Maximising the Potential of University-Business Collaborations for Regional Sustainability through Stakeholder-Centred Evaluation

By

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Abstract

This thesis examines the critical role of evaluation in university-business collaborations (UBCs) aimed at driving sustainable regional development. Despite widespread recognition of UBCs as key catalysts for sustainability transitions, existing evaluative practices often fail to adequately account for stakeholder diversity, place-based contexts, and the dynamic tensions inherent in collaboration. Through a mixed-methods approach, this research explores how evaluative frameworks can be reshaped to harness tensions in a productive manner which maximises the potential of sustainable collaborations, and thus the potential for sustainable regional impact.

The thesis develops and applies multiple conceptual lenses to evaluative methodologies in the context of a 3-year longitudinal study of a university-business collaboration project focused on low-carbon innovation. Given the inherent focus of existing literature on value and practical knowledge, the thesis uses lenses of heterarchy and phronesis to shed new light onto the challenges and opportunities of navigating stakeholder priorities. The findings demonstrate the potential of phronesis-driven (practical wisdom) approaches to foster alignment between global sustainability aims and the priorities of regional stakeholders, supporting the development of place-based innovation which engages regional stakeholders throughout the process.

By emphasising the importance of proactive, place-based and stakeholder-centred evaluations, this work contributes to both theory and practice, offering actionable insights for policymakers, researchers, and practitioners engaged in designing and implementing university-business collaborations for sustainability. Taking a step back from evaluative methodologies and frameworks, the aims and outcomes of evaluation itself are critically considered to examine how this can be better harnessed to strengthen collaborations and predispose favourable outcomes for stakeholders. The findings emphasise the potential of considering evaluation from a different perspective, as a tool for not only measuring impact but also shaping collaborative processes to deliver equitable and sustainable outcomes.

Chapter 1: Introduction

The Role of University-Business Collaborations in Sustainable Transitions

We are arguably facing the most challenging, unprecedented crisis in the history of our species. Climate change and wider environmental challenges threaten the existence of life as we know it.

We know that this crisis is not one which will be overcome easily. Yet, if we are to avoid irreversible shifts in our planetary physiology (Allen et al., 2019) which are set to cause significant suffering, particularly to those who are most vulnerable and least to blame for climatic shifts (IPCC, 2014), we have little choice in enacting the behavioural, technological and economic shifts necessary to alter the trajectory of global temperature increase.

Several elements are needed to come together, encompassing social, technological, and economic changes, in order to set us on the right trajectory to combat irreversible environmental catastrophe (IPCC, 2014; Allen et al., 2019). This requires creative thinking which is arguably unachievable without bringing together individuals from across wider society, encompassing the full quintuple helix, i.e. industry, academia, government, civil society and the natural environment (Carayannis and Rakhmatullin, 2014; West et al., 2019).

University-business collaboration is believed to play a key role in bridging the gap between knowledge and action (Trencher et al., 2013b; Pauer et al., 2020). Its potential is clear; through collaborating with a business, academia can benefit from having applied challenges to direct research whilst also benefiting from the exchange of tacit and coded knowledge (Asheim and Coenen, 2005). Businesses gain access to extensive research facilities, expertise and can thus benefit from experimental research whilst limiting risk taken on by the firm; this is increasingly significant following the strain on businesses' resources observed following the COVID-19 pandemic, alongside post-lockdown stresses including inflationary pressures (Annunziata and Bourgeois, 2018; Barbier, 2020; Roper and Turner, 2020; Nindle et al., 2024). Yet achieving these positive outcomes in practice requires more than simply bringing together individuals and/or organisations from academia and industry, with many attempts at co-creation delivering limited value to either party (Clark et al., 2016; Reed and Abernethy, 2018).

Crucially, this creative thinking must go beyond ideation to deliver real-world action (Clark et al., 2016). Whilst technological advancement plays a role in the sustainability agenda, we know that we cannot 'invent' our way out of climate catastrophe and must move past a mindset of technological solutionism (Morozov, 2013). It is also recognised that technological progress must go hand in hand with behavioural change and mindset shifts, facilitated through input beyond the sphere of academia (Tolikas et al., 2017; Reed and Abernethy, 2018). Indeed, many technological advancements which foster significant opportunities for limiting environmental impact are already known yet are not used to their fullest potential (Söderholm, 2020). This may be due to limited awareness, regulatory pressures (Kolk, 2015), failure to communicate the potential of this solution (Rogers-Hayden and Pidgeon, 2008), cost-prohibition, or (as is often the case) the innovation being applied to the 'wrong problem' i.e., not being used to address the context where it would have greatest impact (Voytenko et al., 2016). Through collaborating, we can help to ensure that innovations are environmentally effective as well as economically feasible and, ultimately, applied to contexts and stakeholder groups in a manner where their impact can be maximised (Sugandhavanija et al., 2011; Daoud et al., 2017; Nave and Franco, 2019).

There is also growing recognition that sustainable development must take place on local alongside global scales (Tan et al., 2019). University-business collaborations are well placed to deliver on local development, often targeting regions within their direct locality (Agasisti et al., 2016; Egorov et al., 2020). A key priority for such activity must be to ensure that regional stakeholders' priorities are met and held at the core of project design and delivery (Ramachandra and Mansor, 2014). The primary challenge here, however, is to mediate potentially misaligned priorities held by stakeholder groups to deliver project outcomes which benefit all collaborators (Van Camp and Braet, 2016; Stevancea et al., 2020). Human geographers have explored the role that places and regions play in the university-business collaboration process, with a growing number calling for greater consideration to be given to regional context in UBC policymaking (Hart et al., 2015). Yet one area of university-business collaboration remains relatively neglected from critical, place-based academic thinking: evaluation.

For the purpose of this thesis, evaluation is considered in a holistic sense, incorporating all areas of appraisal, reflection, proactive design and the attribution of value. When considering evaluation in this manner, it becomes increasingly clear that project evaluation plays a significant role in not only its appraisal, but also its design and delivery (Kostoff and Geisler, 2007). Despite its crucial role in guiding, assessing, and reflecting on performance, evaluation has largely been overlooked as an area for innovation or deeper critical examination (Coryn et al., 2017). Amidst significant development in the areas of sustainability research and co-creation, much evaluation in this field has not significantly evolved over recent decades in practice, with the majority continuing to follow a relatively reductionist, quantitative method of assessing performance (Gasparatos et al., 2008; Coryn et al., 2017; Purvis and Genovese, 2023). Yet there is growing consensus within the literature that sustainability project evaluation requires an (arguably long-overdue) update to ensure that it adapts to the evolving needs and nature of these initiatives. Within this debate, many scholars argue that project evaluation should play a proactive role alongside a retrospective role, resulting in continual reflections throughout the project progression (Perkmann et al., 2011; Fernandes et al., 2017).

There is also growing understanding of the importance of holding stakeholders at the core of the evaluative process to grant greater agency within the overall project (Ramachandra and Mansor, 2014). It can be argued that evaluations which seek to assess the relative 'success' of an initiative cannot fully do so without reflecting the priorities of the target stakeholders involved (Ramachandra and Mansor, 2014). Yet identifying what is valued by a range of stakeholders is no simple task. Yet such approaches are never without trade-offs; for example, more nuanced, contextual measures may be limited by data availability, and lengthy qualitative data collection processes may reduce the likelihood of stakeholder involvement at a meaningful scale (Wildman et al., 2019; Purvis and Genovese, 2023).

This thesis does not seek to provide the answers to these evaluative trade-offs, nor does it present a 'model' framework which purports to 'solve' challenges raised by evaluation scholars. Instead, it seeks to consider evaluation from a different perspective, taking a step back from evaluative methodologies and frameworks to critically consider the aims and outcomes of evaluation itself and how this can be better harnessed to strengthen collaborations and predispose favourable outcomes for stakeholders.

Within this thesis, a number of key themes are discussed which span several different disciplines, each with terms which are defined and perceived in different ways depending on the area of literature in which they are being discussed. To avoid any potential misinterpretation or confusion on these, key terms are defined in Table 1.

Table 1. Key terms and concepts used within this thesis.

Concept	**Definition**	**Key Citations**
Sustainability	The capacity for current generations to meet their needs without compromising the ability of future generations to meet theirs; typically understood in terms of balancing social equity, economic viability, and environmental protection.	WCED (1987); Raworth (2017)
Sustainable Regional Development	The application of principles of sustainability to development on a regional scale, considering the ways in which a particular region can contribute to wider sustainability objectives, and is affected by wider environmental, social and economic issues.	Pike et al. (2017); Ferrera de Lima (2021)
Place	A meaningful location; space that is shaped by human experience, attachment, and social relations.	Relph (1976); Tuan (2001); Cresswell (2015)
Evaluation	All areas of appraisal, reflection, proactive design and the attribution of value.	Ramachandra and Mansor (2014); Patton and Charmagne (2022)

Personal Context

Prior to beginning my doctoral studies, my academic background rested largely within the Natural Sciences, primarily centred around Environmental Biology, Biochemistry, and Human Geography. I had spent countless hours in laboratories, analysing cellular activity and had a particular interest in the environmental and social complexities surrounding agriculture and food security. My studies were, as they remain to this day, based upon a strong desire to contribute to the 'Sustainability Agenda', although what this means in practice is of course highly contested. While studying, however, I found that many of the scientific advancements I was learning about were lightyears ahead of current practice and felt that, by the time that these could be enacted, it may be too late. While I will always have a strong admiration for the scientists involved in such exploits, it appeared to me that the sense of urgency I felt whilst reading about the future of our planet was not always mirrored in the practices of science-based academia.

During my undergraduate studies, I completed several work placements to help prepare me for my 'Sustainability Career', though nobody, especially myself, quite knew what this career would look like. One of these placements was assisting with Environmental Consulting. Here, I carried out ecological surveys and provided recommendations for those wishing to develop upon local areas. I was relatively underwhelmed by this process, and felt limited in my impact as any recommendations made were constrained by environmental legislation. It felt that, in this role, government held the power to enact the necessary changes to preserve local habitats.

I also undertook a work placement with a research centre at Lancaster University which aimed to bring together local SMEs with university talent. I worked with a fantastic food-based charity, interviewing local market traders to identify opportunities to improve the environmental impact of their food sourcing and waste, building on recent legislation from local government. I felt it was important to involve multiple voices in the discussion so invited market traders, academics, councillors and members of community groups to a presentational evening to discuss results and work towards bringing forward real, actionable measures to support local traders in improving their environmental impact. Here, I felt a strong sense of satisfaction and conviction that bringing together groups from across academia, industry and government enables the development of new ideas which are readily workable and socially responsible.

When the research centre I had completed my internship with contacted me with a PhD opportunity, I was initially hesitant; I was impatient to embark on my 'Sustainability Career' and could not see how several years of research fit into this plan. Furthermore, Entrepreneurship and Strategy appeared far from my disciplinary background, and I was not confident that I would be able to 'catch up' on the subject knowledge associated with this field. Yet, when I considered the opportunity to evaluate this SUBC, I realised that its core aims were aligned with what I had observed throughout my studies and work placements: industry, government and academia cannot develop practical and effective solutions alone. After realising this, I determined that several years of research in this area would indeed be well-spent.

My PhD journey, like all PhD journeys, has not been straightforward. I began my doctoral studies in the thick of the COVID-19 pandemic. My first 12-18 months of studies were completely virtual; all my interviews were completed on Microsoft Teams during this period, and I didn't meet my academic supervisors in person until mid-way through my studies. The SUBC had funded me to evaluate their project, and I felt a sense of potential conflict throughout my project as I grew closer with my research cohort and project administrators. Many of the experiences expressed by fellow postgraduate researchers were ones I could resonate with, and I had to take particular care to ensure that my personal experiences during the project did not disproportionately alter my perceptions of the project itself. On the other hand, I felt a lack of direction from the project itself relating to what they were hoping to gain from my research. Whilst this at times did make me second-guess my actions, I am grateful that the project allowed me the freedom to pursue my research in whatever direction I chose.

Looking back on the researcher who first started her doctoral studies, I am proud of the growth I have demonstrated during my research. When I initially thought that completing my PhD research would be three years where I did not progress towards my ever-elusive 'End Goal', I had not considered the huge opportunities for skill development and personal growth I would encounter over these years. My skills have developed tremendously, from critical thinking to stakeholder management to articulating my thoughts in an effective manner. I have presented at international conferences, published multiple academic works and authored an official evaluative report for a multi-million-pound regional development project. I will always be grateful for the opportunities I have been granted over the past few years and am particularly thankful to my wonderful supervisors who have inspired and pushed me to complete this thesis, seeing potential in me when I couldn't see it myself.

Thesis Structure

This thesis is presented in the alternative or multi-part format.

This thesis sets out to further analyse the role of evaluation within university-business collaboration and, most importantly, the potential of evaluative processes to redirect, reshape and reinvigorate university-business collaboration projects within the context of sustainable regional development. I consider some of the grounding principles of what makes collaboration projects 'work' (or, indeed, 'not work') and critically examine the role of tensions within collaborative projects, how they can catalyse or equally dampen collaborative efforts, and potential underlying factors which may lead to these alternate outcomes.

This thesis asks the following core questions:

1. How do evaluative processes influence the design, delivery and subsequent outcomes of university-business collaborations?

2. How can evaluative processes be reshaped to predispose university-business collaborations to deliver what is most valued by stakeholders?
3. How can tensions be harnessed through evaluative processes to catalyse and empower university-business collaborations?

These questions have been explored through the development of three journal articles. The first (Chapter 2) is an overarching literature review which has been published in *Sustainable Development*. This review explores the ways in which we currently approach evaluation for sustainability-oriented University-Business Collaborations (SUBCs), bringing together literature from a variety of disciplines to identify core themes. It highlights three main tensions across evaluative approaches, on epistemological, conceptual and spatial perspectives. These core tensions highlight what may initially appear as trade-offs between approaches, but they can also uncover previously unaddressed questions and assumptions about evaluation strategies. Such questions should be emphasised in discussions surrounding evaluation whilst researching and developing evaluation strategies for SUBC projects which are fit for ever-changing contexts.

Chapter 3 provides more insight into the methodology of this thesis, outlining the epistemological and ontological stances underpinning this research. As part of the research process, 'place' was a continually recurring topic yet engaging stakeholders in discussions about place in a meaningful way was often challenging. The learnings obtained through the research process, and subsequent modifications to qualitative methodology is detailed in Chapter 4, which has been published in a book series concerning modalities of enquiry within entrepreneurship research.

The second journal article is an empirical paper (Chapter 5). It brings the question of 'value' in 'evaluation' to the fore, considering tensions within what is most valued amongst collaborators within SUBCs. Using the lens of heterarchy (Stark, 2000), opposing and aligning orders of value are considered, investigating stakeholder perceptions of value and the underlying tensions which emerge. Using data collected from interviews, focus groups, surveys and researcher observations, this article explores the tensions caused by conflicting perceptions of value and its impact on the collaboration process. Considering the project through a heterarchical lens highlights the potential of evaluation to compound such tension, as an additional order of worth introduced to the project. Through considering how these tensions were navigated on a practical basis by project staff and researchers, we highlight the importance of flexibility and trust in practitioners to strengthen perceived value to stakeholders.

The third journal article (Chapter 6) digs deeper into the tension caused by distinct perceptions of value amongst stakeholder groups and how they are mediated. Further exploring the role of experienced practitioners in navigating tensions, the lens of phronesis is used to identify how and to what extent situated, practical wisdom helped project staff to harness tension and deliver value to stakeholders. Analysing data from research investigating the experience of project staff across the initiative, we explore how project staff were able to demonstrate situated, practical wisdom during project design and delivery to navigate the diverse expectations of stakeholders, delivering project outcomes which were considered valuable across stakeholder groups. We explore how evaluative frameworks can be designed in a manner which demonstrates greater trust in practitioners, granting them additional flexibility to use their wisdom to make decisions which improve outcomes for regional stakeholders.

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Chapter 2: A comprehensive review and framework for place-based policy initiatives

Preface

This article has been published as a Review Article in *Sustainable Development*. This literature review seeks to bring together and synthesise a broad range of literature, spanning a diverse array of disciplines.

This body of literature echoes the wider body of evaluative literature, with limited critical reflection of the *active* role that evaluation plays within a project's progression (Coryn et al., 2017). Several publications were observed to assess the relative merits of a project without expressly acknowledging that this is, indeed, evaluation. As a consequence, these publications often lacked sufficient critical reflection concerning the nature of evaluation and the need to acknowledge the subjectivity of what is deemed 'valuable' or 'successful'. The context-dependent nature of 'value' and 'success' was often also not considered, with several evaluative approaches being place-agnostic; as a result, there was little reflection on the influence that the activity's context had on project progression, and therefore the extent to which this activity could be replicated elsewhere.

This review reveals tension within this body of literature, with evaluative frameworks spanning a spectrum of both epistemological and methodological approaches. In order to maximise the potential of evaluation to further promote regional sustainable development, we need to understand ways to overcome and, indeed, harness these tensions to allow the benefits of multiple approaches to be realised.

The review brings together these tensions in a conceptual framework. This framework has provided a foundation for further exploration of evaluative processes during this PhD journey, in order to consider how further tensions may yield opportunities to enhance the methodological effectiveness of evaluative frameworks, causing them to span a wider range of this conceptual spectrum.

Unlocking the evaluation of university-business collaborations on sustainable regional development: A comprehensive review and framework for place-based policy initiatives

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Abstract

University-business collaborations (UBCs) are widely recognised as a key component within the sustainability effort, yet the literature on how we articulate the value which collaborations contribute towards a wider sustainable regional development agenda remains fragmented and disorganised, lacking synthesis and cumulativeness. Based on a recognised need to critically assess the state of the field, this paper presents a systematic review of a wide body of literature that seeks to evaluate the contribution of UBCs' to sustainable regional development. Using a lens of place and knowledge, 131 articles are analysed, and a framework is developed based on emerging categories of localism/universalism and pluralism/sovereignty. The framework provides a basis for both navigating approaches to evaluation, as well as enabling both researchers and practitioners to engage in more constructive discussions around the challenges and opportunities when evaluating UBCs in the wider context of place-based government agendas for sustainable regional development.

Key words: university-business collaboration; university-industry collaboration; evaluation; place-based; co-creation; sustainable regional development

Introduction

University-business collaborations (UBCs) are recognised as playing a key role in the transition to a sustainable future (Wilson, 2012; European Commission, 2018; Egorov et al., 2020; Pauer et al., 2020; Chaparro-Banegas et al., 2023). In the context of this paper, UBCs for regional sustainable development refer to collaborations between universities and industry which seek to "*create societal transformations with the goal of materialising sustainable development in a specific location, region or societal sub-sector*" (Trencher et al., 2014b:152). Within this paper we also recognise that the term 'evaluation' has been subject to rigorous debate (see for example Dahler-Larsen (2011); Wanzer (2020)). In order to capture a broad range of literatures that focus on exploring ways we might better deliver value from UBCs to the wider sustainable regional development, we use the following definition: "program evaluation is the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the merit, worth, and significance of the program, improve or further develop program effectiveness, inform decisions about future programming and/or increase understanding" (Patton and Charmagne, 2022: pp4). Such a utilisation approach to evaluation captures literature on success factors, performance assessment, value creation and other terms to this effect.

To adapt to, mitigate and avoid catastrophic environmental impact, the co-creation of knowledge across sectoral and disciplinary boundaries is key (Trencher et al., 2014b; Bremer and Meisch, 2017; Carayannis et al., 2018). Crucially, this knowledge must be translated into workable solutions for impact to be realised (Podgórska and Zdonek, 2023). The challenge, however, is how to measure and evaluate the effectiveness of these collaborations, their contribution to the wider sustainability agenda, and also their contribution to promoting the sustainability of particular local regions such that the all-important process of 'learning how to learn' is collectively optimised (Adem Esmail et al., 2017; van Ewijk and Ros-Tonen, 2021).

Evaluation of UBCs is important for several reasons. Alongside providing accountability and transparency of activities (e.g. to funders, often disbursing public monies), evaluation practices can guide projects by setting priorities and the direction of UBCs from their inception (Veletanlić and Sá, 2019). Furthermore, evaluation enables learning opportunities which can be applied to the project in question as well as to future initiatives (Akpo et al., 2014; Luederitz et al., 2017). Finally, evaluation enables collaborative partners to capture issues and achievements that may otherwise have been overlooked and identify previously undiscovered opportunities for growth, reflection and strategic planning, allowing for proactive action to maximise potential for sustainable development (Flygt, 2009; Trencher et al., 2013a).

Despite the importance of understanding the impact and, in particular, the process of value creation for UBCs for sustainable regional development, studies critically examining the evaluative process of UBCs for sustainable regional development appear on the surface to be scarce (Coryn et al., 2017). This scarcity is compounded by the scattered and disorganised nature of current discussions, research and studies on how to effectively integrate different facets of evaluation into a particular project and further how to measure the success and impact of the UBC on the local region (Allen et al., 2023). The broad perspective on evaluation adopted in this paper enables us to capture both the literature that focuses explicitly on the evaluation of UBCs vis-à-vis their contribution to sustainable regional development, as well as wider literatures that are also providing an important evaluative function but doing so through exploring factors underpinning the relative 'success' or 'failure' of UBCs with relation to their contribution towards sustainable regional development.

Given the recognised important role that universities play in the sustainable regional development agenda (Skidmore, 2023) and in sustainable regional development (Rantala and Ukko, 2019; Saric et al., 2023), it is recognised as essential that discussions around the evaluation of UBCs are brought to the fore in order to move the sustainable regional development agenda forward more effectively (Lemos et al., 2018; Wyborn et al., 2019). To do so we must begin by assessing the state of the field, organising and synthesising the different bodies of literature that relate to evaluation, and exploring how approaches to evaluation are currently aligned with the needs of regions. It is only through doing this that we can advance the contribution of UBCs for sustainable regional development and provide new avenues to advancing the field and to more unified programmes of learning for practitioners.

Challenges in evaluating UBCs' contribution to sustainable regional development

In order to understand the contribution of UBCs to sustainable regional development, and thence of *evaluation* of UBCs to that goal, it is important first to address two key questions regarding potential hurdles to comparability, and so unification, of learning on these issues. First, how might one define 'sustainable regional development' in the context of the goals of particular UBCs? And, second, how might the definition of sustainable regional development used influence how projects measure their contribution to local regional contexts specifically?

In addressing the first question, there is recognition that measuring the impact of initiatives focusing on sustainable regional development can be challenging due to the flexibility and ambiguity of the notion of 'sustainability' (Baumgartner and Korhonen, 2010; Hernandez, 2021; Feitelson and Stern, 2023). The notion of sustainability is contested within both the natural and social sciences, with scholars debating the role of natural systems, economic growth (or de-growth), resource exploitation and the prioritisation of these factors in forming strategies for sustainability (Christen and Schmidt, 2012; Geissdoerfer et al., 2018; Chammas et al., 2020). The challenge for those evaluating UBCs for sustainable regional development, therefore, is that stakeholders might claim their actions as sustainable without justifying this in an objective manner: the so-called "anything-goes" mentality (Christen and Schmidt, 2012:401). The flexibility and ambiguous nature of 'sustainability' – and/or its corollary of the more-or-less indefinite absence of a single, universally-agreed meaning and set of standards for this term – thus creates an epistemological challenge for those looking to evaluate the outputs and impact of UBCs for sustainable regional development, with diverse conceptualisations of what constitutes 'successful' outcomes for sustainability (Feitelson and Stern, 2023). Where the (exact nature of the) goal is open to wide, and even contrasting, interpretation, it is hardly surprising if discussion on the best means, or forms of knowledge, proves difficult to unify.

The second question is also important, as governments around the world acknowledge the contextually dependent nature of sustainability actions and solutions (Bentley and Pugalis, 2014; Wildman et al., 2019; Matschoss et al., 2020) and an increasing number of UBCs are being funded on a national or sub-regional basis (Wilson, 2012; Clark et al., 2016; European Commission, 2018). Policy makers and practitioners thus need to be able to capture how UBC programs are able to navigate the opportunities and challenges of a particular region, as well as measure the extent to which they contribute to sustainable activities within specific local regions (Brusca et al., 2018; Kimbell and Julier, 2019; van Ewijk and Ros-Tonen, 2021). Considering the increasing recognition of the importance and embeddedness of regional context within UBCs for sustainability, it can be argued that evaluation which does not directly consider the influence that a given project has on the region, alongside the influence that the region has on the project, is failing to paint an accurate depiction of the project's impact and in doing so missing out on valuable learning opportunities (Lemos et al., 2018). The importance of accounting for diverse context- and knowledge-based perspectives in assessing sustainability action has been emphasised to allow for power redistribution and transformative processes (Turnhout et al., 2020; Caniglia et al., 2021). To the authors' knowledge, there has been no comprehensive review to date of the different ways the contribution of UBCs to particular regions has been captured within the different literatures relating to evaluation.

To provide a much-needed synthesis of the literature, and to provide a basis for cumulative development of the field, we conduct a systematic review of the different bodies of literature relating to evaluation to take stock and suggest ways forward. The paper addresses two key questions: first, what are the different approaches used to evaluate the contribution of UBCs towards sustainable regional development and so to provide a basis for collective learning and improvement regarding such action on sustainability? Secondly, to what extent are approaches to evaluation measuring the contribution of UBCs to their local regions, and with what effects?

To address these two questions, the paper conducts a systematic review of the broad literatures relating to the evaluation of UBCs for sustainable regional development. In doing so, the paper focuses specifically on the different ways sustainable regional development (RQ1) and the relationship to place (RQ2) have been conceptualised within these bodies of work. Put simply, we seek to assess the extent to which different conceptualisations of the 'sustainable' and 'regional' elements of 'sustainable regional development' have been captured within the existing literature, and, crucially to explore further the implications this has for the assessment of value and creation of learning opportunities within the evaluative process (Gasparatos et al., 2009; Norström et al., 2020; Turnhout et al., 2020).

From this basis, an additional goal of the paper is then to explore how we might capture and present the existing literature in an overarching framework that would serve a number of important goals: not only to synthesise the existing literature in ways that also celebrate a diversity of insights into evaluation and of approaches regarding sustainable regional development and place-based thinking; but also thereby to enable both scholars and practitioners to navigate the field, as well as to deepen and to expedite opportunities for future research and learning.

Materials and Methods

A systematic literature review was chosen due to its demonstrable ability to reduce the risk of bias (Tranfield et al., 2003; O'Brien and McGuckin, 2016). Given that the literature on evaluation is dispersed across several disciplines, and the goal is to provide a synthesis of those literatures in order to explore how 'sustainability' is mobilized and how the contribution to regions is captured, an integrated multi-stage process was taken to ensure the review captured all aspects of work in this area.

In the first stage, several keyword tests were undertaken across a variety of databases (including Academic Search Ultimate, Web of Science and SCOPUS). This was to ensure the study captured: a) articles focusing explicitly on the evaluation of UBCs for sustainable regional development, and b) articles which seek to identify key factors contributing to the success (or failure) of UBCs for sustainable regional development. In the second stage, and to further capture the diversity of literatures, two different sets of keywords, with Boolean operators, were chosen. The first set of keywords focused on articles which had elements relating to "industry", "university", "business", "collaboration", "sustainab*" and "evaluat*" within the title or abstract.

To expand the search and gather studies focusing on a wider set of discussions that contribute to our understanding of the evaluation of UBCs for regional sustainable development, a second search was undertaken, comprising keywords of "co-creation" or "co-production" or "third mission" as common proxies for studies focusing on UBCs (Voorberg et al., 2015). To ensure that the articles focused on UBCs oriented toward regional sustainability goals, the requirement of words stemming from "sustainab" were also selected (e.g., sustainability/sustainable/sustainably). The keyword searches were used in Web of Science, SCOPUS and Academic Search Ultimate and publications written in the English language were then held and screened.

The third stage was a screening process whereby publications not meeting the following criteria were discounted from the body of literature:

1. The focus of the article needed to be primarily concerning collaborations between universities and businesses. Collaborations such as university-community, inter/intra-university or business-governmental were discounted.
2. The focus of the article must be about the achievement of some form of sustainable outcome.

3. The focus of the article must aim to have a sustainable impact beyond educational mechanisms (e.g., co-curricular design). Although the impact of business participation in sustainable education design is recognised, it is beyond the scope of this paper.

The screening process focused on the content of the articles in order to avoid the use of excessively strict or premature screening (O'Brien and McGuckin, 2016). Once the screening process was completed, 92 papers remained (51 from Keyword Search 1; 41 from Keyword Search 2).

The fourth stage was a 'snowballing' review process to build the body of literature and identify papers previously not captured from the keyword searches, following the process outlined in Geissdoerfer et al. (2018). This method involved examining articles' citations to identify publications not yet included within the review. These were then screened according to the criteria above and added to the review group subject to criteria satisfaction. This process was repeated until no further relevant cross-references could be identified. In total, 39 additional publications were found through this method. Figure 1 below outlines the approach taken in this study.

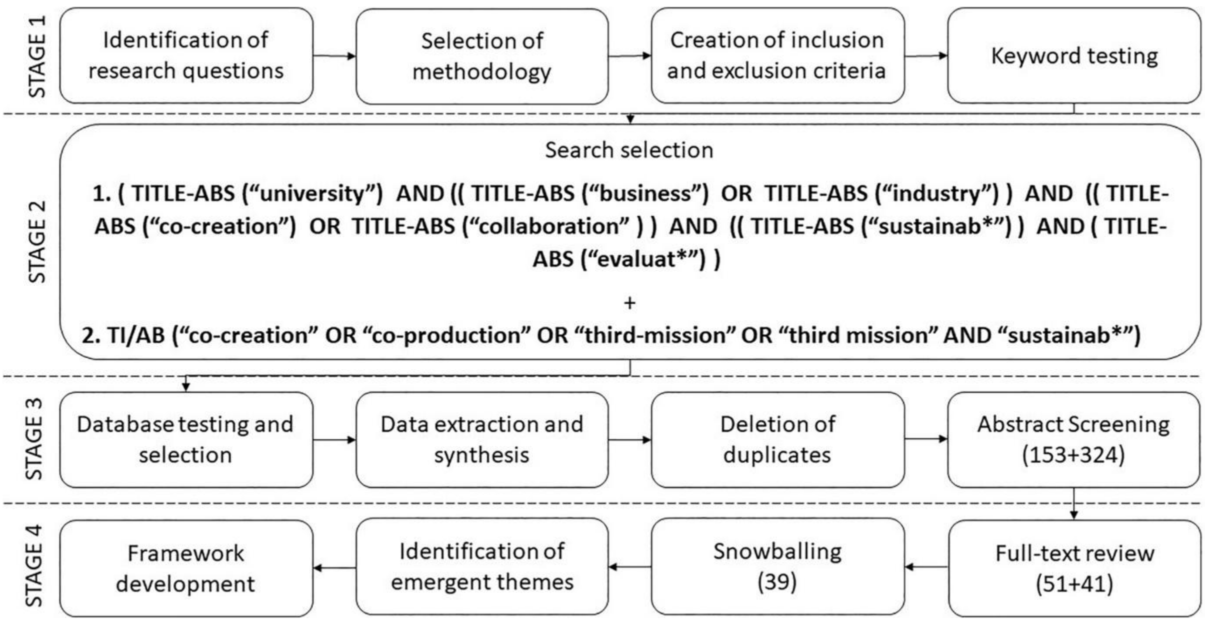

Figure 1. Systematic literature review process.

Publications which met selection criteria were then thematically analysed to understand further the ways they engaged with ideas about knowledge about sustainability and how they considered the spatial dimension. We provide an insight into the findings from the review and the thematic analysis below.

Results

Analysis of the articles reveals that literature focusing on the impact of UBCs for sustainable regional development is nascent yet rapidly growing (Figure 2). Furthermore, studies span several disciplines and frequently transcend standard disciplinary boundaries (Figure 3).

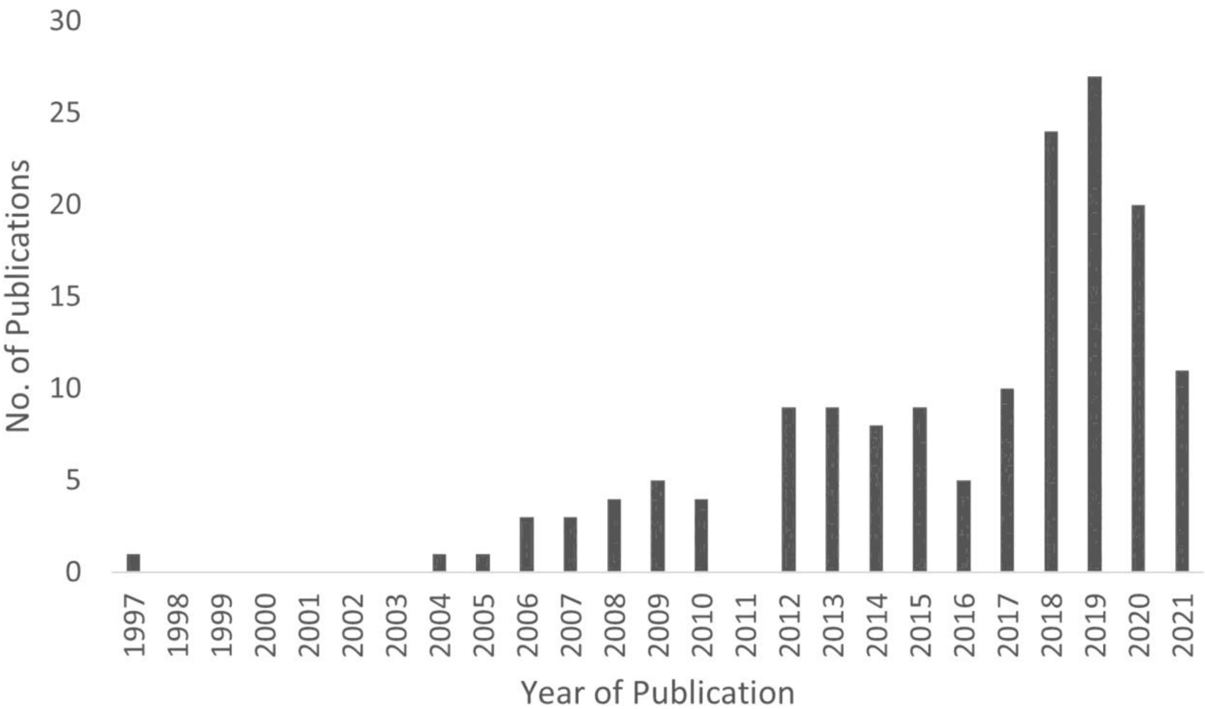

Figure 2. The rate of publication on impact measurement of UBCs for sustainable regional development have increased significantly over recent years. Results from systematic literature review. n=131

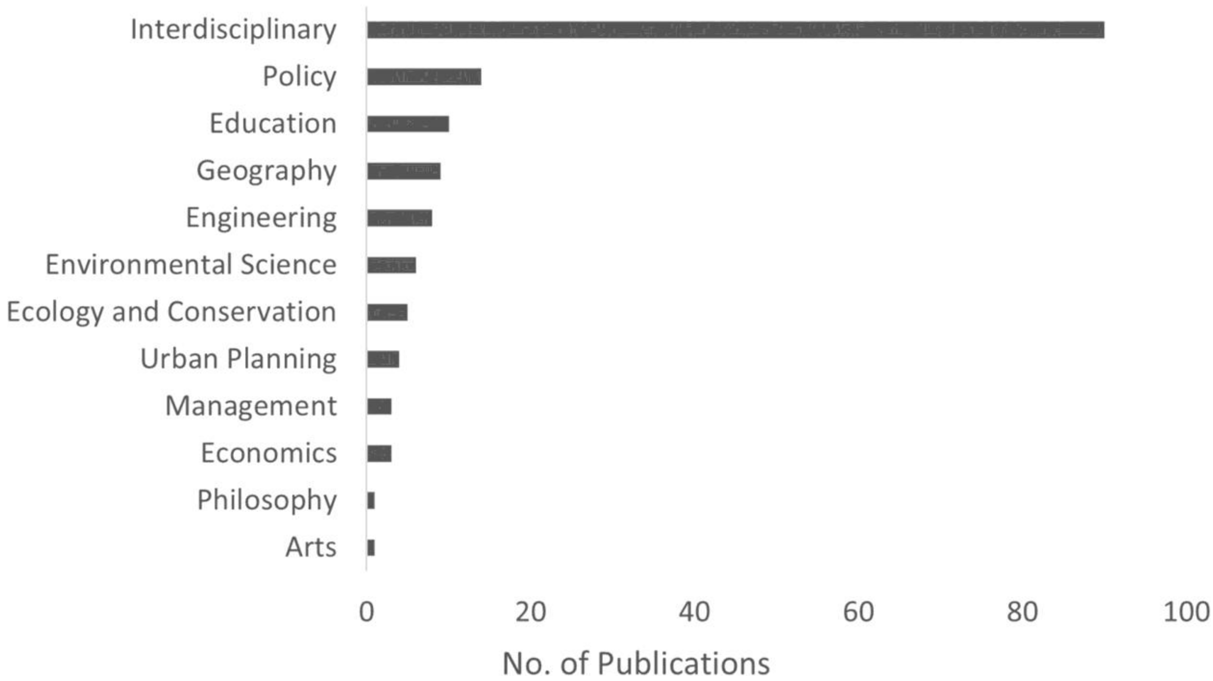

Figure 3. Disciplinary boundaries of articles on impact measurement of UBCs for sustainable regional development; disciplines determined by self-definition from journals. n=131.

The outcome of the thematic analysis of the 131 articles allowed us to understand further how they engaged with defining knowledge about sustainability and how they considered the spatial dimension. We identified knowledge on sustainability as being conceptualised on a spectrum between sovereignty and pluralism, i.e., from sustainability viewed as a singular, objective reality that can be measured, to it viewed as an open, subjective concept which takes several equal yet distinct forms within a single project. An analysis of the spatial dimension revealed a range of different ways they engaged with regional characteristics and the scale of regions considered, from articles that foregrounded the relationship between specific characteristics of a local region and the contribution of a UBC project to that region (which we term 'localism'), to those that considered less the characteristics of specific local regions and instead focused on generalised measures of evaluation and how they applied to the contribution of UBC projects to local regions (which we term 'universalism').

Using the dimensions of knowledge about sustainable regional development (henceforth 'SRD knowledge') and spatial considerations, and the emerging categories within each, enabled us to identify four broad approaches to evaluation, illustrated in Figure 4. Within articles where discussions around approaches to evaluation were less clearly defined, for example where mixed approaches were used or where multiple conceptualisations of sustainability and/or regions were considered, categories were defined based on the most dominant discussion or approach in the article. We discuss these four broad approaches in the sections below.

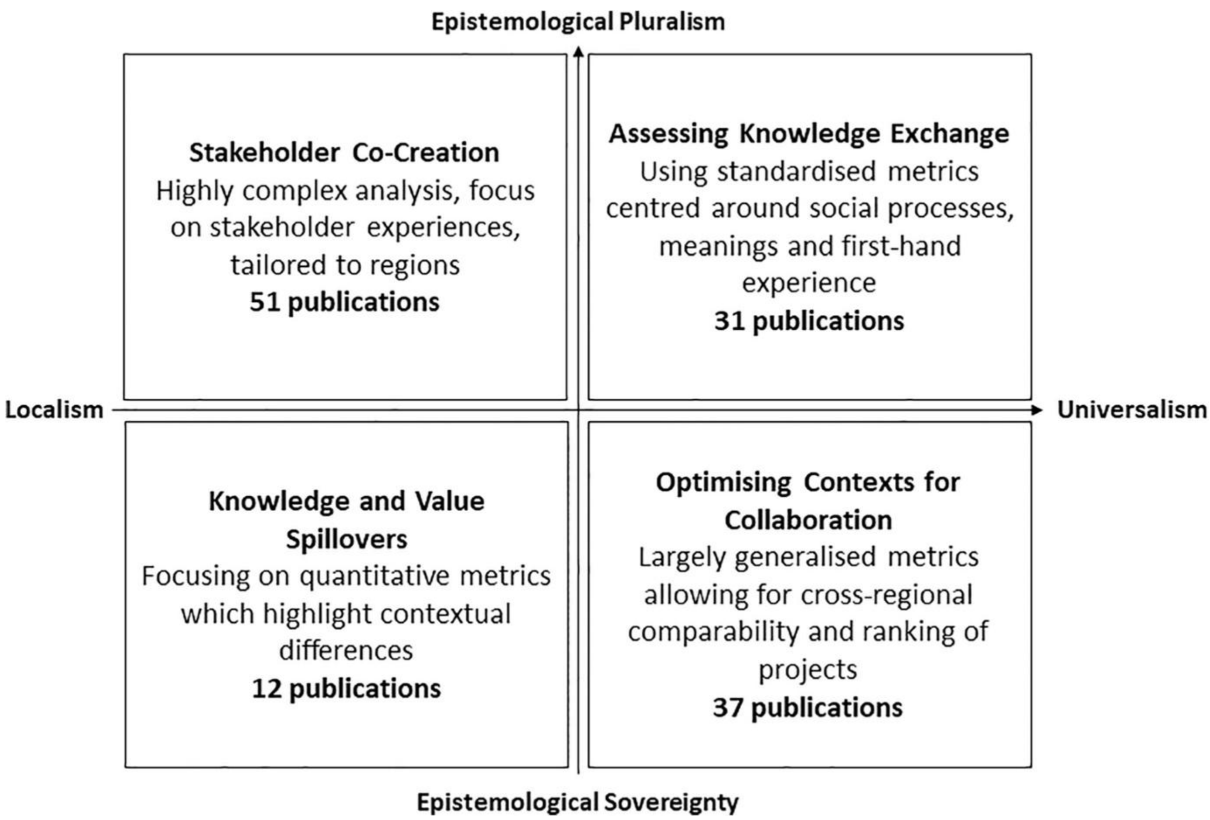

Figure 4. Matrix of approaches taken whilst evaluating UBCs for sustainable regional development.

Stakeholder Co-creation

Articles here take a pluralistic approach to sustainable regional development knowledge that is situated within and meaningful to the characteristics of a specific locality. The focus within these articles is on creating an in-depth understanding of the contexts in which UBCs are situated and operate and the outcomes of those collaborations. In order to promote pluralism, this group of studies prioritises either the engagement of stakeholders in the evaluation process or suggests frameworks for evaluation that promote the use of a variety of data sources.

The starting point for many articles in this section is a critique of sovereign conceptualisations of SRD knowledge, and linear models of knowledge production (Kimbell and Julier, 2019; West et al., 2019). Emphasis is instead placed on granting agency to local stakeholder expertise to determine evaluative measures and many studies here point to how this can be helpful to ensure outcomes are appropriate to local contexts (Carolan, 2006; Ramachandra and Mansor, 2014; Matschoss et al., 2020; Fernandes et al., 2021). Greater involvement of stakeholders, and a broader perspective of what is of value to local community members, has been found to help identify previously uncaptured benefits of UBCs and to identify new knowledge that has been created in the transition to more sustainable practices (Barrutia and Echebarria, 2012; Kruger et al., 2018). Furthermore, engaging stakeholders in the evaluation process is suggested to lead to more frequent learning opportunities, improving the potential contribution of UBCs to regional sustainability agendas, although this is recognised as time consuming (Hart et al., 2015). Articles here, however, also highlight a number of challenges of stakeholder engagement and pluralistic, locality specific approaches to evaluation (Turnhout et al., 2020). Indeed, there is acknowledgement that caution is required to evaluate in a manner which both grants agency to stakeholders, and brings in plurality of knowledge in a way that yields meaningful results to the particular community and locality (Daigneault and Jacob, 2009; Turreira-García et al., 2018).

Other articles go one step further and suggest frameworks to help capture the plurality of knowledge for place-based approaches to evaluation. Vervoort et al. (2012), for example, developed a means of assessing frequently intangible phenomena such as scale, time and power through devising a set of ‘dimensions’ in which the context of UBC projects for sustainable regional development can be evaluated, based on consultation with change agents, including researchers, commercial practitioners and public servants, from across the Netherlands. Hegger et al. (2012) proposed an assessment framework to encourage project learning, suggesting seven ‘success conditions’ that are situated within the local context whilst acknowledging different perspectives; their framework points to the need for data that is able to reveal the multi-faceted nature of collective problem definition, stakeholder incentives, inter-stakeholder discourses and governance structures. Identifying the challenges and plurality of knowledge co-creation across stakeholder boundaries, Adem Esmail et al. (2017) developed a framework that measures the quality of knowledge translation between stakeholders, and suggested measures that examine agreements and collegiality between stakeholders, commitment and reputation of stakeholders, and public awareness of the project. Seeking to highlight the opportunities of community involvement within evaluation, Chammas et al. (2020) developed a nine-step framework to assess transdisciplinary collaboration with measures including community representation, inter-stakeholder communication and iterative research methods to account for changes in the local context.

A diverse range of methods have been explored to assess the impact of UBC sustainability initiatives. A particular challenge highlighted within this body of work is the reproducibility or replicability of the measures used. However, this is also acknowledged as a strength of this body of work, and the frameworks suggested within this body of literature are working towards enabling application across contexts (West et al., 2019). These approaches are seen by many in the field as a promising addition in driving forward discussions of evaluation and in helping to direct future studies.

Assessing Knowledge Exchange

Articles that fall within this category work to identify key factors leading to the success of UBCs that both acknowledge the plurality of sustainability knowledge across stakeholders yet remain more spatially universal. Studies here highlight the importance of stakeholder engagement and the need for stakeholder consultation to identify key barriers and catalysts to successful outcomes, relating to resources, competencies, systems and value attributions amongst many others (Berman, 2008; Barbolla and Corredera, 2009; Bjursell and Engström, 2019).

Yet these studies also promote the use of universal measures, which are not typically based specifically on the unique characteristics of places, to allow comparability and wider application of findings. For instance, Čada and Ptáčková (2013), in exploring factors influencing the shape and level of collaboration between science and NGOs, identified a set of six key factors deemed to be instrumental in a project's relative success. These factors included criteria deemed of value to stakeholders such as the quality of research institutions, researchers and the wider scientific community, and criteria that enables the measurement of the research community's ability to integrate collaborative and participative methodologies, and to bring together both experience-based and science-based knowledge.

Others determined indicators primarily through examination of the literature and individual observations of the collaborative process (Kelli et al., 2013). The subjective nature of 'success' adds additional difficulty for these methods; acknowledgement of the perspective from which success is being determined is crucial to ensure that these methods recognise alternative perspectives within the project (Hegger et al., 2012). Others who acknowledge the plurality of knowledge about sustainability, but pay less attention to local context, have also highlighted the need for evaluation to focus on processes alongside project outputs and impact. Aware of the time-lag between research input and project impact, Spaapen and Van Drooge (2011), for example, sought to develop a process-based set of indicators, described as 'productive interactions' which measure direct interpersonal relations, indirect interactions, and financial interactions within an initiative to investigate how inputs are translated into outcomes through collaboration and identify learning opportunities in a proactive and retrospective manner.

In contrast to locally specific evaluation, these types of measures are designed to be applied in a universal manner across diverse contexts. In a similar fashion, Soini et al. (2019) sought to assess progress by measuring improvement in stakeholder competencies rather than traditional project outputs, with these measures revealed through a series of stakeholder consultations. Silva et al. (2021) proposed a process-marking 'Maturity Model' approach to assess processes against best practice and identify improvement opportunities, and identified several evaluative criteria centred around micro-level social processes such as talent management and quality assurance.

Focussing on the micro-level allows for broader interpretation of social processes yet potentially risks assessments to be made without taking into account wider contexts. Bjerregaard (2009) also focused on evaluation at the micro-level, exploring the relative notions of success in long-term versus short-term collaborative strategies, considering the time taken to develop collaborative relationships and calling for more flexibility in evaluation to allow for diverse approaches within UBCs. Pohl et al. (2010) explored the influence of power relations and conflicts on four UBC initiatives for sustainable development, calling for new quality criteria, research incentives and funding schemes which are in keeping with stakeholder values and local contexts to facilitate the preparation of researchers for transdisciplinary cooperation. Porter and Dessai (2017) investigated the perceptions of stakeholder needs across collaborations, highlighting the need for researchers to put stakeholders at the forefront of determining target outcomes within transdisciplinary research evaluation.

Alongside accounting for pluralistic perspectives on success and sustainability, these approaches all share a common characteristic. In order to be applicable across multiple regions, universal measures are necessary but at the same time are acknowledged to limit the capacity for meaningful insights into the influence of local contexts on a project's performance and vice versa. This raises several implications for project delivery alongside its contribution to the sustainability agenda.

Knowledge and Value Spillovers

These approaches utilise sovereign measures of sustainability knowledge whilst taking into consideration spatial and contextual factors. In an early paper, Kitagawa (2005), for instance, highlighted the cooperative and competitive relationship between institutions within a region and suggested universally popular measures of 'academic entrepreneurship', including intellectual property, value of research contracts and academic consultancy, as means of assessing the effectiveness of regional knowledge flows. The challenge is that such approaches do not always accurately reflect the value of public-private collaborative partnerships due to a potential publication bias towards traditional academic partnerships (Abramo et al., 2009; Ursić et al., 2022).

More recent work in this area has highlighted the need for further consideration of the regional context, and in particular the efficiency of UBCs on multiple scales and regions. Carayannis et al. (2016), for instance, used a data envelopment analysis model to develop a framework for evaluation that draws out factors relating to regional context, such as policy and collaborative efficiency, to be accounted for in project design and evaluation. Whilst context-specific factors were brought into consideration, an objective, sovereign measure of efficiency was used to assess project impact. Also acknowledging the importance of considering regional resources within UBC evaluation, Secundo et al. (2017) developed a contextually sensitive yet objective framework based upon measuring changes to social, organisational and human capital to understand the relative success and strength of UBCs. Again, whilst contextual factors were incorporated, the overarching metric of 'success' here was treated as an objective variable to be measured. On a similar theme, Pop (2020), in a study of UBCs across North-West Romania, suggested Likert-scales using a series of standardised measurements for variables such as human capacity, non-human resource and competitive advantage relative to neighbouring regions.

The influence of proximity on UBCs has for some time been of interest to scholars (Laursen et al., 2011) and mathematical modelling and mapping of proximities have been suggested as tools to identify local strengths and networks. Ponds et al. (2010), for example, highlighted the importance of considering collaborative networks and local knowledge spillovers within evaluation, suggesting that more developed UBC networks with greater proximity to collaborators positively influenced the degree of knowledge spillover within the region. More recently, Costa et al. (2020) consulted with stakeholders to develop an evaluative method using proximity-based programming which had specific progress markers for different stages in the project cycle, to ensure proactive alongside retrospective evaluation.

Despite much agreement across these studies on the importance of locality, the studies falling into this category also raise an important issue: while closer proximity to 'quality' research institutions increases propensity for collaboration, and hence locality is important, greater preference is typically conferred to the quality of available institutions over geographical closeness (Laursen et al., 2011). This is an important point that those involved in UBCs must bear in mind.

Optimising Contexts for Collaboration

In the final set of articles, little acknowledgement is made of the contextual backdrop and the focus remains on universal and readily available measures of evaluation. Measurements of academic outputs resulting from UBCs, such as publication counts, patent filings, citation counts and executed licenses remain popular (Hegger and Dieperink, 2015; Mancha et al., 2016; Tolikas et al., 2017; Fadeyi et al., 2019; de las Heras-Rosas and Herrera, 2021; Santini et al., 2021). The limitations of these measures are, however, widely acknowledged within this body of work and there have been calls for a focus on the quality of research rather than just the quantity (Abramo et al., 2009; Hegger and Dieperink, 2015).

To address these concerns, Ting et al. (2020) analysed factors resulting in positive research outcomes in UBCs, concluding that researcher reputation might not be the most effective measure of the quality of a project, as they found little correlation between researcher reputation and project outcomes. It should be noted here that the notion of 'quality' research was interpreted as a fixed, objective reality. For many, complex quantitative analysis was viewed as a more rigorous method for assessing UBCs. For example, data envelopment analysis has been suggested as a method to assess technology transfer within organisations due to its ability to account for individual research outputs within complex collaborative networks (Kim et al., 2008; Fadeyi et al., 2019). O'Reilly et al. (2019), recognising challenges in comparing universities' technology transfer capacities, suggested that data might be normalised across projects through using a ratio-based approach to provide measures which account for differences in institutional size and research capacity. Sugandhavanija et al. (2011) identified and modelled key factors that underpin knowledge transfer in the context of collaborations around photovoltaic technology across Thai universities, finding evaluative measures such as investment in human resources and equipment to be important for understanding the success of UBCs.

There have also been meta-analyses across databases and UBC networks in an attempt to uncover further universal themes and factors relating to the success of UBCs for sustainability. Studies have suggested screening prospective business partnerships for characteristics which have been shown to predispose 'successful' collaborations, evidenced by measures including the creation of new products and technologies (Fontana et al., 2006; Hughes et al., 2022).

Methods of evaluating the influence of collaboration on publication rate (Abramo et al., 2009) and the introduction of correlation analysis to assess factors influencing short to long-term outcomes (Daoud et al., 2017) have also been proposed. Tijssen et al. (2016) examined the 2015 Thomas Reuters *Ranking of Innovative Universities* (RIU) through a UBC-focussed lens, observing significant disparities between this ranking and those of UBC-centred scoreboards, with UBC-based metrics shown to capture new insights into knowledge flows, modes of innovation and R&D processes. UBC metrics proposed in these scoreboards primarily related to intensity of collaboration, calculated as the proportion of total institutional publication arising from collaboration, with intensity of local and national collaboration also calculated. Greater transparency surrounding metric computation was recommended to allow for greater clarity on evaluative findings. Seeking to evaluate the impact of collaboration on firm performance and open innovation, Costa et al. (2021) performed econometric analysis of data from 908 businesses, to find that diverse collaboration of firms with academia enhanced overall outputs on firm performance and open innovation processes, pushing for greater recognition of the economic value of UBC within evaluation.

Publications within this category tend to rely on predominantly quantitative methodologies, turning to complex forms of analysis to ascertain factors and processes which correlate to a project's relative 'success'. Yet these methods commonly require subjective notions of 'success', 'sustainability' or 'quality' to be a fixed, objective variable in order to facilitate analysis.

Discussion

The review above draws out how different understandings of knowledge about sustainability and different considerations of the regional context influences the evaluation influences the evaluation of UBCs contribution to sustainable regional development. Highlighting the underlying assumptions of the four broad approaches to evaluation enables us to see more clearly the challenges facing those responsible for the evaluation of UBCs and provides a deeper insight into the complexity of evaluating the contribution of sustainability focused UBCs towards sustainable regional development.

Charting Paths Forward for Researchers and Practitioners

There has been much debate on the challenges of evaluating UBCs for sustainable regional development (Spaapen and Van Drooge, 2011). Discussions so far have highlighted how universities and businesses differ greatly in their timescales, knowledge creation processes, modes of thinking, and in what's of value (Hegger et al., 2012). In addition, studies have shown how stakeholders from academia and industry can have greatly different motivations and perceptions of beneficial outcomes (Berman, 2008; Porter and Dessai, 2017), and the outcomes of such projects can be both tangible and intangible (Spaapen and Van Drooge, 2011; Lemos et al., 2018; Roberts, 2023), and sometimes extend beyond project boundaries (Trencher et al., 2017; Wagner et al., 2021). This paper, however, provides an important contribution in that it highlights two additional dimensions and challenges that needs to be navigated by both practitioners and researchers: the assumptions underlying how projects define knowledge about sustainability and the extent to which they consider the value that the project delivers to local regions.

The four approaches highlighted in this paper are designed to stimulate conversation and new avenues for research as well as to enable practitioners engaged in the evaluation of UBCs to understand better the assumptions upon which their current evaluative methods are based and to identify gaps in current evaluative approaches (Coryn et al., 2015; Rantala and Ukko, 2019). Such an analysis also draws attention to three core tensions when choosing particular evaluation strategies: spatial, epistemological and conceptual (Fig 5). These core tensions highlight what might initially be seen as trade-offs between approaches but might also reveal previously unattended questions and assumptions about evaluation strategies – questions that need to be brought to the fore when discussing evaluation both for research and for those engaged in designing evaluation strategies for UBC programmes.

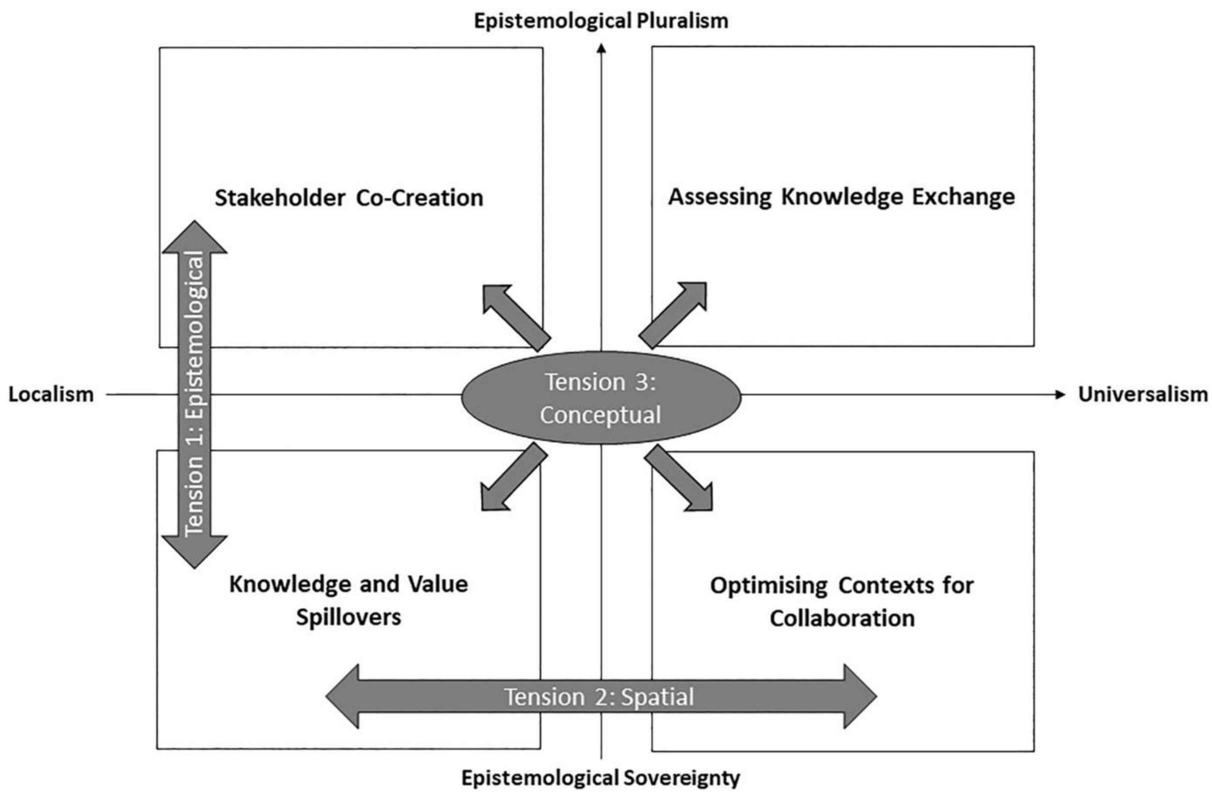

Figure 4. Epistemological, conceptual and spatial tensions when evaluating UBCs for sustainable development.

Further consideration of these tensions, their positioning as trade-offs, and how they emerge and are often discussed in different fields of inquiry, is important in moving the field forward and in bringing to the forefront key questions that need to be addressed in order to more effectively drive forward the sustainability agenda within regions (Carayannis et al., 2016). As researchers we must question and unpack both the reasons why approaches to evaluation become siloed, as well as to explore opportunities for learning across the many areas of research uncovered within this paper that consider particular aspects important to the evaluation of UBCs.

Researchers need to work with both practitioners and policy makers to explore further the challenges and opportunities of combining several approaches to evaluation within one project, this is the only way we will be able to drive the field forward and enabling the showcasing of new approaches in a practical context (Coryn et al., 2017). Working together with practitioners and policy makers is important as employing several different approaches to evaluation can create challenges (Goedegebuure and Van Der Lee, 2006; Kimbell and Julier, 2019). Without the support of researchers, and the integration of research on evaluation within both small- and large-scale projects, there will be a tendency to be constrained to evaluative approaches required by the programme's funder (Rosin et al., 2017b) and research will continue to be siloed into existing narrow fields of research on existing evaluative approaches (Partidario, 2020).

Navigating Tensions: Rethinking Sustainable Regional Development from Novel Perspectives

Disciplinary boundaries and differing conceptualisations of sustainable regional development exacerbate the fragmented nature of approaches (Baumgartner and Korhonen, 2010; Bremer and Meisch, 2017). We find in these articles that there are three main approaches to evaluating sustainable regional development within the context of UBCs.

The first is through stakeholder consultation and empowering, or potentially placing pressure on, stakeholders to determine the measures of sustainable impact for their region (e.g. Matschoss et al., 2020; Fernandes et al., 2021). Such participative approaches, whilst commendable, cannot be viewed as a silver bullet to measuring sustainable regional development (Turreira-García et al., 2018). A second approach seeks to assess progress towards sustainable regional development through proxies such as measures of knowledge exchange and technological outputs based on the idea that these might lead to sustainable outcomes (e.g. Sugandhavanija et al., 2011; Tijssen et al., 2016). The final approach, which has been given less attention, is the use of traditional sustainability measures such as carbon assessment and ecological footprinting, but these measures can also be challenging due to the time lag between collaborative research and direct environmental outcomes (Spaapen and Van Drooge, 2011).

An integrated approach to developing evaluation frameworks could assist with incorporating elements from stakeholder consultation, knowledge exchange, technological outputs, and traditional sustainability measures. There is growing recognition that the *process* of conducting evaluation and considering several conceptualisations of 'sustainable regional development' and, in turn, 'success' can yield greater transformative potential than the evaluative outputs itself (West et al., 2019; Patton and Charmagne, 2022). Putting different conceptualisations of sustainable regional development across natural and social science disciplines alongside industry and policy making in conversation with each other has been shown to be a fruitful process (West et al., 2019). Evaluative processes which shed light on these tensions and actively encourage productive conversations within the reflective process can yield promising results, identifying learning opportunities and pushing the potential for knowledge co-creation (Adem Esmail et al., 2017). Equally, sovereign approaches can confer notable advantages. For instance, through enabling quantitative approaches, they can facilitate rankings, meta-analyses, and wider thematic reviews, providing opportunities for cross-project learning (e.g. Tijssen et al., 2016;

Costa et al., 2021). Although less common, sovereign methods can also foster opportunities for context-specific analysis (Carayannis et al., 2016; Secundo et al., 2017).

Yet as with all evaluative approaches, there are practical constraints associated with each epistemological positioning. Involving stakeholders for more pluralistic approaches can be time-consuming and challenges arise on the generalisability of findings to other contexts (Hart et al., 2015). Conversely, the quantitative approaches commonly adopted with sovereign epistemologies can be limited by data availability, resulting in studies frequently relying on institutional reporting such as publication metrics (Hegger and Dieperink, 2015). The value of publication metrics as an assessment of UBC activity have been critiqued for lacking relevance to non-academic stakeholders (Richter and Hostettler, 2015) and undervaluing the quality of UBC outputs (Abramo et al., 2009). Careful consideration is therefore required to develop approaches which aim to maximise the advantages of each approach whilst avoiding adding further practical challenges in order to deliver a more integrated evaluative approach.

We have identified multiple studies which have shown promise in minimising practical constraints associated with each approach. Some have suggested more efficient ways to engage stakeholders to help reduce resource demand and to open new avenues for UBC evaluation (e.g. Vervoort et al., 2012; Chammas et al., 2020). Similarly, process-focused mechanisms of evaluation may go some way to address criticisms surrounding the outcome-focussed nature of epistemologically sovereign approaches to UBC evaluation which frequently utilise quantitative methodologies (Rossi and Rosli, 2015; Albats et al., 2018), and which frequently dominate evaluation protocols from major (e.g. national and/or corporate) funders. Building on these approaches may prove fruitful in synergising evaluative approaches to maximise learning opportunities.

Identifying Untapped Potentials for Collective Learning and Improvement

Although frequently taking place at the end of a project as an indicator of value and a measure of accountability, evaluation also plays an important role in reflection and learning. Yet the siloing of current evaluative approaches, and the dispersion across several fields of inquiry, has led to learning opportunities being limited (Coryn et al., 2015; Olphin, 2022). Within evaluation, it is not simply a question of 'what works?' but 'what works *where*?' and 'what works *when*?' (Wildman et al., 2019). It is thus crucial not to conflate (or to attempt to reduce one to the other) the separate – but *both* crucial – goals of evaluation of furnishing forms of knowledge that enable a general sense (e.g. for policy) of aggregated movement in the right direction at sufficient pace, on the one hand, and those that enable the actual practical improvement of initiatives by those actually tasked with doing so, on the other; and where the latter ultimately is the only way to deliver on the goals of the former. For instance, a process of evaluation which focuses thinking on individual components, with their presumed or aimed-for universal comparability, can confer a tendency to attempt to control for multiple details in absence of greater perspectives, risking resultant decisions being made in absence of wider context (Correll et al., 2014).

Successful evaluation methods should therefore work to uncover key reflections, analyse shortfalls, and reflexively identify areas for future improvement (Oldenhuizing et al., 2013; Rosin et al., 2017b). Reflective and reflexive evaluation need not only take place at the end of a project as an outcome-based assessment, instead being used at various stages within the project to reconsider project direction and identify learnings moving forward (Albats et al., 2018; An-Chih et al., 2020). However, finding an equilibrium between assessing success, ensuring accountability and encouraging reflective learning has proven challenging, with tensions between evaluative approaches identified across this review (de las Heras-Rosas and Herrera, 2021).

There is already promising work that seeks to bridge tensions between different evaluative approaches (e.g. Hegger et al., 2012; Vervoort et al., 2012). The aim is to offer the benefits of place-based thinking whilst maintaining a more reproducible framework to encourage cross-project learning opportunities (e.g. Perry and Atherton, 2017; Chammas et al., 2020). These are predominantly stakeholder-guided with wider findings derived from context-specific examples. Others have attempted to apply quantitative measures in a place-sensitive manner, including regional data and highlighting discrepancies across institutional and regional contexts (Carayannis et al., 2016; Costa et al., 2020). This is an emerging body of work which shows great promise for the direction of future research.

Conclusions

This study has formulated a unified framework that identifies four main approaches to evaluating UBCs for sustainable regional development evident in the broad and fragmented literature on this important issue. Without considerable effort, UBCs for sustainable regional development risk being undervalued (through lack of consideration of local and regional impact), misdirected (through the disproportionate prioritisation and sovereign nature of chosen metrics), and/or over-generalised (through the extensive use of reductionist approaches to evaluation). Crucially, despite being a fundamental function of evaluation, opportunities for learning become neglected through a systematic pressure for a dominant paradigm prioritising competition and accountability.

Yet there is great scope for future research within this area that could help expedite and multiply the realization of the potential contributions of UBCs to regional – and thence, aggregated and global – sustainable development, and the framework presented here helps the identification and shaping of those opportunities. First, further consideration is warranted regarding how a focus on regional contexts could manifest in a practical evaluation methodology. Additionally, there is demand for consideration of how to navigate the trade-off between context-specificity, scalability and comparability within evaluation, and at all the various scales and levels of policy and project management, from global/national (funding) policy down to the on-the-ground constant tweaks and improvements of practitioners and stakeholders. Significant attention is required in this field to improve the potential for UBC evaluations to deliver equitable and sustainable outcomes at this crucial time.

Whilst this article has been primarily focusing on conceptualisations of sustainability and place, this is by no means an exhaustive list of dimensions which may prove fruitful in advancing learning opportunities within this field. Further exploration into additional dimensions which may impact approaches to evaluation and the resultant learning opportunities which arise could shed light on alternative ways to reconsider evaluative methods.

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Chapter 3: Methodology

This research was prompted by a PhD funding opportunity for an individual to evaluate and research the impact of a £14m ERDF-funded regional SUBC initiative in the North-West of England. This initiative spanned 6 universities, all with a dedicated Project Lead and delivery method tied with the strengths and capacities of each institution. The project targeted SMEs in the North-West of England and supported them with low-carbon innovation. Research funding was available to support the formal independent review process.

Within this chapter, several areas of methodological consideration are discussed. First, research philosophy is discussed, noting the ontological and epistemological perspectives adopted during the research process, the rationale behind this positioning and the consequences this has for research. This research prompted various ethical considerations during data collection; these are further explored before discussing the data collection and analysis process adopted throughout the research project.

Regional Context: The North-West of England

This research investigated a SUBC initiative based across the North-West of England. This is a hugely diverse region, home to cities which act as economic hubs, such as Manchester and Liverpool, but also areas of high deprivation, such as some of the coastal towns of Lancashire and Cumbria. The North-West was a hub for economic growth amidst the industrial revolution, with specialised hubs including Manchester's textiles mills, Stockport's hatting factories, Cheshire's salt mines, and St Helens' glass furnaces amongst many others (Stobart, 2013). It is this industrial strength which gave rise to transport links, with Manchester being home to the first railway in England. Since the end of the industrial revolution, several regions of the North-West have been in relative decline, and the North-West is now home to many of England's most deprived neighbourhoods (MHCLG, 2025). It has some striking geographical features and is home to Areas of Outstanding Natural Beauty (AONB), including the Lake District and the Peak District.

An audit sponsored by the Department for Business and Industrial Strategy (BEIS) found the region to be exceptionally well-positioned to lead globally in developing the innovation and skills necessary to deliver clean and sustainable growth, thanks in part to the network of universities present within the region (Department for Business, 2018).

At Lancaster University, where the SUBC initiative is headquartered, there is already a strong history of university-business collaboration research. This work acknowledges and builds on the work of Sarah Jack, Rhiannon Pugh, Lola Dada, Eleanor Hamilton, Amy Gibbons amongst many others, furthering our understanding of entrepreneurial universities and their role in sustainable regional development (e.g., Dada and Fogg, 2014; Dada et al., 2016; Pugh et al., 2016; Soetanto and Jack, 2016; Pugh et al., 2022; Owusu-Kwarteng et al., 2025).

Research Philosophy

University-business collaborations are fundamentally social structures. While there is naturally a material input into its processes (i.e., demonstrator funding, laboratory equipment), few would dispute that the true value of a collaboration comes from the collaborators themselves. The aggregation of individuals and organisations from across different helices of innovation seeks to enable the sharing of perspectives to catalyse the development of ideas and solutions which provide mutual benefit and, particularly in the case of SUBCs, collective benefit (Carayannis and Rakhmatullin, 2014; Trencher et al., 2014b).

Ontology

Several evaluative frameworks seek to provide an objective consensus of the relative ‘success’ or ‘failure’ of a project, using static indicators to compare and contrast project outputs with other initiatives. This approach can of course identify opportunities to apply processes and new thinking across initiatives or inform funding strategies to allocate resources to projects with the greatest chances of ‘success’. Yet, in this research, this idea of an objective ‘success’ or ‘failure’ is rejected, as it is recognised that the relative ‘success’ or ‘failure’ of a project can vary considerably depending on the context it is viewed, the stakeholder perspective which is prioritised and individually perceived notions of success and value. It seeks to question assumptions made by objectivist and positivist approaches to studying a university-business collaboration.

Instead, this research takes a relativist ontology. While this has been defined countless times, Easterby-Smith et al. (2021: 74) have summarised this plainly as follows:

“Relativism: Scientific laws are created by people who are embedded in a context (so it’s in the eye of the beholder)”

The subjective nature of how phenomena are perceived, alongside the ways in which context influences and shapes such perceptions, form a fundamental cornerstone in the approach to research. These two fundamentals of relativism, and their subsequent impact on research, are discussed in turn below.

Contextual Embeddedness

As Easterby-Smith et al. (2021) note, context plays a hugely influential role in shaping individuals’ perspectives. Regional context has therefore been a core theme of existing research, highlighting the opportunities and limitations of applying place-based thinking to this field of study, which thereby again accept the relativist emphasis on the importance and irreducible efficacy of different perspectives – i.e. ‘from here’ (‘this place’) rather than ‘from not here/there’ (Van Poeck, 2019; Loeber and Kok, 2024b). ‘Objective’ or ‘universal’ evaluative approaches can also be viewed through a relativist lens, considering the context which shapes such evaluative approaches, and how such approaches in turn influence SUBC contexts, adding a new perspective (or order of worth) (Stark, 2000) (explored further in Chapter 5) to the project in question, considering the active role that evaluation plays in influencing outcomes within SUBC initiatives. From a realist lens, such contextual embeddedness will likely not have been such a prominent theme of research, missing opportunities to highlight the need to consider the places in which a project is taking place to understand its relative value contribution (Wildman et al., 2019)

<u>In the Eye of the Beholder</u>

Within this research, the relative merit of a SUBC is determined by how it is perceived by individual stakeholders. As all stakeholders will perceive the initiative differently, SUBCs are not considered a fixed reality with a single 'true' and 'objective' characterisation. Instead, the research proceeds on the basis of acknowledging this difference of perspective and how the assessment of a specific SUBC is, likewise, 'created by people who are embedded in a context (so it's in the eye of beholder)'. Taking this relativist stance therefore directly contradicts traditional evaluative methods, which seek to develop a methodology which delivers the most 'accurate' appraisal of a project, striving for 'universal rationality' (Lobos and Partidario, 2014; Partidario, 2020). Rejecting this goal has freed this research, allowing it to follow a path guided by stakeholders themselves. As a consequence, regional differences, diversity between and within stakeholder groups and individual reflections are not viewed as variables to be 'controlled', as would most likely be the case with a realist perspective, but valuable insights to be captured; this research has cast a wide net and not sought to narrow down to specific criteria or variables to measure.

Epistemology

In keeping with this subjective and perspectival worldview of relativist ontology, this research adopts an interpretivist epistemology. This epistemology builds on ideas of empathic identification and phenomenological sociology (amongst other stances) (Schutz, 1967; Crotty, 2020), recognising that human action is meaningful and that exploring underlying meaning behind actions can shed further light onto the nature of the actions themselves (Schwandt, 2000).

The 'Detached Observer?'

Whilst many interpretivists would seek to play the role of the 'detached observer' within their research, within this research it is recognised that the researcher has played an active role (indeed, at times, participatory) through the nature of their involvement with the project. It is becoming increasingly common for researchers to carry out doctoral projects investigating their own organisations through 'insider action research' (Coghlan, 2007). While such 'insider action research' can offer significant benefits, including sampling opportunities, greater contextual understanding and real-time observations of practice, the researcher must be mindful of potential conflicts within research, including role duality and the interference of organisational politics (Coghlan and Brydon-Miller; Cameron, 2021). This is particularly pertinent when the researcher wishes to remain at the organisation following study (Kenneally, 2013). Observing that the 'messiness' of insider research is often sanitised within formal article methodologies, Collins and McNulty (2020) drew on their personal experience with insider action research, building a research framework with the following three recommendations:

1. To engage in reflexive consideration of the effects of (changing) positionality on their work as a way to strengthen the ethical and theoretical outcomes of research practice
2. To acknowledge and leverage, rather than conceal, insiderness as a key strategy for making feasible more research on sensitive and 'taboo' topics
3. To make positionality explicit in research reporting in order to enhance the quality of insider research as well as enhance fieldwork learning more generally in the international human resource management field

It is assumed that research takes place in terms of a double hermeneutic, with the meanings and interpretations of the research participant in turn being interpreted and critically considered by the researcher themselves (Giddens, 2013). Acknowledging these potential areas of tension, the reflections of the researcher have nonetheless been considered to contribute to, rather than detract from, the research. Whilst from a realist perspective, the layering of interpretation present in this research approach could be viewed to seem to dilute 'objectivity' even further and more problematically with a whole new layer of 'subjective judgement', the combination of a relativist ontology and interpretivist epistemology sees no such objection.

Instead, the approach taken is to be open that the data within such research is itself *always already* drenched in meaning and understanding, rather than 'objective truth'. Consequently, it follows that the hermeneutic work by the researcher is the only possible way in which this data may be synthesised and made available for public consideration, as per the goals of social scientific research. Therefore, it can be argued that this approach is not just necessary, but that this second layer of interpretation is what enables the research to make further sense of how stakeholders perceive and value the SUBC, allowing data to be viewed through multiple lenses and so glean further insights. In line with recommendations made by Collins & McNulty, the potentially messy nature of insider research has been embraced, transparently communicated and frequently reflected upon to maximise the potential insights that can be gleaned from such an approach.

Adopting this positioning had profound influence on research outcomes. Many areas which are considered to be objective measures of a project's so-called 'success' and 'failure' could be viewed more critically, helping to identify the diversity of perspectives amongst stakeholder groups. Taking this further, this diversity of perspectives could be examined through a new lens, considering how such diversity in perspectives influences diversity in how value is perceived within a university-business collaboration. As discussed in more detail in chapter 5, this relativist/interpretivist approach enabled engagement with heterarchy, the diversity and multiplicitous nature through which we attribute values and orders of worth (Stark, 2000), and this helped to make sense of this hugely diverse and complex web of value attribution amongst stakeholder groups. The shift away from traditional, positivist modes of thinking, to which the researcher was initially most accustomed, towards alternative modes of thinking enabled the researcher to frame the project in non-typical perspectives, allowing new insights to be observed. Further, as explored in chapter 6, the researcher was able to consider a third form of knowledge, *phronesis*, where we consider knowledge to be inherently connected to, and shaped by, contexts to promote the cultivation of situated, practical wisdom (Burbules, 2019).

Ethical Considerations

An ethics application for all research was reviewed by members of the Faculty of Arts and Social Sciences and Lancaster Management School Research Ethics Committee and approved on 14th December 2020 (reference FL20038). All research has been undertaken in line with the measures outlined within this ethics application.

All research participants were presented with a participant information sheet and were required to sign a consent form before participating. All data has been anonymised and stored in encrypted files on password-protected devices. Participants had a 6-week window during which they had the opportunity to withdraw from the study before anonymisation. No participants took advantage of this opportunity.

While it is believed that the researcher's active role adds further depth to understanding meanings and interactions within the SUBC through adding an additional layer of meaning and interpretation, it is recognised that the researcher's perspectives and experience could result in the misrepresentation of research participants' perspectives (Collins and McNulty, 2020). This challenge has been acknowledged as approaches to evaluation shift away from positivist and objectivist positionings (Bond et al., 2018), and significant effort has been made to avoid bias and misrepresentation of qualitative data. Firstly, the researcher has engaged in continuous reflection, recognising their positioning throughout the research process to account for potential biases. Secondly, the researcher has employed thematic coding to organise data, making it easier to identify patterns that reflect what participants actually say, rather than my personal bias and interpretation. Thematic coding in a double hermeneutic study is iterative, with the researcher continually moving back and forth between the data and their interpretation. As themes are coded and identified, the researcher's understanding of the phenomenon in question have evolved, allowing further reflections surrounding the researcher's position as a researcher and 'insider'. Data triangulation has also been carried out to reflect on whether themes interpreted by the researcher is consistent across data sources, allowing a more balanced view.

Methodological Approach

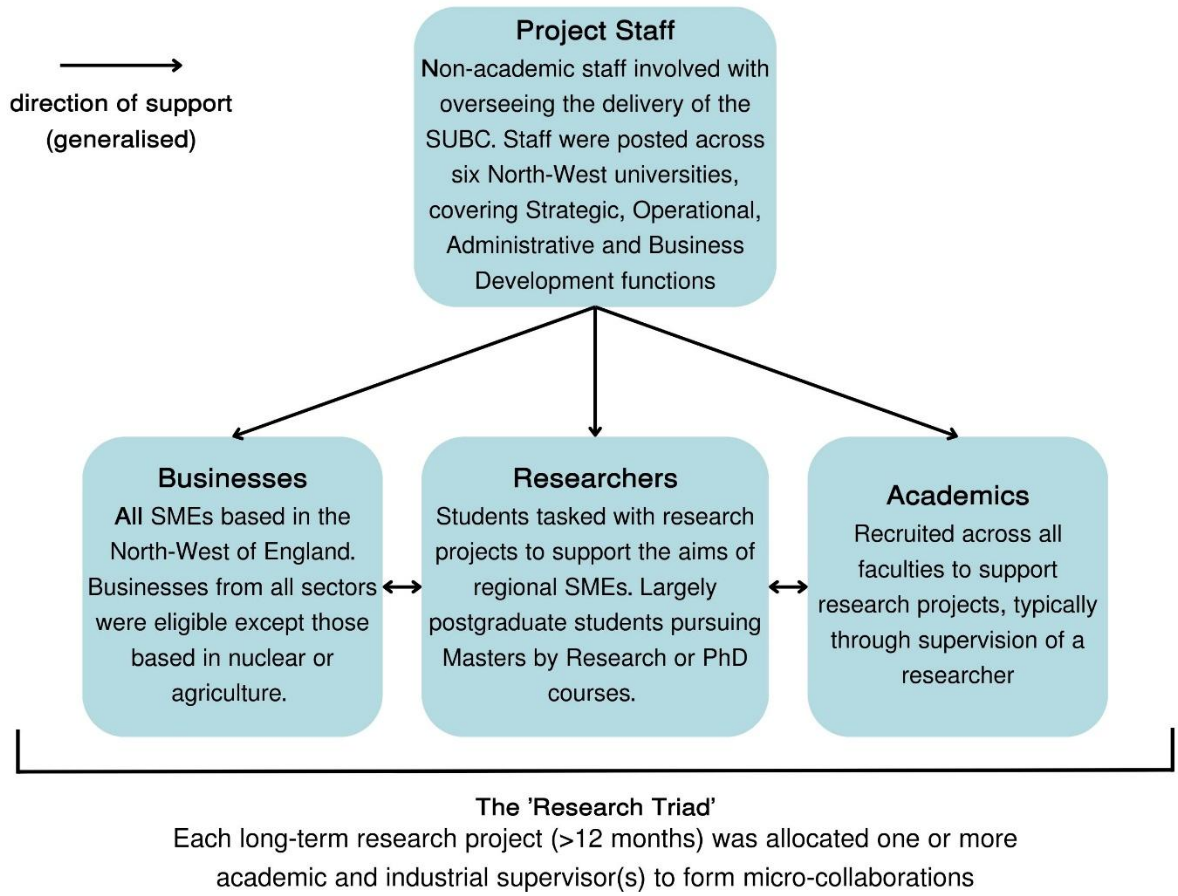
In order to observe the progression and direction of the SUBC, it was felt that data should be collected throughout the duration of the project. As the PhD project commenced alongside the commencement of the SUBC in question, data collection began relatively early within the PhD process, with interviews and observations taking place within the first 6 months of study. Whilst this was naturally not ideal, as it provided limited time to allow literary review and a deeper understanding of the philosophical, theoretical and contextual background of this research, the opportunity to gain a 'snapshot' of stakeholder perspectives early in the collaboration was considered too valuable to overlook. While published accounts of research often do not directly disclose the opportunistic and time-sensitive nature of their data collection approaches, Buchanan et al. (2013) recommend that researchers follow the 'Art of the Possible', ensuring that they are able to act quickly and make decisions in the moment, even where there is little time to design and pilot interview methods, or conduct literary review in advance. Okumus et al. (2007) note the importance of flexibility and contingency plans when designing qualitative research to ensure that you can take on research opportunities with relatively short notice.

Finer details relating to methodological processes are discussed within the respective sections of findings chapters; therefore, for the avoidance of repetition, this section will therefore not dive into the specifics of data collection and analysis. Instead, the rationale behind the approach to research is the primary focus of this section.

Data Collection

As discussed, data collection was carried out early in the research process, allowing limited time to develop a deeper understanding of the project in question and strategically consider how data would be collected. As a result, it was believed that the best approach would be to keep data collection as open and flexible as possible to make sure that research was not being carried out in a way which prematurely narrowed discussion topics and/or the sampling pool of research participants. As a result, a mixture of qualitative methods was used to ensure that a range of breadth and depth of topics could be covered. This involved interviews, surveys (adopting open-style questions) and focus groups.

The population of this study included all stakeholders directly involved with the SUBC project. Primary stakeholder groups are summarised in the figure below:



All stakeholders directly involved with the initiative were invited to participate, and interviews/surveys/focus groups were conducted with those who consented. Due to the limited number of available respondents, no further selection criteria were applied to the sampling procedure.

Interviews formed the primary research method within this project. To encourage flexibility whilst ensuring a breadth of topic coverage, all interviews followed a semi-structured format, with a draft set of questions prepared in advance. These questions were designed to be intentionally flexible – they were not asked in a set order, and interviews often diverged away from question topics. Participants were encouraged to discuss any topics they felt particularly relevant or important, to help to identify areas which were of particular value or significance to project stakeholders. A copy of sample questions is included in Appendix A. As the project progressed and understanding had developed, questions were often revisited and refined using experience from interviews already conducted.

Interviews all lasted approximately one hour in length, with the opportunity for participants to ask additional questions or make further comment following researcher questions. Interviews ranged in length depending on the participant's readiness to engage in further dialogue, with the shortest interview taking ca.45 minutes and the longest interview lasting ca.90 minutes. In total, 32 interviews were conducted alongside 2 focus groups, each lasting approximately 1 hour.

Surveys

Surveys followed a similar approach, with questions designed to be open and encourage longer responses where possible. Each stakeholder group had a tailored set of questions to ensure relevance. Questions covered a wide breadth of topics, with example questions included in Appendix B. Surveys were sent to all known stakeholders via email. For business representatives and faculty members, survey data comprised the most robust dataset; opportunities to interview these stakeholder groups were limited due to their particularly tight schedules.

Survey data was collected using Qualtrics. Surveys were left open until 3 days had passed with no new responses. Following this, data was exported to Excel and reformatted to categorise responses by stakeholder type. Following this, responses were imported into Nvivo. All surveys were completed anonymously.

Data Analysis

The analysis followed Braun and Clarke's six-phase framework for thematic analysis, allowing for an in-depth exploration of recurring themes (Braun and Clarke, 2006).

Coding was inductive, aiming to pull together common themes across stakeholder groups which emerged from the data itself. An initial open coding approach was used to identify recurring patterns, which were subsequently organised into thematic categories reflecting the research questions. This involved identifying recurring concepts, words, and discussions related to how stakeholders approached their engagement within the SUBC initiative. The coding process was iterative and regularly revisited and amended during analysis to ensure accurate reflection of the predominant themes emerging from data.

Throughout the coding process, particular attention was paid to topics which were emphasised by stakeholders; these were events or issues which tended to steer conversation, elicit emotional responses or be repeatedly referred to by participants. These recurrent points of focus were analysed and could be found to ultimately distilled into three overarching themes: priorities, motivations, and objectives. These themes captured the ways in which stakeholders articulated what mattered most to them in university-business collaborations and therefore could be thought to encapsulate how different stakeholders considered what was of value within the progression of the project. Further, conflicts amongst collaborators could often be attributed to contention in one or more of these three categories, providing an interesting way to interpret inter-stakeholder interactions. These three themes are outlined in further detail below.

Theme	Description	Sub-themes	Example(s)

Motivations	Reasons for stakeholders to take action or pursue goals.	Sustainability, Economic, Academic, Social	"It's got the potential to have a significant effect on our ability to decarbonise."; "The plan was never to get rich. It was always to disseminate technology and knowledge"
Objectives	Outcomes that stakeholders aim to achieve	Unclear Objectives, Clear Objectives, Complete Objectives, Incomplete Objectives	"the company are quite dedicated to develop that technology and try to get it to the commercial stage."; "I still need to get a qualification out of it at the end of this."
Priorities	Tasks, goals, or values that are deemed most important to stakeholders	SME Support, Course Completion, Publication, Funding Targets	"I see a greater benefit from me really impressing my company, than I do impressing my supervisors."; "it's more important to make sure that we're doing what the company wants, instead of academics"

Trends across these primary themes were compared and contrasted across the duration of the project, to identify whether there were time-based shifts in what was valued. They were also cross sectioned by stakeholder group, to determine commonalities and differences within each stakeholder type.

Tensions within and between these three themes revealed fascinating insights into the complex and multiplicitous way stakeholders valued different elements of the collaboration, with what appeared to be almost irreconcilable differences between what was prioritised, what fundamentally motivated an individual to get involved, and what the overall objective of the collaboration was. This diverse, incommensurable tension perceived by stakeholders could be considered as heterarchical, helping to conceptualise this complex web of value weaved by individuals and collaborative groups (Stark, 1996; Dekker and Kuchař, 2019). Considering this within the context of evaluation also demonstrated how evaluation itself formed an order of worth which could be viewed to further compound tension and complicate project progression (Stark, 2000; Rosin et al., 2017a).

Considering how evaluation assigns an order of worth to a project encouraged deeper reflection, drawing attention to how stakeholders navigated and managed the potentially destructive consequences of compounding tensions within the collaboration. Here, practitioners were found to be instrumental in proactively addressing potential tensions throughout the design and delivery of the project. This ability to predict and adapt to potential conflict could be attributed to practitioners' prior experience in this area and their depth of understanding of the context in which the SUBC took place. This level of understanding was viewed to surpass that of knowledge alone, and could be viewed as phronesis, or situated practical wisdom (Kristjánsson et al., 2021a; Kristjánsson et al., 2021b).

Central to this thinking was the understanding that inter-stakeholder interactions were not taking place in a vacuum. 'Place' was a consistent consideration throughout this research, considering the ways in which the SUBCs physical placement affected its progression. It is becoming increasingly well-recognised that conclusions drawn from one project do not necessarily apply to projects taking place in different contexts; in other words, what works ‘here’ does not necessarily work ‘there’ (Withycombe Keeler et al., 2018; Wildman et al., 2019). This way of thinking directly contests standardised approaches to evaluation, which often try to ‘control for’ context in order to compare and contrast outputs from different projects (Wagner et al., 2021). This research aspired to be continually mindful of the active role of place on the SUBC in question, considering the ways in which situational context influenced heterarchical interactions and emphasised the need for practitioners to approach project delivery in a place-based manner (Cresswell, 2015; Loeber and Kok, 2024a). Incorporating ‘place’ into qualitative research proved to be more challenging than may initially be anticipated, prompting the thinking behind the next chapter (Olphin et al., 2023).

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Chapter 4: Methodological Reflections: Challenges of ‘Place-Based’ Enquiry

Preface

Central to this research was the understanding that inter-stakeholder interactions were not taking place in a vacuum. ‘Place’ was a consistent theme throughout this research, considering the ways in which the SUBC’s physical placement affected its progression. It is becoming increasingly well-recognised that conclusions drawn from one project do not necessarily apply to projects taking place in different contexts; in other words, what works ‘here’ does not necessarily work ‘there’ (Withycombe Keeler et al., 2018; Wildman et al., 2019). This way of thinking directly contests standardised approaches to evaluation, which often try to ‘control for’ context in order to compare and contrast outputs from different projects (Wagner et al., 2021).

May and Marvin (2017: 6) recognise the impact of such ‘place-blind’ approaches to evaluation and subsequent policymaking, emphasising the opportunities which may be missed when ignoring the active role context plays in projects:

“Places lapse into passive sites of implementation, not co-participants in their collective potentials.”

This research aspired to be continually mindful of the active role of place on the SUBC in question, conceptualising place as not simply a passive location but considering the ways in which situational context influenced heterarchical interactions and emphasised the need for practitioners to approach project delivery in a place-based manner. The regional focus of the SUBC, alongside the tendency for SUBCs to have a regional target, drew attention to the varying needs within the target region, considering both the physical space and the socio-cultural interactions therein.

Research was designed to pursue several lines of enquiry surrounding place, aiming to shed further light on the extent to which the SUBC's target region (North-West England in this context) was acknowledged and curated for when designing the project deliverables. Whilst following these lines of enquiry, it became apparent that individuals struggle to talk about place and generally revert to universal modes of thinking during interviews and surveys in particular. After searching the literature for methodological guidance in discussing questions of place, limited material was available, prompting a book chapter to be written and published outlining the insights which were gleaned during the research process. This chapter allowed for deeper methodological reflection into the practical application of research investigating the deeply personal relationship individuals have with their places. The output from this methodological reflection is presented below.

Lost for words: Trying to investigate ‘place’ in entrepreneurship research.

Catherine Olphin, Joanne Larty, David Tyfield

In book: Nurturing Modalities of Inquiry in Entrepreneurship Research: Seeing the World Through the Eyes of Those Who Research

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Keywords: Place-based, Methodologies, Entrepreneurship, Sustainable Development, Stakeholder Engagement, Environmental Policy

Abstract

Despite widespread recognition of the importance of place in entrepreneurship research, much less attention has been paid to the methodological challenges that inquiries into place presents. Understanding the relationship between place and entrepreneurship is becoming increasingly important as focus turns to sustainable entrepreneurship and as policy makers turn to ‘place-based’ approaches to regional sustainability challenges. This chapter provides insight one researcher’s experiences engaging stakeholders in discussions about the relationship between a place-based university programme for sustainability and local sustainability agendas. The chapter reveals the struggles experienced by both researcher and participants in articulating what places and the local region means to both individuals and to the programme. The findings provide an important insight into how researchers studying place need to be cognisant of the limitations and flexibility of language when engaging research participants in discussing the relationship between place, sustainability, and entrepreneurship.

Introduction

As lead author, I will start this chapter by introducing the project and providing an insight into the challenges of researching 'place'. I was brought on board a multi-million-pound university programme to develop a place-based approach to eco-innovation and sustainability within North-West England. My research was to explore the relationship between place-based programmes and their contribution to local sustainability agendas. To begin, I wanted to explore stakeholders' understandings of this relationship and to explore with them key terms such as 'place', 'place-based', 'local region' and 'sustainability', given these were central to the programme. I did not expect initially that this would prove too difficult, given the increasing interest in place amongst entrepreneurship scholars, and inquiries into place have not been highlighted as problematic. After conducting an initial series of interviews, I soon realised that engaging participants in discussions around place and local region was not as easy as I first thought. This chapter explores my experiences in engaging stakeholders in conversations around place.

As I reflect on my experiences within this chapter, I would like to give thanks to De Wit (2013) whose insights into his own struggles in studying place were comforting. They made me realise that the struggles that I was experiencing were not uncommon but have been rarely acknowledged or discussed within the literature. De Wit's paper highlights how researchers exploring place can often be 'finding their feet' as they go along, that they need to take opportunities as they arise, and that they need to slowly build a picture of what places mean and how they matter in the lives of participants. If I had the opportunity to begin this project again, I of course would do things differently, but the joy of research is that you learn through the process. I hope that my insights will help others wishing to investigate aspects of place in their research. I learned that patience is a critical skill, as working with complex and contested terms such as ‘place’ can at times be challenging. Through learning as you go along, the process can, however, be highly rewarding, productive, and insightful. I hope that this chapter provides some guidance, and perhaps reassurance, to researchers considering pursuing their own research in this area. I wish you the very best of luck in your endeavours.

The Importance of Place in Sustainability Research

The growth and importance of ‘place-based’ approaches

Research that explores the relationship between places or local regions and sustainability is considered as being of paramount importance to further the sustainability agenda (Hart et al., 2015; Balvanera et al., 2017). Focusing on local regions allows both researchers and policy makers to identify, highlight and tackle local environmental challenges, to foreground potential tangible local impacts, and to catalyse communities to act in a meaningful manner towards increasing sustainable activities within the region (Kankaala et al., 2018). Indeed, it is suggested that local strengths can be developed through action targeted towards the challenges that most affect local communities, whether air pollution in an Indian suburb, reef protection in an Australian coastal town or fracking in the North of England (McKeever et al., 2015; Martín-López et al., 2020). Over the past decade policy has moved towards integrating more place-based agendas (Peck et al., 2013). Prominent examples include the European Union’s Cohesion Policy, Local Agenda 21 (LA21), and Smart Specialisation, alongside the US’s Empowerment Zones and Enterprise Communities Act (1993) (Mendez, 2013). Scottish national and local government have implemented the Community Empowerment Act (2015) and adopted the ‘Place Principle’ within policymaking, which divides areas into localities, describing place and the importance of place as:

> *“Where people, location and resources combine to create a sense of identity and purpose and is at the heart of addressing the needs and realising the full potential of communities.*

Places are shaped by the way resources, services and assets are directed and used by the people who live in and invest in them" (Scottish Government, 2019: 1)

Despite several criticisms and concerns (see for example Mendez, 2013; Celata and Coletti, 2014; Balvanera et al., 2017), there is much agreement that place-based agendas will be key to solving global challenges (Peck et al., 2013; McCann, 2019). What is important, as Beer et al. (2020: 17) point out, is that they deliver value to local regions:

"The most effective place-based policies (…) emphasise value creation and the local capture of value in order to generate opportunities in the short, medium and long terms".

For such policies to be effective, they need to reconnect local actors to the places and local regions that are important to them and to give them agency in deciding which sustainable pathways to take (Bentley and Pugalis, 2014; Olphin, 2022). Studies also suggest that place-based enterprises, whose activity is anchored in local places, can be more willing to pursue locally beneficial social and environmental outcomes (Shrivastava and Kennelly, 2013).

The crucial question for scholars is how we might most effectively investigate and capture the positive sustainable impact that such policies have on local regions, and the relationship between those policies and the sustainability agendas of those regions. There have been numerous calls for more work in this area (Trencher et al., 2014a; Balvanera et al., 2017). Universal economic measures such as Gross Value Added (GVA) (Bentley and Pugalis, 2014; Olphin, 2022) do not capture the impact of policy programmes and how they might lead to increased sustainable activities within the local region. There remains a lack of understanding about how we might better understand the relationship between place-based policy initiatives and the local region, especially in how policy activities might build on local strengths and resources to increase sustainable business activities within the local area, and in turn how this might contribute to the sustainability agenda within that region.

The project underpinning this chapter set out to understand how we might better understand the relationship between a place-based policy programme for eco-innovation and its impact on sustainable activities within the local region. Specifically, the programme wanted to investigate how such a project builds on the strengths and resources of the region and how project outcomes contribute positively to sustainable activities within the area. It was a research project that initially appeared straightforward, but it soon became clear that engaging key stakeholders in discussions around place and local region presented a number of challenges.

The chapter is structured as follows. We first explore some of the acknowledged methodological challenges of conducting research on place. The chapter then provides insights from the experiences of one researcher. We then discuss a number of methodological insights from conducting research in both individual and group settings. Finally, we make suggestions for other researchers looking to engage policy programme stakeholders or research participants in discussions around place.

Methodological Challenges of Researching Place

Research that considers the relationship between people and place (or local region) has been acknowledged as methodologically challenging (Balvanera et al., 2017). Key methodological decisions need to be made depending on whether the study is looking at, for example, the role of places in the lives of individuals or entire communities (Dillman and Peck, 2012), and on the scale or boundary of 'place' that is under consideration (Muñoz and Kimmitt, 2019). It is recognised that places mean different things to different people, people identify with different aspects of a place, or might recognise and identify with different places. This body of research highlights that the flexibility of language around places important to people can create a number of challenges (Lovasi et al., 2016). For example, research participants might consider terms such as 'local', 'region' and 'area' in a multitude of ways (Erfani, 2022).

A number of ‘go-to’ concepts have emerged, such as place attachment (e.g. Gill and Larson, 2013; Anderson et al., 2019), sense of place or place identity (Kruger et al., 2008; Gustafson, 2014; Cresswell, 2015). These have been enormously influential in helping to overcome the challenges of research on place, and to provide insight into individuals’ psychological attachments and relationships to places (Lewicka, 2011; Clarke et al., 2018). Yet these constructs are not without challenges, which goes back to the elusiveness and multi-faceted nature of the ‘place’ construct itself (Larson and Pearson, 2012; Anderson et al., 2019). In addition, whilst place attachment and sense of place emerged from psychologised understandings of the relationship between people and places, there is a recognised need for broader understandings of place within research, and this is especially recognised as important within the field of entrepreneurship studies (Audretsch, 2015; Pugalis and Gray, 2016).

Entrepreneurship scholars might learn from the experiences of human geographers when pursuing place-based lines of enquiry. For this body of scholars, within this body of work interviews *in-situ* are becoming increasingly popular (e.g. Holton and Riley, 2014; Bloch, 2016), there are a handful that explore place-based lines of enquiry (e.g. De Wit, 2013; Pugh, 2013). From these studies, the nature of place-based research is rarely immediately productive and frequently involves opportunism, highly unstructured approaches and a great deal of patience (De Wit, 2013). Many human geographers look to alternative methodologies to investigate place which rely on creative and visual methodologies, from photo-elicitation to participatory methods (Richard and Lahman, 2014; Akbar et al., 2020). Despite this, interview techniques can provide valuable insights; through carefully observing a participant’s language and verbalised thought processes, we can glean insights into an individual’s identity and emotional experiences associated with place which may not be observable from visual methodologies alone (Pugh, 2013; Ippolito, 2021).

Having considered insights across literatures from entrepreneurship, human geography, and sustainable development, we recognised that this research journey would require significant effort and we were aware of several challenges we would likely encounter. Yet we also recognised the potential for place-based research to uncover new perspectives and sought to explore this further within our research context.

Research Context

The insights below are based on the experiences of a researcher working on a £14m ERDF place-based sustainability programme based in North-West England. The programme brought together several local government partners as well as six universities and was focused on developing and promoting low-carbon innovations within the North-West region through working with regional small and medium enterprises (SMEs), policy makers, PhD students and other regional stakeholders. The researcher (lead author of the chapter) was brought on board to provide insights into how we might more effectively evaluate the contribution of place-based policy programmes to the sustainability agenda of the local region.

With the research starting as soon as the programme began, decisions on research strategy had to be made quickly and needed to fit alongside programmed activities. A first point of call was to understand stakeholders' perspectives of the relationship between the programme and the local region, specifically exploring how the strengths and resources of the region had shaped the design of the project, as well as how the project might contribute to the sustainability agenda within the local region. Initially, individual surveys followed by interviews were conducted to gain an insight into stakeholders' perspectives of the relationship between the programme and the local region. Stakeholders included project leads, business development managers, representatives of local SMEs, researchers and academics engaged in the programme. Several challenges emerged whilst conducting interviews, especially in engaging stakeholders in conversations around place and local region. These challenges form the basis of this chapter. Whilst conducting interviews, the researcher also had an opportunity to observe a series of facilitated focus groups with programme stakeholders and regional business owners focusing also on their relationships to place and the local region, and how programme activities might build on the strengths of the local region. This provided an opportunity for the researcher to not only collect further data, but to also compare the experiences of trying to engage individual stakeholders in discussions around place with the experiences of facilitated group sessions which also engaged participants in discussions about place(s) and the relationship between the programme and the local region. The insights from these group sessions are used to add further insight into the similarities and differences between individual and group-based discussions around places and local regions.

Insights from Individual Conversations about Place

Questions on both the survey and interviews asked open-ended questions about participants' perspectives of the relationship between the programme and the local region. In addition, general questions relating to stakeholders' motivation for engaging in the project, alongside desired outcomes, were asked to explore stakeholder priorities and investigate the extent to which these appeared to be related to their local region. The survey was used to identify further potential lines of inquiry that could be explored in more depth in the interviews. In total, 93 responses were recorded from academics, businesses and student researchers directly involved in the programme. Questions included:

- *In what ways do you feel being located in the North-West of England is an advantage (or a challenge) for a project that focuses on eco-innovation?*
- *How does your project contribute to the North-West region?*

Interviews were conducted with researchers, academics, staff, and business representatives to understand how the local region had influenced the design of the programme, and also how the programme would influence sustainability activities within the local region. A variety of questions were used, referring to both places and local regions, as well as responding to participants' answers which engaged various aspects of place including the mention of local networks, local communities and groups, or discussions of where client markets were based. Participants were asked a range of questions about how they define the local region, what places or regions are important to them and how they feel the project might or should contribute to these places.

Example questions included:

- *How is this project tailored to the needs of the North-West of England?*
- *What are the strengths of the North-West for eco-innovation?*
- *Why do you think that so many sustainability collaborations have a regional focus?*
- *In what ways do you feel being located in the North-West of England is an advantage (or a challenge) for a project that focuses on eco-innovation?*
- *How do you think your project benefits the North-West?*
- *How do you believe this project has strengthened ties between this university and local businesses?*
- *In what ways is the North-West of England important to your business?*
- *What are the main reasons for your business being based in a particular area (or town)?*
- *How, and in what ways, is your local area important to you / your business?*

Responses were analysed and thematically coded in NVivo using the method proposed by Braun and Clarke (2006). Transcripts were coded according to how topics of place were navigated by participants. We were able to identify different approaches in how participants engaged in talking about places and the local region. The first approach, 'Apathy to Place', was most evident in survey responses as well as during participants' answers to opening interview questions. After several questions, participants during the interviews started to use different approaches for talking about place: 'Moving to Global Concerns'; 'Acknowledging Place-Based Policy Language'; and 'Comparing Regions'. The final approach, not evident in all interviews, emerged as participants began to feel more comfortable talking about place, and began to articulate personal attachment to places. These themes are illustrated with quotes from the survey and interviews, alongside personal experiences of conducting the interviews.

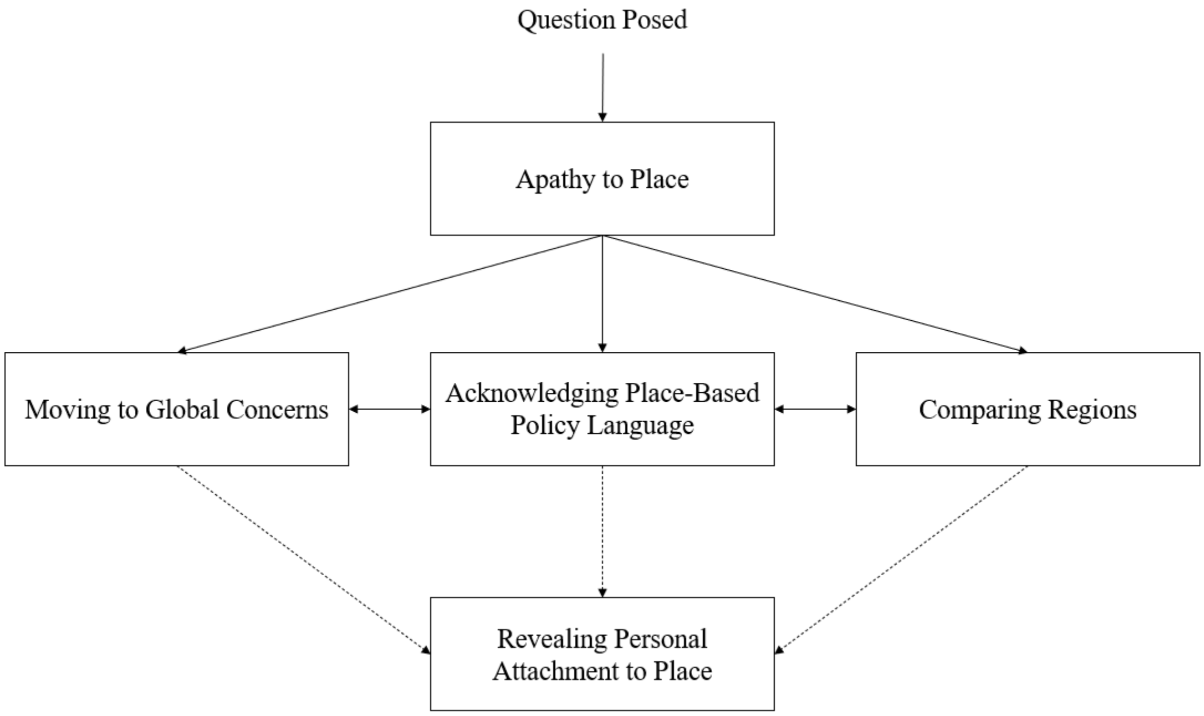

Figure 5. Themes in approaches adopted by participants when posed with questions relating to places.

1. <u>Apathy to place</u>

An apathy with place was common in responses to survey questions, with "I haven't really thought about it" being a typical response when asked about the importance of the local region to the project. For example, when asked about the benefits and challenges for eco-innovation in the North-West with statements such as:

> *"No real thoughts either way here"* – Academic.

> *"This isn't something I think about"* - Academic.

> *"I don't think location is especially relevant from my perspective"* – Academic.

> *"Not particularly. We work with universities around the UK"* – Business.

> *"We have no particular regional focus."* – Business.

The responses suggested an apathy towards the relationship between the project and the local region, which in hindsight might also be due to a lack of readily available language available to participants to articulate their relationship with places and localities. There was also the possibility of a problem with the survey questions, or participants' attitude towards completing the survey, but even with a different set of questions, the same theme emerged in the first few questions of the interviews. For instance, when asking a researcher about how the outputs from their research might benefit the North-West, the interviewer was met with a long pause followed by the researcher evidently struggling to articulate an answer:

> *"…Um, that's a really great question. Um. In all honesty, I don't think it does. Um, I think the only thing it benefits is [SME], and that's a business based in the North-West of England. Um? So, it benefits the fact that this is kind of a ground-breaking company that shouldn't really exist at Lancaster to be honest like this is the kind of consultancy you'd expect to find in London or somewhere stupid. So, I guess that's a good thing for the North-West, but I'm not sure how many people within the North-West directly benefit from that."* Researcher involved in project.

Here, although very much aware of the impact of his research for the business, it was more difficult to articulate the connection to the local area. As a researcher with insight into the wider project, I could see that his project did contribute to the region, but not wanting to push my own ideas and insights, I saw this more as a problem in how to frame such questions in a way that provided participants with the language to more openly discuss the relationship between their project and the local area.

After numerous interviews, I began to learn how to frame the opening question in different ways depending on the struggles participants were having in articulating their answers. This meant that during the initial stages of the interview gauging how to discuss the relationship between the project and the local region was challenging. Like most of us, participants are not often asked about their relationship to places, and therefore a degree of making sense about that relationship must be undertaken (Bentley and Pugalis, 2014). I learned to be more patient with respondents and expect them to experience an initial struggle with considering an unfamiliar topic, and to allow them time to explore their thoughts in more detail and through different questions during the interview.

As the interview progressed, and as I learned to frame questions in different ways, participants began to move from an apathy towards place, towards engaging in conversations about place. As these conversations developed, three further themes emerged in the ways participants engaged in talking about place, which are discussed below.

<u>2. Moving to global concerns</u>

A strategy used by participants to engage in discussions about place was to challenge the focus on local places and to revert to discussions of sustainability as being a global concern. When participants were asked about how the project or their business contributed to the sustainability of the local region, their responses rejected the local sustainability narrative and moved to discussions of carbon and climate change and the global nature of environmental challenges. When discussing the contribution of the project to the local region, the project lead's response illustrates this strategy well, as they reject that this is a local concern and suggest that it was a global concern:

> *"People just say 'go local', but that's partly because the government in the previous round of regeneration funding had driven that localism agenda. It had been simply about money in Lancashire or money in Cheshire or money in wherever and therefore, you know, that created that culture. And I think to address a low carbon challenge which is a global challenge we really have to think differently to that, and I think therefore we've done ourselves a disservice in terms of the way in which we've set regeneration up."* – Project Lead.

As a researcher, the challenge when participants use this strategy is to then move them back to discussions of the local, given they have now rejected local as being important, and instead rely on a universal narrative that that 'does not acknowledge the significance in places' (Relph, 1976:143). Global sustainability narratives have been suggested by some as being increasingly ubiquitous (Tan et al., 2019) and are symptomatic of a general move towards sustainability becoming less attached to places (Leith and Vanclay, 2017). Whilst climate change is a global concern, the individuality of places remains relevant; not everywhere is equally affected by environmental challenges, and, indeed, individual places have a different roles and responsibilities in the wider sustainability agenda. Whilst challenging, thinking on a more local level can give stakeholders greater authorship over the sustainability narrative (Carragher et al., 2018; Hendersson and Wamsler, 2020).

3. Acknowledging place-based language

A second strategy that respondents used to respond to questions about place was to draw upon place-based policy language. Terms such as 'regional economy', 'sense of place', 'localism' and 'globalism' were often mentioned by respondents:

> *"How do we allow that to benefit local people and regional economies?"* – Researcher.
>
> *"Would we not be better in certain circumstances working with known umbrella groups where there is already a sense of strength and a sense of place in those areas?"*- Project Lead.
>
> *"I think it's to do with the identity, you know that's what I mean. The identity of place, you know."* – Business.

I would often hear echoes of place-based language from policy documents, yet participants struggled to articulate their ideas further. Some participants also used policy language to express cynicism about place. In such cases, place-based perspectives were viewed as a current trend rather than a long-term strategy for research or regional development, echoing criticisms within the literature of the exploitation of place-based thinking within academia and policymaking. There is growing critique of politicians paying ‘lip-service’ to place-based narratives in order to appeal to local groups and further political agenda (Daneri et al., 2021; Lee, 2023).

> *“It depends on the government of the day and what their philosophy is, whether it's more local or central. You keep seeing these different models appear, and then a different level of thinking comes in and that model disappears and goes out of fashion. And then ten years later that original model suddenly becomes fashionable again and reappears. So, there's the whole conversation at the moment, both regionally and nationally, about what level of support needs to be in place, where that support needs to sit and how it's targeted.”* Business Development Manager.

<u>4. Comparing regions</u>

The fourth strategy participants used to talk about place was to draw upon and to compare regions. This included both noting differences between regions, highlighting sector specific strengths of a region, or focusing on the challenges and deficiencies of either the North-West region, or specific places within that region. In the excerpt below, we see the participant is initially surprised by the question. To respond, they interpret the question in a way that focuses on topics most pertinent to them in their role as Project Lead: research institutions and SMEs within the region. They then use the comparison strategy to highlight regional deficiencies. We see the participant struggle in capturing what the North-West means to the project, before forming an opinion:

“[What do you think are the strengths of the North-West when we're talking about eco-innovation?]

> *“Gosh, good question. It’s easier [to] say why we're not. Working in Greater Manchester’s quite easy because Greater Manchester’s a very well-organized sub-region. You know, so if a business is looking for support in Greater Manchester they know where to go and we're*

part of this kind of well-established ecosystem, so we'll work very closely with the growth company and other stakeholders that are interested in that kind of economic development. That doesn't exist as well in Cheshire and Lancashire. So, looking at the North-West as a whole is quite interesting, because if you're an SME in the middle of Cheshire, it's not obvious where to go for support. It's not obvious that a research institution will be the place to go, so I'm sure there are strengths, particularly research institutions who've got expertise, but I don't know necessarily that SMEs who are looking for that support will know it's there. So, I think one of the things this project can do is just try and raise the profile of that. You know, in two years we'll be in a better position. (...) *Strengths of the North-West... Yeah, probably just the strength of the organizations that are in it, but I think there's more issues around how economic development is delivered across different areas."* – Project Lead.

The focus of the questions on the North-West led many to compare this region with London and then using this as a basis for highlighting specific strengths and deficiencies of the North-West. Through questioning this mentality, researchers can push this further to explore what is present in the region and encourage more imaginative thinking; asking questions such as "what could this region look like?" or questioning how the region would be different were it to have characteristics associated with London helps participants to think deeper about these comparisons and think imaginatively about the strengths and opportunities for the region.

"It is more realistic to forge an academic partnership [in the North-West] for a small company like ours compared to being located in London for example." – Business.

"This afternoon I saw a nice graph from Zap-Map showing how many chargers there are per 100,000 people in the North-West. I think the North-West has like 22 and London had 83. And that's everything from all the way from Chester all the way to the top of Carlisle. So... It needs improving." – Researcher, discussing electric vehicle charging point locations.

These examples demonstrate how researchers struggle to articulate place and therefore do so through engaging aspects that make sense to them.

> *"I think there's pockets in different areas, so I know from going down to sort of Cheshire, Runcorn and Ellesmere Port, there's quite a lot of heavy manufacturing and chemical industries that we've not really tapped into that well, and I know in Manchester and Liverpool city centres, there's a good digital hub, but again, we've not quite linked with them. We've done well in sort of little outskirt pockets in these places. Um… I think Lancaster has a good manufacturing industry and community, especially over East Lancs way, sort of BAE and sort of Burnley and manufacturing bread and butter towns. They've come from mills and changed along the way. I think there's a good community there. I know there's a good renewable sector in Liverpool sort of looking at the marine side of renewables. And there's a big project there looking at tidal barrage and things. And I know University of Cumbria hoping to target the tourism sector of Cumbria. They see that as their big key sector, which probably is right."* – Project Lead.

> *"[there is] a difference in in the kind of people you encounter in the economic position of (…) a fairly affluent part of South-East Cheshire compared to let's say North Manchester where there was a bit more poverty and people weren't as well-off or well-resourced."* – Business Development Manager.

> *"So there's definitely been like upward trend in bringing back garment manufacturing and a lot of that has been in the North-West in and around Manchester and Lancashire. So there are a few garment and dye factories opening up in Lancashire."* – Researcher.

Such comments maybe highlight the predominance of demographical representations of place to describe regions or groups of people, with participants drawing on this readily available language when faced with questions about local regions and places.

5. Revealing a personal attachment to place

The fifth theme emerged during longer interviews, where participants had time to talk freely about places. This fifth theme emerged as participants began to talk more openly about their own attachment to places. Typically, this was sparked by further probing questions about regional strengths which opened a more general discussion about their reasons for living and working in the area.

Participants discussed cultural, geographical and social attributes of their places. Participants who had connections with the region over a longer timeframe (whether through living or working in the North-West) and who recognised a personal connection to place were able to talk at length about regional characteristics and how these might create for the project. This echoes findings from previous research which suggests that those who have resided in a place for longer periods of time tend to reveal more place-attachments (Bailey et al., 2016). For example:

> *"[what makes the North-West special is] the geography, you know, actually if you're going to look for some form of hydropower in England, you know, you'd look somewhere like the Lake District, wind, offshore tidal, again in certain places. So we've actually got the sort of geography to understand some of these technologies. And I think finally the one thing that connects me as I look at the people, partly because of the location, you know, you get towns and cities reasonably close to quite a number of areas of outstanding natural beauty or national parks. There is this absolute understanding in people, I think, that work and environment are in some way linked and they get that, whereas I don't think you always get that in certain other parts of the country. So actually, the understanding that there's economic benefit in driving something that's good for the environment, I think is understood in this part of the country"* – Project Lead.

> *"There's an agility to the economy. We're very good at adapting, I think, to circumstances. I think there's this really fertile ground for businesses here and the talent that's here. I particularly love the north of the county, which is what drew me back here. You know it's the landscape I suppose, and the feeling of being home, you know, it's our roots that we've*

come back to from being away, you know, in other parts of the world or the country. So, there is a draw that brings people here definitely. And I think it also seeps in, sort of, in Lancaster especially, it's a real, vibrant culture. In creativity, you know there's like so many festivals that we get involved in as a café, as you know, as café proprietors. I'm straying from the question a bit there." – Business.

Summary of findings

Engaging participants in talking about places and the local region is challenging. Starting with a general apathy about place, participants, when pushed further, rely on pre-formed languages about place, from focusing on global perspectives, policy language and place-based terminologies, or forming comparisons between regions to identify relative strengths and weaknesses of their local area. This research demonstrated that place-based lines of enquiry are relatively unfamiliar to most. May and Marvin (2017: 6) point to the disconnect between the prominence of place within policy discourses and the passivity of place in policy implementation, *"places lapse into passive sites of implementation, not co-participants in their collective potentials".* As a consequence, many do not frequently consider the influence that a place itself may have on the actions and processes which affect them, and indeed, it was evident from the interviews that the language of place and our role within those places can be a key constraining factor. This raises some potentially significant implications in the context of policymaking and strategizing for regional sustainable development.

Engaging Group Discussions of Place

Whilst conducting interviews, an opportunity emerged to observe several facilitated participatory group sessions exploring regional stakeholders' perceptions of how the programme might build positively on the strengths of the local region and develop sustainable solutions to key local sustainability challenges, and also working to facilitate collaboration between those stakeholders on local solutions. The participants at these events would be different stakeholders to interviewees. A series of group sessions were followed over a six-month period in Cumbria, Lancashire and Merseyside which brought together SME owners, industry leaders, policy makers, academics, and undergraduate researchers. The groups focused on the food and drink sector as this was recognised as being a particularly important sector for sustainability.

The sessions presented an opportunity to explore how key stakeholders engaged in discussions about place and the local region within a group setting. This provided an insight into the processes through which participants collectively developed an understanding of the opportunities and challenges within their local region, and the ways they engaged in discussions of place. The most noticeable difference between the interviews and group sessions was that discussions about place went much deeper within the groups, but the language used by participants remained very similar to that heard during the interviews.

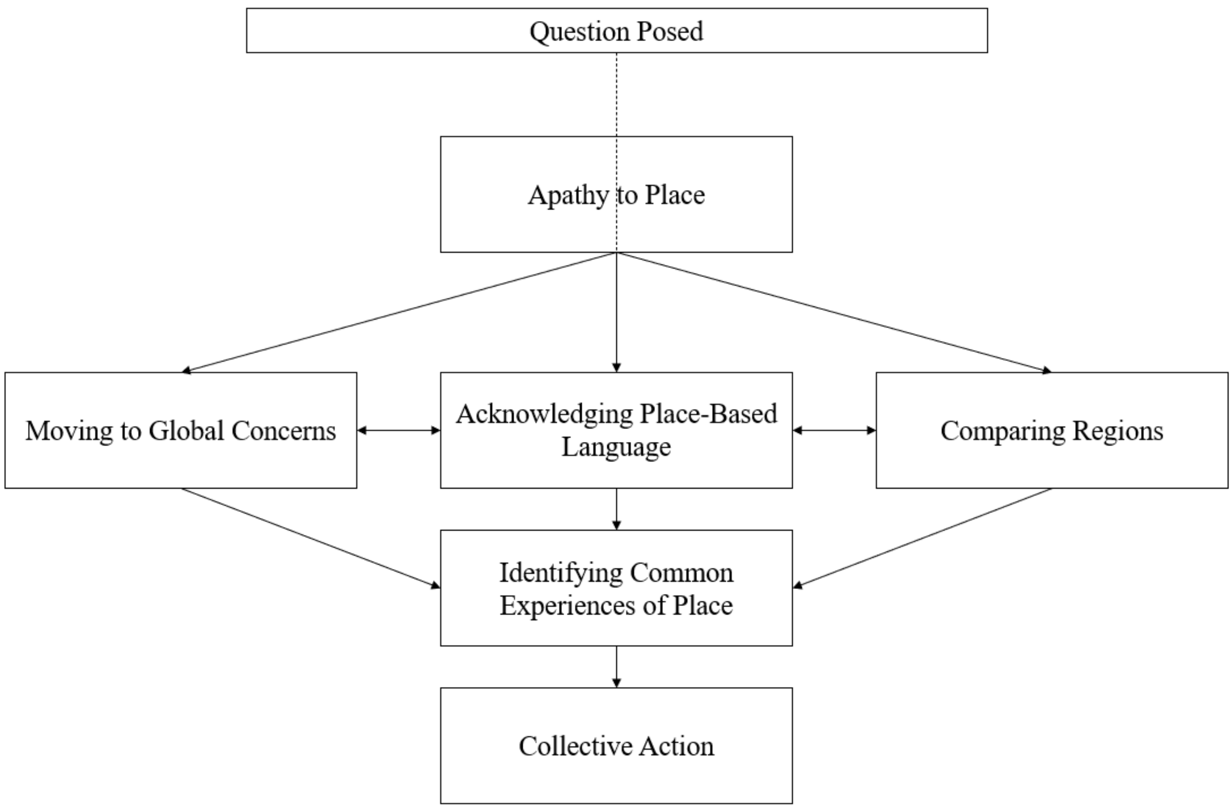

Figure 6. Group approaches to place observed in a group setting.

The initial 'apathy to place' was only fleeting in group discussions. Conversations tended to move quickly to 'global concerns' or to 'compare regions' to better understand the local area. Although participants did engage in drawing on 'place-based terminology', this seemed to mirror the language used by facilitators and, as with interviews, did not initially reflect a meaningful understanding of the local region.

The following sections provide an insight into the different experiences of engaging stakeholders in discussions about place and local region, comparing two workshop series in Cumbria and Lancashire respectively. Both workshop series shared the common goal of encouraging SME discussions around place and the local region, and to work towards potential collaboration. The most striking difference between the two workshops was how the language of place can either enable or constrain agentic action, thus revealing a deeper connection between the language of place and the relationship between people and places.

<u>Workshop Series 1: Cumbria</u>

During the introductory session to this workshop series, participants were asked to discuss key sustainability challenges within their local area, initially the conversations remained high-level, but after a short period of time and through further probing questions by the facilitators with questions such as "why is Cumbria important to you?" and "why is Cumbria unique?". Although participants drew on the same language that we saw in the interviews, using comparative lines of reasoning, contrasting their region with London (though, in this case, it was to highlight the region's relative merits rather than deficiencies), the discussions went much deeper than within the interviews. There was a shared sense of what Cumbria meant to the participants, even though 'Cumbria' itself was a diverse and varied landscape. The way place was discussed within these sessions also gave rise to a greater sense of agency amongst participants to enact meaningful change for sustainability within the area. Participants discussed their relationship to place as a two-way process, i.e. how places affected their actions, but also how their actions might affect the places their businesses were based.

These conversations enabled participants to move more quickly to discussing how their businesses could make an impact on sustainability within the area, and how their actions could challenge the activities of larger players such as supermarkets. Participants were relating in a heart-felt way to the places in which their businesses were based, perhaps echoing the ‘place attachment’ language seen in the interview settings, but in this case relating to the relationship between the businesses and place. These discussions led to the group exploring ideas for sustainable transitions that they all agreed would lead to positive changes to the places important to them. Potential collaborations were forthcoming as there was a shared sense of agency amongst the group. By the end of the series of sessions, groups had clear outlines of regionally specific programmes they could work together on to that would create positive impact for both their businesses as well as the wider sustainability agenda for Cumbria.

Workshop Series 2: Lancashire

Based on the experiences from the first workshop series in Cumbria, the facilitators used a similar approach with a group of business owners and other stakeholders in Lancashire. Asking similar opening questions, the discussions within this group were very different, indicating that there were many factors at play, and that different approaches might be needed with different groups of stakeholders.

As in the Cumbrian workshops, the language of place and region provided a common language through which the SME owners could explore common ground, discuss shared experiences, and identify local challenges in the transition to a low-carbon economy. The discussions, however, related to a variety of different areas, “what does Lancashire mean to you and your business?” did not spark the same discussion as that in the Cumbria-based workshop. There was a sense within this group that the scale of the challenges identified and the diversity of the places discussed led to participants seemingly having less agentic control over how their actions might influence the places that were important to them. The scale of the projects identified were greater than the places that participants had direct control over, perhaps echoing recognition in the literature that making a meaningful contribution to global environmental issues is naturally a daunting task (Tan et al., 2019). Although at the same time, thinking on a more local level is believed to foster an opportunity for individuals to have a greater sense of agency and being able to observe the effect of their actions in a tangible manner (Benneworth et al., 2017), how to encourage this in practice can be challenging. This group decided the best course of action for them was to lobby local authorities to facilitate businesses' journey to a net-zero carbon footprint.

Overall Observations

Gathering feedback from the organisers, place was considered a crucial element in creating a common language for participants to share experiences and to consider opportunities for collaborative effort towards sustainable transitions. People within a place share similar mindsets and have common values and languages that they can relate to; they were *"similar types of people"*. One organiser commented that using the language of place, participants *"immediately coalesce",* making it significantly easier to encourage participants to work together and build trust. This was observed in both workshop series, where participants began to open up and share perspectives more freely when discussing their local region. Place-based lines of enquiry may potentially have the potential be a valuable methodological tool to encourage group-based discussion across a wider range of contexts.

Interestingly, whilst open conversation was achieved to enable idea-sharing amongst groups, the outcomes delivered by workshop groups were strikingly different. Whilst one group felt a great sense of capacity for local action, the other appeared to feel a lack of agency and instead focus efforts on groups which have seeming greater authority on local sustainability challenges.

Whilst both groups adopted the approaches identified in Figure 2, each group placed a different emphasis on particular approaches. Cumbria's participant group appeared to gravitate towards regional comparisons, identifying relative strengths present in Cumbria which may be lacking elsewhere. On the other hand, Lancashire's cohort took a different approach, focusing on large-scale problems which they did not feel they had the capacity to tackle alone. This difference in approach to considering place appeared to influence the outcome of each workshop, mirroring observations from other researchers (van der Giessen et al., 2021).

The challenge, however, is how local is the 'right' level of local? Choosing the right scale through which to collate individuals was found to be a crucial determinant of the collaboration's success. Too widespread and there isn't enough commonality to catalyse collaboration, yet when the region is too small, there is often insufficient diversity of experience to challenge assumptions and stimulate learning opportunities. According to organisers, this is less about geographical scale and more about regional *diversity*. For example, a similar initiative was organised in Blackpool, Lancashire. This coastal town has diverse economic and environmental challenges with highly urban and rural areas and therefore conducting a series on this scale was deemed appropriate to maximise potential learning.

It is not immediately obvious why the strategies adopted across the two groups differed. Examining the diversity across each region could provide some explanation. It can be argued that Lancashire is a region with greater regional diversity. Cumbria is a relatively rural region with a prominent and sizeable national park. Across the region, participants experienced similar challenges, including limited access to effective public transport, lack of effective waste management facilities and challenges in encouraging tourists to adopt sustainable behaviours. Lancashire also has highly rural regions, encompassing parts of the South Lakes, yet also two major cities: Lancaster and Preston, which are relatively well-connected by public transport. Alongside a strong agricultural focus, the region has strong historical links to the industrial revolution which are still prevalent today. Perhaps, due to this regional diversity, commonalities were less immediately identifiable on a localised level, resulting in participants identifying more generic challenges which would be applicable to a wider range of contexts. This scaling-up to identify commonality could be a potential explanation for the difference in outcome; further exploration is needed to identify the influence of regional diversity on collective approaches to place-based action.

Implications for future place-based research

It has been argued that methodologies seeking to investigate individuals' connections with their places can be persuasive on paper, yet often fail to translate into real-world outcomes (Bentley and Pugalis, 2014). Whilst the diverse range of definitions of place across academic disciplines does not aid place-based research efforts (Erfani, 2022), it can be argued that methods seeking to engage individuals in conversations about place are largely hindered by the culture of competition, globalisation and monetary valuation which dominates our conversations and actions (Barca et al., 2012; Barron, 2020).

Researchers interested in investigating place must remember that discussions about place(s) are relatively unfamiliar for many research participants. Scholars have argued that we have been slowly losing the ability to fully articulate the connection we share with places that are important in our lives (Dovey, 2016). As has been highlighted within this chapter, considerations of individual versus group discussions, different ways to frame questions about place, as well as allowing sufficient time for participants to engage in place, are needed in order to provide meaningful responses (De Wit, 2013).

There are promising innovative methodologies emerging within disciplines such as human geography and societal ecology which might prove fruitful new avenues for entrepreneurship scholars to explore a broader range of research questions around place. Methods include spatial mapping and analysis, interviews and participatory approaches (de Vos et al., 2019), participatory mapping (Akbar et al., 2020), transgressive action research (Macintyre et al., 2019), photo-based methodologies (Stedman et al., 2014) and the use of technologies such as augmented reality to create an immersive environment to better explore individuals' connections with their places (Echavarria et al., 2022). These visual, creative methodologies could offer opportunities within entrepreneurship to allow greater insight into individuals' connections with place which may otherwise be challenging to articulate. For example, participatory mapping has been shown to be a valuable tool for highlighting commonalities between places, allowing opportunities for collaboration and idea sharing to be identified (Akbar et al., 2020). Photo-elicitation, whereby participants are encouraged to photograph their experience within a place, can shed further light on place attachment and uncovering what stakeholders (perhaps subconsciously) values within a particular place (Tonge et al., 2013; Richard and Lahman, 2014). It would be understandable, given the potential of these methodologies, to question the need to push for interview-based methods within place-based research (Pugh, 2013).

Whilst visual methods show great promise, interviews will continue to play an important role in garnering insight into individual's relationships to places. As scholars we need heightened awareness of the importance of the written and spoken word, and of the grand narratives that dominate our ways of speaking about places, limitations in the words we have to describe places will lead to constraints in how we translate place-based policy programmes into activities that contribute positively to the places important to individuals (Parkinson and Meegan, 2013; Pugalis and Gray, 2016).

As demonstrated in this research, such methods shed light onto thought processes which help us to bridge this gulf between us and the places which we are connected with. Yet, as with all research, we can't always guarantee that these approaches will result in meaningful responses. Researching place requires a great deal of patience, an acceptance of failure and recognition of societal barriers to place-based research in order to persevere towards meaningful results (De Wit, 2013).

Within the project described here, the way we attribute value to place speaks directly to how we value university programmes and their role in the sustainability agenda. Currently, the value of this university programme is predominantly assessed using methods approved by the funding provider. From observations, several impacts (particularly on a local level) are not fully captured, resulting in an undervaluation of the impact of the programme. In a world which is increasingly connected through words, the ability to express the value of our places in written and spoken terms holds great potential for evaluative processes, policymaking and societal change (West et al., 2019). We cannot measure what we cannot articulate, and therefore our struggle to articulate the influence and value of places perpetuates the use of non-placed, economic measures for regional sustainable development (Pugalis and Gray, 2016).

A key challenge raised by this chapter is that the research process is playing a key role in helping participants to familiarize themselves with language that enables them to describe and talk further about the places that are important to them and to the project. This adds time onto the research process, and it can also be frustrating when survey and interview responses are limited in scope and depth. Yet the path of greatest resistance is often where there is greatest opportunity for growth and improvement. This applies not only from a research perspective, but also from a wider sustainability agenda too. This research has shed light onto the constraints of language to enable us to better evaluate the effectiveness of place-based programmes to deliver outputs and create impact relating specifically to the places that matter to the project, and in creating sustainability outputs that build on the strengths, resources, and challenges specific to a local region and places within that region. Without a rich language of place, it is difficult for those involved in such projects to articulate clearly how such programmes build upon and contribute to the places that matter to both policy makers and wider stakeholders. Yet the project and the challenges around defining and articulating places and local regions has also led to stakeholders being more aware of the challenges of place-based programmes, and consciously working towards understanding what places matter to them and how we might develop a stronger relationship between such programmes and the places and local regions within which they are based. The methodological challenges of studying place is recognised as in need of further research within the wider literature (De Wit, 2013; Pugh, 2013; Pugalis and Gray, 2016). This chapter calls for entrepreneurship scholars to acknowledge the challenges of investigating place as part of the rich array of entrepreneurship studies, especially the area of sustainable entrepreneurship in which place is seen to play a key role.

Key Learnings

The project provided an insight into the challenges faced by a researcher in engaging regional stakeholders in discussions around place. Through the project we learned a great deal about the challenges and opportunities of engaging people in talking about and connecting to particular places that are important to them. Perhaps the way we struggle to talk about place in a meaningful, strategically informative way in fact sheds light onto the ways in which place-based research dependent upon articulation should direct itself. In brief, we have learned:

Comparative lines of questioning often result in clearer responses. Strengths were often seen as relative; many struggled to consider the strengths of Manchester, for example, without comparing it to the relative lack of this strength in a region such as Cumbria. It is often easier to identify what is absent from a place through comparing it with other places where these characteristics are present. Although these insights may not be particularly profound in the academic sense, they acted as a potential bridge towards more meaningful place-based discussions, delving deeper into these characteristics and the influence this has on individuals and their projects.

People tend to be more comfortable talking about *scale* than place in general. For example, it was common to describe the UBC programme by comparing it with previous smaller-scale programmes or comparing localities within a wider region. This is understandable - scale-based language is more common in policy and conversation. We often talk about things on 'levels' ("local level", "regional levelling-up"), a term often used synonymously with scale. It is, however, also important to remember that terminology of scale can be subjective and to phrase accordingly; terms such as 'regional' or 'local' can vary widely in their interpretation and therefore care must be taken.

Regional diversity could play a key role in group-based place research. Group-based research, including participative action methods, need to take great care in selecting the scale at which to cluster participants alongside the diversity within this region. The degree of commonality in knowledge and experience between participants could influence the direction and focus of conversation and any subsequent action.

Place-based research is most definitely a marathon, not a sprint. Managing expectations on a personal and professional level is a large part of place-based research. Whilst research publications are prone to discuss the successful outcomes of such research, the reality is often non-linear and scattered with failed attempts. Whilst place-based methods are in their relative infancy, remaining steadfast in the face of limitations is crucial to persevering with research. The potential for improving regions, shifting mindsets and contributing to the sustainable transitions through highlighting the value of place across diverse scenarios greatly outweighs these challenges.

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Chapter 5: Empirical Paper I: Unveiling Heterarchical Value: Integrating Stakeholder Perspectives in the Evaluation of University-Business Collaborations for Regional Sustainable Development

Preface

During the research process, tensions amongst stakeholder groups emerged as a consistently recurring theme. This tension could often be traced back to differences in what is valued within the collaboration, whether this was through conflicting priorities, objectives or motivations for engaging with the project. Of course, some tension is to be expected within university-business collaboration; the bringing together of different perspectives is often considered to be a primary proponent for new thinking and innovation, helping to develop ideas which likely would not have been conceived in isolation (Lang et al., 2012). Yet on the other hand, such tensions can hinder research efforts, limiting the effectiveness of collaborations and requiring additional work to mediate differences amongst stakeholders (Wittmayer and Schäpke, 2014; Bulten et al., 2021). The key question therefore arises: when is tension in UBCs productive, and when constrictive?

One major source of tension is differences in how and what forms of value are attributed to the collaboration by the different parties. The diverse way in which stakeholders attribute value across this initiative can be considered as heterarchical, with multiple conflicting orders of worth compounding tensions amongst collaborators. Stark defines heterarchy simply as ‘the organized dissonance of rivalrous evaluative principles” (Stark, 2017: 395), emphasising the need to consider orders of worth as crosscutting networks without a hierarchical ordering to ensure worth is considered as coexistent rather than competing for priority within evaluative processes (Stark, 2009). Viewing stakeholder-perceived value as heterarchical further allows subsequent tensions to be conceptualised in a new way, emphasising the direct nature through which perceptions of value contribute to conflict and tension within SUBC projects. Furthermore, as demonstrated in the paper below, this lens helps to draw out how value attribution arising from bureaucratic processes, e.g. prescribed through the adoption of funding requirements and evaluative processes, can be viewed as an additional (indeed, often dominant) order of worth, further compounding heterarchical tensions (Arnold, 2022; Roberts, 2023).

This research has resulted in the development of a research paper, with the aim to submit for publication in a journal such as *Research Policy* or *Industry and Higher Education*.

Abstract

University-business collaborations (UBCs) are considered to play an integral role in regional innovation and development, bringing together a range of stakeholders to share diverse perspectives and catalyse innovative thinking. Yet this diversity of perspectives can also result in tensions which limit capacity for productive collaboration. Whilst tensions have been widely recognised as an expected outcome of collaborative research (Arnold, 2022; Allen et al., 2023), there has been limited further insight into this area to unpick the underlying causes of such tensions and, fundamentally, investigate what factors cause tension to be productive or limiting to collaborative research efforts (Bulten et al., 2021). This paper explores how these tensions arise and take shape in practice, framing them as conflicts between stakeholder perceptions of value. This paper views these tensions through a lens of heterarchy to enable us to explore the different ways multiplicity and incommensurability between stakeholder perceived value might result in these tensions becoming obstructive or constructive to delivering value for stakeholders (Stark, 2000).

Such a perspective provides an avenue through which we can investigate how diverse perceptions of value can be navigated to harness tension and prevent it from inhibiting research progress. Findings are based on data from a three-year (2020-2023) study of a £14m ERDF-funded project in North-West England, and through data collected through 32 interviews with project managers, businesses, academics, and postgraduate researchers alongside extensive analysis of project documentation. An analytical framework is presented to shed further light on the dimensions of value perceived by stakeholders within a collaboration and the subsequent tensions which arise from misalignment. Alongside stakeholder perceptions of value, orders of worth prescribed by evaluative frameworks and funding targets are also acknowledged to further compound heterarchical tensions, targeting outputs which are not necessarily valued by

stakeholders themselves. Conversely, the UBC initiative delivered additional value for regional stakeholders which was not captured or targeted by standard evaluative methods.

Within this paper, we explore how heterarchical tensions can be worked with optimally to deliver value to stakeholders. We find that more flexible policymaking and regulation surrounding UBC evaluation allows tension to be harnessed, enabling evaluation which better integrates stakeholder-perceived value into project strategy. This stakeholder-guided approach to evaluation allows local insights to be captured and prioritised, enabling maximal contribution to wider place-based learning opportunities across the region.

Introduction

Competing Values and Tensions in UBC Initiatives

Whilst the potential benefits of university-business collaborations are well documented (Trencher et al., 2014b; Pauer et al., 2020), they are by no means guaranteed (Lemos et al., 2018; Wagner et al., 2021). University-business collaborations must navigate the clear differences between academia and industry, meshing them together whilst ensuring that the relative merits can be individually exploited (Secundo et al., 2017). There is immeasurable diversity not only *between* but also *within* academia and industry, with each individual having their own personal and professional agenda for engaging with the collaboration. Whilst this multiplicity in priority could create additional discord, it can also act as a catalyst for innovation, encouraging individuals to consider new perspectives and ways of thinking (Caniglia et al., 2021). The primary challenge here, therefore, is to mediate potentially misaligned priorities held by stakeholder groups to deliver project outcomes which benefit all collaborators, highlighting the opportunities of dissonance and its potential for innovation rather than viewing such tensions as scenarios to be avoided (Van Camp and Braet, 2016; Stevancea et al., 2020; Arnold, 2022).

Tensions are by no means a new concept within university-business collaborations and have been widely recognised throughout the literature, spanning individual, institutional and even spatial spheres (Arnold, 2022). Sustainability itself is a complex political mesh filled with moral, cultural and geographical trade-offs, which can potentially never be fully internally reconciled by researchers (Caniglia et al., 2021). Transdisciplinary researchers often find themselves taking on several roles, including mediator and facilitator, to try to bring together conflicting perspectives and encourage interactions which will deliver value for all involved (Pohl et al., 2010; Wittmayer and Schäpke, 2014). Alongside tensions amongst collaborators, current literature points to how tensions can be further compounded by the bureaucratic overlay of yet further orders of value

(Stark, 2000; Boltanski and Thévenot, 2006), e.g. prescribed through evaluative criteria, funding requirements and academic audit culture (Kimbell and Julier, 2019).

Within this paper, and focusing on the most 'fundamental' and so challenging sources of such tensions we consider the heterarchical nature of how value is perceived by stakeholders within UBC initiatives (Stark, 1996). Considering the multiplicitous nature of how stakeholders perceive value and worth, and in turn the tensions that arise from conflicting perceptions of value (to which those stakeholders are then, by definition, strongly attached), offers new insights into the negotiations that ultimately shape how value is delivered to the region, and in turn offer practical guidance into how this predicament could be worked with more skilfully.

Key concepts and terms used within this paper are defined below in Table 2.

Table 2. Key concepts used within this publication

Concept	**Definition**	**Key Citations**
Heterarchy	An organisational form in which multiple, overlapping principles of evaluation coexist, allowing actors to navigate and innovate by shifting among different, equally legitimate criteria of worth.	Stark (2000); Boltanski and Thévenot (2006)
Place	A meaningful location; space that is shaped by human experience, attachment, and social relations.	Relph (1976); Tuan (2001); Cresswell (2015)
Evaluation	All areas of appraisal, reflection, proactive design and the attribution of value.	Ramachandra and Mansor (2014); Patton and Charmagne (2022)
Sustainable Regional Development	The application of principles of sustainability to development on a regional scale, considering the ways in which a particular region can contribute to wider sustainability objectives, and is affected by wider environmental, social and economic issues.	Pike et al. (2017); Ferrera de Lima (2021)

Heterarchies and Value Attribution

Within a collaboration, each stakeholder has different motivations, objectives, and expectations (imposed both by and upon them) which influences strategic decision-making across the partnership (Van Camp and Braet, 2016; Chammas et al., 2020). Whenever a decision is made whereby one option is chosen in preference over alternatives, the decision maker (whether this is an organisation, firm or individual) must navigate different and multiple ordering principles, or attributions of value (Dekker and Kuchař, 2019). Crucially, these orders of value (or 'orders of worth', per Boltanski and Thévenot (2006) are often not compatible and may even be incommensurable, with no single (i.e. 'meta-') scale allowing for the direct comparison of distinct orders of worth. Stark demonstrates this multiplicity and incommensurability using the example of a letter of recommendation for a faculty member, noting that her recommendations would emphasise her creativity, productivity, citizenship, citations, loyalty and record of winning grants, demonstrating performance criteria across several orders of worth. Each order has distinctive and incommensurable judgement criteria, using a distinct logic to qualify and appraise the contribution of the researcher herself (Stark, 2009). Therefore, when it comes to evaluation, where we seek to appraise the value created by a project, reflecting the different ways in which elements of the collaboration are valued by different stakeholder groups is a daunting task (Pohl et al., 2010).

It is proposed that these multiplicitous, incommensurable tensions can be considered as heterarchies, literally a formal structure (-archy) consisting of multiple different elements (hetero-), as opposed to a unified hierarchy of elements that are qualitatively similar (homo-) in some key respect. The idea and study of heterarchy, notably popularised by David Stark, thus seeks to consider not only the diversity of organisations, but indeed, the organisation of diversity itself (Stark, 1996); a key consideration not only for the specific case of UBCs, but also for the broader perspectives on the multiple types of pluralist, inclusive, cross-'type' partnerships that are evidently needed for unprecedented forms of collective action to address, global and local environmental challenges. As Stark (2017) demonstrates, delivering a quality product which does not have the attention of the market is doomed to fail, as will prioritising short-term profits at the expense of considering long-term consequences or the civic virtue of a given product –

here, a contextual, cross-criteria process of evaluation is proposed to help ensure long-term viability.

This concept of heterarchy also thereby opens avenues for examining the potential of a given system, organisation, or structure for adaptability and innovation (Crumley, 2015), in terms of capacity to 'absorb', and learn productively from, new ways of working from different organisations or cultures. As Dekker and Kuchař argue,

*"Heterarchies are complex adaptive systems precisely because they interweave a multiplicity of criteria according to which performance may be evaluated, esteemed, or appraised. These heterarchies of worth are organizational structures in which a given element may simultaneously be expressed in multiple overlapping networks that maintain separate situational logics and that constitute separate orders of worth" (*Dekker and Kuchař, 2019: 7).

Using this definition, UBCs can be viewed as heterarchical, with a range of funder-mandated and stakeholder perceived criteria of value through which projects can be appraised, interweaving a range of stakeholders from organisations with distinct contexts and approaches (Pohl et al., 2010; Kenter et al., 2019; Caniglia et al., 2021). Exploring UBCs from this heterarchical lens helps in two key ways.

Firstly, it enables the explicit acknowledgement of different orders of value at work, together with the initial acceptance that there are ways, if arranged with due care and attention, that this diversity and plurality of perspectives can actually contribute greatly to the dynamism and flexibility of that collaboration, rather than always and only being a 'problem to be fixed'.

Secondly, it in turn provides an analytical framework with which one can look empirically at a particular case, or set of cases, in order to understand better how they work (or not) at present, and so how they could perhaps work better.

Whilst tensions and contradictions arising between distinct perceptions of value are well recognised within scholarship on UBCs, limited attention has been paid to how these tensions are navigated in a practical setting. We explore internal and inter-collaborative tension through a heterarchical lens to draw out further the ways this tension can enhance or limit the potential of university-business collaborations. Considering UBCs as heterarchies, the nature through which diverse stakeholder groups compound conflict and tension through introducing additional orders of worth is clearer, allowing different forms of tension to be drawn out and explored in a different light. Furthermore, the potential for evaluation itself to act as an additional order of worth and thus exacerbate heterarchical tension is emphasised, highlighting the need to consider how evaluation can better align with existing stakeholder values to avoid intensifying potentially harmful conflict, indeed, instead highlighting opportunities to facilitate value creation for stakeholders.

Discussions of the notion of heterarchy (Stark, 1996) have so far remained conceptual, with little empirical research (Lichtarski and Piórkowska, 2021). A potential explanation for this is the arguably abstract nature of value, and difficulties in individuals discussing what is 'of value' to them (Guglietti, 2015). What individuals value is not static, and can be highly context dependent, changing even over the course of an interview or topic of discussion (Guglietti, 2015; Oancea et al., 2017). As a result, practical research into what is valued can be challenging.

To operationalise 'value' into something more accessible and tangible in a practical research setting, 'value' is broken down into three main dimensions: motivations, objectives and priorities within this paper. Using proxy indicators has been found to be an effective way of understanding the motivational underpinnings of people's beliefs and actions, helping to highlight what is of value to them (Joyal-Desmarais et al., 2022). This can help participants to articulate responses and unpack the different ways in which they confer value to different elements of their respective project (Swidler, 2005). Building on this proxy-based approach, conflict which arises from different *dimensions* of value can be drawn out, allowing a more precise exploration of heterarchical tensions within a project. We apply this value-centred approach to a large-scale university-business collaboration within north-west England to assess how these tensions can be harnessed in a practical setting, amongst expectations and criteria imposed by the organisational structures in which UBCs are situated.

Challenges in Evaluating University-Business Collaborations

Whilst UBCs can be viewed as heterarchical, with a range of perceptions of value and orders of worth through which it can be appraised, in practice, UBCs are formally reviewed in a hierarchical manner, using orders of worth which are often prescribed as part of funding criteria. Here, we briefly explore how this funder-imposed order of worth can influence the expression and curation of diverse perceptions of value present within a heterarchical UBC.

Value plays a crucial role within evaluation – as is clear in the nomenclative overlap of the two terms. Evaluation of a project plays a significant role in not only its appraisal, but also its design and delivery (Kostoff and Geisler, 2007). Through setting priorities and measures within projects, evaluation therefore assigns a particular value to different elements of an initiative. Decisions are greatly influenced by targets set by funding authorities or regulatory bodies to ensure that the project is deemed 'successful' and achieves future funding.

Despite all these ways in which different forms of evaluation have consequential influence on that which they are evaluating, evaluation has generally been neglected from critical rethinking, while, reciprocating the mutual neglect, many schemas of evaluation follow a relatively reductionist, quantitative method of assessing performance (Gasparatos et al., 2008; Coryn et al., 2017; Rantala and Ukko, 2019). There is growing awareness that evaluation should play a proactive role alongside a retrospective role, resulting in continual reflections throughout the project progression and taking full advantage of the potential benefits of such rolling evaluation in order to guide optimal outcomes (Perkmann et al., 2011; Fernandes et al., 2017). In addition, development scholars have expressed the importance of ensuring that stakeholder priorities are held at the core of regional development initiatives (Ramachandra and Mansor, 2014; Tan et al., 2019; Fernandes et al., 2021). It can thus be argued that evaluations which seek to assess the relative ‘success’ of an initiative cannot fully do so without reflecting the priorities of the target stakeholders involved (Ramachandra and Mansor, 2014; Kruger et al., 2018).

Yet, with such a diverse array of agendas and orders of value spanning individual, institutional and geographical spheres, identifying what is valued by a range of stakeholders is no simple task. Using a lens of heterarchy, this disconnect between funder-imposed evaluative criteria and stakeholder perceptions of value can be further unpicked to examine the implications such disconnect may have on project design and delivery.

Within this paper, we explore interactions within a regional university-business collaboration initiative, identifying the mechanisms through which tensions between personal perspectives, disciplinary cultures and formal reporting methods are navigated to deliver greater perceived value for stakeholders. We explore how individual, organisational and funder-mandated value tensions are negotiated to contribute to the practical management and decision making involved in this project. Further, we investigate how these formal evaluation frameworks were worked *with* and/or *around* so that what ‘*really’* matters could be enabled. We demonstrate the new insights which can be gleaned through considering projects through a heterarchical lens, allowing tensions between stakeholders’ orders of worth to be brought to the fore and thereby worked with as productively as possible. This value-centred perspective also then helps to further our understanding on how we can develop evaluative approaches for UBCs which use the productive management of tensions and the resulting innovation, and hence that capture and elicit the further regional sustainable impact evaluation frameworks generally claim they intend to measure and support.

Methods

This project follows the progression of a £14 million university-business collaboration initiative. This initiative, funded by the European Regional Development Fund (ERDF), spanned six universities across north-west England. Its stated aims were to support SMEs in the transition to a low-carbon economy, assisting in lowering organisations' individual carbon footprints alongside the development of eco-innovations which will have a positive sustainable impact. To enact this, a range of modes of engagement were exploited, including long-term research collaborations (spanning 1-3 years), short-term consultancy projects (spanning 3-6 months), demonstrator funding and inter-business collaboration workshops.

The researcher followed this study from inception to completion over the span of 2.5 years. Alongside project progression, the researcher conducted a series of interviews with SME representatives, academics, postgraduate researchers, and project staff to assess progress and understand the decision-making process at different stages of the project's implementation.

In total, 32 interviews were conducted. These followed a semi-structured format and covered a breadth of topics relating to participants' motivations for engaging, their main priorities during the project, and what core objectives they hope to achieve during project progression.

Two exploratory surveys were also conducted to triangulate interview data and obtain a wider breadth of responses. These followed an open format, allowing participants to formulate their own responses and covered topics relating to motivations, priorities, objectives, and conflict relating to their respective project. In total, these surveys received 139 responses.

Heterarchical tensions were unpicked through comparing and contrasting perceptions of value amongst different stakeholder groups. It is often difficult to articulate what is valued, and this often emerges organically as a subtext, as the topics which are primarily discussed, elicit emotional reaction and feature most heavily within logical reasoning and decision-making (Watermeyer, 2014; Vega et al., 2023). This subtext was identified through exploring individuals' objectives, priorities and motivations surrounding their engagement with the project. These three areas formed the primary themes of analysis. Data was coded thematically using Nvivo, allowing subthemes to emerge (Saldaña, 2021).

Considering stakeholder perceptions of value through these primary themes allowed tensions amongst stakeholders to be drawn out more easily. Examining individual motivations in the context of project objectives allowed further exploration into the mechanisms through which compromise and collaboration with other project members altered project direction, causing divergence from initial motivations. Considering the tensions present *between* and *within* primary themes resulted in the following subthemes, each representing a different form of tension which could be observed at various stages of project progression (Figure 1).

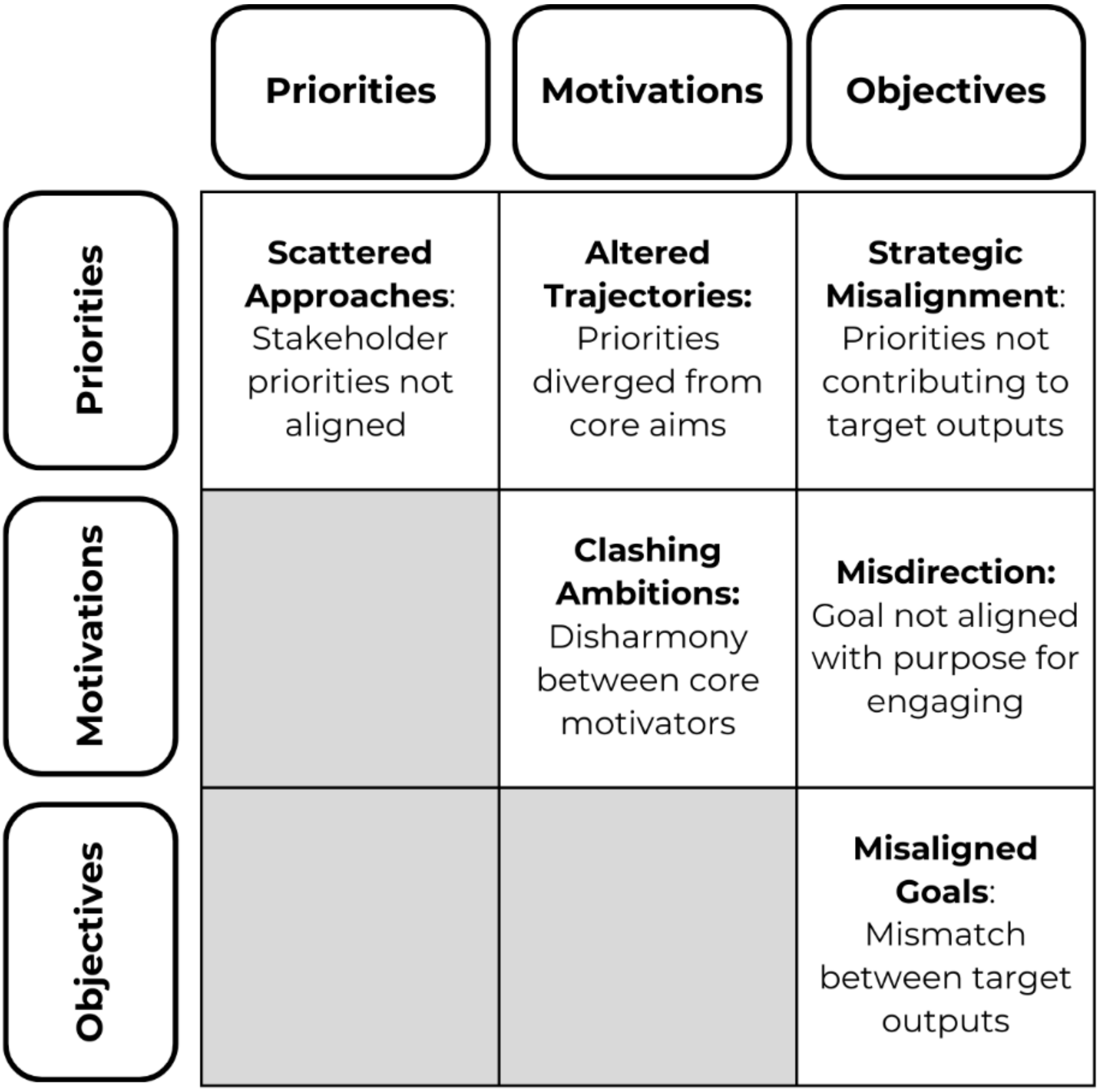

Figure 1. Summation of primary themes (Priorities, Motivations, Objectives) and resultant subthemes

Findings

Analysing misalignment between core themes identified three primary tensions, outlined in Figure 2. Within this section, primary symptoms of these tensions are described, with relevant examples to demonstrate how these tensions manifest in practice. The ways in which these tensions were negotiated (or not) to enhance the impact of the UBC on regional sustainable development are then explored further.

Whilst these tensions have been described as separate phenomena for the purposes of this paper, in practice they rarely occur in isolation. Several projects demonstrated multiple iterations of tensions, with their relative influence on the project widely varying as the project progressed.

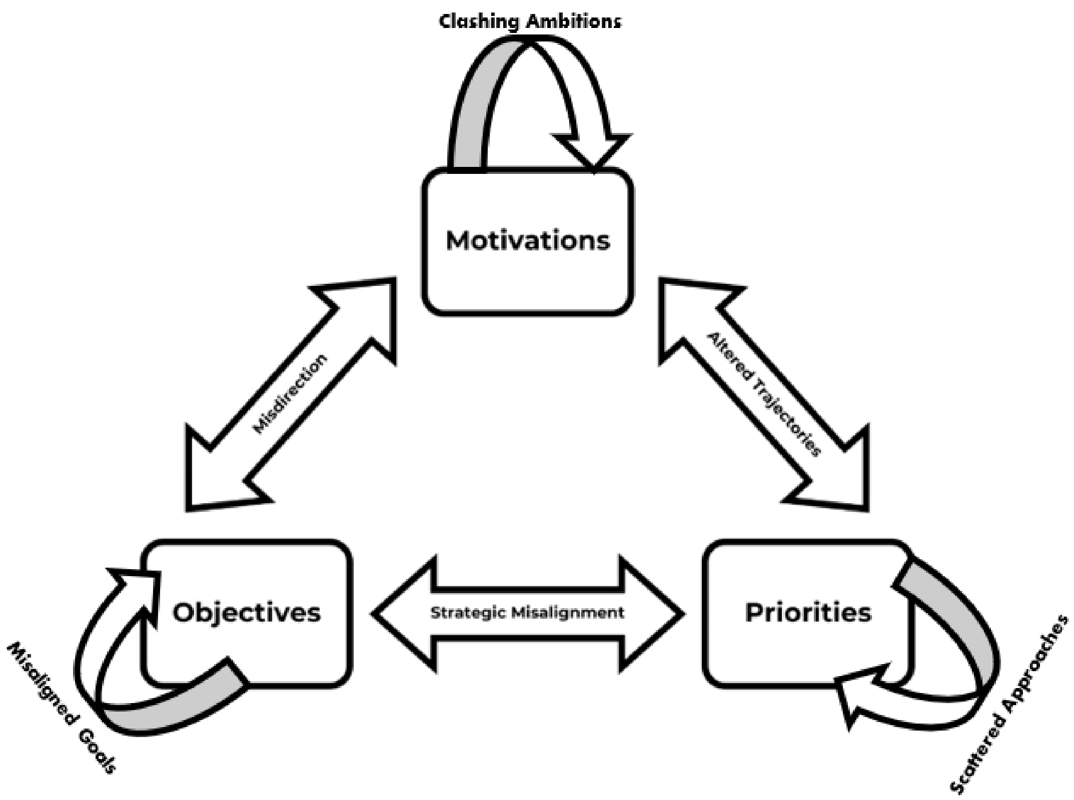

Figure 2. Tension occurring between primary perceptions of value.

Strategic Misalignment (Objectives vs Priorities)

Within UBC projects, there are several institutional structures in place, adding an additional level of bureaucracy to an already complex political mesh of individuals and organisations. Common amongst these, there are set objectives in place which individuals are obliged to meet in order to meet professional and personal goals. However, tensions amongst groups (particularly those with disparate targets) can result in projects prioritising areas which do not contribute overall to the wider objectives of the initiative. This strategic misalignment, where areas of focus are distinct from organisational success criteria, can result in individuals feeling demotivated, after expending significant effort only to fail to meet formal deliverables.

Discussing the progression of their PhD project, one researcher highlighted conflict between academia, industry and personal life several times during their interview, citing it as the primary challenge faced within their PhD project. They highlight the lack of support they have received, emphasising that this struggle has had a lasting effect, damaging their professional and personal confidence.

"There were lots of challenges, I think, from a personal point of view (...) in terms of the context of doing a PhD, and being a project manager, which is exactly what you needed to be for the project, provided some personal challenges, in terms of balancing what academic supervisors might want, and what partners might want, and what [UBC] might want, and all of those things together. So, managing all those roles was particularly challenging. I think that's the thing I struggled with hardest. It's kind of like you're being managed from lots of different sides and in different directions.

Interviewer: Can you provide any examples of situations where you've experienced this?

So, when I went for my review panel, I was very much talking about the project and the project plan. And, you know, the reviewers will say, we don't care about that, I absolutely don't care, this is about your PhD, you know, so screw all that sort of thing, we just want to know what's happening *with this, you need to be writing papers, you need to be doing this and the other. Whereas the focus from [UBC] was very much everything has to be about the project, it can't be about your growth as a researcher, or, you know, we won't fund writing days, for example, because that's not about the project. Whereas, you know, you're also getting hassle from your supervisor saying what you need to put time aside to do more writing, whereas [UBC] are saying no, you're funded by this, you need to be just working on the project, not actually doing the writing. As a parent and a carer, that's horrible (...) you just feel like you're not doing anything very well, you're not being a good parent, you're not being a good researcher, you're not being a good project partner. And that's a shit place to be. That's just, it just makes you feel rubbish. And I don't think anybody perhaps sees it from that point of view."*

Here, conflict was felt on a deeply personal level, with the PhD researcher struggling to reconcile differences in priorities (i.e. orders of worth) from other stakeholders. The apparent rigidity from institutional requirements, both from the university and UBC, caused the research project to be disjointed, with the researcher having to work to meet multiple distinct objectives at once.

Several other PhD students reported struggles with reconciling expectations from their supervisors and/or industrial partners, with several often finding that their work was not contributing their research objectives, creating pressure to deliver on multiple fronts at any given time.

"There's definitely a challenge in trying to manage my focus I have on my master's and focus I have on the work I do with the company. So my industrial partner is always very keen to tell me that everything I do for the company is related to my Masters, but sometimes it's not. So managing all the different stakeholders in the project is quite tricky. I think it's the main challenge."

Masters Researcher

"There's other constraints in that there's a need to have to constantly justify what I'm doing academically, which when you're in a business and client scenario, isn't always the easiest thing

to do. Or it's time consuming when you like [company] deadlines on the top of [UBC] deadlines. I work more than I probably should do... But yeah. Time management is pretty key. I normally work weekends, but it's all on my own volition. I've decided to do this. We'll see when it comes to peak thesis time whether I can still keep that up."

Masters Researcher

"The student is very good at managing the expectations of both us the supervisors and what the case partners need but does often need to put their needs first ie. what do they need out of their PhD"

PhD Supervisor

Above, we can see that researchers have taken on additional workload in order to manage the expectations of different stakeholder groups, with the administrative requirements set by the UBC initiative often not aligning with work completed during the research project. To address this lack of consensus across the UBC, academic supervisors and industrial partners, researchers have decided to complete multiple, separate pieces of work, albeit at the detriment of their own research and, in some cases, personal life. Priorities which do not closely align with organisational targets can conversely yield wider benefits for regional sustainable development, particularly where the targets set do not directly contribute to areas identified to be of greatest impact. As one Project Lead outlines below, prioritising additional value creation beyond what is measured through project outputs can have significant benefits. In this example, the Project Lead had prioritised inter-business collaboration, which, whilst not a direct output, was perceived to have significant long-term impact beyond the scope of the initiative itself.

"We have to spend this money to deliver these outputs, and to achieve these outputs it's quite clear we need to work with this business for over 12 hours or suggest that I've worked with them for a long period of time, new product, etc. That's quite easy to tick, but I think the project certainly provides an opportunity for the institution to position itself as forward thinking and being involved

in this agenda (...) I think there's also a broader and also ethical. I don't know if it's ethical. There's an opportunity the project has to influence broader than the outputs, I think there's a cascading effect the research can have where if we're doing this with this one business, they'll go to their network. They'll say 'I've done this and I'm reducing my emissions'. Then there is opportunity for knowledge exchange informally through those kinds of networks (...) You just sort of think, 'what is the biggest impact we can get out of the project?' or 'how can we get those guys working with this business over here?'. I was hoping to capture that, where we're generating a bit of a movement."

Project Lead

Here, the Project Lead has prioritised initiatives which are felt to deliver greater long-term value to the region, although they are cognisant that this clashes with funder-led objectives. Such misalignment is viewed to be necessary for the 'greater good' of the project. The motivations of the Project Lead are aligned with what is considered to deliver the greatest impact for regional stakeholders, despite this potentially taking resources away from core project objectives. This demonstrates the internal and external conflict between the desire to deliver on regional impact and the requirement to deliver on funding targets.

The way that funding targets were flexibly navigated by Project Leads also allowed researchers to prioritise other areas of their project. For many researchers, the formal requirements for the UBCs were seen as secondary and only indirectly linked to their research in question, with researchers often opting to put minimal time into fulfilling requirements as a result.

"It is quite conflicting that [UBC] are asking us to do you know, an annual report or a carbon report, and you've got a paper to write or something that's actually related to your thesis. So, I feel like maybe they have lower uptake or enthusiasm than they would otherwise just because people are busy with work or they're stressed, or they're worried about being distracted from it. So, if their

measure of success was a thesis submitted rather than someone who attended a boot camp, then I think the researcher could be more on the same path as [UBC]."

Here, we can see that the UBC requirements are considered a distraction from the core aims of the project rather than a fundamental priority for research; whilst this duality created additional administrative burden for researchers, the requirements laid out did not appear to significantly alter their research strategies overall.

Misdirection (Motivations vs Objectives)

Everyone has an agenda when making a decision; this remains the case for organisations and individuals entering into UBC projects. When the goal set for the project does not align with this agenda, it can leave individuals questioning its purpose. Yet when conflicting motivations are at play, it becomes a significant challenge to align goalposts with everyone's desired outcomes. There comes a need to compromise to ensure that the project remains aligned across stakeholders. If this compromise is not achieved, it risks the potential impact of collaborating being diminished with disparate projects running concurrently in an attempt to satisfy all parties whilst meeting objectives, as is demonstrated below.

One PhD researcher had three industrial supervisors from competing SMEs. Whilst they had initially planned to collaborate collectively with the organisations to encourage mindset changes within the sector, this proved to be a significant challenge. The researcher instead decided to work with each SME on a separate basis and try to personally bring together different strands from each research project for the purpose of their PhD thesis. Whilst this eased practical considerations and conflict between parties, the overall scope of the project had to be altered, reducing the potential for innovative ideas to be developed from the sharing of diverse perspectives.

"Researcher: It's interesting, because we chose some quite influential organisations. And but because they're quite influential, they're also quite keen on their own way of doing things as well

(…) it's the politics of getting three organisations together to collaborate, whilst also being mindful of issues such as, you know, IP, competitive boundaries between the organisations because although they're very similar, they're also very different, and they compete in different spaces (…) so I think the biggest challenge for me really is managing all of the tensions within the scope of the project. And with [UBC], there's some challenges there as well around how they want the project to progress. And then also, there's the pressure from the university to make sure that it's got some, you know, rigour as a PhD project as well.

Interviewer: And how have you attempted to overcome that potential clash?

Researcher: Basically, I'm going to work with them separately. So, I'm not actually going to try and co-combine them although that was my original thought. But I think as time has evolved, I'm going to run them as very separate mini projects, and then look for cases to develop out of those organisations rather than trying to do something which is more about bringing them together"

Here, tensions formed around differences in overall objectives from project SMEs, which caused the project to diverge from its original plans. It was felt that avoiding potential conflict was preferable to addressing this tension, despite this limiting inter-stakeholder interactions and the potential for cross-pollination of ideas and perspectives.

This was by no means the only project which was felt to have irreconcilable differences amongst stakeholders, with several stakeholders reporting differences in intended objectives being too big to overcome.

"The project was largely unsuccessful from our perspective because of conflicts between the intended student learning outcomes and our requirement for policy-relevant information. We never really managed to reconcile this conflict."

Business Representative

"While the aim of my project and [UBC] is to have carbon savings, that isn't really the aim of the company, and it's not at the forefront of that business either."

PhD Researcher

"It was a little frustrating that [my academic supervisors] wanted me to do something completely different than what the project was because they didn't know much about the topic"

Masters Researcher

Whilst this project arguably did not benefit from a shift from its initial goals, not all redirection was negative. Several research projects expressed an initial misalignment of motivations with the current objective, but since have found that the research project has benefitted from this new perspective.

"I was doing a job they would have otherwise done. And [supervisor] did say that. At the time, he was like 'you're basically being a really cheap technician to them in the first year, and so you could look at it that way, you have done a job for them'. And then as I said, since second year, I've had more freedom to do what interests me."

PhD Researcher

Here, a compromise was struck between the necessary workload required by the company and the need for academic freedom to explore new avenues of research. While this compromise appeared to be satisfactory for the stakeholders involved, meeting stakeholder requirements was seen in many ways to be mutually exclusive, aiming to satisfy stakeholder expectations separately and potentially extending the duration of the overall project as a consequence.

Project staff were well aware of the tensions faced by researchers and this clash in what is motivating each stakeholder to engage with the project. However, while acknowledging this required management and mentoring, staff noted the benefits that this could bring to the researcher, through the development of new skills.

"Often [PhD students] will come in to do some work with client and we'll give them a brief of what the client's looking for and then they'll come back, and it might be very sort of academic and

theoretical, but actually that doesn't fill the gap because it's not going to impact on the client. So actually, we're mentoring the student alongside. So, it does work both ways, because it gives the researcher real understanding of the outside of the business world as well, which I think is that's actually just as important as the client service, so it works at both ends."

Business Development Manager

Staff also noted that while businesses may be motivated to deliver certain outcomes, the objectives they initially aim for are not always best situated to help them fulfil this motivation. Bringing in new perspectives was often found to help put projects in a direction which is more likely to deliver positive outcomes for both the SME and wider stakeholders.

"This company wanted us to build a sustainability strategy for them put a framework together. So we went with that intention but when we started talking about the new service that they were offering, I said to them 'how are you marketing this, how you developing the brand for new net zero brand?', and they said, 'well, we haven't got anybody in the house to do that', so I said 'why don't we concentrate on that? 'cause that's more important to the growth of your business in terms of finding somebody who can develop your brand and work with your sales force to create a value proposition for clients'. So that's actually happened several times, where we went in with one idea, but changed the idea because it wasn't really achievable and wasn't fitting in with what their immediate strategy is."

Business Development Manager

As is described above, what is initially considered to be a solution does not always necessarily fulfil the needs of the challenge that is seeking to be addressed. Sharing objectives with other stakeholders in the project and being open to alternatives can cause a shift in overall objectives which are more aligned with what is motivating stakeholders to engage. It can be argued that the relative 'success' of an initiative cannot be fully appraised without reflecting the priorities of the target stakeholders involved (Ramachandra and Mansor, 2014; Kruger et al., 2018).

Consequently, particular care should likely be taken to ensure that objectives align well with the motivations of those engaging with the project, to ensure that the final project assesses the extent to which regional stakeholders achieved their individual aims.

Altered Trajectories (Motivations vs Priorities)

Given the inevitable contrast between different stakeholders' motivations for engaging with the project, it is likely to be the case that the project ends up taking (i.e. de facto prioritising) a direction which does not fully align with any individual's aspired aims. Whilst this can be problematic, it can also be a fruitful way to deliver an outcome which is more impactful than what individuals had initially aspired to; in short, the whole can be greater than the sum of its parts. This alteration to perceived project trajectory must be carefully managed to ensure that the relative strength and priorities of stakeholders are maximised across project progression, as has been demonstrated below.

"Our project is mental, hasn't really got a proper focus at the minute. It it's changed so many times that it's been hard to keep up. (…) Initially it was sort of looking at the business and thinking 'how can we turn this to a PhD?' but now the synergy is not where it was. And it's probably not going to be as ambitious as the company wanted. Which is a shame, but it's still definitely trying to keep the focus on what will help the business most as opposed to being purely academic"

PhD Researcher

"And I think the one frustrating thing and I've spoken about it with some other people from the cohort is that in research and academia, you might spend a lot of time doing something and not produce any sort of results, whereas like the industry partner. You know, to an extent, they might care about your academic contributions or that you've explored all these different routes but at the end of the day they want a result from that. So I think it's accepting there might be some kind of disappointment in a way, because there's only so much you can do, or you spend a lot of time navigating things that don't work." PhD Researcher

Research projects which delivered the most perceived value to stakeholders often ended up taking a different format to what may have originally been envisaged when planning the project. For example, one Masters researcher experienced conflict on multiple levels. Firstly, they experienced conflict between different academic supervisors, who each had separate ideas on methodological approaches for the project. Secondly, there was a clash between academic and industrial priorities, with a need to ensure that the company was benefiting from the masters project. Finally, they experienced conflict on a personal basis, where personal motivations for engaging in the project, including potential career opportunities, alongside personal interests conflicted with those of academic supervisors.

"Interviewer: Did you ever experience any specific times where there was a real conflict in your project?

Yeah, definitely. This was more the case between the academics rather than between the academics and the industry partner. Mainly because I feel like initially they all wanted to impress each other and show off to each other, so the hardest time was definitely having to change my work with multiple people wanting me to do multiple different things. So one supervisor, for example, is very much forecasting and data driven, so they initially wanted me to do lots of data collection and analyse big data, something I don't have any interest in, something like that kind of marketing I'm just not bothered by at all. One supervisor is very much into thoughts and feelings and psychology, which is a little bit more what I'm into, and then also making sure that the industry partners were also happy with that as well was the biggest challenge. It probably helped me a lot that I already knew them. I think that impressed them initially at the start enough that they trusted me to change my work for them and still get something out of it, although it's completely different to what they originally wanted me to do.

Interviewer: And how did you manage those expectations and make sure everyone was happy?

I sort of just did what I wanted to do. And decided … I'd prefer to impress the industry partner and to do the work for them than I would the academics. Mainly because I knew that I'd struggle if I tried to do it the what-which way the academics wanted me to do. So I tried to make sure I could do the work I wanted to do and something I'd enjoy which is something it has turned out to be, it's something I have really enjoyed and also something that I can see will really benefit them (…) I used the skills of each supervisor and made sure that I could use some of their information and it's worked brilliantly since January, making sure that I used one supervisor for my focus groups and used one supervisor for my questionnaire and for the analysis afterwards. It's worked brilliantly. I made sure I could work my own strengths, work to the strengths of the business and also try and please the supervision and work in their bubble as well, which really helped because by doing focus groups and questionnaires I sort of pleased both parties. Not to the extent that they probably both wanted. They probably wanted to do one or the other however, but with the fact, it's a year's worth of work I believe that I needed to do two different research methods. But yeah, I tried to please everyone."

The researcher identified relatively early in the project that a compromise would be required, taking a separate trajectory from the initial plan to align more closely with the researcher's skills and personal interests. Two different methodologies were chosen, working with different supervisor to benefit from their respective expertise. Trust was noted as an important factor in helping to enact this change, with the SME accepting a change of research direction due to a perceived sense of trust in the researcher's ability. This researcher was offered a permanent position following their project, overall achieving their priority of securing employment through impressing the SME partner. Whilst the researcher admitted that the project did not meet the full expectations of each stakeholder, overall, they felt that the project delivered value to all parties.

Discussion

Given the heterarchical nature of UBCs, tension is inevitable. The key, therefore, is identifying how to harness tensions in a way which predisposes more impactful collaboration, avoiding the potential constraints that negative tension can pose for collaborations. Exploring these heterarchical interactions through an analytical lens that breaks down the key term of (order of) value (or worth) into three elements that are easier to operationalise empirically – i.e. priorities, motivations and objectives – three key areas of tension have been identified, each having significant potential to uplift or diminish opportunities for productive collaboration. The relative negative or positive influence of tensions is then heavily influenced by how the tension is managed, as demonstrated within the above case studies.

The evaluation criteria placed on the project emerged as a frequent source of tension, comprising an additional order of worth which competed with those of stakeholders themselves, further compounding heterarchical conflict. Below, we explore the impact of evaluative criteria and methods on heterarchical tensions and explore opportunities to harness evaluation as a tool to manage tensions in a way which predisposes projects for greater regional sustainable impact.

Towards Evaluation which Exploits Heterarchies for Sustainable Regional Development

UBCs are, in their nature, heterarchical (Dekker and Kuchař, 2019). The results from this study corroborate this presumption, providing multiple illustrations of tensions, and even clashes, of values – priorities, motivations and objectives – amongst different stakeholders party to the various collaborations that constituted the broader project. Exploring these UBCs through the lens of heterarchy, though, enables both the admission and foregrounding of these profound differences of perspectives amongst participants; and, from there, the analytical capacity to explore empirically how those differences can be transformed from threats and weaknesses into opportunities and strengths regarding the integrity and productivity of the partnerships. What then, can be done to address and, indeed, harness the tensions created by diverse perspectives within a collaboration? And how can evaluation be used, and/or reframed, to assist with this goal?

With several converging individual and organisational priorities and motivations, evaluation which navigates these incompatible value systems to identify an objective assessment that equitably incorporates diverse stakeholder perspectives is arguably impossible; at least insofar as 'evaluation' is understood as a single, universally reproducible set of quantitatively measurable metrics (Balvanera et al., 2017). Objective measures for university-business collaborations will inevitably involve the normalisation of diverse perspectives, unavoidably disproportionately reflecting certain stakeholders' assessment of the value generated. Therefore, rather than ignoring its presence through trying to control for these diverse attributions of value, heterarchy should be embraced and accommodated accordingly to maximise its potential (Turnhout et al., 2020).

A proactive approach to evaluation does require some additional consideration, effort and judgement – all three of which are primarily dependent upon having project managers who demonstrate skills in facilitation, openness to diverse perspectives and a high level of regional expertise. This is further demonstrated when considering practical considerations such as: the navigation of heterarchy and the mediation of stakeholders to ensure that all perspectives are represented, issues for which there is no tidy algorithmic and singular 'solution'; and multi-stage data capture and the development of new indicators which may not be widely acknowledged by funders, but which reflect targets and achievements identified by the project team as important and delivering 'value' (Balvanera et al., 2017).

Skilled practitioners are fundamental for ensuring that diverse perspectives are directed in a manner which facilitates, rather than hinders, the research process (Lemos et al., 2018; Reed and Abernethy, 2018), and with this skilfulness not necessarily (and ideally not) limited only to 'project managers' but dispersed across the whole project team. Considering the incompatibility of effective heterarchical governance with the imposition or overlay of a single higher-order framework, that then enables a quasi-algorithmic top-down approach, we see that such governance is inescapably ‘messy’, situated and improvised, all of which place heightened burden upon the particular skills and judgement of the practitioners involved. The irreducible importance of personalistic and professional skilfulness also has implications for evaluation. Whilst specific protocols and frameworks of evaluation may then be considered a useful form of assistance, they can never be an adequate substitute for effective practitioners (Reed and Abernethy, 2018).

Given the nature through which individuals and organisations are collaborating with different outputs and goals in mind, the highly personalistic factor of trust is also essential to the productive management of heterarchical tensions; and, so too, to maximising the potential of the evaluative process (Jean et al., 2018; Monavvarifard et al., 2019). Stakeholders need to be transparent (or as transparent as they can be, given that articulating these issues may be difficult) about their priorities and objectives in order to ensure that they are reflected within project performance assessment (Martin, 2015). Ensuring that stakeholders have the available space and agency to do so is therefore crucial and should be considered as a priority within project design and evaluation (Turnhout et al., 2020).

Practitioners play a key role in managing project contexts to ensure that stakeholders feel that their perspectives can be freely voiced and will be listened to (Jean et al., 2018). Although this role is not often specifically addressed within policy discourse, the capabilities of the boundary spanners in question can have a huge impact on project outcomes from the perspectives of stakeholders, aiding the crossing of knowledge boundaries (Valkering et al., 2013). Skilled practitioners (or ‘weavers’ (Yuille et al., 2021)) who possess a strong understanding of what is valued by stakeholders across the whole collaboration are thus key to delivering stakeholder-centred approaches to project evaluation. Acting as boundary spanners between stakeholder groups, they must mediate differences in language, culture and priorities (Porter and Dessai, 2017; Keszey, 2018). To enable this, funding providers need to place trust in practitioners to allow them to interpret stakeholder-perceived value. Clear communication of objectives ensure that collaborators are aware of each other's priorities and any potential shift in project direction, avoiding the possibility of unexpected surprises later in the project cycle. This ensures that any potential areas of friction can be identified and addressed at an earlier stage in the collaboration.

As well as promoting trust within collaborations, evaluative procedures also need to exercise a degree of trust themselves. Project success criteria need to allow some flexibility to enable a wider range of value to be interpreted and captured. This value needs to be captured and interpreted in a skilful manner, helping practitioners and funders to learning how to improve delivery of future initiatives. Learning is one of the primary aims of evaluation, and evaluation must go further than recounting the events of a project. Frameworks which encourage reflection, application of experience, and ability to learn *how* to learn ('Learning II') will yield significantly greater long-term impact than frameworks which focus on accountability alone (Bateson, 2000; Tosey, 2006).

Whilst the majority of evaluations take a retrospective approach, typically taking place towards the end of a project, there is growing acknowledgement for the need for evaluations to adopt a more proactive approach (Perkmann et al., 2011; Hegger et al., 2012). Stakeholder collaboration encourages the shifting of perspectives and project redirection as partnerships emphasise the need to compromise on individual agenda (Wyborn et al., 2019). Subsequently, project direction is likely to shift on a micro-level. Governance structures need to be in place to ensure that existing evaluative frameworks are regularly reviewed and stakeholder feedback is gathered at multiple project stages to ensure that existing evaluative methods remain reflective of stakeholder priorities (Van Camp and Braet, 2016).

Ensuring that an evaluative framework facilitates trust, proactivity and reflection of diverse stakeholder groups is by no means a small task, and we authors certainly do not profess to have the solution to this dilemma. Rather the very *unsolvability* of this challenge, in the abstract, emphasises the importance instead of cultivating just such capacity of skilful and situated practical judgement, or 'phronesis', as a key agenda for sustainability-oriented action and projects (Caniglia et al., 2021; Yuille et al., 2021) [Note in thesis: see also Ch.6] . We also note that a critical first step in achieving such a framework must surely be through involving target stakeholders in the design of the evaluative process itself. This could prove to be a valuable means to developing an evaluative process which is both context-specific and adequately flexible to encompass a diverse range of stakeholder values (Wyborn et al., 2019). It is critical, however, that this focus on participative design is done in a manner which acknowledges and addresses any inevitable power imbalances, to avoid shallow democratisation or the further compounding of socio-cultural biases through so-called 'depoliticisation' (Cooke and Kothari, 2001; Turreira-García et al., 2018; Turnhout et al., 2020).

Significant work is required to ensure that targeted outputs and metrics represent this complex heterarchy of value(s) (Lemos et al., 2018). This is by no means an exact science and, indeed, likely an impossible task to do 'perfectly', yet the multiplicity of perspectives and the balancing of diverse forms of value can also yield continual opportunities for learning and innovation, unlocking new avenues for regional sustainable development (Pohl et al., 2010; Trencher et al., 2014b).

Implications for Wider Sustainability Projects

This project has delivered perceived value for stakeholders, with stakeholders redirecting projects to better align with what they perceive to deliver greater value. Much of this value, however, has failed to be captured by formal project reporting methods. As a result, the overall project has been greatly undervalued with much of its additional value creation remaining hidden from formal policy review. From a sustainable development perspective, this raises several implications.

First and foremost, the use of ineffective assessment tools risks the undervaluation and subsequent under-prioritisation of wider university-business collaboration initiatives within policy discourse (Čada and Ptáčková, 2013). The potential for university-business collaborations to contribute to global and regional sustainable development agenda has been demonstrated widely within the literature (Purcell et al., 2019; Egorov et al., 2020; Wagner et al., 2021). Underestimation of project impacts could subsequently result in university-business collaboration being insufficiently reflected on during key policy decisions. Moreover, what value *is* measured and publicised in formal metrics has not itself been achieved in practice in isolation from the many benefits that pass below its radar (to be discussed in further detail in Chapter 6). There is thus a significant risk that a single-focused gaze on the former, to the exclusion of the latter, actually ends up even reducing the success of such initiatives and so compounding their under-valuation.

Beyond this, when a university-business collaboration is created, the potential misalignment of funder-mandated priority with stakeholder priorities could risk the redirection of the project towards objectives which actually do not deliver significant value for regional development (Turnhout et al., 2020). There is increasing recognition that policy and regulation needs to have greater recognition of the importance of their regional context, with place-based policy discourse gaining increased traction over recent years (Peck et al., 2013). As we become more cognisant that what is considered successful in one region may not yield similar levels of perceived success in others, we need to move beyond considering the location in which projects are situated as a passive site or activity, towards recognition of the active role that a project's (geographical) context plays in project progression (May and Marvin, 2017; Wildman et al., 2019).

The metrics used to assess the initiative in question were relatively placeless; these targets would be largely applicable in any location. This reductionist, universalist approach which is all-too-common in evaluative frameworks risks overlooking key regional and cultural issues by neglecting values, norms, perspectives within the evaluative process and thus failing to deliver solutions which adequately address real-world challenges (Gasparatos et al., 2008; Turnhout et al., 2020). In order to assess the impact this project has had on a regional level, stakeholders need to play a primary role within the evaluative process, with real agency to make decisions surrounding the evaluative process and subsequent priorities (Benneworth et al., 2017).

Furthermore, failure is a key part of research with collaboration only increasing the likelihood of research outcomes being considered less than satisfactory. With each failure comes learning opportunities which can be gained through effective reflection and subsequent evaluation (Luederitz et al., 2017). Yet, many evaluative mechanisms seek to demonstrate a project's outcomes without recognising the value of failure, meaning that much of the potential learnings which have resulted in additional value creation will remain unreported. As a result, cross-project learning opportunities are limited, mainly being transferred between projects with movement of personnel, i.e. accidentally and 'through the back door' (van Ewijk and Ros-Tonen, 2021). Evaluation frameworks which embrace the learning opportunities offered by failure are able to maximise the polycentric learning opportunities crucial for collective progress towards sustainable action (Ostrom, 2010).

Conclusion

University-business collaborations have huge potential to deliver on both local and global sustainability agenda. UBCs can also be incredibly messy, bringing together diverse perspectives, traversing knowledge boundaries and seeking to deliver according to set targets. This complex mesh of personal, professional and organisational priorities can produce innovative processes that would not have been possible through individual working but can also result in complexities in measuring and targeting such outcomes.

Exploring this complex set of issues using notions of heterarchy, we have sought to illuminate areas of university-business collaboration that are frequently hidden from traditional policy discourse. We have highlighted the opportunities exploited through non-traditional methods which allow stakeholders in practice to prioritise what is of most value to them and, in turn, to deliver greater overall benefit to their local region – regardless of, or at least through bending of, the shaping of projects to fit formal metrics of evaluation. Encouraging these modes of additional value creation – and/or the leeway and flexibility to pursue them – in a more formal manner could further push the potential of university-business collaborations to deliver regional sustainable benefit. This requires trust in practitioners, investment in boundary spanners and a need to embrace existing heterarchies rather than attempting to normalise diverse attributions of value.

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Chapter 6: Empirical Paper II: Phronesis-Driven Evaluation: Maximising Value in Regional University-Business Collaborations

Preface

This chapter builds on the tensions identified in earlier chapters, digging deeper into how diverse stakeholder values can shape the trajectory of university-business collaborations (UBCs) for regional sustainable development. Data from the previous chapter demonstrates the destructive or constructive nature of tension; how tensions within projects can lead to productive compromises which deliver greater value to stakeholders than originally anticipated, or indeed can result in unproductive dualities, resulting in fragmented efforts, increased workload, and outputs that fail to align with stakeholder needs.

This chapter aims to dig further into the mechanisms through which tensions can be harnessed to promote the delivery of positive collaboration, which delivers a cohesive perceived value to all stakeholders, avoiding the fragmentation of workloads. Working with practitioners, it was felt that they had a deep understanding of how to design and deliver projects in a manner which promoted the productive navigation of tensions, building on experience developed over time and an apparent attunement to the particularities of the local region. Exploring these traits further, these tensions are considered through the lens of phronesis, or situated practical wisdom, to examine how project staff navigate competing priorities and situational complexities to deliver outcomes which are valued by diverse stakeholders.

Drawing on empirical data, this chapter applies these insights to evaluative processes, considering how evaluative processes can encourage practitioners to leverage their phronetic capacity more effectively. By moving beyond rigid structures of evaluation and instead promoting trust in practitioners, more flexible evaluative methods could enable practitioners to exercise their judgement to tailor project outcomes to deliver greater perceived value to regional stakeholders.

This chapter reveals the importance of situated wisdom in driving meaningful regional change and pushes for greater recognition of the role of phronesis in navigating the tensions which are invariably inherent within SUBCs.

This research has resulted in the development of a research paper, with the aim to submit for publication in a journal such as *Journal of Cleaner Production*, *Sustainability Science*, or *Industry and Higher Education*.

Abstract

There is a growing consensus within discussions on university-business collaborations for sustainability that capable practitioners are key to successful project outcomes. Various forms of knowledge have been cited as conducive to positive project outcomes, such as regional knowledge, openness to different knowledge, and an ability to weave together different types of regional and global knowledge. Wider forms of knowledge can also be considered, moving beyond techne and episteme towards phronesis, or situated practical wisdom. The broader literature on sustainability highlights the importance of ethics and context-driven thinking in regional decision making for sustainability, and although there is increasing recognition of the importance of regional knowledge for UBCs, there has so far been little consideration of the role of ethics on the design and delivery of university-business collaboration initiatives.

This study draws on the notion of phronesis to provide insights into the role of situated ethical decision making by capable practitioners on sustainability-focused UBCs. Using data collected through interviews and observations, data collected from stakeholders across a £14m university-business collaboration initiative is examined through a lens of phronesis. Holding phronesis at the forefront of our perspective, we assess the ways that practitioners draw on forms of situated knowledge and how this influences project direction and outcomes. Different forms of situated ethical knowledge commonly associated with phronesis were observed to facilitate the navigation of project constraints, with particular progress made to the navigation of political contexts, the application of existing knowledge to new challenges and the prioritisation of project resources to maximise the ‘greater good’.

Introduction

Maximising the potential of university-business collaboration for sustainable transformation

University-business collaboration (UBC) is believed to play a key role in bridging the gap between knowledge and action (Trencher et al., 2013b; Pauer et al., 2020). There is a rapidly growing body of literature investigating how we can maximise the impact of University-Business Collaborations (UBCs), analysing the efficacy of a diverse array of approaches to UBC (Olphin et al., 2024).

The importance of practitioners in shaping project outcomes is being increasingly cited, noting the need for project staff to have a strong understanding of the regions in which they operate (Hart et al., 2015; Chammas et al., 2020; Loeber and Kok, 2024a), be open to a wide range of knowledge to combine both coded and tacit thinking (Čada and Ptáčková, 2013; Greyling et al., 2017), and an ability to effectively bring together regional and global knowledge (May and Marvin, 2017; Reed and Abernethy, 2018). These traits have been found to be highly influential in determining project outcomes, through facilitating the translation of practical, localised knowledge into workable solutions to real-world challenges.

Yet although we know that the role of individual knowledge plays a critical role in facilitating more effective solutions through UBCs (Greyling et al., 2017), there remains limited insight into the types of situated knowledge that plays a key role in delivering UBC outcomes (Ames et al., 2020). At the same time, although we know that this knowledge needs to also be directed towards the public good, there has been little insight into the moral underpinnings to the types of situated knowledge that are important for such projects (Costello, 2018; Salovaara Janne, 2024). In order to address these two issues, this paper uses the lens of phronesis to investigate different forms of morally ethical, practical wisdom and situated knowledge within UBC projects. Further research in these areas can further explore how these characteristics can be maximised to encourage the creation of outputs which provide greatest value to regional stakeholders.

Within this paper, a number of key terms and concepts are used which can be interpreted differently across different areas of the literature. For further clarity, the ways in which these are defined within this paper are detailed in Table 3.

Table 3. Definitions and associated citations of key concepts in the context of this paper.

Concept	**Definition**	**Key Citations**
Phronesis	Situated, practical wisdom; the intellectual virtue concerned with deliberating well about what is good and beneficial for human life in concrete situations	Aristotle (2009); Flyvbjerg et al. (2012); Kristjánsson et al. (2021a)
Place	A meaningful location; space that is shaped by human experience, attachment, and social relations.	Relph (1976); Tuan (2001); Cresswell (2015)
Evaluation	All areas of appraisal, reflection, proactive design and the attribution of value.	Ramachandra and Mansor (2014); Patton and Charmagne (2022)
Sustainable Regional Development	The application of principles of sustainability to development on a regional scale, considering the ways in which a particular region can contribute to wider sustainability objectives, and is affected by wider environmental, social and economic issues.	Pike et al. (2017); Ferrera de Lima (2021)

The Role of Phronesis in University-Business Collaborations

Aristotle differentiates three main forms of knowledge (Aristotle, 2009). The first, epistēmē, considers objective reality or universal truth. Such knowledge is rigid regardless of the context of time or space in which it is situated. The second form of knowledge, technē, can broadly be considered as the practical application of knowledge, primarily focused on skilful pursuits of crafts such as technology and art. The final sphere of knowledge, Phronēsis, can be considered as practical or situated wisdom. It is generally understood as the ability to identify and implement the best course of action within a given situation to serve the common good. It is highly context-dependent, adjusting processes to address the particular complexities within a given situation where necessary. Phronesis accumulates through practical experience, allowing an individual to make balanced decisions, guided by context, values and ethics; crucially, Aristotle notes that *experience* is required to enable context-specific insights which may otherwise be missed (Aristotle, 2009: Chapter 6).

"The cause is that such wisdom is concerned not only with universals but with particulars, which become familiar from experience"

From Nicomachean Ethics, Chapter 6.

Within a university-business collaboration, all three forms of knowledge are invariably useful (Roux et al., 2006). Tackling complex scientific issues requires a strong understanding of the subject area, episteme, upon which to build new knowledge. Academia can be traditionally viewed as being a strong resource for episteme, though it should by no means be considered the sole holder of knowledge (Roberts, 2023). Yet such knowledge requires practical application and an appreciation of the context in which it will be applied. Here, techne can support the creation of innovative processes and products which are skilfully designed and implemented. Collaboration with businesses creates a practical focus for knowledge creation, examining a context in which such knowledge can be applied to craft a workable and economically feasible solution to a real-world issue.

Within sustainability science, phronesis has been shown to apply practical, 'how-to' knowledge to research, enable delicate value judgement to navigate political strategy and accelerate transformative research (Pyrko et al., 2022). Applying a lens of phronesis to sustainability science has also helped to qualitatively assess the value of sustainability professionals seeking to develop practical solutions to address climate issues, shedding light on potentially hidden value held within such sustainability projects (Salovaara Janne, 2024). Considering phronesis within a practical setting has also been shown to aid the integration of value-based decision making into sustainability projects (Martin, 2015; Zhang et al., 2023) and to demonstrate the moral reflections made by practitioners facing sustainability issues which are often fraught with conflict (Caniglia et al., 2021; Darnell et al., 2022).

Whilst living in a neoliberal society, sustainability-based decision making can be plagued by tensions, with the need to reconcile seemingly incompatible ideologies; phronesis has been proposed as a potential mediator, allowing individuals to better interpret, navigate and mediate these tensions (Kuepers, 2019; Mejlgaard et al., 2019; Sharma, 2020), especially insofar as the largely rationalistic conception of phronesis from Aristotle is supplemented with a broader strategic attention to power/knowledge relations (e.g. Flyvbjerg et al., 2012). Further, the potential for phronesis to support the navigation of the boundaries between institutional spheres has been noted (Yuille et al., 2021), with phronesis and situated knowledge being considered to play a key role in the transdisciplinary process of translating knowledge to action (Bileišis, 2012; Peters and Wals, 2013; Larisa, 2017), and developing socially sustainable innovation (Costello, 2018; Costello, 2019; Waseem and Rashid, 2019) particularly in navigating tensions and making considered value judgements to determine the 'winners' and 'losers' in sustainability projects (Flyvbjerg, 2015).

Perhaps most crucially, phronesis is able to envision the future, directing innovation and practitioners amidst an ever-changing contextual landscape (Greyling et al., 2017). Such 'future-proofing' is particularly pertinent for sustainability projects amidst rapidly developing political and academic backgrounds (Partidario, 2020). Ethical innovation needs to consider the kind of future we want from science and innovation, considering the values that such a future is based on. Innovation can therefore be considered a *future-creating* process, bringing new ideas into the world and thus changing its trajectory (Grinbaum and Groves, 2013). Phronesis requires more than an understanding of relevant stakeholders, it also requires the ability to navigate contextual peculiarities to deliver virtue, or a common good (Cohoe, 2022). Within a university-business sustainability initiative, therefore, the notion of phronesis might therefore provide a useful concept for identifying and exploring the role of practitioner knowledge in reshaping the direction of projects to ensure that they deliver sustainable innovation, deliver value to a range of different stakeholders, as well as how those practitioners identify and navigate a range of practical and ethical dilemma, considering the relative value of sustainability projects, and what this brings to stakeholders (Flyvbjerg, 2015; Salovaara Janne, 2024).

Given that phronesis has been noted as playing a potentially highly influential role in navigating tensions in transdisciplinary contexts, promoting innovative thinking and mediating wicked sustainability dilemma, it is reasonable to consider that phronesis could be a facilitator for university-business collaborations also, where such tensions are central to the development of new ideas and processes (Arnold, 2022). Yet, to the authors' knowledge, phronesis has not been used as an analytical tool for empirical studies in context of university-business collaboration.

As a result, we may be missing opportunities to enhance projects by applying new thinking as observed in other disciplines (Peters and Wals, 2013; Costello, 2018). To help bridge this gap and further explore the potential for phronesis to influence university-business collaborations, we investigate a prominent UBC initiative using a lens of phronesis, assessing the degree to which practitioners possessed phronetic capacities and the subsequent impact this had on project outcomes. This study seeks to identify ways that the notion of phronesis might create new avenues for understanding how value is perceived and maximised within a cross-stakeholder initiative. We explore how conditions can be predisposed to enable the application of phronesis across UBC initiatives.

In this paper, stakeholder priorities across a large-scale regional sustainability initiative are investigated, exploring the extent to which individual, organisational and funder-mandated value attributions contribute to the practical management and decision-making involved in this project. We explore how practitioners worked *with* and/or *around* formal evaluative frameworks to deliver what was considered best value for the region.

Furthermore, we suggest that using the lens of phronesis enables us to pinpoint forms of knowledge that enable project stakeholders to lead and manage projects in a direction which facilitates the development of sustainable, regionally beneficial innovation.

Within this paper, we follow a regional university-business collaboration initiative from inception to completion, investigating the extent to which phronesis is demonstrated and the relative influence this is shown to have on project outcomes. We consider this influence in the context of project evaluation, exploring the degree to which standardised evaluative criteria allows opportunities for phronesis-enabled outcomes to be revealed.

Methods

Research Context

This project observes practitioners across the progression of a £14 million university-business collaboration initiative. This initiative spanned six universities and was funded by the European Regional Development Fund (ERDF). Its stated aims were to support SMEs in the transition to a low-carbon economy, assisting in lowering organisations' individual carbon footprints alongside the development of eco-innovations which will have a positive sustainable impact. A variety of support mechanisms were available to SMEs, including researcher assignment (at undergraduate, postgraduate and PhD level), collaborative workshops, one-to-one consultancy and grant funding to demonstrate innovations' feasibility. Innovations spanned a range of disciplines, including engineering, botany and marketing, focusing on social alongside technological innovation to tackle a range of climate issues.

Data was collected from project inception to completion over the span of 2.5 years. Interviews were conducted with project staff to understand project progress and consider the decision-making process at different stages of the project's implementation.

In total, 32 interviews were conducted. These followed a semi-structured format and covered a breadth of topics relating to stakeholders' perceptions of their respective project, their motivations for engaging and their core objectives they hope to achieve during project progression (Brinkmann, 2020). A focus group was also held with a group of Project Leads and

Business Development Managers. In addition to formal data collection, the researcher was also present at regular staff meetings, workshops and events, allowing observations to be made. The researcher had access to the full documentation of the project and extensive document analysis was carried out (Bowen, 2009).

Qualitative data was coded thematically using Nvivo, allowing common themes to emerge (Saldaña, 2021). Data analysis sought to address two primary questions:

1. **Using a lens of phronesis, what forms of situated ethical knowledge are at play within the management of a UBC?**
2. **How do these forms of situated ethical knowledge contribute to the creation of regional value?**

Data analysis also took two prongs, to address the key elements of each question. These are outlined below.

Identifying elements of phronesis

There has been much discussion over phronesis with definitions sometimes more divergent than bringing consensus on its nature and implications (Burbules, 2019; Kristjánsson et al., 2021a). This lack of consensus on what constitutes phronesis can result in challenges in identifying elements of phronesis within an empirical context (Darnell et al., 2019; Kristjánsson, 2021). To attempt to identify the core components of phronetic behaviours, Grossmann et al. (2020) established the 'Wisdom Task Force', collating a group of wisdom scholars to discuss key distinguishing features of phronesis. Whilst there remains significant divergence (Kristjánsson et al., 2021a), several distinguishing features emerged from the task force and have been use widely across the literature in empirical studies (Karami and Parra-Martinez, 2021; Kim et al., 2023; Cambaz and Ünal, 2024). These can be summarised as follows:

1. **Intellectual Humility**
2. **Self-transcendence**

3. **Moral grounding**

There was also recognition that phronesis is not an 'all or nothing' attribute, and will inevitably differ in how it manifests from individual to individual (Grossmann et al., 2020).

For the purposes this study, the above attributes formed the basis for assessing phronetic activity within a given context, as they appear to possess the greatest scholarly consensus. Data was thematically analysed across these three areas, coding according to the following key themes (grey). From these, sub-themes developed (below) with context-specific manifestations emerging (green). These are visualised in Figure 1.

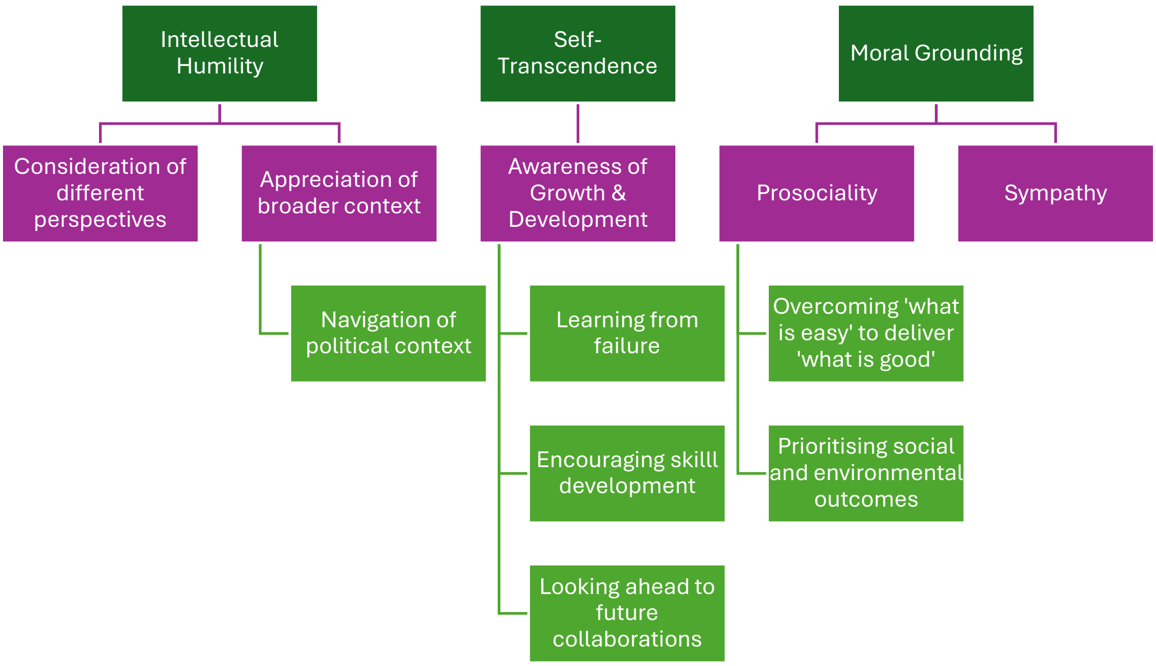

Figure 7. Primary themes and sub-themes emerging from qualitative data analysis

Findings

Several traits were observed amongst practitioners which appeared to demonstrate phronetic capabilities. Below, we explore how these traits appeared to influence decision-making and potentially encourage the manifestation of the value outlined above.

The characteristics outlined in Figure 2 have been further distilled to identify three primary dimensions through which project outcomes were influenced to maximise the generation of stakeholder-perceived value.

1. **Navigating Political and Institutional Contexts**

   Working within political and institutional structures - such as funding frameworks, university systems, and external expectations - to maximise impact.

2. **Bridging Old and New**

   Leveraging past expertise and experience with forward-thinking approaches to drive innovation and prepare the next generation of researchers.

3. **Balancing Priorities for the 'Greater Good'**

   Balancing competing demands and tensions by making morally grounded judgments that prioritise long-term impact over short-term ease, aligning decisions with broader ethical and social goals.

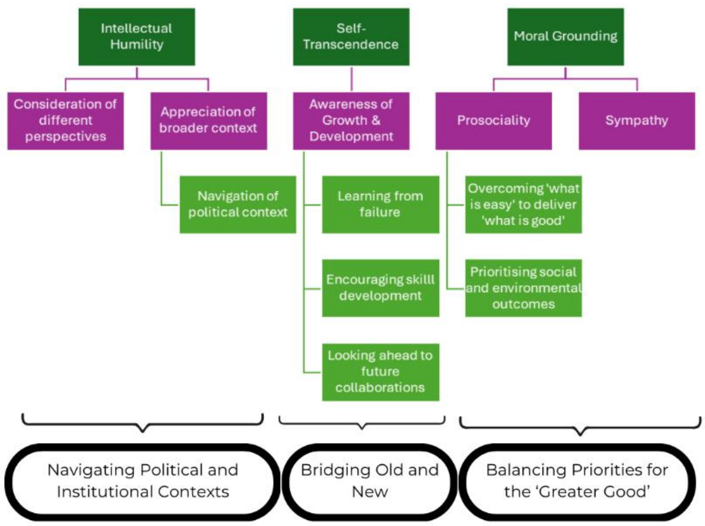

Figure 8. Core characteristics associated with phronesis observed amongst practitioners within sustainable university-business collaboration initiative.

Navigating Political and Institutional Contexts

Universities and businesses are inherently political institutions, with complex networks of social interactions, bureaucratic structures and ways of working (Allen et al., 2023). When bringing universities and businesses together, the political context becomes even more complex, with differences between each institution bringing potential tensions and clashes of perspectives (Arnold, 2022). Furthermore, the project's funding requirements add an additional level of bureaucracy, adding new priorities, requirements and policies which the project must adhere to (Rosin et al., 2017a). As a consequence, being able to navigate these contexts to harness tensions and bring potentially polarised groups together is a real strength amongst UBC practitioners (Chammas et al., 2020).

structures.

"You know, one or two of the institutions have got their own agendas, and only want to play in a certain space. But I mean whenever you've got more than 250 people involved in the project, as we have in this project, you're always going to get mixed bag, you know? And when people talk to me about the history of the project, you know, I say, look, we've got, we've usually got births, marriages and deaths somewhere in the project because you deal with so many people, you've got a whole series of different circumstances you have to cope with."

Project Manager

Within this collaboration, practitioners were observed to work around institutional structures to enable what they felt to be of greatest value to be delivered to stakeholders. One example is how funding targets (measured through the implementation of evaluative criteria) were met whilst simultaneously delivering value elsewhere. This was done at multiple stages of project progression, including business recruitment, as elucidated below.

"Interviewer: How do you think that those project metrics or assessment criteria reflect the work that's done within your projects?

P1: [laughs] Well I could give you all sorts of information on that! It depends because there's a criteria that ERDF could come up with, and depending on who is interpreting that criteria...

P2: It's very subjective, extremely subjective. Yeah, I don't think we're very prescriptive in terms of when we go out to look for businesses. We're not looking for businesses that fit those profiles. Most businesses will fit one of those profiles in some way, but often, you know, you go out and it might be a much smaller hat but you just have to get them to lose weight to fit into it. It is a case of square pegs in round holes sometimes, but you wouldn't refuse to go out see a business because it didn't fit that profile. So I think we leave that side to the administration when we claim it, but we'll always find it fits into something and ultimately the most important thing is that if a company wants support and the objective is beneficial to them and to us, why wouldn't we deal with them and find a way?"

Focus group with two Business Development Managers

These practitioners evidently recognise that what is valued by stakeholders goes beyond the target criteria. They appreciate that some pragmatism is required to ensure that projects are able to proceed and deliver additional value for stakeholders whilst carefully navigating political Delivering PhD projects was a particularly challenging undertaking for the project for a plethora of reasons. Despite this, significant effort was made to recruit businesses and researchers in time to enable the delivery of a cohort of PhD students. Despite being a significant workload for limited impact on funder metrics, project staff generally agreed that this was a worthwhile use of resource as they recognised the wider benefits for businesses, researchers and universities.

"To the funder, I don't think they really care so long as you tick a box to say you've worked with a business - a lot of the time, that's what they want to see. For the university, the PhDs and the masters are what are valuable because they bring in income, they give research outputs (...) the longer-term projects overall, it's a lot of work for a tick in the box to say you've done more than 12 hours, but the business gets that, and I think the funders get that."

Project Manager

Delivering on funding targets required strategic thinking to allocate resources effectively. Whilst practitioners recognised that the most efficient way to meet targets was to deliver a simplified package of support to businesses, they believed that having a variety of options was more valuable to a wider range of businesses. Despite this requiring significant additional workload for practitioners, a complex range of support streams were available to businesses, including long-term research, consultancy projects and demonstrator grants.

"So operationally, I would love for it to be simpler to say we have options A, B and C and that's it. Which one do you want? But really, if we're putting the business first, what we do is exactly right."

Project Lead

Here, the project was designed with more than funding requirements in mind. Whilst the institutional structures were satisfied by funding targets being met, further unmeasured value was gleaned from allocated resources by strategically delivering across to a range of support methods.

This level of foresight enabled the design of a project which specifically aimed to meet funder targets whilst delivering a wider range of benefits for stakeholders. A level of political savvy was observed, with practitioners developing a range of methods to ensure that 'boxes' were ticked and compliance was achieved whilst maximising regional benefit. The ability to use any necessary political means to realise concepts for the common good has also been observed to be a common trait of those demonstrating phronesis (Nonaka and Toyama, 2007).

The careful navigation of regulations, delivery of intangible value beyond what is captured within formal outputs and development of a complex offering of support packages for businesses overall would not be logical without a recognition of the wider, long-term benefit generated by such activity. Having this foresight, regional understanding and appreciation of the intangible arguably require a degree of practical wisdom, and, together, these attributes resulted in a project which can be considered to deliver greater value to a wider range of stakeholders.

Bridging Old and the New

Whilst this project was funded on a time delimited term, practitioners frequently looked beyond the timespan of the project to identify opportunities to contribute to the wider regional agenda. Many took a long-term approach, considering the ways in which this project would pave the way for future collaboration, helping to build the foundations of long-term inter-university partnerships. There was a recognition that this project would have significantly greater overall impact when considered as part of the wider regional context rather than as a standalone initiative. This awareness of being part of something ‘bigger’ and understanding the role that an individual project can have in wider collective effort can be considered an indicator of phronetic capacity, balancing short-term, immediate impact with broader, long-term outcomes (Burbules, 2019).

Alongside this collective perspective comes a sense of self-transcendence commonly associated with phronesis. Practitioners acknowledged that they would not change the regional sustainability agenda overnight or, indeed, alone but had the vision to recognise methods through which they could facilitate future initiatives, whether this is through building the foundation of future collaborations, developing an innovation ecosystem or developing the next generation of sustainability researchers.

“I would hope that, certainly if it's their first intervention (…) while working with us [the business] would be more aware of the ecosystem and support that's around them, so they might go and do another project with someone else that will give them support. So, I think that's a key metric, I’m a big believer that innovation ecosystems are key. So, have they built a network? Have they engaged with other economic development company, be it a research institution or growth hub

that will have the access to finance out there you know from a great match perspective. And are they better placed? Are they more confident? Are they more likely to innovate in the future?"

Project Manager

"I'm always talking on these projects about the whole trying to be more than the sum of its parts. You know, one individual project on its own may do some interesting things, but you know it isn't always going to deliver everything. But actually, if you've got a whole series of projects that have worked there, then you can start to see the sort of transformational change that we need to see in the area. And that builds a momentum and enthusiasm because you then become the sort of go-to region for things to happen because they can see that those businesses that are doing interesting things."

Project Manager

Whilst not captured or valued within traditional evaluative frameworks, failure is known to be a crucial area of learning and development, particularly when researching and developing novel processes (van Ewijk and Ros-Tonen, 2021). Practitioners recognised this opportunity for learning and development, and continued to encourage projects which did not contribute to evaluative outcomes (and thus could be considered a 'failure' in the conventional sense). The way in which learning from mistakes was seen as a stimulator, rather than inhibitor, of progress, with its inherent value recognised by the project team, demonstrated a degree of practical wisdom and sense of greater purpose beyond the evaluative timespan of the project itself (Burbules, 2019).

"Sometimes you know that they've done good work, you know it's been an effective project, but it doesn't deliver an outcome. We had a water-based project (...) they spent three years finding out that their idea didn't work. So, there was there's nothing really measurable came out of that. But it didn't take away from the fact that it was a valuable piece of work that the business needed to do, and somebody got a PhD on the back of it by proving something didn't work. Well, that's real research, isn't it? Nothing ever neatly fits (...)"

Business Development Manager

"What [success] looks like to me is both a series of individual businesses who have achieved transformational steps forward in terms of their understanding and their ability to develop something (...) In some cases, it's still successful to show them that actually something doesn't work because they may well have had an idea they wanted to explore. And actually, one of the things we're able to show in certain circumstances is that the science just doesn't make it stack up or the science and the economics together don't stack up. So those are still quite successful to me because it tells the company that they shouldn't have been investing a huge amount of time and resource in that."

Project Manager

Here, we observe practitioners demonstrating an appreciation of 'failure', looking beyond the 'stated' value as captured within the evaluative criteria to recognise the *unstated* value which the project will continue to have on the wider academic and geographic area.

Amongst practitioners, there was a strong sense of responsibility to develop the next generation of researchers. Whilst this initiative was not funded to support skills development in students - indeed, any resource expenditure directly put towards skills gain for researchers was against funding regulations – many practitioners noted the value that researchers gained through improved skills and employability as a result of engaging with the project, and many staff expressed this interaction with researchers as a highly rewarding part of their work.

"Apart from that core service that we offer, there's extra value - there's been a number of researchers working with companies who have been offered jobs at the end of it. We even helped the undergraduate third year students with dissertations that they can link into the companies. So again, that's offering another layer of support, maybe at a lower level of knowledge etcetera, but it helps the business, and also fulfils the dissertation needs of the third year students."

Business Development Manager

"If you read some of the literature on universities, they're very much talking about how when we're educating a generation, we need to be getting PhD's to be working with business. Well, that's exactly what we've been doing, you know, PhDs shouldn't just exist in isolation. So, I think that's actually very strong."

Project Manager

Balancing Priorities for the Greater Good

Phronesis is often coined as 'practical wisdom', where questions of practicality are artfully considered in decision-making, thanks to experience and situational understanding. Where phronesis differs from standard strategic decision making is the ability to prioritise what is good even when this is not necessarily the 'easiest' task. This was a hugely complex project, spanning six universities across a relatively diverse region incorporating some of the UK's most industrial and rural areas. There are certainly less operationally challenging ways to deliver a project which would achieve the target outputs. Despite this, practitioners voluntarily installed additional hurdles for themselves through developing a highly diverse offering for businesses involving several value streams and engagement packages. Whilst this undoubtedly created an operational headache, practitioners stood by this decision, citing the wider benefit for businesses within the region.

Fundamentally, practitioners recognised that whilst the complexity of the project brings significant logistical challenges, it creates a wider impact which resonates on both a local and global scale. The majority of the practitioners had been operating within this region for a significant period of time and recognised the specific needs of regional stakeholders, considering particular cultural and geographical traits which are unique to different localities. This ability to see beyond immediate challenge and recognise long-term regional opportunity demonstrates a level of forward-thinking and practical wisdom which arguably would not be achievable without this deeper level of regional understanding.

"You have people coming at it from different perspectives. You have the really desperate, the indifferent but forced and the real committed sort of eco warriors who you know they been bitten by the bug and they just wanted to do everything. And I think that's still the case now. I think there's still a blend of people who approach this differently."

Business Development Manager

The diversity of stakeholder perspectives is a core component of university-business collaborations (Bjerregaard, 2009; Kenter et al., 2019). Indeed, this is often a key proponent of transdisciplinary activity, with the ability to develop innovations which are both academically robust and economically viable (Caniglia et al., 2021). Several practitioners noted the diversity of perspectives they consider when making decisions relating to the project, demonstrating a deep understanding of the complexity of the initiative, but equally a recognition of the wider benefit such diversity can bring to the broader scope of the project.

"Different people fall into different categories. There are some people who definitely want to do it all for the right reasons. And then there are other people who are just doing a bit of greenwashing. And I suppose it's up to us how much we choose to care about which kind of people we work with if at the end of the day it produces a valuable project and it gives us outcomes. I'm always plate spinning as well, I'm always customer driven, I'm always trying to find something that will make the business happy and fulfil the needs. But also, at the back of my mind, I try and think of worthwhile projects that we can work with and we'll practically apply to the university. And that was quite difficult at first over the last five years, I think I probably got a bit of experience about which academics are most keen to work with us and which ones have got the most pro-business attitude, and which ones haven't."

Business Development Manager

"The core principle for me (...) [is] being able to offer that expertise, building these relationships with local industry across the North-West. And that collaboration builds a relationship that should

go on and be in the best interest of businesses across the North-West because these new technologies are being researched and discovered all the time and you'd hope that these things could change the marketplace in years to come (...) that for me is what you'd want to be involved in with this project."

Project Lead

Discussion

The Role of Phronesis in Influencing Project Outcomes

While it is famously difficult to prove categorically the 'presence' of phronesis, largely due to the inability to systematically define a characteristic which is by its nature context-dependent (Nonaka and Toyama, 2007; Grossmann et al., 2020), we have sought to explore this project through a phronetic lens to demonstrate the relative wisdom of practitioners within this project. Throughout the initiative, project practitioners demonstrated an ability to make sound moral judgements in decision making, deftly navigate political contexts and look beyond the geographical and time-delimited bounds of the project to generate outputs which will deliver benefit beyond the project itself. A key point regarding phronesis is thus illustrated even from these considerations: namely that while the goal becomes cultivation of phronesis, it is rarely if ever the case that those to whom this injunction is directed do not already have considerable reserves and capacities of phronetic judgement on which to build, even if this is frequently not self-consciously or explicitly recognised or conceptualised as such.

Furthermore, clear links have been identified between the actions which demonstrate phronesis and the activity which generated additional value for stakeholders, specifically regarding the key but multi-factorial task – involving deft juggling of situated institutional and power relations, the practical learning involved in bridging from old to new, and conviction in moral imperatives and clarity regarding the 'greater good' – of achieving 'necessary' advances even when these are not the 'easiest' ways forward. This initiative, like all transdisciplinary collaborations, faced significant tensions between stakeholder groups (Bremer and Meisch, 2017) [See also chapter 5]. Universities and businesses as collectives vary significantly in their perceptions of 'value' or 'success' (Porter and Dessai, 2017), and the diversity of value perception amongst individuals within these collectives further compounds the complexity of value judgement within the project (Compagnucci and Spigarelli, 2020; Caniglia et al., 2021).

We have demonstrated that practitioners' experience, moral judgement and practical awareness enabled them to skilfully navigate complex funding criteria and potentially conflicting interests amongst stakeholders to develop a project which fulfilled the necessary requirements of the project whilst generating significant additional value. This skilful navigation of political situations has been identified as a trait common in those with greater phronetic capacity (Nonaka and Toyama, 2007). To prioritise additional value creation without this having any specific effect on individual or collective performance evaluation undoubtedly requires an element of altruism and a wider appreciation for the broader context of the initiative. Whilst this is laudable, it may not be an efficient means of generating value for stakeholders, requiring significant effort and skill to execute successfully (Lövbrand, 2011).

Harnessing Phronesis through Evaluation Frameworks

Phronesis, due to its inherently situational nature, resists systematic definition and is consequently difficult to measure. This may help to explain why it is not currently incorporated into formal evaluation frameworks. Given the role of evaluation to promote learning and encourage traits which are conducive to 'successful' projects, further consideration needs to be given to how we can ensure that phronesis is incorporated into evaluative criteria.

Whilst practitioners' phronesis delivered significant additional value for the project, a large proportion of this value and activity was 'unofficial', taking place *in spite of* funders' evaluative requirements. Repositioning evaluative frameworks to *enable* practitioners to make the best use of their practical wisdom, granting them greater autonomy within the project design, delivery and evaluation process, could have a threefold impact on a project's perceived value.

First, it can enable previously uncaptured elements of a project's contribution to be brought to the forefront, providing a more accurate representation of value added by the project and allowing more informed policy decisions in future (Olphin et al., 2024). Secondly, thanks to practitioners' heightened understanding of stakeholder priorities, areas of potential conflict can be minimised, helping to alleviate tensions and facilitate the mediation process for researchers (Gibson, 2012). Thirdly, through allowing greater visibility of a project's relative 'success' and 'failures', learning opportunities can be maximised, with the opportunities to disseminate learnings via formal reporting as opposed to the informal networks currently adopted (Kavanagh, 2012).

"A non-virtue-friendly ethos, for instance one steeped in rules, codes and regulations, can hinder the development and execution of phronesis": Hypothesised by (Kristjánsson, 2021)

Project evaluation is far more than an administrative process which takes place towards the end of a project. It is important to note that stakeholder priorities are likely to change during the course of a project's progression. This is to be expected and, indeed, encouraged as stakeholder perspectives shift through collaboration (Tan et al., 2019; Chammas et al., 2020). There is growing acknowledgement for the need for UBC evaluations to adopt a more proactive, contextually sensitive approach (Perkmann et al., 2011; Hegger et al., 2012). Such an approach should account for shifting priorities, taking on a proactive role within the project to inform future processes and incorporate a combination of flexible short-, medium- and long-term outputs (Bjerregaard, 2009).

Such an approach requires a high level of understanding and practical wisdom to anticipate stakeholder priorities and deliver projects accordingly. Stakeholder collaboration encourages the shifting of perspectives and project redirection as partnerships emphasise the need to compromise on individual agenda (Wyborn et al., 2019). Subsequently, project direction is likely to shift on a micro-level. Governance structures need to be in place to ensure that existing evaluative frameworks are regularly reviewed and stakeholder feedback is gathered at multiple project stages to ensure that existing evaluative methods remain reflective of stakeholder priorities (Van Camp and Braet, 2016). This multi-stage data capture necessitates the development of new indicators which may not be widely acknowledged by funders, but which reflect targets and achievements identified by the project team as important and delivering 'value' (Balvanera et al., 2017). A phronetic approach has been shown to be valuable in reflecting on multi-stakeholder issues which are prevalent within sustainability study, helping to enable sustainability researchers to assess their approach to complex sustainability challenges (Salovaara Janne, 2024). Indeed, sustainability projects which are designed in a way which encourages the practice and cultivation of phronesis are likely to be more predisposed to fundamentally transformative change (Loeber, 2007)

Altogether, skilled practitioners who possess a strong understanding of what is valued by stakeholders are thus key to delivering stakeholder-centred approaches to project evaluation. Acting as boundary spanners between stakeholder groups, they must mediate differences in language, culture and priorities (Porter and Dessai, 2017; Keszey, 2018; Tyfield and Yuille, 2022). This is by no means an exact science and, indeed, likely an impossible task to do 'perfectly', yet the multiplicity of tensions and concrete considerations in balancing diverse perspectives also create continual opportunities for learning, deepening the practical wisdom of these key skilled practitioners, and, indeed, of all participants. Within this project, for instance, the key boundary spanners often were the researchers themselves rather than the professional project managers, navigating the different expectations of their industrial and academic supervisors alongside their individual ambitions to produce outcomes which best represented collective value to key stakeholders (Keszey, 2018). Although this role is not often specifically addressed within policy discourse, the capabilities of the boundary spanners in question can have a huge impact on project outcomes from the perspectives of stakeholders, aiding the crossing of knowledge boundaries (Valkering et al., 2013; Yuille et al., 2021).

Conclusion

We have demonstrated that phronesis is at play within this project, with practitioners exhibiting several traits most commonly associated with phronesis (Grossmann et al., 2020). The presence of these characteristics were shown to directly influence decision-making to prioritise areas which deliver value for stakeholders. Yet phronesis is near impossible to measure, as it is cannot be systematically defined due to its situationally-dependent nature. As a consequence, it is currently not factored into formal evaluation frameworks. Given the role of evaluation to promote learning and encourage traits which are conducive to 'successful' projects, further consideration needs to be given to how we can ensure that phronesis is incorporated into evaluative criteria.

We have highlighted the opportunities exploited through non-traditional methods which allow practitioners in practice to prioritise what is of most value to stakeholders and, in turn, to deliver greater overall benefit to their local region – regardless of, or at least through bending of, the shaping of projects to fit formal metrics of evaluation. Crucially, we identify the need for situated wisdom, or phronesis, to effectively navigate this web to consider the diverse perspectives of stakeholders within the context of project activity. Encouraging these modes of additional value creation in a more formal manner could further push the potential of university-business collaborations to deliver regional sustainable benefit. This requires trust in practitioners, investment in boundary spanners and a degree of flexibility to allow evaluation to align with the situational context of the project in question.

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Chapter 7: Conclusion

Theoretical and practical contributions to knowledge

University-business collaborations are fraught with tension, and in turn, sustainability is fraught with tension. Evaluation can either compound or harness that tension – this thesis looks into those tensions and how evaluation can be a potential vehicle to navigating these.

This project emphasises the need for innovative, critical thinking to be applied to the evaluation of university-business collaboration alongside the design and delivery of the collaboration itself. The influence of evaluation on overall project progression must not be understated. The relative lack of critical review of evaluative practices has been demonstrated, with the need to push beyond traditional archetypes of evaluation and critically consider perceptions of 'success' within the context of the place in which the collaboration is situated and intends to impact.

This research highlights the productive or destructive capacity of tension within university-business collaborations. This tension can be further reconsidered through a lens of heterarchy, giving particular attention to the way in which value is perceived amongst stakeholders. Considering the active role of evaluation in influencing heterarchies through acting as an additional order of worth adds further weight to the argument that we must carefully consider the ways in which evaluative practices dictate the notion of 'value' or 'success', with the ability to exacerbate or harness tension to promote regional impact.

It is noted that project practitioners may be well-positioned to navigate heterarchical tensions within university-business collaborations. For the project in question, practitioners demonstrated a deeper understanding of stakeholder priorities, alongside the regional context in which the initiative is situated. These qualities lend themselves to delivering pragmatic solutions which seek to benefit stakeholders, considering various perspectives surrounding what is valuable to deliver an outcome which is believed to predispose a project to greater long-term regional impact. Failing to empower project practitioners to act on wise, practical judgements may limit the project's capacity to deliver perceived value for stakeholders. Further research is needed to explore the impact of practitioners' agency on project outcomes, and in particular how this value can be captured via evaluative frameworks.

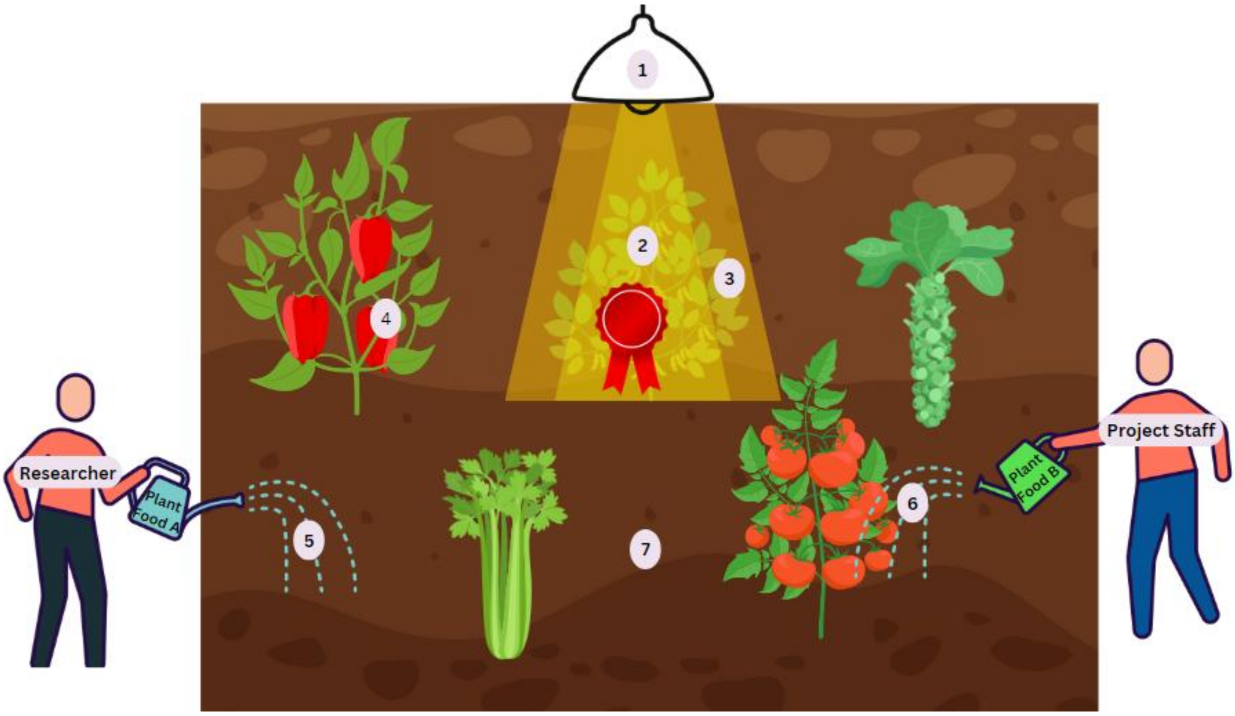
From a heterarchy / phronesis perspective, this research brings UBC into the conversation as a key example of where these two topics interconnect. To the author's knowledge, heterarchy and phronesis have not before been brought together, particularly in the context of UBC. The merit of doing so has been demonstrated, considering phronesis as a vehicle for navigating heterarchical tensions and being able to use both concepts to bring mutually enrich each within this context. Within the literature, both areas topics have had strong contributions but are limited in empirical data. This thesis gives real-life voice to these areas of theory, showing how these phenomena manifest in a practical setting.

Beyond the Metrics: Shedding Light on Unseen Value

This project satisfied its target outputs and funding requirements. Yet, there remains some uncertainty surrounding the relative 'success' this project achieved in promoting sustainable regional development. In light of this, what, then, can be done or recommended to improve the potential for the evaluation of UBCs to deliver optimal impact?

Project evaluation is far more than an administrative process which takes place towards the end of a project. It is important to note that stakeholder priorities are likely to change during the course of a project's progression. This is to be expected and, indeed, encouraged as stakeholder perspectives shift through collaboration (Tan et al., 2019; Chammas et al., 2020). Whilst many evaluative methods are relatively rigid and retrospective, UBC initiatives need to account for shifting priorities and take a proactive role within the project to reflect on changes and inform future processes, incorporating a combination of flexible short-, medium- and long-term outputs (Bjerregaard, 2009).

The perceived value cultivated within a SUBC can be visualised using the metaphor of a garden. Demonstrating the diverse attributions of value within a project as diverse varieties of plants, we seek to better demonstrate the significance of practitioners (in this project, project staff and researchers) in maximising value, and the role that evaluative frameworks play in value creation:



The evaluative framework (1) directs resource at specific outputs, concentrating efforts and illuminating specific elements of the project. The light exuding from the evaluation framework represents the project metrics. This is where the greatest concentration of resources are expended and where formal recognition for the overall project (garden) is gained. The evaluation seeks to shed light on particular kinds of value (2) to promote awareness, yet this is not always fully realised, with some evaluative priorities not being visible to all stakeholders (3).

The other plants present in the garden (4) represent other areas of value to stakeholders, with the diversity of species reflecting the diverse nature of value attribution within the collaboration. Whilst these are not directly illuminated or valued by the evaluative framework, they can continue to grow if they are granted necessary resources. Within a garden, having greater diversity helps to enable stronger growth of all species, avoiding excessive leaching of individual nutrients from soil and limiting the spread of pests and diseases. Within a collaboration project, incorporating a range of value creation helps to generate a stronger overall project, delivering greater value for all stakeholders, including that which is valued within formalised metrics. This can also help to protect against external shocks and limit potential challenges in research development.

Although they are only strictly paid to take care of the target crop highlighted by the evaluative framework (2), practitioners have the skills and capacity to expend additional resources to cultivate wider value (6). Researchers working across academia and industry also can manage multiple priorities (5), though, as observed within Chapter 5, careful management is required to ensure that the priorities of all stakeholders (including those of the researcher) are balanced in a sustainable manner.

Plants require a balance of nutrients to thrive. Akin to plant cultivation, value cultivation requires expertise and careful consideration. Stakeholder input needs to be balanced, incorporating a variety of perspectives, in order to enable an outcome which maximises overall perceived value. Such cultivation requires knowledge of the cultivar in question alongside the necessary skillset to encourage its development. Crucially, we know that different approaches may be required to encourage growth in different conditions; we know that what may work in one context cannot be assumed to be universally effective (Wildman et al., 2019). An understanding of the *place* in which the value is being developed is therefore fundamental to effective project governance. The earth in which the value is cultivated represents the place in which the project is situated (7). Soil benefits from the diversity of plant mixes present in the garden, and the overall garden benefits from deeper rooting within place, cultivated in part through practitioners' heightened understanding of the context in which the project is situated (Chammas et al., 2020). An evaluative framework with a regional focus should seek to promote a range of value which enriches the long-term potential of the region.

Within this example, it is evident that a gardener would require an understanding of the nature of cultivating plants – knowledge of the cultivar, an understanding of plant biology, and the necessary skills to successfully tend the plant. However, knowledge alone is not enough to cultivate the target plant successfully; gardeners would need to understand tacitly how to grow plants *in this context*, adapting growing strategies to best align with the soil structure and weather conditions. Indeed, a good gardener would understand that not all plants *can* be cultivated in this soil, and, if given the choice, would choose a selection best suited to the location of the patch.

Applying this logic to SUBCs, we can see that this deep understanding of the region plays a fundamental role cultivating value for stakeholders. Being able to make the most of available resources and exploit the peculiarities of the region, a skilled practitioner, if given the agency to do so, will be able to design and deliver a project which targets outputs which are attainable and valuable to regional stakeholders. Here, we require a skillset which goes beyond knowledge and extends to wisdom which is *situated* and *practical*, considering the diverse priorities of stakeholders to reach a balanced, ethical conclusion. Using this analogy, we can see the ways in which phronesis can help equip practitioners with the necessary tools to navigate complex heterarchies, and the importance of granting these practitioners with the agency and flexibility to direct projects as they see fit.

An evaluation approach which centres around phronesis and acknowledges heterarchical tension can work well with empirical evaluative methods. Using the above analogy, evaluation would still be shedding light on particular areas of a project, it is simply that the bulb can be redirected at the areas which stakeholders within the region most value. Within this research initiative, practitioners were directing resources to areas stakeholders valued the most, and that they felt would have the greatest impact. However, this was completely hidden from the formal, rigid metrics prescribed by the funding body. An approach which is foregrounded in phronesis would simply use evidence to demonstrate that the outputs are truly valuable for the region. To deliver this, it is important to recognise that evaluation begins at the inception of a project, when formal metrics and goals are defined, and therefore understanding and engaging with stakeholders in a proactive manner is key to ensuring that subsequent project design and evaluative processes are directed to the areas of greatest stakeholder-perceived value.

Implications for future research

This research has sought to add a voice to existing literature in this area, which extends across a range of disciplines and continues to grow at a rapid pace (Olphin et al., 2024). Within the literature review, it was observed that certain modes of inquiry were comparatively less well-explored than others. One such line of inquiry was those which critically considered the role of evaluation *itself* on project progression, considering the assumptions which are made in assessing the relative 'success' of a project, or appraising its value. While for many, evaluation was simply viewed as a passive vehicle for assessing the relative strengths and weakness of collaborative approaches (Coryn et al., 2017), a number of publications have viewed evaluation as more of an active and, indeed, proactive process, acknowledging the influence of evaluation on subsequent design and delivery of an SUBC (e.g. Hegger et al., 2012; Vervoort et al., 2012). Acknowledging that such appraisal has taken place, and therefore perceptions of value have been conferred to various elements of a project, is a key initial step to critically assessing and rethinking evaluative processes.

For researchers, this thesis has also sought to provide methodological insight surrounding place. Largely as a result of the recent trend in publications towards place-based thinking and research (McCann, 2019), 'place' has frequently been touted as a dimension requiring further thought, yet there remains a strong need to apply this theoretical perspective to practical settings (Klepac et al., 2024). While a growing number of publications surrounding SUBCs are considering the impact of projects on a more local level (Olphin et al., 2024), critical reflection on the relative universality of learnings and applications of findings (i.e., 'this works here, but would it work there'?) is a welcome addition to this body of research. It is hoped that the learnings from this study, which have been subsequently published, can be applied to support researchers in future methodological inquiry.

Practical Implications

SUBCs are expected to play a key role in tackling global environmental challenges, from climate to land-use to water quality. Significant attention is required to ensure that every stage of SUBCs maximises the potential impact that a project can have. From design to delivery to appraisal, SUBCs can be further pushed to generate further opportunities for productive collaborations which deliver impact on both a global and regional level.

This research has taken place during a pivotal time period whereby the UK has departed from the European Union. The future of SUBC funding is still highly uncertain and continues to be developed. It is generally believed that the Shared Prosperity Fund will at least in part replace funding from ERDF for SUBCs. As funding sources shift there is an opportunity to critically reconsider the manner in which SUBCs are funded and appraised. It is hoped that this research, alongside other studies from other bodies of literature, will help to provide further insight into how project appraisal, funding and delivery can be further strengthened to promote outcomes which deliver greater perceived value to stakeholders.t Amongst these changes, there are particular learnings which this researcher would wish to be implemented into policymaking and funding decisions.

Firstly, this project has highlighted the need to consider value and success as a subjective and dynamic concept, moving away from universalist and epistemologically sovereign conceptualisations. Holding universal metrics for value will not reflect the perceived value to stakeholders, nor the extent to which the initiative has exploited the potential of the target region for sustainable impact. Whilst current evaluation methodologies tend to be universalist and static (therefore, place- and time-neutral), place and time must be considered as playing an active role in influencing project progression; evaluation can be elevated through following a *proactive* rather than *retrospective* approach and be tailoring indicators of value to the needs and particulars of the target region. This involves placing greater value on the ability for practitioners to look ahead when designing and delivering SUBC initiatives, thinking about the greater good of projects and how foundations can be laid for long-term regional sustainable development. Such emphasis requires a need to cultivate an environment which promotes the development of phronetic capacity, retaining staff across multiple initiatives to encourage contextual experience and expertise amongst project practitioners.

Furthermore, greater emphasis needs to be placed upon the tensions which are present within SUBCs. Such tensions are inherent yet often pass 'under the radar' within formal reporting due to a reluctance to report on what can be considered to be barriers or failures within a project, or discounting these learnings as 'intangible' or 'spillover' (van Ewijk and Ros-Tonen, 2021; Roberts, 2023). Evaluative frameworks which promote the reporting of 'failure' rather than potentially punishing such activity can help to promote learning across initiatives and build understanding of ways in which challenges and barriers within SUBCs can be best managed (Luederitz et al., 2017). To enable this, greater trust has to be placed in practitioners to grant them the flexibility to direct resources to areas of greatest stakeholder-perceived impact. Using the lens of phronesis, this project has highlighted the capacity of practitioners to navigate tensions and maximise impact generation. Allowing a degree of flexibility for practitioners through reducing the relative power of mandated appraisal strategies and bureaucratic burden on staff would allow them to work in a manner which will deliver greater overall value for regional stakeholders and likely save resource in the process through minimising effort taken for activities which do not deliver perceived value. Considering the demonstrated potential for practitioners to harness tension and deliver impact, great care must also be taken to promote the *continuity* of work for practitioners. Short-term project durations and uncertain funding decisions risk losing the wealth of experience and skills that these practitioners bring to SUBC initiatives.

This research hopes to play a small part in helping to push this impact further, through looking at collaborations in a slightly different way to see what further insights can be gleaned. It has hoped to identify new themes and shed light on potentially hidden value within SUBCs which can be considered in appraisal. It has pushed for further critical reflection of evaluation practices; evaluation has received limited attention over the past few decades – it is a practice often not acknowledged, much less critically reviewed. Effective evaluation can help to guide future decision-making and policy, through appraising stakeholder impact in a more accurate manner whilst enabling learning opportunities which may otherwise have gone undocumented. Only through learning from previous initiatives can we incrementally improve and continue to push the impact of SUBCs further.

It is also for this reason that experienced practitioners, who have had the benefit of learning from previous projects, are a hugely useful yet often undervalued resource. Through looking at this project through the lens of phronesis, the value offered by practitioners is made clearer, particularly when considering this in the context of inter-stakeholder tensions and the heterarchies at play within a SUBC. Effectively navigating and, indeed, harnessing these tensions is arguably the most crucial element of coordinating an impactful SUBC initiative, ensuring that the sum of the collaborative impact is greater than could have been achieved alone.

Research Limitations

As with any research endeavour, there is always more that could be explored, and never enough time to address every question a researcher might have. While the following section outlines the limitations of this study, it could also be viewed as a testament to its effectiveness; after all, good research arguably often raises more questions than it answers.

A great deal of my research was guided by the timescales of project progression. In order to capture changes and trends across the course of the project, I needed to begin data collection very early in my PhD journey in order to capture a snapshot of the initial motivations, aims and objectives expressed by stakeholders, in order to compare these with the later stages of the project. As a result, I began my data collection before I had had the opportunity to really delve into the literature on this topic, thoroughly review project documentation and understand some of the nuances involved in delivering a project of this nature. While this was not ideal, this approach had its merits. Firstly, it meant that I was entering data collection with minimal preconceptions of what I might expect, helping to avoid subconscious bias during the data collection process (Charmaz and and Thornberg, 2021). It also helped me to develop my perspective of the initiative from the stakeholders themselves, helping me to closer align my thinking with those most closely involved with the initiative and better see the project through their eyes. This approach has been found to help researchers keep an open mind during the research process, and allow their lines of reasoning to be more participant guided (Ray and Miller, 2017).

Despite these merits, thinking ahead to what would hopefully be useful for my future self was naturally a challenge, and I took the decision to keep questions as broad as possible to cover a range of eventualities. It was hoped that this would be relevant to whatever direction my research took. While in hindsight, there are specific topics I would have loved to have covered, I am satisfied with this approach and cannot critique my former self too harshly in this particular department.

Furthermore, this research commenced in 2020, amidst a national lockdown imposed in response to the COVID-19 pandemic. As a result, opportunities for data collection were limited to virtual methods only. While virtual methods of research have still been found to be highly productive, it is still acknowledged that the richness and value added through a face-to-face interview should not be understated (Hanna and Mwale, 2017). Whilst every effort was made to ensure that interviews were as rich as possible, some limitations were inevitably encountered. In addition, the COVID-19 pandemic restrictions also influenced the activity of the project. Several face-to-face networking sessions, including small-scale conferences and workshops, were significantly delayed and/or cancelled in light of restrictions. It was originally planned that a workshop session would be held during a small-scale conference however this ultimately did not go ahead. As a result, the opportunity for group-based research and a further exploration into inter-stakeholder tensions was missed.

As a result of the UK's departure from the European Union, the SUBC under primary investigation had a limited funding period, spanning September 2020 to June 2023. As a consequence, during the PhD studies, several practitioners left the initiative to find elsewhere. Opportunities for further data collection from these individuals were therefore severely limited, preventing opportunities to compare perspectives at early and later stages of project progression.

This research only looked into one SUBC initiative. Whilst some meta-analysis was conducted in the form of a literature review, further study is required to confirm whether the conclusions from this study can be echoed by other initiatives.

Opportunities for Further Research

Alongside the standard regrets which are likely shared by most researchers – collecting more data, writing more frequently and early on, presenting at more academic conferences – there are many things which would be done differently if presented with the opportunity to complete this research a second time. In particular, there are some avenues which could have potentially yielded interesting insights.

One area which was touched upon in data collection, but considered out of scope for this thesis, related to ownership of research within SUBCs. Some of this ownership is contested on a legal base, considering questions of intellectual property, and can be an area of dispute within collaborations. Yet ownership can also present tension in a more nuanced manner. With more time, investigating the ownership of research could identify some interesting trends. This avenue was briefly explored, using discourse analysis to identify which areas of research researchers felt most connected to and where they felt they had greatest agency. Pronouns were considered as an interesting way to identify the subconscious ways in which stakeholders interact with their research and their collaborators, whether it was ‘my’ research, ‘our’ experiment, ‘their’ idea etc. When talking about successes and failures, analysing these through a lens of ownership could reveal some interesting insights into inter-collaboration interactions on a micro-level.

An area which was not directly addressed within this project was the *mode* of collaboration. Within this initiative, several different modes of collaboration were exploited, including short-term consultancy projects, inter-business collaboration workshops, demonstrator grants and undergraduate internships. While this thesis primarily focused on long-term research projects (masters / PhD), comparing collaborative processes and outputs across different modes of activity could have yielded some interesting insights.

Within this research, there has been one topic which has been consistently and quietly present, yet not directly addressed: power. Any interaction of individuals involves some form of power relations, and these can be emphasised when dealing with institutions of academia, business and bureaucracy. Evaluative frameworks have been seen by many academics as a means of exerting power through introducing a need for compliance and directing activity in particular directions (Rosin et al., 2017b). In addition, power and place are terms which are often explored in tandem, considering the unequal access and influence over how regions are managed and changed, and how places and contexts can be designed in a manner which confers power to certain individuals or groups at the expense of others (Cresswell, 2015). Indeed, even within the nature of how this research was conducted, I have been influenced by the structures of the initiative and the power relations which come with it. Power has been an inescapable factor within this project yet has been consciously neglected from direct interrogation within this thesis. This is something which has been carefully considered but falls out of scope for two main reasons. Firstly, this topic, in the context of place, tensions and sustainability, is too huge to do adequate justice within this thesis alone. Secondly, addressing power within this project, and the context of this research process, would open, for want of a better term, a can of worms, which raises far more questions than can be addressed within this research. Nonetheless, there is significant opportunity for further research in this area, considering power relations across project progression, with the opportunity to consider this in the context of place, drawing on theories from Foucault and Bakhtin, for example, in how these relations are navigated.

Concluding Thoughts

Three principles became central as research developed. First, evaluation is inherently subjective because it centres on *value*. The aim was never to design an "objective" framework that would accurately capture a project's value, since what counts as success for one stakeholder may be considered wasted effort for another. Second, this subjectivity is strongly shaped by *context*. What works in one region may not work in another, so evaluation must attend to place – the social, economic, and institutional conditions that influence design and delivery – if it is to inform future initiatives meaningfully. Third, SUBCS are full of *tensions*. Sustainability itself is riddled with tension. This is not necessarily negative; disagreement and difference are what make collaboration worthwhile. Yet tension can also become destructive and prevent projects from realising value for anyone involved. My data revealed both sides of this spectrum, and I became interested in how certain tensions could be harnessed productively.

My initial literature review underscored these issues. What struck me early on was how many studies discuss what makes a collaboration "successful" without asking what success actually means, who it is for, or how it is being measured. Many projects are implicitly evaluated without any acknowledgement that this is happening. If we are not recognising the evaluative judgements we are already making, we cannot critically examine their implications.

The review also revealed several binary tensions in the literature: sustainability and impact were treated either as objective truths or as entirely subjective constructs; findings were seen as either generalisable or context-specific; evaluation was often either quantitative or qualitative. A small but growing body of work began to blend these approaches, suggesting that more integrative, mixed-method evaluation could yield richer understanding. This gap in the literature provided an entry point for my empirical work.

In the field, I first adopted a heterarchical lens to help structure the complex web of tensions within the collaboration. Whereas many frameworks attempt to simplify such complexity, heterarchy recognises that multiple, sometimes conflicting, orders of value coexist. Embracing this complexity proved valuable. Through interviews about motivations, objectives, and priorities, I could trace where disagreements arose and how they affected collaborative relationships. This analysis demonstrated that tensions often stemmed from divergent conceptions of value: researchers, business partners, and funders each prioritised different outcomes. Evaluating such projects is therefore extremely difficult; any evaluation framework inevitably privileges some values over others. In fact, the very act of imposing a framework introduces another "order of worth," potentially amplifying existing tensions. I observed this clearly among stakeholders, who sometimes felt that formal metrics distorted rather than reflected what mattered most.

Yet despite these constraints, many participants pursued activities they believed were genuinely valuable, even when these were not rewarded by official metrics. Business Development Managers and Project Leads spoke of the long-term importance of R&D partnerships, postgraduate projects, and inter-business networking. They described the goal of establishing the region as a recognised hub for particular low-carbon solutions – an outcome largely absent from the project's formal measures of success. Practitioners demonstrated skill and judgement in navigating these contradictions, drawing on experience of previous projects and understanding of local needs. This is what I describe as phronesis, or practical wisdom: the ability to make context-sensitive decisions about what will deliver meaningful value.

Recognising phronesis within evaluation highlights the importance of trusting practitioners and giving them the flexibility to exercise their expertise. When evaluation frameworks become too rigid or metric-driven, they risk constraining this wisdom and undermining the very value collaborations are meant to create. Conversely, when practitioners are empowered to adapt, evaluation can become a learning process that strengthens rather than restricts collaboration.

It is also important to clarify what my project intentionally *does not* do. I do not propose a new evaluative framework, nor do I attempt to rank or quantify value. I do not compare across multiple collaborations or develop a strategy for embedding phronesis into policy. These are all valuable directions for future work, but my contribution lies in taking a step back—questioning the assumptions underpinning evaluation itself and showing how subjectivity, place, and tension shape what we come to regard as value.

In summary, this research reframes evaluation as an active, relational process that both reflects and shapes collaboration. By examining how evaluative practices shed light on certain values, how regional context influences those judgements, and how practitioners use practical wisdom to navigate competing demands, Ultimately, I argue that evaluation should not be treated as an administrative afterthought but as a proactive, ongoing dialogue that helps partners learn from one another and align their efforts toward shared regional goals.

I hope that this research will help to play its small part in highlighting the role that SUBCs will continue to play in facing increasingly pressing environmental challenges. I deeply hope that the learnings from this thesis can be applied to further study to further emphasise the need for innovative, inclusive, critical, proactive and place-focused evaluative practices to help further the impact of academia and industry in tackling hugely complex environmental and social challenges.

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Appendices

Appendix A: Example Interview Questions

Note: Parts of some questions have been altered to preserve project anonymity.

<u>Interview Questions – Faculty Members</u>

1. What made you want to get involved in this research project?
2. How do you believe this project has strengthened ties between your university and local business?
3. How do you believe this project to have a positive environmental impact?
4. Do you believe that the current methods for tracking this impact accurately reflect the project's achievements?
    a. Would you suggest any changes?
5. What challenges have you faced during this project?
    a. Do you have experience working with businesses in this way/working to create marketable solutions?
6. Have you found any clashes between business and academic interests at any point?
    a. If yes, how did you address these?

<u>Interview Questions – Late-Stage Postgraduates</u>

1. Could you give me a brief outline of your project in your own words?
2. How is your project going so far?
3. What would you say is the greatest success you've had so far?
4. How do you think your project benefits the North-West?
5. How does your project team work together to enable these changes?

6. Have you experienced any conflict within your project?
    a. (If yes) How did you work to overcome this conflict?
7. Looking back at your project so far, is there anything you would have done differently? If so, what would you have done?
8. What feedback would you give on your project?
9. What are you planning to do next?

<u>Interview Questions – First-Year Postgraduates</u>

1. Can you give me a brief outline of your project and what it entails?
2. What have you done so far to achieve the aims of the project?
3. What are the key aims?
4. How have you gone about planning the project?
5. How do you picture your project having a positive sustainable impact?
    a. Do you feel that carbon assessment is the best way to express this impact?
6. How does your project team work together?
7. Have you experienced any conflict within your project?
    a. (If yes) How did you work to overcome this conflict?
8. What would you say is the greatest success you've had so far?
9. How do you picture your project having a positive economic impact for your partner business?
    a. Are you aiming to bring a product to market?
10. What are the key challenges that you foresee during your project?
    a. How has COVID19 influenced the project?

<u>Interview Questions – Business Partners</u>

1. What made you want to get involved with this research project?
2. What are you hoping to gain from the project?
3. Are you satisfied with the work done by the project so far?
4. How do you feel that this impact could be improved?
5. How has this project helped to grow your business?
6. How has this project helped to create sustainable impact?
7. Have you found any clashes between business and academic interests at any point?
    a. If yes, how did you address these?
8. What challenges have you faced during this project?
9. What do you see as the biggest success of your project?
10. If you hadn't received support from this initiative, what would you most likely have done otherwise?

Interview Questions - Project Staff

1. What do you see as the main benefits of university-business collaborations?

a. What do you think businesses perceive as the biggest benefit?

2. What do you see as the strengths of the North-West for sustainability collaborations like this one?
3. How has recruitment been?
4. Why do you think that so many sustainability collaborations have a regional focus?
5. What do you think makes a successful sustainable collaboration project?
6. How do you find the targets set by the funding body align with the goals of the programme?
    a. Would you suggest any alternatives?
7. Which of your delivery mechanisms have been the most successful to date?
8. How is this project tailored to the needs of the North-West of England?

9. If you could change anything about the project, what would it be?
10. How well have the six universities collaborated from your perspective?
11. Would you be able to give some examples of projects (whether you were involved or not) that you think went well?
    a. What is it about that project that makes you think of it as successful?

Appendix B: Example Survey Questions

Note: Parts of some questions have been altered to preserve project anonymity.

Researchers

What was the main reason for you to get involved with the project?

What are the key outcomes you hope to achieve with your project?

To what extent have your own ideas / the ideas of your business / the ideas of the wider project team influenced the shape of your research project? (if applicable discuss the influence of each party separately in your answer)

Have there been any moments where the goals of each party (you / your business / the wider project team) have not been aligned? If so, how did you (or were you able to to?) overcome these challenges?

Do you see challenges in the alignment of goals as advantageous or challenging to your project (please explain)?

What have been the key challenges so far in aligning your project with the goals of the business and the goals of the wider project team?

In what ways do you feel being located in the North-West of England is an advantage (or a challenge) for a project that focuses on eco-innovation?

If you have any further comments or suggestions for improving the programme, please type below:

Faculty Members

What was your main reason for getting involved with the project?

What are the main outcomes you hope to achieve with your project(s)?

Have there been any moments where the goals of each party (eg. you / your business / the wider project team) have not been aligned? If so, how did you (or were you able to to?) overcome these challenges?

What have been the key challenges so far in aligning your project with the goals of the business and the goals of the wider project team?

In what ways do you feel being located in the North-West of England is an advantage (or a challenge) for a project that focuses on eco-innovation?

If you have any further comments or suggestions for improving the programme, please type below:

Businesses

What was your main reason for getting involved with the project?

What are the key outcomes you hope to achieve with your project?

In what ways is the North-West of England important to your business and to a focus on eco-innovation?

List up to three key benefits that involvement in the wider project brings to you and your business

Do you take advantage of the network of businesses involved in the project and collaborate with other businesses?

Have there been any moments where the goals of each party (your business / the researcher / the wider project team) have not been aligned? If so, how did you (or were you able to to?) overcome these challenges?

Using the scenario that had additional funding to work with partner businesses, what ways might you suggest it could be used to benefit your business?

If you have any further comments or suggestions for improving the programme, please type below: