



Enterprise hubs as a mechanism for local economic development in rural areas

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ARTICLE INFO

Keywords:

Rural development
Enterprise hub
Agglomeration
Proximity
Coworking

ABSTRACT

Until recently, rural areas have been largely disregarded in innovation policies, due to the lack of physical proximity between businesses required to create agglomeration benefits. Rural enterprise hubs – defined as physical infrastructure that provides workspaces to multiple tenant businesses, with additional services such as shared equipment, meeting rooms, co-working spaces, and business advice or support - are one means of increasing not only physical, but a wide range of non-spatial proximities between rural businesses. Drawing on and extending proximity theory, and based on qualitative case study research, this paper provides the first in-depth analysis of how co-location of businesses within Rural Enterprise Hubs can generate benefits for tenants and overcome a lack of proximity to networks and support systems. It identifies the salience of these benefits for different types of businesses and the extent to which hubs help to overcome common constraints faced by rural businesses.

1. Introduction

Globally, rural economies make a significant contribution to national employment and prosperity (OECD, 2020). This contribution extends far beyond the sectors of the economy traditionally associated with rural areas such as farming, food and tourism, with a growing recognition that rural areas have an important role to play in the knowledge economy (Bruckmeier and Tovey, 2008) and regional innovation (Hubbard and Atterton, 2012; OECD, 2020). However, while rural economies are increasingly recognised for the contribution they make to economic development, they are also a source of unrealised growth potential (Defra, 2021; Phillipson et al., 2019). Small and micro businesses - typical of the rural economy - suffer from geographical isolation (Tödting and Trippel, 2005), low physical proximities between firms (Boschma, 2005) and limited choices in terms of available premises, employees and access to new knowledge (Phillipson et al., 2017; Sá et al., 2018). Remote rural firms may therefore miss out on the benefits of clustering and agglomeration (Porter, 1996), links to industry partners (Bathelt et al., 2004), frequent face-to-face interactions (Storper and Venables, 2004) and inter-firm networking (Phillipson et al., 2006),

reducing knowledge transfers and spill-over effects and curtailing innovation (Ozusaglam and Roper, 2021). These challenges may be felt most severely by home based businesses (HBBs), the stock of which, in England, is disproportionately skewed to rural areas (Dwelly et al., 2005). HBB owner-managers are often isolated, lacking networks (Tötterman and Sten, 2005), estranged from business support (Vorley and Rodgers, 2014) and constrained by the structures of their home environment (Baines, 2002). Addressing these challenges is important for unlocking rural areas' growth potential.

This paper examines Rural Enterprise Hubs (REHs) as one potential mechanism for attenuating these barriers to growth for rural SME and micro-businesses, and thus contributing to economic development in rural areas. Enterprise hubs have, to date, largely been an urban phenomenon (Makkonen et al., 2018), framed within agglomeration theory (Yigitcanlar and Inkinen, 2019), and regarded either as a means of catalysing entrepreneurial activity in areas in need of rejuvenation, or to maximise the effectiveness of innovation 'hot-spots' (Martin, 2015). We provide the first in-depth examination of the role REHs play in providing physical infrastructure for rural businesses but also the opportunity for rural businesses to overcome the lack of proximity to a variety of

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<https://doi.org/10.1016/j.jrurstud.2022.05.016>

Received 9 July 2021; Received in revised form 10 May 2022; Accepted 18 May 2022

Available online 27 May 2022

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networks and support systems necessary for innovative and entrepreneurial activities.

We define enterprise hubs as the provision of workspaces to multiple tenant businesses, which are co-located with additional services such as shared equipment, meeting rooms, co-working spaces, and business advice or support. They differ from standard business premises in terms of the provision of such services, as well as the access they offer to networking opportunities that are internal or external to the hub. They have diverse ownership characteristics, with the private, public or third sectors often responsible for their management, which sometimes operate in partnership.

The extent to which REHs achieve their objectives of not only providing physical infrastructure, but also networking opportunities and knowledge exchange is thus important for assessing their appropriateness as a tool for fostering rural development. However, there remains a gap in the literature as to the extent REHs can help overcome barriers commonly faced by rural-based businesses (Dubois et al., 2017; Mason et al., 2011) and the benefits that stem from the co-location of businesses in rural areas. So, while enterprise hubs and coworking spaces are spreading beyond urban and suburban locations, into more rural and sparsely populated areas (Avdikos and Merkel, 2020; Fuzi, 2015), with some initial studies of their structures and tenants (Cowie et al., 2013; Hölzel and de Vries, 2021), little in-depth analytical research has been conducted on them to date. Drawing on proximity theory (Boschma, 2005), this paper analyses the benefits of co-location for tenants of REHs, identifying the types of businesses for which these benefits are most relevant and the extent to which hubs help to overcome common problems faced by rural businesses. We begin with a discussion of proximity effects in rural areas, before presenting our research methodology and findings.

2. Proximity effects in rural areas

A narrow – strictly geographical – view of proximity has led to a discourse in which rural areas are commonly disregarded in enterprise development and innovation policy (OECD, 2020). Yet adopting a multi-dimensional notion of proximity offers a framework with potentially greater applicability to rural areas, and against which to analyse the benefits of REHs. Boschma (2005) sets out five forms of proximity – geographical, social, institutional, cognitive, and organisational – each of which having a rural dimension.

Geographical proximity forms the basis of prevailing models of agglomeration and is defined as the physical distance between two (or more) actors. Despite arguments that geographical proximity may be less relevant than first thought (Morgan, 2004), it remains “a strong vector of collaboration for organisations” (Balland, 2012 764) and businesses are willing to move to co-locate to achieve closer proximity (Menzel, 2015).

Agglomeration and cluster-based models of development (Porter, 1996), emphasize a critical mass of firms in related sectors and supply chains which co-locate to lower overheads through greater efficiencies (Marshall, 1920), and to share equipment (Malmberg and Maskell, 2002) and human capital (Njøs et al., 2017). Consequently, urban areas, where physical proximities between businesses and with support services are generally greater, are typically promoted as preferred locations for innovation and growth (Vallance et al., 2020).

Regional economic development strategies, therefore, often turn to physical infrastructures to realise agglomeration benefits in the form of urban located enterprise hubs, industry clusters, accelerators, and business parks (Kerry and Danson, 2016). Prior research evaluates the effectiveness of physical infrastructure provision for SMEs in urban areas (Cumbers and MacKinnon, 2004). The urban experience highlights the importance of sectoral clustering for institutions to effectively deliver tailored support services for targeted sectors (Martin and Sunley, 2003) and how internal cultures help some clusters to prosper, whilst others fail (Njøs et al., 2017).

However, the literature is yet to assess the experience of these approaches in a rural setting. The conditions of rural areas within a macro-scale region are typically ignored in the agglomeration discourse or regarded as “ordinary [and] uncompetitive” due to a lack of physical proximity, clustering of high value sectors and critical mass of businesses (Huggins and Johnston, 2009, p.1091). Rural areas face specific challenges due to larger distances between actors and markets (Korsgaard et al., 2015) and these barriers and challenges are even more pronounced in regions that lack a major city (Rodríguez-Pose and Crescenzi, 2008). However, omitting rural areas from development initiatives heightens spatial variations in innovation and regional inequalities (OECD, 2020). This oversight has prompted calls to shift away from agglomeration-based thinking within regional and innovation policy to embrace alternative theoretical frameworks (Mackinnon, 2020).

Businesses also face challenges due to their social contexts (Elfring and Hulsink, 2003). High levels of *social proximity* imply strong bonds of kinship and trust between actors (Boschma, 2005), which are built steadily through frequent (face-to-face) interaction over time (Storper and Venables, 2004). Research in this field often draws on Granovetter’s theories of ‘embeddedness’ (1985) and the ‘strength of weak ties’ (1973) to understand the role of social networks in providing both economic and social benefits (Growe, 2019). Well-embedded firms have extensive networks to acquire business contacts, exchange knowledge, seek advice and gain new ideas (i.e., high social proximity), whereas less well embedded firms suffer from isolation, having fewer or more closed network connections (i.e., low social proximity) (Growe, 2019). Social networks are especially important to small firm growth, including in rural areas (Jack and Anderson, 2002; OECD, 2020). The ‘strength of weak ties’ theory suggests that new opportunities arise when actors operating in different sectors, networks and economic contexts interact with each other. It emphasizes the importance of ties *between* groups or sectors (Granovetter, 1973, 1985). Network ‘brokers’ (Burt, 2005) facilitate connections between ‘weak ties’ by bridging structural holes (Korsgaard et al., 2015).

Developing trust and social capital between SMEs is frequently cited as critical to overcoming social barriers around forming collaborations and exchanging knowledge (Townsend et al., 2016). As in urban areas, levels of trust between rural businesses in networks vary depending on social cohesion, size of the network and the homogeneity of members (Newbery et al., 2013; Phillipson et al., 2006). Rural residents can have fewer choices when selecting social ties due to lower population densities – in other words lower geographical proximity has repercussions for other forms of proximity. This lack of critical mass can lead to significant overlap in social and professional networks in rural areas (Townsend et al., 2016).

Cognitive proximity implies that businesses share similar analytical and/or symbolic knowledge bases (Asheim, 2007). Businesses that share knowledge bases can exchange tacit knowledge more effectively (Asheim and Gertler, 2005). However, too much cognitive proximity may be detrimental to innovation, causing ‘lock in’ effects (Boschma, 2005; MacKinnon et al., 2009), so that a balance of related, yet diverse, business connections is considered preferable (Asheim et al., 2011). Actors within traditional sectors of the rural economy (such as agriculture and forestry) often exchange knowledge, with strong sectoral support organisations (Klerkx and Proctor, 2013). However, the wider rural economy is diverse, typically characterised by fragmented knowledge bases and networks (McKitterick et al., 2016).

Institutional proximity can be understood narrowly or more broadly (Davids and Frenken, 2018). Narrowly, it implies businesses share similar cultural norms and practices (Boschma, 2005). More broadly understood, institutional proximity also includes ‘hard’ institutions, such as organisations involved in governance and knowledge creation, physical and digital infrastructure provision, and development policies (Ponds et al., 2007). Again, these hard institutions tend to be set in, and largely focus their attention on, urban contexts (Makkonen et al., 2018; Vallance et al., 2020), especially universities (Hindle et al., 2010) which

are key knowledge producing institutions in innovation systems (Brown, 2016). Rural actors may feel disconnected or distanced from these institutions, believing that they have ways of conducting business, learning, and innovating that do not necessarily fit prevailing innovation models and systems (Hindle et al., 2010).

Rural areas are typically perceived to have thin institutional systems, in which “prerequisites [for innovation] are weakly developed as there is a lack of dynamic clusters and of support organisations” (Tödting and Trippel, 2005: 1209). Business support to aid SME growth is difficult and costly to deliver to sparsely distributed rural businesses, often incurring a ‘rural premium’ (Smallbone et al., 2003) for both firms and providers. Support agencies thus tend to focus the delivery of their services in more populous urban areas (Bennett and Smith, 2002; Makkonen et al., 2018). Rural businesses may therefore suffer from fewer opportunities to learn and gain support to grow their ventures. Rural areas may also lack the physical infrastructure to support a thriving business community (Phillipson et al., 2011), with a general lack of public transport and other public services. In many rural areas, there is a dearth of appropriate workspaces, including enterprise hubs (Cowie et al., 2013), co-working spaces (Talbot, 2016) and creative maker-spaces (Siepel et al., 2020).

Organisational proximity refers to the ‘convergence of autonomous entities with respect to internal and external organisational determinants’ (Klimas, 2020, p. 251), which can be viewed through lenses of either ‘adherence’ or ‘similarity’ logics. Adherence logic relates to the linkages between departmental structures of (large) companies or ties between companies in the same corporate structure which create an adherence to the organisation which aids the exchange of knowledge, collaboration, and innovation (Boschma, 2005). Under a logic of similarities, firms are seen to be organisationally close if they share similar structures, goals and/or management strategies (Klimas, 2020).

Rural areas typically have a higher proportion of microbusinesses, sole traders and HBBs (Phillipson et al., 2019). Such businesses are usually independent from each other and have more limited internal organisational capacities and therefore, according to adherence logic, have very limited organisational proximity. However, such small-scale businesses rely heavily on networks to exchange knowledge and gain specialist skills they may lack (Skuras et al., 2005). Consequently, they may share organisational proximity in terms of a similar scale, a lack of departmental structures, culture, and common incentives and regulations.

After synthesising the literature on proximity, Klimas (2020) adds an additional dimension to Boschma’s framework - *communicational proximity*. This combines three previous categories: relational proximity (Eklinder-Frick et al., 2011) which refers to the channels of communication and their strength/frequency, virtual proximity using ICT to connect and communicate (Zeller, 2004) and temporal proximity based around meeting in temporary spaces such as conferences and exhibitions (Torre, 2014). Many rural areas suffer from poorer digital connectivity in terms of lower broadband availability and speeds, which may hamper customer interactions and the cultivation of digitally based ‘weak ties’ (Salemink et al., 2017). Empirical evidence suggests that the quality of telecommunications infrastructure is correlated highly with economic performance in rural areas (Frontier Economics, 2014).

Although typologies are useful (Boschma, 2005; Klimas, 2020), ambiguity and overlaps remain between the forms of proximity. Two mechanisms – substituting and overlapping – help understand this ambiguity (Malmberg and Maskell, 2006). Substituting mechanisms imply that non-spatial forms of proximity can help to overcome a lack of physical proximity, but importantly for this research, overlapping mechanisms are “where geographical proximity facilitates non-spatial forms of proximity” (Hansen, 2015, p.1675). Accordingly, the increased physical proximity that REHs provide tenants may generate positive spill-over effects (overlaps) which enhance non-spatial forms of proximity.

Regarding the potential for spill-over effects (overlaps), Klimas

(2020, p.267) notes that “proximity is determined simultaneously by personal factors (micro-level), organisational factors (meso-level), and factors regarding institutional environments (macro-level).” Applying this to the case of REHs, individual tenants are at the micro-level of analysis, the REH is the meso-scale, and the wider regional setting is the macro-level. Consequently, the macro-level encompasses the institutional and business support landscape.

To date, proximity frameworks have largely been conceptualised through the lens of geographically dense, urban, growth oriented and sector specific, often high-tech, businesses (Huber, 2012). However, these are not the circumstances we find in our research, with hub tenants being rural, having mixed attitudes to growth, and operating in a wide array of sectors with limited degrees of sectoral clustering. This generates questions regarding the relevance of the different proximity dimensions in a rural context and the extent to which REHs offer a mechanism to strengthen proximities and their benefits for rural enterprises?

3. Methodology

The research adopted a qualitative methodology with eight REHs selected in the north east of England as part of a multiple case study approach (Yin, 2009). The hub manager and at least four tenants were interviewed in each of these case studies. Three criteria were used to select ‘critical’ cases that had “strategic importance in relation to the general problem” under study (Flyvbjerg, 2006: 233). Firstly, the degree of sectoral homogeneity in the tenant-base, to consider clustering effects. Four hubs were selected which demonstrated signs of sectoral clustering (homogenous) and four which had a more diverse sectoral composition (heterogeneous). Secondly, a selection of public (2), third (2) and private (4) sector hubs was designed to understand the importance of hub ownership in shaping outcomes and benefits. Thirdly, following the typology of Cowie et al. (2013), five business-to-business (B2B) hubs known as *hives* and two business-to-consumer (B2C) hubs labelled *honey pots*, and one hybrid hub that had a mixture of hive and honey pot features, were chosen. The ONS definition of rural (2013) was used to classify the location of each hub. The nature of the location, in terms of its degree of accessibility and affluence affected the mix of enterprises in each hub, although generally businesses offering services to other businesses were the most common. Table 1 summarises the characteristics of each case study hub and its location according to the selection criteria.

In-depth semi-structured interviews, conducted by the lead author, occurred with each of the eight hub managers (named HM1 to HM8) and forty hub tenants (named TA1-TH8, see Table 2). All interviewees consented to be interviewed, for audio recording and transcription to occur, and for findings to be published anonymously. Based on the interviews, tenants were classified as either ‘steady state’ or ‘growth oriented’. ‘Steady-state’ business owners who were not seeking business growth accounted for just under three fifths of the sample. Many individual reasons were given for being a ‘steady-state’ business, largely linked to personal circumstances and life-style choices. ‘Growth-oriented’ businesses wished to increase their turnover, hire new staff and tended to be in higher growth sectors. Some hubs had higher concentrations of ‘growth-oriented’ (hubs A, E and F) or ‘steady-state’ tenants (hubs B, G and H) whilst others had a balance (hubs C and D). In total, 70% of interviewees were previously home-based prior to entering the hub and these included both growth-oriented and steady state enterprises.

Data analysis was conducted using Nvivo software (Bazeley and Jackson, 2013) and followed a three-stage process. In the first stage, we established a theoretically informed coding framework based upon Boschma’s (2005) and Klimas’ (2020) previous work on proximity, coding ‘geographical’, ‘cognitive’, ‘organisational’, ‘institutional’, ‘social’ and ‘communication’ *a priori* to the analysis, as a means of exploring this theory in the context of REHs. Initial coding of data

Table 1
Characteristics of hubs.

	<u>Sector</u>	<u>Honey Pot/Hive</u>	<u>Homogeneity</u>	<u>Location according to ONS definition</u>	<u>Distance from nearest city</u>	<u>Location characteristics</u>	<u>Description</u>
A	Private	Hive	Homo	Not sparse, town and fringe	10.5 miles to nearest city centre, 14.3 miles to second.	An affluent local market, but with ex-industrial and lagging areas also nearby. The business mix is largely service-based B2Bs. Close to major roads and surrounding town/cities.	Large-scale and highly professional appearance which attracts B2B service-based firms. Some clustering around IT services and training. Managed by directors and staff.
B	Third	Honey Pot	Homo	Sparse setting in a village	34.2 miles to nearest city, 10.6 miles to nearest market town.	Surrounding area is sparse hamlets and isolated dwellings. Located in an Area of Outstanding Natural Beauty, with limited infrastructure and public services. Business mix is limited and mainly land-based (agriculture, forestry), with a small cluster of creative businesses.	Very small-scale. Loosely themed around arts & crafts with other community services. Volunteer-ran.
C	Private	Hive	Hetero	Not sparse, town and fringe	24.8 miles from nearest city.	Located in a market town surrounded by industrial areas. Business mix is light industrial, service-based and retail.	Medium-scale. Service-based B2B firms. Not-for-profit ran by board of directors.
D	Public	Hive	Homo	Sparse town and fringe	22.2 miles to nearest city.	Located in a market town on the grounds of a public authority, reasonably affluent. Business mix is largely service-based B2B and retail	Medium-scale. Professional services attracting B2B firms. Some clustering around planning firms. Ran by team of staff.
E	Private	Hive	Hetero	Not sparse, town and fringe	11.3 miles to nearest city.	Very accessible location with good road infrastructure and close to an international airport. Affluent area. Largely service-based B2B, limited business mix.	Large-scale. Attractive address with successful growth-oriented firms. Mixed B2B tenant base. Managed by directors.
F	Public	Hive	Hetero	Not sparse, town and fringe	12.4 miles and 14 miles to nearest cities.	In an ex-industrial commuter town. Good transport links to cities. Business mix is mainly light industrial and service-based B2B.	Large-scale newly built. Specialises in small office space. Mixed B2B tenants. Managed by staff.
G	Private	Honey Pot	Homo	Not sparse, village	26 miles to nearest city, 9.1 miles to nearest market town.	Situated in the village in an affluent area, close to a major road. Local business mix is known to be artisan/creative and hospitality.	Small-scale. Strong arts and craft theme with considerable clustering. Ran by directors.
H	Third	Honey Pot	Hetero	Sparse setting in a village	47.2 miles to nearest city, 16.9 miles to nearest market town.	Located in the village, but the surrounding area is very sparse hamlets and isolated dwellings. Located in a National Park with many social enterprise and third sector organisations.	Small-scale. Has a mixed tenant base of B2B and B2C firms. Provides services to the local community. Managed by board of directors and staff.

revealed that not all the benefits of co-location could be characterised according to this scheme. Consequently, a second stage of analysis began with ‘open coding’ of the benefits of co-location for REH tenants, identifying three spill-over benefits (‘market proximity’, ‘professional proximity’ and ‘separation from home’). These insights informed the third stage of analysis, which involved comparison between tenants and a consideration of the factors that differentiated them at the level of the REH. This analysis helped to understand which co-location benefits were most relevant for different types of businesses, and the extent to which REHs help overcome common problems faced by rural businesses.

4. Findings

This section considers the non-spatial proximities that ensue from co-location within REHs. We analyse the eight case study hubs using Boschma’s (2005) and Klimas’ (2020) framework of ‘geographical’, ‘organisational’, ‘cognitive’, ‘institutional’, ‘social’, and ‘communicational’ proximity. Table 3 presents the finalised coding framework used, as well as sources and references for each code.

4.1. Geographic proximity

Following Malmberg and Maskell (2006), we regard increased geographic proximity between tenants as an overlapping mechanism, whereby greater physical proximity enhances other forms of non-spatial proximity, as discussed below. Additionally, co-location was found to enhance some REH tenants’ proximity to their core markets (i.e., clients or customers). This may be more important for rural businesses which typically have poorer access to buyers than their urban counterparts. Hub owners chose between two management strategies to enhance

market proximity, by either becoming a *hive* or a *honey pot* hub (Cowie et al., 2013). *Hive* hubs attract business-to-business tenants, which (unlike in typical clusters) involve diverse but complementary sectors, providing opportunities for tenants to sell their goods and services. The relevance of having a closer proximity to customers is, however, stronger for *honey pot* hubs, which house business-to-consumer businesses. Successful *honey pots* become a “destination” (HM7) and attract footfall which benefits tenants. A critical mass of tenants contributes to increased footfall, creating a virtuous cycle.

4.2. Organisational proximity

Following a similarities logic (that tenants are all mainly micro- and small-businesses with comparable internal structures and often shared problems), co-location in REHs increased tenant’s organisational proximity - through acquiring the services and skills of other tenants (which they themselves lacked), by accessing professional networks, and becoming engaged in more formal collaborations. Rural businesses are often sole-traders or employ few staff. They therefore need to have a broad understanding of business, often undertaking tasks that a larger business or corporation would departmentalise (e.g., HR, marketing, accountancy). Many start-up or young businesses have gaps in these skills. Being co-located with other businesses can help them acquire these skills, by formally hiring or informally consulting their fellow tenants. For instance, accountants often obtained clients among the tenant base, which led to further word of mouth referrals in the hub. Similarly, website designers and marketers also helped other tenants grow their businesses. There is, however, no guarantee that such activities emerge organically, and hub managers often played a critical brokerage role in facilitating business connections.

Table 2
List of participants - tenants.

	Tenant Name	Growth Orientation	Sector	Age of Business	Previously Home-based	Received Start-up Support
Hub A	TA1	Growth Oriented	Training Consultancy	10+	No	Yes
	TA2	Steady State	Music	7–10	Yes	Yes
	TA3	Growth Oriented	ITC Services	10+	No	No
	TA4	Growth Oriented	Procurement Services	4–7	Yes	No
	TA5	Growth Oriented	Accountancy	7–10	Yes	N/A
Hub B	TB1	Steady State	Arts & Crafts	0–3	Yes	No
	TB2	Steady State	Arts & Crafts	10+	Yes	N/A
	TB3	Steady State	Health Care Services	10+	No	Yes
	TB4	Steady State	Arts & Crafts	4–7	Yes	No
Hub C	TC1	Steady State	Community Development	10+	N/A	N/A
	TC2	Steady State	Accountancy	7–10	Yes	N/A
	TC3	Steady State	Events	7–10	Yes	No
	TC4	Steady State	Manufacturing	10+	Yes	No
	TC5	Growth Oriented	Planning	0–3	Yes	Yes
Hub D	TD1	Growth Oriented	Identification Services	10+	Yes	Yes
	TD2	Steady State	Food Safety Services	10+	Yes	Yes
	TD3	Growth Oriented	Planning	4–7	Yes	Yes
	TD4	Steady State	Publisher	10+	No	Yes
	TD5	Steady State	ITC Services	N/A	Yes	N/A
	TD6	Growth Oriented	Planning	7–10	Yes	Yes
Hub E	TE1	Growth Oriented	Accountancy Software	4–7	Yes	No
	TE2	Growth Oriented	Website Design	0–3	Yes	No
	TE3	Growth Oriented	Interior Design	4–7	No	Yes
	TE4	Steady State	Insurance	0–3	Yes	No
	TE5	Growth Oriented	Inspections	4–7	Yes	No
Hub F	TF1	Growth Oriented	Accountancy	0–3	No	N/A
	TF2	Growth Oriented	Land Agent	10+	Yes	No
	TF3	Growth Oriented	Accountancy	4–7	No	Yes
	TF4	Growth Oriented	Manufacturing and Consultancy	4–7	Yes	Yes
	TF5	Growth Oriented	Construction	4–7	Yes	No
Hub G	TG1	Steady State	Arts & Crafts	0–3	Yes	No
	TG2	Steady State	Arts & Crafts	7–10	Yes	No
	TG3	Steady State	Arts & Crafts	0–3	No	Yes
	TG4	Steady State	Arts & Crafts	7–10	Yes	Yes
	TG5	Steady State	Arts & Crafts	7–10	Yes	No
Hub H	TH1	Steady State	Education	0–3	No	No
	TH2	Steady State	Health Care Services	10+	Yes	Yes
	TH3	Steady State	Events	10+	Yes	No
	TH4	Steady State	PR Services	10+	No	No
	TH5	Steady State	Cultural Services	4–7	No	Yes

Rural businesses also depend on networks to fill gaps in their knowledge and expertise, overcome a lack of collaborative partners and find new ways to access (distant) markets (Hindle et al., 2010). However, many operate in relative isolation (for example in the home environment) or must travel greater distances to access formal networking groups which are often hosted in urban venues. The analysis revealed two forms of hub-centred networking: formal networking (attending networking events, either sector-specific or geographically focused) and informal networking (*ad hoc*, day-to-day interactions with tenants and managers). REH provided tenants with greater access to both forms of networking.

The vast majority of formal networking events held in the enterprise hubs were generic in scope (and open to all businesses from the surrounding business community), rather than sector-focused. In some hubs, tenants themselves organised networking groups, either for other tenants or for their current or potential clients. However, some tenants stated that they shared few commonalities with other businesses in their hub, and thus concentrated on networking externally. This was particularly the case with sector-specific inter-firm networking as businesses from the same sectors were seldom present in the hubs.

Formal collaborations with other tenants were infrequent, in part due to the lack of sectoral clustering in the hubs. When formal collaboration occurred however, tenants perceived the effects on growth to be considerable. For instance, two tenants described choosing to locate in a specific hub so that they could package their services together. Honey-pot hubs appeared more likely to stimulate formal collaboration, with their tenants having a common goal to attract footfall to increase sales:

“We did a group exhibition the first year we were here with other network members” (TB1)

Considering an adherence logic (that members of the same organisation are closer and more likely to collaborate and share knowledge) we found additional benefits. Specifically, although the tenants were independent small businesses, the hub itself became an organisation to which tenants felt affinity. The sense of adherence encouraged tenants to use each other’s services:

“[TE2] hosted a networking event, they did website design and they moved in at a time when we were looking for somebody to do the website. They weren’t the cheapest, but it was two things: One – we got on with each other. And second, they were in our building – so there is this thing that I would like to give work to people ... I think there is a sense of loyalty there, and if I can help someone in this building business-wise, I will.” (TE3)

As the above quotation illustrates, increased organisational (adherence) and social proximity which emerged from physical proximity influenced the tenant’s actions. Consequently, geographic proximity between tenants is an overlapping mechanism for the generation of inter-dependent, non-spatial forms of proximity. Being associated with (and having adherence to) a REH also gave tenants a greater sense of professional legitimacy, helping them attain larger contracts from long-established companies and present a more attractive working environment to potential new members of staff.

Table 3
Conceptualisation of Benefits of Co-location (geographical proximity) in a REH.

Code	Code description	Rural dimension	Relationship to extant literature	Key/Novel Finding	Illustrative quotation(s)
Organisational proximity	Through co-location, autonomous businesses operate together formally Similarities logic: through co-location, SMEs and micro-businesses co-operate due to their similar structures, cultures, profiles, and common barriers Adherence logic: through co-location tenants feel an adherence to the ‘meta-organisation’ of the REH and fellow tenants. Customers/clients perceive a higher-level of professionalism	Greater dependence on inter-firm networking and formal collaborations for rural SMEs to acquire services and skills. High degree of SMEs/micro-businesses who experience similar organisational challenges due to their size Newfound adherence between tenants which previously acted in isolation	Boschma (2005) Klimas (2020)	Unlike innovation hubs, REH collaborations revolve more around bridging gaps in expertise, by acquiring (for e.g.) accountancy, marketing and HR service REH often have diverse businesses, yet they still share similarities in terms of size and structure Small rural businesses can feel adherence and benefit from attachment to the REH and fellow tenants.	“One of the things that is interesting now with the joint venture project ... the people who I will be engaging with they’ve got one or two more staff than I’ve got. For example, they have somebody who is good at social media so if there is a course that comes up that is going to be looking at how you use social media ... we’ll send him off on that. So, he can start doing stuff for me along those lines – I might be able to use those skills. Because, as I said earlier, you’ve got to be so multi-skilled but you can’t be an expert in everything” (TD1) “When you are trying to get jobs and projects from established companies in the middle of [City] it’s difficult to get them to take you seriously when you’ve not got a proper address” (TE2)
Cognitive proximity	Through co-location, businesses increase and become similar in terms of their knowledge bases including knowledge, competences, capabilities, and expertise.	Diverse economy with multiple knowledge bases. However, similar knowledge around operating a small business in rural environment.	Boschma (2005)	Sectoral clustering generally is low in REH (heterogenous tenants), however, tenants exchange ‘entrepreneurial knowledge’ around conducting business and raise each other’s competences Important role of managers as ‘brokers’ of information and network contacts	“You get talking to people in the kitchen (because its communal) you get to know faces and if I knock on the door and go: ‘Can somebody please help me?’” (TD2) “[Hub Staff] is very good because you can always drop her a line and ask her advice so that’s quite good as well.” (TH1) “I think [owners] do try and get everyone together because they see the value of networking and getting [us] together” (TE2)
Communication proximity	Tenants gain access to broadband which many lack from home Tenants gain access to new network contacts through promoted events, exhibitions and networking events	Rural businesses lack access to ITC infrastructure	Klimas (2020),	Rural SMEs gain access to vital ITC system to communicate with partners, suppliers and global markets	“We had an occasion where there was an IT course in the big meeting room next door and 20 people turned up with laptops all wanting to logon to the internet. And that was the day before we got our 500 mb line installed. So now, because we have that, we are now able to facilitate those larger training sessions, whereas before it was slightly problematic.” (HM4)
Institutional proximity	Through co-location, businesses gain improved mindsets, habits, and customs (soft institutions) Through co-location, indirect and direct communication between businesses and support agencies increases. Businesses become more visible and logistically easier to deliver support to.	Some rural businesses have growth ambitions and act entrepreneurially, whilst others are steady-state and motivated more by life-style decisions. Rural areas are ‘institutionally thin’ with weaker support systems	Klimas (2020), Njos et al. (2017) Isaksen and Tripl (2017),	REH house both growth-oriented and steady-state businesses which may require new management strategies. Growth-oriented businesses benefit greatly from enhanced networking and knowledge exchange REH provide routes to the support system and knowledge through signposting and platforms for support provision, helping to become more ‘institutionally thick’	“Within here we keep each other going or give pointers to some things might be helpful which is really good” (TH2) “I think we’re always on the lookout for ‘what-else-is-out-there’ ... any sort of support that is coming up from a third party or grants available. We’re pretty good at spotting and exploring any opportunity for additional support” [HM8]
Social proximity	Through co-location, businesses develop more embedded	Overlapping professional and social networks due to overall lower population densities.	Boschma (2005),	Previous HBB find added value in the social aspects of the REH Hubs themselves also need to	“I think first and foremost I’ve made some nice friends out of it. I would say that was more

(continued on next page)

Table 3 (continued)

Code	Code description	Rural dimension	Relationship to extant literature	Key/Novel Finding	Illustrative quotation(s)
	relations based on friendship and kinship, increasing trust	Socially isolated sole-traders/micro-firms who often lack social ties.		become embedded in their local (business) communities to create a presence Shared kitchens facilitate social bonds	important than the fact that my business has doubled, because you can be very successful but if you are lonely and you have no friends? What’s the point?” (TG1) “It’s very, very lonely running a small business, particularly if you are virtually a one-man-band. One of the advantages of being here is the interaction with the other people/other tenants but also actually the staff here: It’s a very friendly community ... You feel as if you are cared for in a sense” (TD1)
Benefits from geographical proximity/co-location with other businesses					
Market proximity	Through co-location, businesses have greater access to final consumers and/or business customers	More important in more geographically isolated and thinner markets	New construct	Two management strategies within REH – Honey Pots (B2C) attract retail, tourism and arts & craft businesses with facilities to encourage footfall, Hives (B2B) attract office-based businesses with facilities to encourage collaboration and networking	“What really surprised us about this was we ran a few enterprise workshops which were part of the [initiative]. We quickly found that people who were coming were then saying ‘oh I’d like to come and have a meeting here’. So we actually make quite a lot of activity now with renting out the rooms, mainly for people who are doing training courses, workshops, events” (HM4)

4.3. Social proximity

Social proximity implies that actors share bonds of friendship and kinship, based around trust. REHs enhance social proximity between tenants, many of which made enduring friendships with their neighbours:

“It’s just nice to have that sociable side of it, because when you are at home it’s just you on your own, it’s a bit lonely sometimes” (TD3)

This is particularly important in rural areas where many business-owners experience social isolation (Mason et al., 2011). Hub managers were considered to play an important role, by introducing new tenants to the group, mainly through hosting social events or through mailing lists. Shared kitchen facilities were important in facilitating these ties and knowledge exchange more widely. Hubs gain visibility, credibility, and trust when they are embedded in their local communities. This was particularly the case for third, and to a lesser degree private, sector REHs, as they often provided community services and events, as well as requiring volunteers to help run the hub.

4.4. Cognitive proximity

According to Asheim’s (2007) definition, where businesses share similar analytical and/or symbolic knowledge bases, cognitive proximity in the REH hubs was generally rare. This was due to the diversity of tenant businesses, operating in a wide array of sectors with different knowledge bases. Examples of high cognitive proximity occurred, however, in Hub A between two consultancy firms, in Hub D between two planners, and Hub G between artists.

However, if we expand the definition of cognitive proximity to include firms sharing entrepreneurial knowledge (Stam and Spigel, 2016), instances were far more frequent. Tenants shared common experiences of entrepreneurship and the challenges associated with

operating from a rural location. They shared with other tenants their lessons regarding running a business (for example, in relation to marketing, bookkeeping and legal issues), usually through informal networking. Exchange of business know-how occurred irrespective of the sector each business operated in.

Another common source of entrepreneurial knowledge was hub managers, who shared knowledge both informally (day-to-day conversations) and formally (through organising learning workshops/seminars). These activities bridged gaps in tenants’ networks and/or knowledge by introducing them to fellow tenants or signposting them to a relevant business support initiative:

“The support of the management board has exceeded my expectations by far because [HM1] just walks in and comes up with ‘oh I want to send you an email, don’t be surprised if you have an email from me, I found this and this which might be helpful with your business’” (TB3)

Hub managers drew on their own experiences of managing businesses to impart knowledge and business advice to tenants.

4.5. Institutional proximity

Institutional proximity relates to both (‘soft’) shared social norms, habits, and attitudes as well as links to and appropriateness of (‘hard’) organisations and policies which enable development and innovation. REHs provided heightened institutional proximity in both senses. Concerning ‘soft’ institutions, REH tenants were found to be growth-oriented or steady-state in their outlook. Growth-oriented businesses were able to utilise the hub environment to actively engage in inter-firm networking with firms possessing similar aspirations. It is notable that some steady-state businesses also described how they had been inspired by the environment of the hub and their fellow tenants to become more productive and achieve, albeit modest, growth:

“But right from the beginning I think the business of coming into a pre-established place that has lot of links and people was massive. It was massive for our confidence, and it was massive to feel your popping yourself in there” (TB1)

Location in a REH enhanced some tenants’ self-confidence (particularly amongst women tenants) and inspired them to learn and grow. In particular, it helped them improve their soft skills, including networking and negotiating, including enhancing their confidence to price their services/products appropriately (and not under-sell themselves).

Co-location also increases (hard) institutional proximity between tenants and the wider business support and institutional landscape. REHs can serve as platforms to deliver business support and training to the business community, with enterprise agencies using hub facilities as a base to deliver their support:

“You know there were so many business advisors and people you could talk to. [They] taught me how a business plan should be written and gave me some initial advice how I set about setting up my own company” (TC5)

The main activities included workshops, training sessions and networking events. There were also examples of agencies taking up a residency in hubs and offering ‘drop-in’ sessions for businesses that required support. The ‘entrepreneurial knowledge’ offered included start-up advice and tailored growth support aimed at a diverse mix of businesses.

Typically, business support provision is harder and more costly to deliver in rural areas and consequently development policies are often geared towards urban areas. However, our findings indicate that REHs help to make rural businesses more visible to business support agencies, the delivery of support logistically easier, and (especially in the case of growth-oriented tenants) provide a concentration of businesses who actively wanted to learn and develop their businesses. Again, hub managers play a facilitating role, signposting (growth oriented) tenants towards specialist innovation support when required, or by hosting training events and workshops.

4.6. Communicational proximity

REHs provided vital access to IT services (including fast and stable broadband connections) which is considered a major hurdle to unlocking the growth potential in many, especially remote, rural economies. This enabled tenants and members of the wider business community to access new markets and opportunities. In addition to IT, honey pot REHs often hosted and promoted exhibitions and events which attracted members of the public and other creative practitioners on to the site. Likewise with hive REHs, promoted training events or networking groups brought other businesses to the hub, which for some tenants provided additional networking and sales opportunities.

5. Discussion

Building on recent proximity frameworks (Klimas, 2020), this paper identifies the benefits for tenants of co-location in a Rural Enterprise Hub (REH). The analysis indicates that the increased geographic proximity REHs provide to their tenants generates spill-over (overlapping) effects, enhancing other beneficial forms of non-spatial proximities. Whilst some of the benefits highlighted are common to all hubs (regardless of their geography), others appear to be of special importance to rural businesses, which face more geographically dispersed and fragmented markets (Huggins and Johnston, 2009), including the increased proximity to customers/clients and social proximity, where tenants overcome the isolated nature of working (from home) in a remote area. One of the strongest findings relates to organisational proximity. Typically, the literature ignores the potential of rural businesses to experience adherence to a ‘meta-organisation’ (Klimas, 2020) as they are largely independent, small-scale and lack departmental

structures. However, some tenants felt adherence to the hub itself and their fellow tenants. This echoes a finding of Huber (2012), in their study of the Cambridge high-tech cluster, whereby a sense of community emerged, with also the “brand” or reputation of the cluster giving its members kudos when dealing with clients (Huber, 2012). In the Cambridge case, businesses identified increased collaboration with other businesses (organisational proximity) and gaining local customers as benefits of membership.

Following a similarities logic, some businesses acquired services, skills, knowledge and network contacts from their fellow REH tenants. Many tenants had common problems, cultures and structures which facilitated these exchanges. This spill-over effect from geographical to organisational proximity was stronger than assumed by Hansen (2016). In our research, the strength of the effect stemmed from the adherence tenants felt to the meta-organisation of the REH and the similarities between them. Furthermore, organisational proximity appears to be interdependent with other forms of proximity (such as social and cognitive proximity). For example, there is a similarities logic underlying cognitive proximity, whereby tenants exchanged entrepreneurial knowledge (Stam and Spigel, 2016) based on experiences of facing and solving common problems.

Public sector support for hubs often stems from a belief that they increase cognitive proximity, creating a shared knowledge base that is a form of competitive advantage (Harmaakorpi et al., 2011). However, in practice, cognitive proximity may be weak. Huber (2012) found that nearly two thirds of the businesses within the Cambridge cluster saw no direct *knowledge* benefit to operating there (i.e. low cognitive proximity). Similar to the findings of this research, businesses within the cluster perceived little need to exchange sector-specific knowledge with others, regarding themselves as too specialised and niche to benefit from knowledge exchange (Huber, 2012).

These insights give rise to a wider question – what may be distinctive about rural locations regarding the generation of beneficial forms of proximity between businesses? The analysis indicates that REHs differ in three main regards from clusters typically described in the literature (Kerr and Robert-Nicoud, 2020). Firstly, the degree of homogeneity between tenants is potentially lower in REHs with less critical mass in specific sectors. Secondly, the ambitions of the tenant-base are diverse, combining both growth-oriented and steady state firms. Finally, a high proportion of tenants were previously home based.

Due to heterogenous tenant-bases, collaboration, networking, and knowledge exchange within REHs is rarely intra-sectoral and, instead, tends to be inter-sectoral in nature. The diversity of sectors creates opportunities for tenants to work with complementary businesses (Asheim et al., 2011) and strengthen their ‘weak ties’ (Granovetter, 1973). However, many tenants accessed sector-specific knowledge and network contacts outside of the hub. This echoes similar findings (Eder and Tripl, 2019; Rodríguez-Pose and Fitjar, 2013) that rural firms often strategically choose their external knowledge sources. Nonetheless, as we discussed, co-location can generate positive spill-over (overlapping) effects in the form of enhanced cognitive, institutional, social and organisational proximity.

Many REH tenants are steady-state enterprises, in contrast to the high growth businesses that typically are the focus within the agglomeration literature (Stam and Spigel, 2016). Our findings suggest that the divide between growth and steady state is, however, porous. There were examples of steady state tenants becoming inspired to grow their businesses by growth-oriented tenants within hubs. REHs appear to be, for some at least, a constructive environment to nurture this change in outlook (institutional proximity).

REHs have high numbers of tenants that were previously home-based. HBBs play an important role in rural economies but face challenges that curtail their performance (Newbery and Bosworth, 2010). Location in a REH helped tenants establish a better work-life balance, avoid distractions, appear more professional, grow (through employing staff) and overcome social isolation. Therefore, tenants who were

previously home based often felt the benefits in increased social and organisational proximity most prominently. Huber (2012) argues that some benefits of cluster membership may only be apparent to newcomers who join from regions with a contrasting business environment. In other words, the benefits are ‘hidden’ to ‘insiders’ who are long-standing members of the cluster. Interviewed REH tenants did not necessarily come from different regions (although some did), but often from different contexts, in the sense that tenants who previously worked from home frequently compared that experience to working in the REH. Such tenants were more attuned to benefits that Huber (2012) considered hidden, such as newfound informal business advice, social ties, improvements to their work/life balance, and the opportunity to grow their business (by hiring staff).

The evidence indicates that REHs can help overcome several obstacles to business frequently reported in the rural development literature. Of importance are the opportunities provided by REHs to build social relations and trust to better facilitate the ‘strength of weak ties’ in social and knowledge networks (Atterton, 2007). Social networks are integral to development, yet rural firms often lack opportunities to participate in inter-firm networks due to smaller business stocks and increased physical distances (McKitterick et al., 2016; OECD, 2020). Moreover, vital to many interviewees was the digital infrastructure (Salemink et al., 2017) REHs provide, as many businesses operating in home environments lacked reliable and speedy internet access. While there is a ‘rural premium’ to delivering business support (Smallbone et al., 2003), REH can act as a platform (Asheim et al., 2011) for support agencies to reach pockets of businesses in remote communities, and this was particularly so for public sector managed hubs.

Lastly, returning to Klimas’s (2020) multi-scale approach, we can consider the spill-over effects of REHs at the micro- meso- and macro-levels. On the micro-scale (individuals) it is evident that growth-oriented tenants perceive a greater range of proximity benefits (with all forms of beneficial proximity witnessed), especially as they often actively seek these out, whereas steady-state tenants experience a narrower range of benefits, coalescing around social and organisational proximity. At the meso-level is the REH, where increased geographic proximity generates a strong overlapping mechanism, enhancing other non-spatial forms of proximity. Amongst some tenants, common membership of a REH creates a sense of adherence, facilitated by similarities in terms of size, culture and regulations faced (enhanced organisational proximity). Moreover, at the meso-level, tenants can build closer relationships with hub managers, who often provide mentoring and advice. Consequently, hub managers can play an integral role in catalysing the spill-over effects of co-location, for instance by bringing tenants together, and increasing their access to the business support/institutional system. Often a ‘broker’ is required to bridge structural gaps in businesses networks (Burt, 2005), and especially for previously HBBs, this is important. HBBs acknowledged substantial gaps in their networks prior to joining the hub and had no access to brokerage services working from home. In acting as a broker, the interpersonal skills of REH managers matter, so that the latter are a determinant of success for REHs. While this managerial factor is outside the scope of this paper, it implies that REH hubs with similar structural characteristics may nonetheless generate contrasting outcomes in terms of benefits for tenants and local economic development.

Regarding the ‘hard’ institutional environment (macro-scale), REHs provide a useful setting for delivering business support. While training and advisory services can be delivered to businesses outside of a REH, rural enterprises, especially HBBs, often lack visibility and the costs of delivering support to fragmented and isolated firms is relatively high (Cowie et al., 2019; Hindle et al., 2010). REHs thus enhance the institutional environment, providing a mechanism for increasing the visibility of rural businesses and reducing delivery costs and logistical complexity for support providers.

6. Conclusion

REHs are of increasing interest to policymakers and development agencies wishing to stimulate growth in their region’s SMEs and micro-businesses and seeking to replicate some of the benefits of agglomeration in rural contexts (Knapp and Sawy, 2021; Talbot, 2016). Through in-depth qualitative research, our paper has shown overall, how REHs generate a substantial set of spill-over effects, captured in terms of the different dimensions of proximity. Co-location leads to a range of economic and social benefits for both growth-oriented and steady state businesses, whilst also providing a context for peer learning between these firms.

While generating insights regarding how co-location of businesses within REHs can generate benefits for tenants and help overcome common constraints, the paper is not without limitations which can guide future research. In this study, we did not set out to quantify the impacts of REHs on the business performance of tenants, which would be a useful next step. Moreover, longitudinal research with tenants of REHs would allow for tracking performance over time, improving the understanding of hub benefits and potential disbenefits. Concerning proximity, more international research is required to consider how meso-scale factors (a hub’s business mix, scale etc.) affect the nature and strength of proximal benefits. Related to this, further research is required to understand the sets of managerial and structural characteristics that determine the success and failure of REHs. Finally, data collection occurred before the COVID-19 pandemic, which has further highlighted opportunities but also negative effects of long-term home-working (Möhring et al., 2021). Understanding the degree to which REHs and other similar coworking spaces can overcome social isolation and possess the potential to support hybrid modes of work and doing business is relevant to the rebuilding of rural economies in the years ahead.

Credit author statement

Ian Merrell – Conceptualisation, Methodology, Software, Formal analysis, Investigation, Data curation, Writing – original draft, Project administration, Funding acquisition. **Jeremy Phillipson** – Conceptualisation, Methodology, Validation, Writing – review & editing, Supervision. **Paul Cowie** - Conceptualisation, Methodology, Validation, Writing – review & editing, Supervision. **Matthew Gorton** - Conceptualisation, Methodology, Validation, Writing – review & editing, Supervision.

Declarations of competing interest

None.

Acknowledgments

This work was supported by the Economic and Social Research Council, North East Rural Growth Network [grant number ES/J500082/1 1506282], Interreg Europe (INNOGROW project on Regional policies for innovation driven competitiveness and growth of rural SMEs) and Research England (National Innovation Centre for Rural Enterprise). The authors thank participants who kindly agreed to be interviewed for this study. Thanks also to Dr Menelaos Gkartzios (Newcastle University – Centre for Rural Economy) for his insightful comments and advice.

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