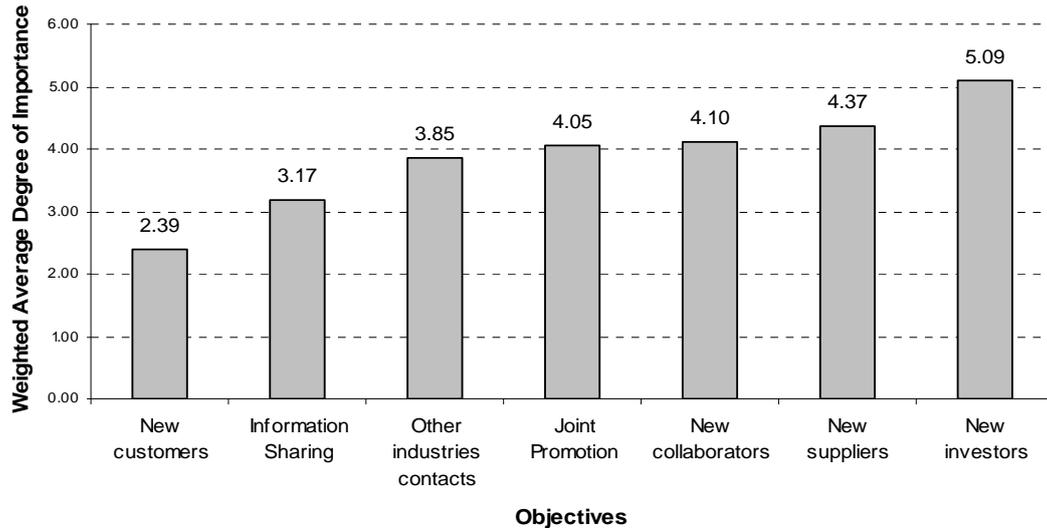


Figure 2. Expected Objectives in Participating to Business Networks

Source: OEO

The survey also investigated the ability of the networks to meet the expected objectives of their members (Figure 3). Responses were overwhelming positive: only four respondents replied that their networking activity in these formal contexts had not delivered significant outcomes for their company. While the expectation that new customers was satisfied, the second most important value that the networks delivered, the main outcome was in fact that of collaboration with other organisations, meaning that firms sought to work with other firms on developing new products and services or on technical issues. Over two-thirds rated this as most important and in practice over a third used networks for this purpose.

Information sharing, while scoring high on expected outcomes, in contrast with might be expected from the learning region literature (see Lawson and Lorenz 1999, Benner 2003) was of rather less importance in practice, at least in Oxfordshire. These formal networks did not seem to be particularly useful local resources for finding finance, new employees or improving brand reputation and awareness. Encountering diverse people from different industries to access complementary competences and abilities across sectoral boundaries was significant for over half, but was not ranked by many as being the prime benefit.

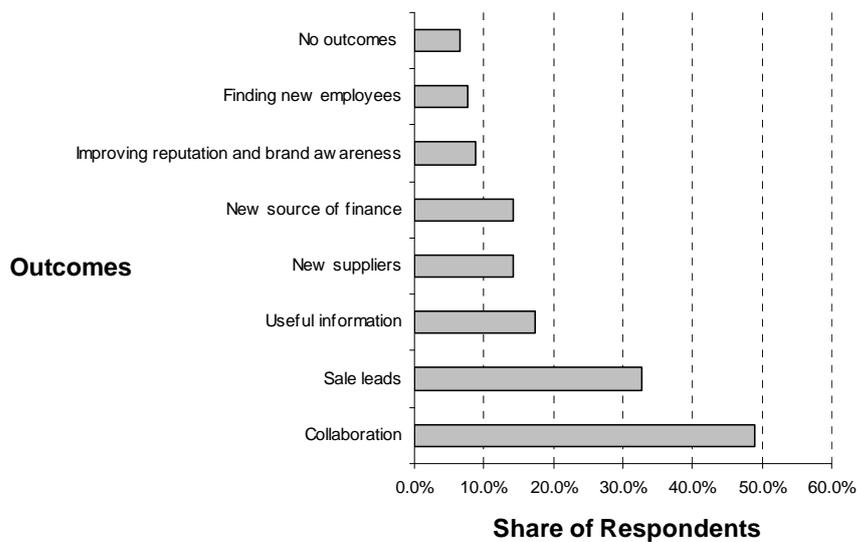


Figure 3. Outcomes from Participation in Business Networks.

Source: OEO

The survey also revealed sectoral differences in the value of formal networks. Business networks were identified as being very important for all 11 respondents within the Biotechnology, Pharmaceuticals and Medical sector. Services provided included facilitating international collaboration, mentoring, fundraising, and help with finding new investors, collaborators and customers. For example, one company secured, *‘one major international collaboration and five new and currently active leads through business networks.’* All other respondents also gave concrete examples of successful contacts/ projects. In particular, OBN and The Oxford Trust were highlighted as key organisations, the latter being the most popular individual network as indicated by the number of respondents who participated in their activities. The evidence on the importance of representation of interests to outside organisations was mixed. It scored low on being most important but was similarly ranked with other advantages of networks.

Within the Engineering and Electronic sector, participants viewed networks positively, as providing good business and professional opportunities. Amongst others, The Oxford Trust, Connect4Success, Institute of Business Advisors, MNT network (national network of UK Micro and Nanotechnology Sector) and TVIN were among those highlighted as key facilitators. Within sectors such as Information and Communications Technology, Media and Publishing and Research and education, business networks provided general opportunities with finding collaborators, customers, suppliers and client referrals. For example, one company from a publishing company pointed out that *‘approximately 98% of our current business is achieved through networking and referrals’*.

Tips with business referrals were one of the most important uses made of being member of networks for the general business sector, which included service and retail, constructional and consultancy industry. For example, one construction company

secured *'contracts, totalling over £340k in three years, traceable back to referrals from members of networking groups'*. As with other sectors, business networks provided opportunities with recruitment, training, advertising, finding collaborators, customers and suppliers.

Advertising and profile-raising were among the most significant outcome within the Law and Finance sector. One bank noted that *'they (networks) are good for raising our profile within the technology sector, which improves our knowledge and credibility, which in turns results in more companies choosing our bank as their banking partner'*. All four NGO/Charity organisations replied that business networks had provided their organisation with the possibility of fundraising.

Contacts therefore appear to be established with other companies particularly for material advantages and to a lesser extent as communities of practice and conduits of information. This is because the functional objective in and value of participating in networks of practice appears to extend beyond information. In Oxfordshire's high tech economy, formal networks are therefore more a mode of material than of informational regional embeddedness (cf. Huggins and Johnston 2009).

Question 3 is business networking in Oxfordshire effective and how could it be improved?

The evidence above suggests a number of successful outcomes from participating in business networks in Oxfordshire and that most networks were meeting expectations. The study also found that there were limitations to the effectiveness of some of the county's formal networks.

The survey asked for assessments of the limitations of existing networks. Responses are shown in Table 3. This study highlights issues to do with competition between networks, gaps in network provision and with optimal size of networks. Consistent with the original assertion underlying the study, nearly a third said there were too many networks and a fifth found gaps in network coverage. Some of the smaller firms reported that network membership was too expensive, perhaps unsurprisingly. This suggests that the level of networks is not optimal, as there is competition for resource provision for some firms. It was also the case that some networking opportunities are being missed and that some existing ones are not of optimal size and/or diversity (cf. Phillipson et al 2006).

	Responses	% of 114 survey replies
Too many networks	32	28
Some sectors not covered	24	21
Not enough members	19	17
Do not provide adequate business opportunities	19	17
Too expensive	15	13
Current members are too narrowly focused	10	9
Meet too often	7	6
Too few networks	1	1
Other limitations	Inconvenient locations, accessibility, biotech sector very specialised, too many suppliers, not enough customers	

Table 3 limitations of networks

Source: OEO

The questionnaire included an open question regarding suggestions for improving the business networks in Oxford. 68 companies responded this question. Text coding technique has been used to analyse the answers (Figure 4). The question of how networks could be improved was considered as a problem of co-ordination. This includes better coordination to reduce overlap, improved publicity of events and more information on the content and objectives of events to increase awareness. The analysis highlights seven suggestions. The chart below shows these suggestions and their frequency.

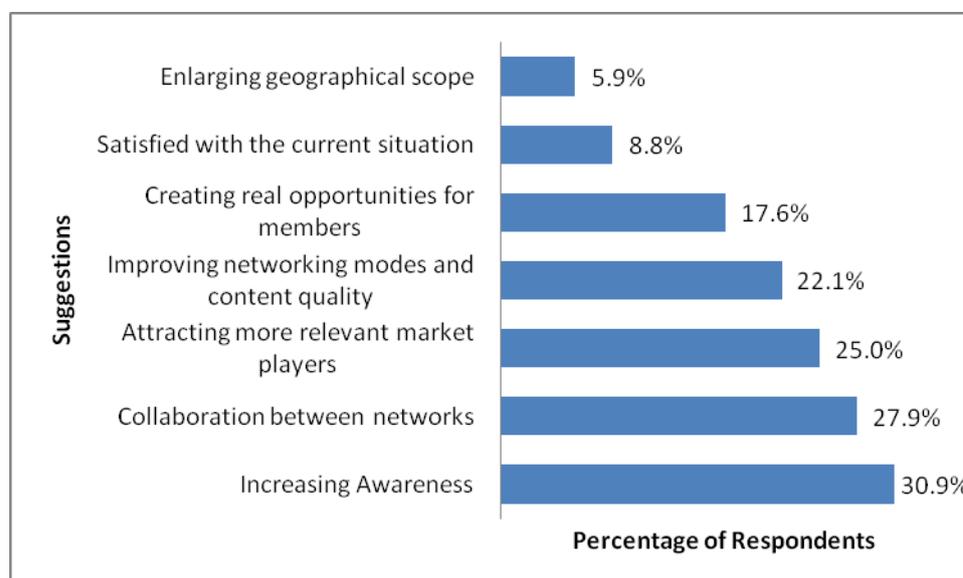


Figure 4. Suggestions for Improving Business Networks in Oxford

Source: OEO

Further, a number of networks have disappeared which in principle can be judged as being unsuccessful. However, as was suggested earlier a lack of success is not the only reason for networks to cease operating. For example the Oxfordshire BiotechNet which had been very successful up to the mid-2000s. The Chamber of Commerce high tech network, RESBIG (REsearch and Science Based Industry Group,

Oxfordshire Chamber of Commerce) which organised network meetings in conjunction with the Oxford Science Park's at the last meeting that used the RESBIG name was in Jan 2008, some 60 people attended. Others which did not attract members have disappeared. An example is the Oxmedia.net. Its demise possibly leaves a gap in the market for networking in that field.

4. Conclusions

The focus of this chapter is the importance of locally-based formal networks such as business and OBP networks as ways in which firms make contact with each other. It uses Oxfordshire as a case study. Drawing on other studies, it examines how formal networks form geographically focused and distinctive business practices, combining the professional and personal ambitions of individuals and competitive objectives of firms (Parelli and Sacchetti 2008). It is proposed that these have a primary influence on the situations by which contact is made and hence on resources and services available from other participants.

As an activity, the “where and how” business networking happens in Oxfordshire is in a high number of networks, predominantly business networks, and in meetings held by event organisers. These organisations exert a primary influence in Oxfordshire's development as a network thick location: the county has a very varied set of networks, with respect to the sectors they cover, in size, membership criteria and funding, and outcomes. Their usage is likely to reflect phases in the innovation processes in the county's high tech economy, innovation being found to be significant in the propensity of firms to network (Rutten and Boekma 2004).

Overall the networks are shown to be successful and are valued by their members. Expectations have largely been met and provide important practical benefits to their members particularly those of new sales leads and collaborators. To a lesser extent they provided useful information and new sources of finance, but generally not new employees.

The evidence on balance suggests that networks in Oxfordshire are effective but there is also evidence of inefficiencies. In particular, it does appear that there are too many networks but at the same time there are gaps in network coverage. In the 1990s the UK's Department of Trade and Industry pump-primed a number of business networks in many parts of the country. It later passed this role to the regional development agencies. With their demise, there is a gap in the public provision of funding for new networks where a demand can be identified. Identifying demand, however, is not necessarily easy as the evidence from the survey suggests that some of the existing networks do not have enough members, do not provide adequate business opportunities and are too expensive. Some of these networks are likely to fail because of these factors. However, the fact that there so many networks suggests there is an opportunity benefit to participating. That itself is an indicator of the importance of business networks to a regional economy.

The evidence supports the notion that these networks also have a secondary effect, that of enhancing the local environment for business networking. In Oxfordshire, as some networks have a strategy or economic development remit for the county, the Oxford Trust being an example of the former and the Chambers of Commerce of the

latter, they can be argued to influence the business environment by addressing important policy issues, such as limitations to the local availability of finance and of sector support.

The implications of the study are fourfold. The first is that the high number of networks is consistent with general patterns that high tech economies tend to be the most networked (Benner 2003, and evidence in this study on the number of networks in Cambridgeshire), there being spatial concentrations of 'potential co-actors' (Rutten et al 2010). The second is that the evidence suggests that business networks are more effective than other types of organisation such as on-line communities and informal networks in providing market opportunities. These benefits may arise efficiently because of high levels of hard and soft trust between participants (Bennett and Ramsden 2007). This leads to a third implication: that an important secondary influence of networks is that they are part of the way that the environment for doing business changes because they influence expectations that there will be 'an increased capacity to access new resources' (Huggins 2009, 343) through participation. Finally, it is suggested that spatial proximity matters, both for being able to go to a local networking event as well as for the choice of kind of event. It is also significant if as is suggested above, that the local business environment is improved by the combination of demand for and supply of networks.

The evidence from this study raises a number of questions regarding what has been proposed in the literature about the extent, nature and change in networking activity. However, the limitations of this study should be borne in mind. Due to the nature of the survey these results rely on descriptive statistics only and are only indicative of patterns of formal networking behaviour. Its limitations suggest that further research would provide more detailed evidence on the outcomes of business networking activity. In particular, it might be contrary to much of the literature which prioritises informal networks as self-organised activity, that the growth in formalised networking activity for production and innovation is an indication that informal networking by itself does not necessarily give entrepreneurs and firms sufficient access to information resources, markets and contacts. Future studies might examine the outcomes compared to effort put into informal and formal networking, and compare the effectiveness business with occupationally-based professional networks. They might also examine the processes by which nascent or new entrepreneurs are attracted (or not) into existing networks or whether new networks emerge to meet their needs. At regional level, the relationship between membership and utilisation and stages in development of economic activity in particular locations could also be investigated with a focus on whether maturity there is an oversupply of networks and redundancy of networks.

5. References

- Benner, C. (2003) Learning Communities in a learning region: the soft infrastructure of cross-firm learning networks in Silicon Valley *Environment and Planning A* 1809-1830
- Bennett, R. J., & McCoshan, A., (1993) *Enterprise and human resource development: local capacity building* London: Paul Chapman Publishing
- Bennett, R. (1996) The logic of local business associations: An analysis of voluntary chambers of commerce *Journal of Public Policy* V.15, (3): 251-97

Bennett, R., (1998) Business association and their potential contributions to competitiveness of SMEs *Entrepreneurship and Regional Development* 10 243-260

Bennett, R., and Ramsden. M (2007) The contribution of business associations to SMEs: strategy, bundling or reassurance? *International Small Business Journal* V. 25, (1): 49-76

Besser, T. L., Miller, N. & Perkins, R. K. (2006) 'For the greater good: business networks and business social responsibility to communities' *Entrepreneurship & Regional Development* V.18, (4) 321-340

Besser, T. L., and Miller, N. (2011) 'The structural, social and strategic factors associated with successful networks' *Entrepreneurship and Regional Development* V. 23 (3-4): 113-134

Brown J. S., and Duguid, P. (2000) *The Social Life of Information* Boston, MA: Harvard Business School Press

Burt, R. (1992) *Structural Holes*, Cambridge, MA: Harvard University Press

Garnsey, E., & Lawton Smith, H. (1998) 'Proximity and Complexity in the Emergence of High Technology Industry: The Oxbridge Comparison' *Geoforum* V.29, (4), 433-450

Granovetter, M. (1983) 'The Strength of Weak Ties: A Network Theory Revisited' *Sociological Theory* 1: 201-233

Granovetter, M. 1985 'Economic Action and Social Structure: The Problem of Embeddedness' *American Journal of Sociology* 91 (3): 481

Gulati, R; Nohria, N Zaheer, A 2000 'Strategic Networks' *Strategic Management Journal*, 21, 3, Special Issue: *Strategic Networks* 203-215.

Huggins, R 2009 Forms of Network Resource: Knowledge Access and the Role of Inter-firm Networks *International Journal of Management Reviews*

Huggins and Johnston, A 2009 Knowledge networks in an uncompetitive region: SME innovation and growth *Growth and Change* 40, 2 227-259

Inkpen, A C, and Tasang E W K 2005 Social capital, networks and knowledge transfers' *Academy of Management Review* 30, 1 146-65

Johannisson B, 1998 "Personal Networks in Emerging Knowledge-Based Firms: Spatial and Functional Patterns" *Entrepreneurship & Regional Development*, 10 4: 297-312.

Johannisson B, 2000 "Networking and Entrepreneurial Growth" In Sexton D, & Landström H, (Eds.) *Handbook of Entrepreneurship* London: Blackwell 368-386.

Kitson M, Howells J, Braham R, and Westlake S, 2009 "The Connected University <http://www.nesta.org.uk/the-connected-university>" (accessed October 20 2009)

Lawson C, and Lorenz E, 1999 "Collective Learning, Tacit Knowledge and Regional Innovative Capacity" *Regional Studies*, 33 305 - 317

Lawton Smith H, 2003 'Local innovation assemblages and institutional capacity in local high-tech development: The case of Oxfordshire' *Urban Studies* 40 7 1353-1369

Lawton Smith H, Glasson J, and Chadwick A, 2007 *Enterprising Oxford: The Oxfordshire Model* Oxford: Oxfordshire Economic Observatory

Miller, N Besser, T L and Rive, J V 2007 'Do strategic business networks benefit male and female owned small community businesses?' *Journal of Small Business Strategy* 17, 2 53-22

Newell, S, Tansley, C and Huang, J 2004 'Social Capital and Knowledge Integration in an ERP Project Team: The Importance of Bridging AND Bonding' *British Journal of Management* 15, 1 43-57

- Parilli M D, and Sacchetti S, 2008 'Linking learning with governance in networks and clusters: key issues for analysis and policy' *Entrepreneurship & Regional Development* 387-408
- Phillipson, J Gorton, M and Laschewski 2006 'Local business cooperation and the dilemmas of collective action: Rural microbusiness networks in the north of England' *Sociologia Ruralis* 46, 1 40-60
- Rutten R, and Boekema F, 2004 "The spatial dimension of inter-firm learning: case study and conceptualisation" Chapter 10 P Cooke and A Piccaluga (eds) *Regional Economies as Knowledge Laboratories* Cheltenham:Edward Elgar 181-196
- Rutten, R Westlund, H and Boekema, F 2010 'The Spatial Dimension of Human Capital' *European Planning Studies* 18, 6 863-871
- Saxenian A 1994 *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, Harvard University Press, Cambridge, Massachusetts
- Scherer, S A 2003 'Critical success factors for manufacturers' networks as perceived by network co-ordinators' *Journal of Small Business Management* 41, 4 325-45
- Smangs, M 2006 'The nature of the business group: A social network perspective' *Organisation* 13, 6 389-409
- Starr J A, and Mcmillan I. C, 1990 "Resource co-optation via social contracting: resource acquisition strategies for new ventures" *Strategic Management Journal*, 11: 79-92.
- Storper M, 1997 *The Regional World: Territorial Development in a Global Economy* New York:Guildford Press
- Storper M, and Venables, A 2004 "Buzz: face-to-face contact and the urban economy" *Journal of Economic Geography* 4, 4 351-370
- Wenger E, 1998 *Communities of Practice: Learning, Meaning, and Identity* Cambridge: Cambridge University Press
- Woolcock, M and Narayan, D 2000 'Social Capital: Implications for Development Theory, Research, and Policy' *World Bank Research Observer* 15(2): 225-250.
- Waters, R and Lawton Smith, H (2008) 'Social Networks in High Technology Local Economies: The Cases of Oxfordshire and Cambridgeshire' *European Urban and Regional Studies* 15, 1 21-37