Network-based Regional Development: A Comparative Study

Abstract

Aim: This paper aims to advance knowledge on regional development by undertaking a comparative analysis of 3 case studies of different approaches to regional development across varied research settings. Similarities exist between the case studies in focus on achieving regional development by focussing on entrepreneurial activity within local businesses through a networked approach. Differences are observed in the methods that each approach takes to achieving this. The aim of the comparative analysis is to identify and evaluate examples of best practice in regional development occurring in the case studies, which all take place-specific approaches based on localised networks. This revolves around the ecosystem of localised stakeholders engaged to support development of local businesses and the economy.

Topic: Regional development encompasses a large body of research that explores reducing regional disparities through supporting activities aimed at wealth creation and employment. These are often seen through top-down policy approaches, such as attracting inward investment or developing organic growth, however more recent research has explored collaborative strategies involving localised stakeholders, including networks, clusters, entrepreneurial ecosystems, helix models and smart specialisation. It is acknowledged that there is no one-size fits all approach to regional development, and regional situations vary widely according to patterns of geographic, demographic, economic and cultural characteristics, which underlines the need to identify and evaluate different approaches.

Applicability to the conference theme: This research aligns with the conference theme by exploring best practice from existing approaches to regional development in different research settings and exploring how common principles can be drawn from these case studies in order to develop a more holistic understanding of undertaking effective regional development.

Methodology: This study undertakes a comparative analysis of 3 case studies of different approaches to regional development from Wales, Sweden and the USA. The case studies were chosen as notable examples of network-based place-specific approaches to regional development in different settings. The case studies consist of detailed interviews with the two directors from each institution, as well as additional supporting data from documents relating to each institution. Data is analysed through thematic analysis, with the aim of exploring themes across the case studies and developing a holistic understanding of regional development issues.

Contribution: This research contributes to knowledge on regional development through exploring examples of good practice from the case studies, as well as presenting a more holistic understanding of the principles of regional development through the creation of a conceptual framework.

Implications for Policy and Practice: Findings of this research would be of interest to policymakers and regional development actors who could explore the principles of regional development drawn from these case studies and the conceptual framework. The findings could help policymakers and practitioners to take a more place-based approach to regional development based on the assets of their region.

Keywords: Regional development, Well-being, Resource-based View, Networks, Entrepreneurship

1. Introduction

Regional development tries to reduce regional disparities by supporting activities such as wealth generation and employment, which can be done by attracting inward investment (OECD, 2022). Whilst economic growth has long been the neoclassical interpretation of "human welfare" and acts as a driving factor in regional development, in recent times there have been an expansion of these ideas to consider "well-being" in economic and regional development policy (Fudge et al., 2021). Government initiatives such as the Well-being of Future Generations (Wales) Act (2015) (Welsh Government, 2022) and the New Zealand Living Standards Framework (LSF) 2021 (New Zealand Government, 2022) seek to clearly define their policy approach to address the wider aspects of "well-being" in their communities. It is recognised that consideration of the socio-economic factors such as natural assets, human resources and capital are fundamental to the success of a region. With policy aimed at measuring outcomes that contribute to improving the quality of life for those who reside in the region (Jaskova and Haviernikova, 2020).

It is acknowledged that there is no one-size fits all approach to regional development (Tödtling & Trippl, 2005), and regional situations vary widely according to patterns of geographic, demographic, economic and cultural characteristics, which underlines the need to identify and evaluate different approaches. This paper aims to advance knowledge on regional development by undertaking a comparative analysis of 3 case studies of different approaches to regional development across varied research settings in Wales, Sweden and the USA. Research in this field underlines the variations in approaches to regional development, therefore comparing different case studies would be valuable in furthering knowledge about how regional development could be conducted in an effective way, particularly in the post-Covid recovery period as businesses adapt to the economic environment. The aim of the comparative analysis is to identify and evaluate examples of best practice in regional development occurring in the case studies, which all take place-specific approaches based on localised networks. This revolves around the ecosystem of localised stakeholders engaged to support development of local businesses and the economy. This research is explored through the lens of Resource-based View theory, particularly resource bricolage, investigating how local businesses can make use of the resources that are at hand in order to derive competitive advantage.

This research aligns with the conference theme by exploring best practice from existing approaches to regional development in different research settings and exploring how common principles can be drawn from these case studies in order to develop a more holistic understanding of how effective regional development can be undertaken. This is especially pertinent in the post-Covid recovery, as many local businesses have been impacted by lockdown periods, leading to a changing economic environment and limited resources.

Hereafter the paper takes the following structure. The next section reviews literature on regional development in different contexts, seen through the lens of Resource-based View theory. The following section presents the methodological approach of this research before the findings are presented and discussed, and conclusions drawn from this research.

2. Literature Review

This section discusses regional development literature, as well as key issues relating to entrepreneurial ecosystems. These are explored through Resource-based View theory.

2.1. Regional Development

Regional development encompasses a large body of research that explores reducing regional disparities through supporting activities aimed at wealth creation and employment. Within the literature there are two key approaches that attempt to explain regional development: the growth perspective and the development perspective (Basco, 2015). The development perspective defines regional development as the application of economic processes and resources available to foster development in the region (Stimson, Stough & Roberts, 2006). The growth perspective states that regional development stems from growth processes that derive at the industry level and are carried out through technological spillovers (Todaro & Smith, 2012). The goal of regional development policies is to reduce the challenges faced by a certain region and help governments overcome them to keep the region competitive (OECD, 2022; Lopes & Franco, 2019). However, it is widely acknowledged that considerable regional differences remain in economic development, productivity and human capital within the UK (Turville, 2021).

Alongside human capital, innovation forms a key area of focus for policy makers. Innovation, which requires a flow of knowledge and ideas, is one of the driving forces for economic growth and competitiveness of a region (Huggins & Thompson, 2015; Pino & Ortega, 2018). Decentralising innovation policy and concentrating on regionalised development allows for national innovation targets to be achieved more effectively (Fritsch & Stephan, 2005). A focus on regions is needed, as they are of key importance to the development of a country (Tödtling & Trippl, 2005) and can be considered fundamental for the generation of new knowledge (Lopes & Franco, 2019). It has been found that innovative regions have a higher population of knowledge-based firms and provide greater economic opportunities, while institutionally thin regions lack in the knowledge sector (Huggins & Thompson, 2015). Whilst geography is an important factor (Pino & Ortega, 2018), the ability of regions to adapt and respond to economic change is equally as relevant (Turville, 2021). Regions are important for economic growth as innovation is rooted in a specific place rather than in a country in itself (Ascani, Crescenzi & Iammarino, 2012). Moreover, regional disparity and inequality does affect the economy of the entire country. Inequalities between and within regions lead to stagnating incomes, which limit the expansion of demand and consumption. This furthers the gap between rich and poor as well as causing decrease in regional development (Pike, Rodríguez-Pose & Tomaney, 2016). The goal of regional development should be to create competitive regions that attract a wide variety of business.

The formation of new business, so called new resources, can have a positive and a negative effect on regional employment (Fritsch, 2008; Fritsch & Mueller, 2004). The formation of new businesses in a region leads to structural changes of the region by replacing older businesses or making them obsolete (Fritsch & Mueller, 2004). New businesses foster the competitiveness of a region leading to economic growth. However, new business formation could also have a negative effect on employment by destroying other businesses and leaving their employees unemployed (Fritsch, 2008; Fritsch & Mueller, 2004). Additionally, it has been found that long time lags between the formation of a new business and its effects on the region are common (Audretsch & Fritsch, 2002). Using the Almon Lag Model it has been determined that the peak of positive impact is reached about 8 years after the formation of the new business (Fritsch & Mueller, 2004). In British regions the strongest employment effect had occurred five years after the new business had been found by creating approximately four new jobs per new business

(Ashcroft & Love, 1996), although this effect had worn off about ten years after the formation (Fritsch & Mueller, 2004; Van Stel & Storey, 2004). However, new business formation in Wales has been found to be well below the average for Great Britain leading to no increase in employment created through new start-ups (Van Stel & Storey, 2004). Dejardin (2009) found that net entry of a new firm had a positive effect on economic growth in the service industry while there was a negative effect in the manufacturing sector.

2.2. Ecosystem Facilitation

Networks, a set of social relationships, are crucial for the development of businesses as they enable innovation through the interaction of their members (Lopes & Franco, 2019). There are several ways of forming successful networks. These can be either amongst businesses in one field, business from different areas or between knowledge creating institutions, such as universities, and businesses (Huggins & Thompson, 2015). These actors can all be part of a local entrepreneurial ecosystem, which can support mutual development across the ecosystem (Isenberg, 2011). The benefits of knowledge sharing through networks includes increases in innovation, local productivity and the competitive advantage of regions (Larty et al., 2017).

Endogenous growth theory assumes that regional growth stems from the exchanging of knowledge between organisations within the region (Rodríguez-Pose, 2013). This knowledge is in the form of human capital and the outcomes of research and development (Huggins & Thompson, 2014), and is required to be distributed between organisations across economies for economic growth to occur (Acs et al., 2008). Resource in the form of human capital has long been held as one of the most important factors in the success and prosperity of regions and continues to be an important consideration for policy makers (Naydenov, 2019) Due to the importance of knowledge, network capital, which is the investment of capital into networks in order to access knowledge, should be incorporated into regional growth models (Huggins, 2010; Huggins & Thompson, 2015; Kramer et al., 2011). In theory, knowledge, which is considered a public good, frequently spills over between organisations. This allows for the development of new ideas as the knowledge spreads and becomes more accessible to a larger number of people with varying ideas, insights and interpretations of the information (Acs et al., 2009; Huggins & Thompson, 2015; Rodríguez-Pose, 2013). Nonetheless, knowledge is often not freely accessible, and the acquisition of new ideas can be costly (Huggins & Thompson, 2014). Knowledge spillovers are generally a regional phenomenon as they require businesses and organisations to be in close proximity to one another (Audretsch & Lehmann, 2005). However, it should be noted that knowledge spillovers are more frequent in regions that are inhabited by a vast array of universities, research organisations and businesses. This leads to an uneven regional growth pattern (Bathelt, Malmberg, & Maskell, 2004). Organisations based in less successful regions struggle to access network capital, which in turn, leaves them with a lack of knowledge, negatively affecting the growth of the region they are based in (Huggins & Thompson, 2014).

2.3. Resource-based View

Considering Resource-based View (RBV) theory, competitive advantage can be achieved through the leveraging of valuable, rare, inimitable and non-substitutable resources (Barney, 1991). This is true for places, as they possess specific resources that could support local development. This aligns with discussions relating to place-specific policies in supporting regional development, such as smart specialisation (e.g., Pugh, 2018), which aims to promote

regional development by enabling a place to identify and develop its own competitive advantages. The local ecosystem, including its specific resources, could also derive a competitive advantage through engaging with local actors on local issues (Isenberg, 2011). Indeed, localised resources relate to resource bricolage, the notion of making do with 'whatever is at hand'. This is especially pertinent for resource-poor regions (Baker & Nelson, 2005). However, resource bricolage can support businesses in overcoming a shortage of optimal resources through local activities, such as community involvement or local sourcing (Korsgaard et al., 2021), and this collaborative action of sharing resources within an ecosystem can be important in supporting opportunity creation (Björklund & Krueger, 2016). Rodinov (2021) pointed to the accessibility of regional resources as a key indicator of a region's investment attractiveness. This attractiveness is also based on established networks with businesses preferring to locate in regions that have a large pool of high skilled workers, shared infrastructure and other businesses where they can collaborate, innovate and share ideas. However, this in itself can lead to disparities across regions with rural regions unable to compete with larger cities (Turville, 2021).

3. Methodology

This study develops a comparative analysis of 3 case studies of different approaches to regional development. The case studies were chosen as notable examples of network-based place-specific approaches to regional development in different settings. These include a purposeful asset-based approach undertaken by 4theRegion in the Swansea Bay area of west Wales, an innovation-led economic development approach by Georgia Institute of Technology in the USA, and an experimentally-organised economy approach by the CIRCLE centre at Lund University, Sweden. Similarities exist between the case studies in focus on achieving regional development by focussing on entrepreneurial activity within local businesses through a networked approach. Differences are observed in the methods that each approach takes to achieving this. 4theRegion is a membership organisation set up by two local entrepreneurs with the aim of uniting relevant stakeholders in creating asset-based local development through problematising and solving specific issues that restrict the local economy. This is an inclusive ecosystem that aims to derive mutual benefits from engaging with a wide range of actors. The Economic Development Lab (EDL) at Georgia Institute of Technology (Georgia Tech) is focussed on innovation-led economic development and has developed a range of programmes for engaging in specific areas in facilitating business start-ups and developing successful entrepreneurial ecosystems. The EDL is partly funded by the government, but also undertakes consultancy-based work. The CIRCLE research centre at Lund University in Sweden is a centre for innovation research. The centre acts as an incubator, coordinator, and implementer of innovation research, with strong national and international networks. A notable focus on the centre is on entrepreneurial experimentation and aims to promote how innovation can contribute developing a better society and tackle societal challenges.

The case studies are made up of detailed interviews with the two directors from each institution, as well as additional supporting data from documents relating to each institution. The interviews aimed to develop a holistic understanding of the methods undertaken in supporting regional development in each case, as well as the impact on local businesses. Interviews were conducted over Zoom, and transcribed verbatim leading to thematic analysis of the interview data following the Braun and Clarke (2006) process. Data was coded manually using Microsoft

Office and Excel, with codes gathered into themes. Each case study was analysed separately before all data from the case studies was triangulated for cross-case analysis.

3.1. Research Context

Geographically the UK, US and Sweden are in the global north and are therefore well developed and matured economies, allowing for comparisons to be drawn from each case study. Regional development in Wales has been heavily reliant on international and explicitly EU funding with Wales having been a recipient of regional development aid for more than 70 years due to difficulties in restructuring the economy to overcome its past dependency on extractive industry and heavy manufacturing (Adams, Alden & Harris, 2006). Nordic countries such as Sweden, Denmark and Finland are leaders in innovation development and competitiveness (Solesvik, 2017), Scandinavian regions place a high emphasis on new innovations and are in turn promoting regional development using new products and ideas. Regional programmes have been favoured due to the close proximity of higher educational institutions, organisations, technical centres and governmental institutions, which allows the sharing and exploration of novel ideas more easily (Asheim, Grillitsch & Trippl, 2016; Johnston & Huggins, 2016). In 2018 Sweden, Germany and Denmark spent over 3% of their GDP on research and development in, followed by the United States and Finland who both spend over 2.5% while the United Kingdom merely spent 1.7% of their GDP on research and development (World Bank, 2018). The use of "intermediaries" has been widely covered in regional development research (Larty 2017, Inkinen and Suorsa, 2010). This approach identifies the importance of intermediaries in encouraging the facilitation of knowledge exchange and developing opportunities in the network for collaboration (Larty et al., 2017). Whilst the research points to the increasing reliance on regional development agencies and universities to act as intermediaries, discussions exist in the literature regarding the facilitation of entrepreneurial ecosystems (Isenberg, 2011).

4. Findings

This section presents the findings of the data collected and analysed from the 3 case studies through the thematic analysis process. Cross-case data is presented here based on similarities and differences among the cases, based on the themes identified within these comparisons.

4.1. Case Similarities

4.1.1. Network/Members

Both 4theRegion and Lund describe their approaches as involving "members" with 4theRegion referring to community membership (businesses, universities and individuals) and Lund referring to academic members. Interestingly the findings suggest that both parties view the term "network" in quite a negative way, with 4theRegion feeling that it has connotations to traditional networking groups and Lund feeling that it "signals something very weak". All three cases talk about using existing contacts to develop their projects, with Lund using their contacts to develop research streams, Georgia Tech using existing contacts and word of mouth to develop their ecosystem development offering, and 4theRegion using existing contacts to develop their themes, membership base and offering.

4.1.2. Growth

Both 4theRegion and Lund speak about bottom-up development with 4theRegion referring to how their key themes are generated and the importance of bottom-up policy development whilst Lund refer to the bottom-up development of research themes. Both Georgia Tech and 4theRegion describe themselves as "change agents" and believe heavily in client or member ownership. In 4theRegion terms they refer to the need for bottom-up policy development to generate ownership whilst Georgia Tech refers to client ownership to enable them to carry on with ecosystem development after Georgia Tech have left.

Both Georgia Tech and 4theRegion appear to have a focus on place-based interventions. 4theRegion findings suggest they are heavily focused on place and place-based assets as opposed to one size fits all interventions. Georgia Tech also discuss the need for place specific recommendations although they highlight that they adhere to the same process for evaluation regardless of place, it is the recommendations that need to be place specific.

Both Lund and Georgia Tech appear to have had an organic growth in their themes or focus with these being developed due to synergies being seen between different groups. 4theRegion also have an organic way in which the themes for their events develop with these being developed from member conversations. Lund talks about the need for political impartiality in terms of not allowing their government funders to have a say in what the university is doing. The findings suggest that they are able to have an input but not to direct what the university is doing. 4theRegion also have a similar perspective with regard to policy makers in terms of wanting to remain impartial from them. However, 4theRegion appear to have gone a step further and do not actively seek any input from policy makers into what they do as they feel this would impact their impartiality. Georgia Tech also discusses the importance of "staying true to their process", although this is in relation to not changing their process due to client wishes as opposed to political interference.

4.1.3. Ecosystem development

Both Lund and 4theRegion describe themselves as "facilitators" and describe their aims as being for their "members" to collaborate and work together to pool resources for joint or complimentary projects. Knowledge exchange/sharing is a common theme that runs across all three case studies with Lund achieving this through national and international research collaborations and policy papers, Georgia Tech achieving this through consultancy-based work internationally and 4theRegion achieving this through their events and newsletters. All three case studies appear to have a focus on linking people together within the ecosystem. This is an aim that is similar across the case studies but the success of this does differ between the cases. Georgia Tech appears to be the most successful in terms of being able to link actors within the ecosystem and this is likely due to the fact that they have been developing their model for over 20 years. Lund does manage to link researchers but discuss how it is difficult to encourage collaboration within certain regions. Meanwhile 4theRegion have a passion for ecosystem development but currently have not achieved this, likely due to their infancy in comparison to the other cases.

All three case studies discuss the difficulties of combining ecosystem actors and focus on political issues. The findings suggest that they each feel ecosystem collaboration is key but that this can be hard to achieve. Georgia Tech appears to be the most successful at achieving this

so far. Both Georgia Tech and 4theRegion feel they are ecosystem builders. Again, Georgia Tech does have more success in achieving this than 4theRegion, but 4theRegion is still in its infancy. Lund appear to have had an influence on the thinking of innovation ecosystems within their region and Sweden more generally and this is also the case with Georgia Tech who do have an impact on the region and further afield. 4theRegion are currently at too early a phase of development for this to have occurred. Trust is highlighted as being of importance in relationships by all three case studies. The development of close relationships with various actors appears to be of importance to the develop of each case study and their work.

All case studies appear to feel that a holistic approach to regional development is best, i.e., one that involves all ecosystem actors. Both Georgia Tech and Lund work internationally but Lund tends to work with researchers and universities and Georgia Tech works with incubators, universities and businesses. All three case studies also appear to be aiming to create best practice models that can be used within their region and further afield. Georgia Tech feel they already have a best practice model, and they evidence this through their use of this model both nationally and internationally. Lund wish to develop the entrepreneurial ecosystem platform so that it can be used to change and help the Lund region. Whilst 4theRegion hope to be able to become a shining beacon of regional development within Wales and beyond. All three case studies also touch upon sustainability, society and the need for change to occur. The key difference being that they are hoping to impact these in slightly different ways.

4.1.4. Male connotations

Interestingly, both 4theRegion and the female interviewee from Lund describe traditional male dominated involvement in both academia (Lund) and business and policy (4theRegion) as being quite negative and something that needs to change. Lund describes "an old boys' network" that means there is a lack of collaboration or linkage with practitioners while 4theRegion feels that traditional male dominated networks require a culture change, referring to *"…an old paradigm of important people deciding things and…having all the influence".*

4.1.5. Covid

Covid is something that has impacted each case study with Lund seeming to be the most affected in terms of not being able to transition easily to a virtual environment. Both Georgia Tech and 4theRegion have had some sort of focus on helping organisations and communities during Covid-19, with Georgia Tech running resilience programmes and workshops as well as obtaining grants, while 4theRegion have taken a more internal approach through podcasts and events.

4.1.6. Impact

Georgia Tech offer train the trainer programmes which aim to enable people to be able to go and collaborate with others to develop their own approaches to economic development. This could be described as empowerment and is something that 4theRegion also hold at the heart of their aims and objectives. Both Georgia Tech and Lund have a key focus on evaluation. With Lund this is more focused on evaluation through research whilst for Georgia Tech they undertake research to evaluate the success of their economic development programmes. This is something that is significantly lacking in the 4theRegion approach.

4.2. Case differences

4.2.1. Regional development approach

4theRegion, Georgia Tech and Lund University all represent different approaches to improving the economic and social development of their regions. The 4theRegion approach is based on a community interest company model and thus is run and lead by entrepreneurs. The Georgia Tech approach is based on a university-led ecosystem development approach that is funded by income generation and government funds. Meanwhile the Lund University approach is a research centre approach that is funded by the Vinnova (the Swedish governments innovation agency). Therefore, these three approaches sit on a continuum from purely entrepreneurial-led regional development (4theRegion) through to a hybrid consultancy/university-led approach (Georgia Tech) through to a purely university and academic approach (Lund).

4.2.2. Impact focus

Lund is highly focused on policy white papers and academic outputs whilst 4theRegion have a more operational focus and prefer not to align themselves to any political figures in order to remain impartial. Georgia Tech view themselves as influencing policy but appear to have more of a focus on entrepreneurial and practical impact. The work that Lund focuses on does tend to be highly academic and research based whereas this is not the case with Georgia Tech or 4theRegion who both tend to focus more on practice and impact.

4.2.3. Role definition/Process

Both Lund and Georgia Tech work closely with policymakers. However, Lund emphasises that they are not consultants and are academics whilst Georgia Tech appear to view themselves more as consultants and less as academics. Lund has far more impact on policy than either Georgia Tech or 4theRegion. Georgia Tech works heavily with incubators whereas this does not appear to be a group that either Lund or 4theRegion work with. Georgia Tech also has a formalised process for assessing ecosystems, for aiding with lean manufacturing, for aiding start-ups and existing businesses and for working with educators. However, neither Lund nor 4theRegion have the same level of formalised processes, which may be due to the difference in age of each project. Georgia Tech findings suggest that they are highly specialised in assessing an ecosystem and then providing the skills or resources needed to help address any gaps present. The Georgia Tech model is also highly focused on providing support to the high potential growth businesses whereas the 4theRegion model is far less focused on monetary return and more focused on purposeful business and community development. Georgia Tech is also highly focused on mentoring and on successful entrepreneurs giving back to the ecosystem. This is something that Lund and 4theRegion currently do not focus on although mentorship would appear to fit with 4theRegions goals and ethos. 4theregion findings suggest that they are highly focused on Wales and on the regions that they cover. They appear to be averse to foreign investment, feeling it has not worked in the past. Georgia Tech however embrace foreign investment and view international businesses setting up in the US as positive thing. As such they offer a soft landings programme for international businesses.

4.2.4. Education

Georgia Tech appear to be highly focused on entrepreneurship education right from primary school aged 6 all the way up to university and beyond. They feel this education is essential to

priming and pumping the ecosystem. However, this is not something that either Lund or 4theRegion appear to focus on. Lund is a university, which does have entrepreneurship programmes, but to Georgia Tech it appears to be at the heart of ecosystem and regional development.

4.2.5. Ecosystem development

4theRegion are in the process of developing an ecosystem mapping system. Whereas Georgia Tech feel that ecosystem modelling is better and goes beyond simply showing the actors within an ecosystem. Georgia Tech feels that ecosystem mapping does not show what an ecosystem needs or tell you how to grow an ecosystem in practice. Georgia Tech instead looks at where each ecosystem player fits into the overall part of the entrepreneurial journey.

5. Discussion

Findings from the research identified several areas of commonality between the case studies. While each case study represented differing approaches to regional development, the findings point to an emphasis on place-based approaches, networks, engaging with relevant actors and establishing suitable entrepreneurial ecosystems within the region. There is a recognition that 'newer' approaches to regional development are needed, based on innovative practice, and attempts at deriving growth within the region stem from local networks. Differences have been outlined in section 4.2, including differing structures to the case study organisations, attitudes to education and the processes of seeking regional development, however, there is consensus in the main principles of their approaches to regional development, notably, encouraging the flourishment of a place-based, network-focussed entrepreneurial ecosystem underpinned by a social purpose.

The first overarching principle taken from the cross-case comparison is a place-based focus on regional development. Each case study acknowledges the unique situations within their respective regions, and the specific local assets at their disposal. Given that different distinctions exist in typologies of regions (Tödtling & Trippl, 2005), a focus on the idiosyncrasies of the place is important in proving more effective support for development. Indeed, Fritsch and Stephan (2005) lauded the value of decentralised innovation policy and concentrating on regionalised development in achieving more effective innovation. Furthermore, as the case studies noted recent challenges in relation to the Covid-19 pandemic, Turville (2021) pointed to the importance of regions in being able to adapt and respond to economic changes. A place-based approach aligns with Resource-based View theory in ensuring that unique local resources can be leveraged in order to achieve competitive advantage. This is echoed in the approach by 4theRegion in Wales, who spoke of 'asset-based community development', in which local resources could be used collaboratively across the entrepreneurial ecosystem to achieve 'holistic flourishing'. Similar notions were observed in the two other case studies through collaborative action. Resource bricolage aspects are also reflected in the place-based approach, particularly the notion of making do with whatever is available locally, leading to collaborative action across the ecosystem in creating opportunities (Björklund & Krueger 2016), such as local sourcing or community engagement in overcoming a shortage of resources (Korsgaard et al., 2021).

Alongside this place-based focus, entrepreneurial ecosystems are another common area observed in the case studies. The value of networks has long been discussed in literature on

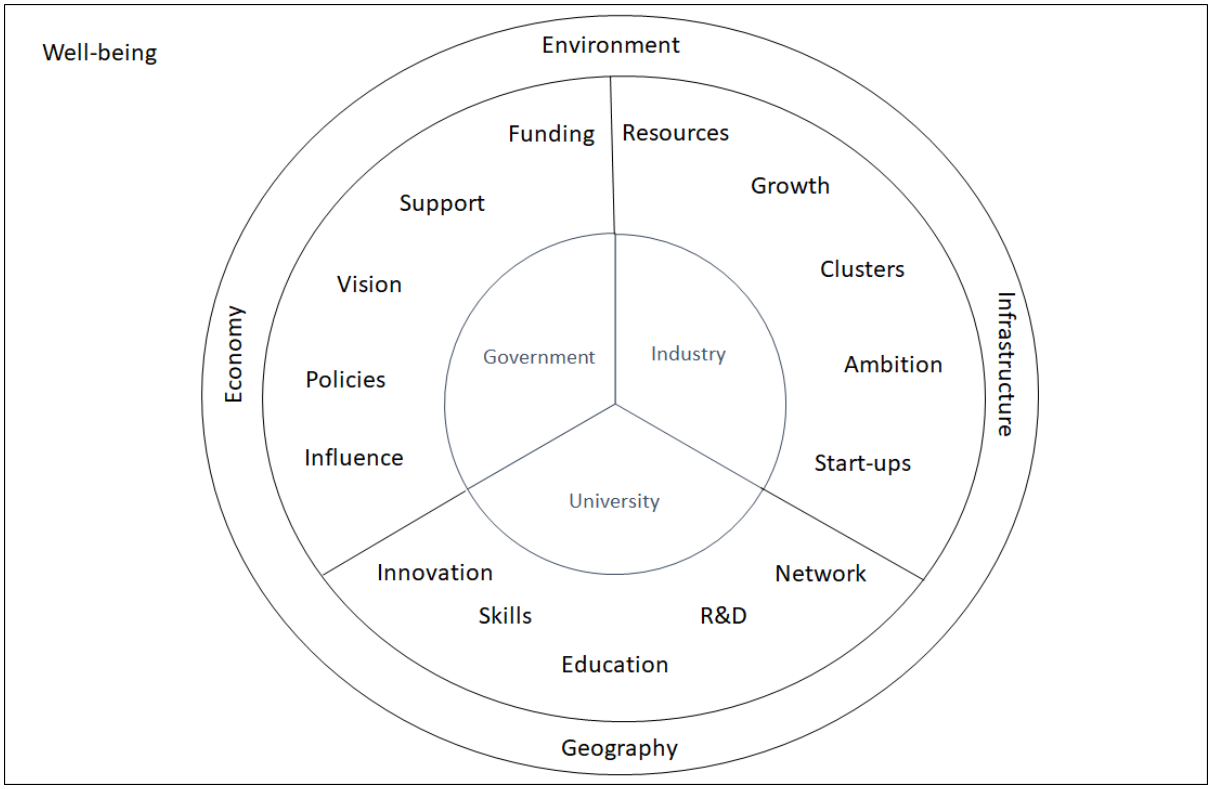
regional development, as social relationships that enable innovation through engagement and interaction with members (Lopes & Franco, 2019). Indeed, the types of relationships with a range of ecosystem actors is significant in ensuring effective regional development. Each case study underlines the importance of engagement with stakeholders from across the triple helix, with links to local universities, policymakers and industry representatives (Etzkowitz, 2003). However, the case studies point to the value in relationships with other network actors across the region, particularly local businesses, with value derived from knowledge sharing in supporting local innovation, productivity and supporting the development of competitive advantage (Larty et al., 2017). Indeed, human capital is acknowledged as a vital resource in supporting the development of the region, and support for this through policymaking is important (Naydenov, 2019). Knowledge spillovers within such ecosystems can support the development of new ideas and opportunities (Acs et al., 2009; Huggins & Thompson, 2015; Rodríguez-Pose, 2013).

A third principle observed in the findings is the social purpose that underpins the approaches to regional development in the different case studies. This is a guiding principle of the CIRCLE approach, which looks at promoting innovation in creating 'good societies'. A social purpose was also part of the work of the Economic Development Lab at Georgia Tech in the way in which it seeks to develop tailored programmes to specific places in which they operate. In Wales, the ethos of 4theRegion is underpinned by the Well-being of Future Generations Act (2015), which was the first piece of well-being legislation to exist, and uses principles of well-being, including resilience, cohesive communities, prosperity and global responsibility to shape decision-making. This plays an important role in guiding the action of 4theRegion in supporting sustainable and responsible regional development activities. Indeed, the notion of well-being in regional development is beginning to gain traction (Fudge et al., 2021).

5.1. Conceptual Framework for Holistic Regional Development

Based on the findings of this research, a cross-case analysis of the three case studies has highlighted several key principles for regional development. Figure 1 aims to capture a holistic framework for regional development based on this analysis. While there is no one-size-fits-all approach to regional development (Tödtling & Trippl, 2005), the aim of this framework is to underline the principles of effective regional development that have been observed from the case studies. At the heart of the framework are the key triple helix actors of government, universities and industry (Etzkowitz, 2003). These are significant actors within the regional entrepreneurial ecosystem which contribute to regional development in different ways. For government this relates to policy, funding, support, vision and influence. Universities play a significant role in supporting R&D activities, providing education, skills, innovation and networks. Industry includes a range of local businesses, from start-ups to more established businesses, resources, opportunities for growth, a common ambition and clusters. All these aspects are place-specific and important in ensuring that ecosystem members can flourish. However, given the place-based nature of the local ecosystem, the effectiveness of these aspects is dependent on suitable conditions in the economy, infrastructure, environment and the local geography. Finally, this holistic framework is underpinned by well-being. This could be seen in different ways, through differing interpretations for well-being, but this is seen through a common social purpose that exists across the ecosystem. This can include a focus on sustainable practice and social responsibility.

Figure 1: Conceptual Framework for Holistic Regional Development



6. Conclusion

Findings from the three case studies show that regional development can be supported through collaboration across the community. The place-based focus is key to this, since decision-making is best place on a local level, as they understand the issues that the place faces. While the case studies take different approaches, they are underpinned by collaboration, communication, community-engagement, innovation, local culture and having common goals across an entrepreneurial ecosystem. The issue of well-being, although largely prominent in the Swansea Bay case study, is a notable aspect of current economic times, with some economies (such as New Zealand or Iceland) looking at well-being as an economic measurement, rather than growth. Findings from Georgia underline the value of entrepreneurial activity in supporting development.

This research advances understanding of regional development by identifying and evaluating examples of best practice from the three case studies. This leads to the formation of a framework that outlines the principles for effective regional development activities. Furthermore, the focus on regional development in the context of the post-Covid recovery contributes to knowledge on the value of regional development in helping regions to recover from the challenging economic environment of the Covid-19 pandemic and enables regions to explore ways of developing resiliency in the face of possible future crises. Additionally, the focus on research through the lens of research bricolage represents an underexplored aspect of regional development research.

Findings from this research would be valuable for policymakers in understanding how they could support localised regional development practice that focusses on engaging stakeholders within the ecosystem to exploit local assets in supporting the development of local businesses

and the economy. The value of this research could be seen by local, regional and national governments in identifying which policies could best suit the development of the local area, according to its resources. Practical implications for this research can be drawn from examining the three case studies and exploring the value of localised networked approaches in supporting local businesses, allowing for opportunities for businesses to engage with significant stakeholders within an ecosystem, leading to mutual benefits through resource-sharing activities, knowledge transfer and spill-over effects.

Limitations are acknowledged in the research in the scope of the case studies. While the case studies were chosen for their differing approaches to a common goal of regional development, it is recognised that alternative approaches may exist which aims to achieve the same goals through different approaches. However, the value in investigating these case studies is seen in developing a broader understanding of how the principles of each approach can be applied to supporting regional development. Future research should look to explore place-based examples of regional development in more detail and seek to further investigate the principles of the conceptual framework outlined in figure 1. Additionally, further research on the role and impact of well-being principles would also be useful in providing a more holistic understanding of how regional development can be conducted more effectively under current economic conditions.

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