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Exploring the implications of devolution for business accelerator intervention in new venture creation

Kieran John Purvis

This thesis is presented for the degree of Doctor of Philosophy at Durham University Business School

December 2024

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Abstract

This thesis examines how business accelerators and devolved policies interact to shape the emergence of new ventures in the United Kingdom's devolved regional contexts. Using an explanatory sequential mixed-methods design, it addresses the central research question: how do business accelerators and devolved policies interact to contribute to new venture emergence in devolved regions? In doing so, it explores whether – and how – accelerators align with regional governance structures and policy priorities to support entrepreneurial activity.

The quantitative phase uses national company registration data and a composite measure of regional policy support to examine patterns of new venture creation across devolved and non-devolved regions. Through linear mixed-effects modelling, it explores how differences in accelerator presence and policy breadth are associated with regional variation in entrepreneurial activity. The analysis identifies consistent disparities between regions – patterns that appear shaped not only by governance structures but also by the local availability and alignment of entrepreneurial support.

Building on these insights, the qualitative phase examines two contrasting cases: Wales and the Tees Valley Combined Authority. These regions offer distinct examples of how business accelerators and devolved policies interact in practice, highlighting the contextual dynamics that shape their relationship. Drawing on non-participatory observation and document analysis, the qualitative phase applies a structured coding approach informed by Gioia methodology. The analysis explores how accelerators may act as institutional intermediaries – translating devolved policy goals into regionally meaningful forms of entrepreneurial support. Mechanisms such as policy-accelerator alignment and the capacity of regional institutions emerge as important factors that influence whether new ventures are enabled or constrained.

The research contributes to theoretical understanding by integrating perspectives from institutional theory and regional innovation systems. It positions accelerators as meso-level actors – operating in the space between institutional environments and individual ventures – who support legitimacy-building through collaborative engagement. Rather than acting alone, new ventures gain credibility by working with accelerators that help interpret and channel regional policy signals. This role is especially salient in devolved contexts, where institutional expectations vary across regions. Practically, the findings offer actionable insights for policymakers and accelerator managers, highlighting the importance of tailoring support to the institutional and policy conditions of specific places.

By examining how devolution and business accelerators interact, this thesis offers a framework for understanding how such interactions may shape entrepreneurial outcomes in devolved contexts. It suggests that the effectiveness of accelerators depends not only on the resources and support they provide, but on how they engage with and adapt to local institutional conditions and policy aims.

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Chapter 1: Introduction

1.1 Background and rationale

Entrepreneurship and new venture creation are increasingly essential components of regional development – often marking the difference between places that thrive and those that quietly fall behind. Around the world, young firms are now driving some of the most significant advances in job creation, productivity, and innovation. In the United States, nearly all net employment growth over the past three decades has been attributed to businesses less than five years old – young firms that, despite their volatility, have played a disproportionately large role in driving job creation and economic renewal (Haltiwanger, Jarmin and Miranda, 2013; Decker et al., 2016). In the UK, a similar trend is emerging. High-growth firms are becoming closely associated with gains in total factor productivity and regional resilience (Coad et al., 2014). Yet despite this growing strategic importance, entrepreneurial activity remains unevenly distributed across regions. While some places consistently outperform others in nurturing and scaling ventures, others continue to rely on fragmented initiatives or legacy institutions. These differences are not incidental – they reflect long-standing variations in economic structures, institutional arrangements, and policy frameworks, all of which shape the conditions under which entrepreneurial potential is recognised, supported, and sustained (Armington and Acs, 2002; Spigel, 2017).

Business accelerators have become one of the most visible and widely adopted mechanisms for supporting entrepreneurship in recent years. Emerging as a distinctive form of intervention, they provide structured programmes that combine mentorship, access to finance, and facilitated networks – all designed to help early-stage ventures overcome common barriers to survival and growth (Pauwels *et al.*, 2016). Their rapid proliferation reflects a shift in how entrepreneurship is being supported – with increasing emphasis on short, intensive programmes that aim to help new ventures gain early traction. While accelerators are now a widely recognised feature of the start-up landscape, their broader role in regional development remains underexplored. Their potential to catalyse entrepreneurship makes them an essential focus for policymakers and stakeholders looking to stimulate local economies. Yet in many regions, this potential remains untapped or poorly integrated into wider policy frameworks. To date, accelerators have typically been discussed in terms of their effects on individual

ventures rather than their contribution to place-based economic strategies. How they operate within devolved governance settings – and whether they align with regional development goals – remains unclear. This makes it an essential – yet often overlooked – area for more deliberate policy attention within broader regional development strategies.

At the same time, the UK's devolution agenda has shifted significant economic and administrative powers from central government to subnational regions. The underlying belief is that regional authorities, being closer to the everyday realities of local economies, are better placed to tailor economic strategies to fit those needs (Keating, Cairney and Hepburn, 2009; MacKinnon, 2015). For entrepreneurial ecosystems, this creates new space for policy experimentation – allowing regions to craft bespoke interventions that respond to specific structural or institutional constraints (Rodríguez-Pose and Gill, 2003; Spigel, 2017).

Against this backdrop, the intersection of devolved governance and business accelerators offers a timely and underexplored area of inquiry. The UK's devolved regions – from Scotland and Wales to the newer mayoral combined authorities in England – provide varied institutional contexts in which to examine how localised decision-making interacts with entrepreneurial support. This study focuses on the interplay between these dimensions, asking how accelerators operate within devolved policy frameworks, and how these relationships shape the emergence of new ventures across different regional settings.

The rationale for this research lies in the observation that, while business accelerators and devolution have each received considerable scholarly attention in their own right, their interaction remains underexplored. In particular, little is known about how accelerator programmes operate within devolved policy environments or how regional governance shapes their role in fostering entrepreneurship (Hausberg and Korreck, 2020). This intersection is especially relevant in light of the UK's ongoing efforts to "level up" disadvantaged regions through targeted innovation and enterprise support.

In addressing this gap, this research aims to provide insights that are both theoretically significant and practically relevant. By examining the role of accelerators within devolved regions, it seeks to illuminate how these entities contribute to regional economic objectives and how their impact might be enhanced through alignment with

local policies. These findings have the potential to inform not only academic debates on regional innovation systems and entrepreneurial ecosystems but also the strategic priorities of policymakers and accelerator managers operating within devolved frameworks. A particular emphasis is placed on the legitimation of new ventures – that is, the process by which early-stage firms come to be seen as credible, appropriate, and worth supporting within their institutional environment (Suchman, 1995). While the UK's devolved regions share many institutional norms inherited from the national context, devolution introduces an additional layer of local differentiation – allowing certain values or expectations to become more prominent in specific places. In some devolved regions, ventures may be more likely to benefit from aligning with priority sectors identified in local industrial strategies – such as advanced manufacturing, digital health, or creative industries – whereas in other regions these priorities may differ or carry less institutional weight. This study uses legitimation as a conceptual lens for interpreting how new ventures navigate these region-specific expectations – and for examining how accelerators, as locally situated intermediaries, may help ventures align with the institutional priorities embedded in devolved policy. In this sense, legitimation is not assumed to be a guaranteed outcome, but rather a contingent and contested process shaped by the interaction between entrepreneurs and their audiences (Überbacher, 2014), in which accelerators may play a role by translating local policy goals and institutional logics into concrete, actionable forms of support.

The next section builds on this framing by examining the distinctive features of the UK's devolved regions and their implications for entrepreneurial activity. This contextual grounding will set the stage for exploring the intricate relationships between governance, policy, and support mechanisms within these regions.

1.2 Research context

The UK's devolved regions offer a diverse and dynamic landscape for exploring the intersections of governance, policy, and entrepreneurship. Devolution has granted varying degrees of administrative and economic autonomy to Scotland, Wales, Northern Ireland, and several English regions, each developing its own institutional frameworks and economic priorities (Rodríguez-Pose and Gill, 2003; Keating, Cairney and Hepburn, 2009). This decentralisation reflects a broader shift towards empowering regional authorities to address local challenges and capitalise on unique opportunities (Bailey,

2017; Torrance, 2024). However, the outcomes of devolution have been uneven, shaped by differences in economic capacity, governance expertise, and industrial legacy (Rodríguez-Pose and Bwire, 2004; MacKinnon, 2015).

The UK's governance landscape now includes both nation-level devolution, as seen in Scotland and Wales, and regional devolution within England through mayoral combined authorities, such as those established in Greater Manchester and Tees Valley. This study draws on one case from each type – Wales and the Tees Valley – to explore how varying degrees of autonomy influence the development and coordination of entrepreneurial support. These case-specific details are elaborated later in the methodology and findings chapters.

Despite institutional variation, devolved regions face common challenges in promoting sustainable economic growth and reducing regional inequalities (Pike, Rodríguez-Pose and Tomaney, 2016; Bailey, 2017). Many struggle with entrenched structural issues, such as industrial decline, skills shortages, and limited access to investment (Clifford and Morphet, 2015; Torrance, 2024). These factors constrain efforts to build effective entrepreneurial ecosystems and to translate devolved powers into tangible economic benefits (Rodríguez-Pose and Gill, 2003). Gaps in local capacity – particularly in under-resourced areas – further complicate the implementation of ambitious policy agendas (Mooney, Scott and Williams, 2006).

Business accelerators, situated within these regional ecosystems, have emerged as a potentially transformative mechanism for supporting new venture creation (Pauwels *et al.*, 2016; Bone *et al.*, 2019). These organisations provide targeted support to early-stage firms, addressing barriers such as access to finance, markets, and networks (Cohen and Hochberg, 2014). By equipping entrepreneurs with relevant tools and connections, accelerators aim to improve start-up survival and growth, aligning with broader economic development goals (Cohen *et al.*, 2019; Gonzalez-Uribe and Hmaddi, 2022).

Yet their integration into devolved regions has been uneven, reflecting wider gaps in policy alignment and support infrastructure (Aljalahma and Slof, 2022). While some areas – such as Greater Manchester – have developed dense networks of accelerators and innovation hubs, others continue to lack the institutional foundations needed to sustain high levels of entrepreneurial activity (Hausberg and Korreck, 2020). This

unevenness raises important questions about how devolved powers can be used more strategically to enable entrepreneurship (Rodríguez-Pose and Ezcurra, 2011).

A further challenge lies in aligning accelerator priorities with regional economic strategies. Many operate across hybrid public-private funding models, which may not always reflect local development aims (Arshed, Carter and Mason, 2014). For example, accelerators geared toward high-growth technology ventures may have limited relevance in regions prioritising traditional sectors or local employment generation. Bridging these mismatches requires careful coordination, which is explored in more detail in later chapters (Breznitz, Smith and Bagchi-Sen, 2022).

Taken together, these dynamics highlight the importance of examining how devolved powers, regional policy frameworks, and entrepreneurial support mechanisms interact (Morgan, 2013). A clearer understanding of this interplay is essential for both addressing regional disparities and informing broader debates around innovation and inclusive growth under devolution (Pike, Rodríguez-Pose and Tomaney, 2016; Hutzschenreuter, Matt and Kleindienst, 2020).

The next section builds on this backdrop to introduce the specific research problem, focusing on the limited attention given to how accelerators operate within devolved regional contexts and what this might mean for entrepreneurial outcomes.

1.3 Research problem and literature gap

The intersection between business accelerators, devolved governance, and new venture creation remains significantly underexplored in both theoretical and empirical research. While business accelerators are well established as mechanisms for supporting early-stage ventures (Cohen and Hochberg, 2014), and devolution has been widely examined as a tool for regional policymaking (Rodríguez-Pose and Gill, 2003), few studies have investigated how these two dimensions interact in practice. In particular, there is limited empirical analysis of how accelerators operate within devolved policy frameworks, and how regional governance conditions shape their role in fostering entrepreneurship (Mason and Brown, 2014). This lack of integration presents a substantive gap, especially in light of ongoing efforts to reduce regional economic disparities and promote place-based innovation (Pope, Dalton and Coggins, 2023).

This study addresses this gap by examining how business accelerators function within devolved governance systems to influence new venture emergence. The following chapters develop this question in detail, beginning with a review of the relevant literature and moving through a mixed-methods empirical investigation of two UK regions. By focusing on this intersection, the study aims to contribute new insight into the institutional dynamics of entrepreneurship in devolved settings, with implications for both theory and practice.

1.4 Research questions and objectives

At the heart of this study lies the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions? This question seeks to unravel the complex dynamics between devolved governance, regional policies, and entrepreneurial support mechanisms, with a particular focus on their collective influence on the creation and growth of new ventures (Rodríguez-Pose and Gill, 2003; Mason and Brown, 2014).

To address this central question, the study adopts an explanatory sequential mixed-methods design, structured around a set of complementary quantitative and qualitative sub-questions (Creswell and Plano Clark, 2018). These sub-questions provide a coherent framework for exploring different facets of the research problem, with full details of the design and procedures presented in the research design chapter.

1.4.1 Quantitative sub-questions

QNT.Q1: Are there significant differences in the rate of new venture creation between devolved regions in the UK? This question aims to establish whether regional variations in entrepreneurial activity exist and to what extent these differences can be attributed to the devolved governance structures in place (Rodríguez-Pose and Bwire, 2004; Xu and Warner, 2016).

QNT.Q2: Do devolved regions that implement entrepreneurship-supportive policies, such as access to finance, skills development, and innovation support, exhibit higher rates of new venture emergence? This inquiry investigates the relationship between the breadth of devolved policy support – as captured by a composite measure reflecting the cumulative presence of multiple policy domains – and the emergence of new ventures.

It aims to shed light on the effectiveness of devolved policy tools in fostering entrepreneurship (Arshed, Carter and Mason, 2014; Bailey, 2017).

QNT.Q3: Is there an association between the presence of business accelerators and recent rates of new venture emergence in subnational regions? By exploring this relationship, the study seeks to determine whether the density and distribution of accelerators contribute significantly to regional entrepreneurial outcomes (Bone, Allen and Halley, 2017; Cohen *et al.*, 2019).

1.4.2 Qualitative sub-questions

QLT.Q1: How do devolved policies support or enable business accelerators to drive new venture creation in subnational regions? This question delves into the mechanisms through which policies empower accelerators, focusing on the interplay between governance structures and entrepreneurial support (Keating, Cairney and Hepburn, 2009; Pike, Rodríguez-Pose and Tomaney, 2016).

QLT.Q2: How do business accelerators adapt their programmes and strategies to align with the specific needs and policy priorities of devolved regions? This line of inquiry examines the adaptability of accelerators, highlighting their capacity to navigate and respond to regional contexts and priorities (Mason and Brown, 2014; Spigel, 2017).

QLT.Q3: How do business accelerators and devolved policies interact to amplify their collective impact on entrepreneurial activity in devolved regions? This question explores how accelerator strategies and devolved policy frameworks influence one another in practice – including how policies shape accelerator approaches, and how accelerators, in turn, respond to, adapt, or reinforce the intent and reach of those policies. The aim is to understand how these interactions may enhance their combined effectiveness within regional entrepreneurial ecosystems (Drori and Wright, 2018; Khalid and Spigel, 2023).

These questions are informed by theoretical perspectives on entrepreneurial ecosystems and new venture legitimation. While the study does not directly measure legitimacy as a variable, institutional theory guided the interpretive analysis of the qualitative phase. In particular, the concept of legitimation – the process by which early-stage ventures gain credibility within their regional context – offered a useful lens through which to understand accelerator–policy interaction. Insights on legitimacy emerged inductively

during the case study analysis and are used in this thesis to interpret how regional support structures shape entrepreneurial outcomes in devolved governance settings.

1.4.3 Research objectives

The research objectives serve as a bridge between the questions and the methodological approach, guiding the study's design and execution. These objectives are directly informed by the gaps identified in the literature and reflect the practical significance of the research (Hausberg and Korreck, 2020; Spigel, Khalid and Wolfe, 2022):

Evaluating regional disparities: This objective focuses on assessing regional differences in new venture creation across the UK's devolved areas. It aligns with the first quantitative sub-question and provides a foundation for understanding the broader landscape of entrepreneurial activity (Armington and Acs, 2002; Rodríguez-Pose and Gill, 2003).

Assessing policy breadth and entrepreneurial emergence: This objective investigates whether regions with more comprehensive entrepreneurship-supportive policy environments are more effective at encouraging new venture formation. It contributes both to theoretical understanding and policy design (Arshed, Carter and Mason, 2014).

Exploring the role of business accelerators: Here, the aim is to examine the presence and function of business accelerators within devolved governance settings. This includes both a statistical exploration of their distribution and a qualitative investigation into how they operate on the ground (Cohen and Hochberg, 2014; Bone *et al.*, 2019).

Investigating policy–accelerator interaction: This objective looks at how business accelerators and regional policies interact to shape entrepreneurial ecosystems. The focus is on identifying conditions under which their alignment can enhance local entrepreneurship (Spigel, 2017; Spigel, Khalid and Wolfe, 2022).

Generating actionable insights: Finally, the research aims to produce practical insights for policymakers and accelerator managers seeking to support entrepreneurship more effectively within devolved contexts (Mason and Brown, 2014; Khalid and Spigel, 2023).

These research questions and objectives are carefully designed to provide a structured pathway for addressing the central research problem. Together, they enable a nuanced exploration of the relationships between devolved governance, business accelerators,

and new venture creation, offering a comprehensive response to the gaps identified in the literature.

As the study turns to its methodological underpinnings, the next section outlines the explanatory sequential mixed-methods design, detailing how the quantitative and qualitative phases are integrated to achieve the research objectives. This approach ensures that the study not only identifies statistical patterns but also provides a deeper understanding of the contextual factors driving these relationships.

1.5 Overview of research design and methodology

This study investigates how business accelerators and devolved policies interact to influence new venture creation in subnational regions of the UK. To address this complexity, the research adopts an explanatory sequential mixed-methods design (Creswell and Plano Clark, 2018), combining statistical analysis with qualitative case studies. Full details of the methodological approach – including data sources, analytical procedures, and theoretical rationale – are presented in the Research design chapter.

1.6 Structure of the thesis

This thesis is organised into the following chapters, each contributing to a coherent exploration of the interaction between business accelerators, devolved policies, and new venture creation in the UK. The structure reflects the sequential and integrated nature of the explanatory mixed-methods approach, guiding the reader through the study's conceptual framework, empirical findings, and broader implications.

1.6.1 Introduction

The opening chapter establishes the foundation for the study by outlining its background, rationale, and significance. It introduces the central research question and related sub-questions, as well as the key objectives guiding the research. The chapter also provides an overview of the research design and methodology, highlighting the integration of quantitative and qualitative phases. Finally, it sets out the structure of the thesis, giving the reader a clear sense of the narrative trajectory (Yin, 2014; Creswell and Plano Clark, 2018).

1.6.2 Literature review

The literature review situates the study within existing academic debates, examining three key themes: new venture emergence, the role of business accelerators, and the implications of devolution for regional economic development. This chapter identifies gaps in current knowledge, particularly regarding the integration of accelerators into devolved governance frameworks (Rodríguez-Pose and Gill, 2003; Hausberg and Korreck, 2020). These insights help shape the study's research questions and objectives, while also providing a theoretical foundation for the analysis.

1.6.3 Research design and methodology

This chapter details the methodological framework of the study, focusing on the explanatory sequential mixed-methods approach. It describes the rationale for combining quantitative and qualitative methods, the data sources utilised, and the analytical techniques employed in each phase (Creswell and Plano Clark, 2018). The chapter also addresses issues of validity, reliability, and ethical considerations, ensuring transparency and rigour in the research process (British Sociological Association, 2017; Alvesson, 2018).

1.6.4 Quantitative phase

The fourth chapter presents the methodology and findings of the quantitative phase. It begins by describing the datasets, statistical models, and analytical steps used to investigate regional disparities, policy impacts, and accelerator presence. The results provide an empirical foundation for the study, highlighting key patterns and relationships that inform the qualitative phase (Armington and Acs, 2002; Audretsch and Lehmann, 2005).

1.6.5 Qualitative phase

This chapter focuses on the qualitative phase, detailing the selection of case study regions, data collection methods, and thematic analysis approach. It presents findings based on document analysis and non-participant observation, offering contextual insights into how accelerators and devolved policies interact in specific regional settings (Yin, 2014). These findings deepen the understanding of mechanisms and processes that underpin the quantitative results.

1.6.6 Discussion

The discussion chapter integrates the findings from both research phases, linking statistical patterns with contextual explanations. It reflects on the broader implications of the results for theory and practice, addressing how the study contributes to debates on regional entrepreneurial ecosystems, devolution, and innovation policy (Cooke, Gomez Uranga and Etxebarria, 1997; Mason and Brown, 2014). The chapter also critically examines the study's limitations and areas for future research.

1.6.7 Conclusion

The conclusion summarises the key contributions of the thesis, emphasising the insights it provides into the role of business accelerators within devolved governance frameworks. It revisits the research questions, synthesising the findings and highlighting their relevance for policymakers, practitioners, and academics. The chapter also reflects on the study's implications for addressing regional economic disparities through targeted entrepreneurial support.

1.6.8 References and appendices

The final chapter includes a comprehensive bibliography and appendices containing supplementary materials, including selected quantitative outputs referenced in the analysis.

Each chapter builds logically on the previous one, creating a cohesive narrative that guides the reader through the research process and its findings. As the study moves toward its broader contributions, the next section will focus on articulating the theoretical and practical implications of this research. These contributions highlight how the study advances understanding in its field and offers actionable insights for fostering entrepreneurship in devolved contexts.

1.7 Theoretical and practical contributions

This study contributes to both theoretical understanding and practical application across the intersecting domains of regional economic development, business accelerators, and devolved governance. By exploring how accelerators operate within devolved policy environments, the research sheds light on underexplored interactions between entrepreneurship support mechanisms and regional institutional frameworks. It also

offers insights for policymakers and practitioners seeking to develop place-based strategies for new venture creation.

1.7.1 Theoretical contributions

This thesis contributes to theory in three interrelated ways.

First, it bridges a gap between devolved governance and entrepreneurial ecosystem research by examining how regional policies and business accelerators interact to shape new venture activity. Existing literature has tended to treat these domains in isolation: regional innovation systems scholars have focused on institutional structures and governance (Cooke, Gomez Uranga and Etxebarria, 1997; Cooke, 2001), while research on entrepreneurial ecosystems has concentrated on actors, resources, and interactions at the firm or city-region level (Mason and Brown, 2014). By integrating these perspectives through a combined analysis of statistical patterns and qualitative mechanisms, the study offers a more systemic understanding of how policy environments and support infrastructures co-evolve in devolved regions.

Second, the thesis extends ecosystem and regional innovation systems theory by demonstrating that accelerator effectiveness is not static or uniform, but contingent on how well programmes align with regional governance conditions. In areas with clear strategic priorities and stronger institutional coordination, accelerators that tailor their mission and delivery models to local economic goals appear to generate greater legitimacy and entrepreneurial impact. Conversely, in more fragmented or resource-constrained settings, accelerators struggle to position themselves as relevant or credible actors. These findings support earlier claims about the uneven capacity of regions to translate policy autonomy into effective outcomes (Rodríguez-Pose and Gill, 2003) and the continued asymmetry of devolution across the UK (MacKinnon, 2015; Bailey, 2017). They also connect to recent discussions about how devolved powers are used – or underused – to shape entrepreneurial ecosystems (Pope, Dalton and Coggins, 2023). The UK context is particularly important here. Devolution has produced a patchwork of institutional arrangements, with some regions enjoying significant autonomy while others remain more constrained. These asymmetries create different conditions for entrepreneurial support – and different challenges for accelerators trying to operate within them. Understanding how accelerators adapt to this variability is essential for designing regionally responsive policies.

Third, and perhaps most distinctively, this research engages with the literature on new venture legitimation by proposing that accelerators act as meso-level legitimacy builders within devolved ecosystems. While Überbacher (2014) maps the legitimation literature across micro and macro levels of analysis and along a spectrum from actor to audience locus of control, this study identifies an underexplored meso-level dynamic. It focuses on accelerators as regional intermediaries that actively interpret and translate institutional logics into legitimacy-granting practices. These actors do not neatly fit as either entrepreneurial agents or external audiences; instead, they co-shape what is seen as legitimate within devolved entrepreneurial ecosystems. This lens was not the study's starting point but emerged through qualitative case analysis. Accelerators were observed engaging in legitimacy-building work on two fronts: helping ventures align with regional narratives about economic priorities and reinforcing those narratives through their own organisational framing and actions.

This reframing builds on recent work that positions accelerators as intermediaries within entrepreneurial ecosystems (Goswami, Mitchell and Bhagavatula, 2018), but extends it by focusing more directly on their role in shaping legitimacy. Rather than viewing accelerators solely as resource brokers or coordination hubs, this study explores the idea of meso-level new venture legitimation – that is, the possibility that accelerators influence which kinds of entrepreneurial activity come to be recognised as legitimate within particular policy contexts.

In devolved regions such as Wales and Tees Valley, where institutional priorities differ considerably, this mediating role appears especially important. Accelerators were observed helping ventures to align with locally dominant narratives, while also working to position themselves as credible actors within those same narratives. Through these activities, they appear not simply as neutral platforms but as participants in the ongoing construction of legitimacy within their regional ecosystems.

By articulating this meso-level function, the study offers a more nuanced understanding of how new ventures become seen as viable and valuable – not only through their own actions or macro-level institutional shifts, but through interactions with regional intermediaries that both interpret and reinforce local economic agendas. This contribution helps extend legitimation theory into the regional entrepreneurship domain and offers a conceptual foundation for analysing the relational role of accelerators within devolved governance frameworks.

This insight reinforces the central claim of this thesis: that accelerators are not simply tools for venture development, but critical mediators of policy, identity, and legitimacy in regionally devolved entrepreneurial ecosystems.

1.7.2 Practical contributions

From a practical perspective, the study offers valuable guidance for policymakers, accelerator managers, and regional economic stakeholders. Policymakers can draw on the findings to design more targeted interventions that align accelerator programmes with regional economic strategies (Bone *et al.*, 2019). The study underscores the importance of tailoring policies to local conditions, suggesting that regions should prioritise support mechanisms that address specific barriers to entrepreneurship, such as access to finance, skills gaps, or limited networks (Arshed, Carter and Mason, 2014).

For accelerator managers, the research provides insights into how their programmes can adapt to regional priorities and governance structures. It highlights the value of building strong relationships with local policymakers and aligning programme objectives with broader economic goals (Cohen *et al.*, 2019). Accelerators that effectively position themselves as intermediaries within regional entrepreneurial ecosystems can enhance their legitimacy and amplify their impact on new venture creation (Zimmerman and Zeitz, 2002).

Regional economic stakeholders, including local authorities, business organisations, and investors, may also benefit from the study's findings. The research emphasises the potential of accelerators to act as catalysts for economic development, particularly when supported by coherent and well-resourced policies (Rodríguez-Pose and Bwire, 2004). Stakeholders are encouraged to view accelerators not as isolated entities but as integral components of a collaborative ecosystem that requires strategic alignment and sustained investment (Spigel, 2017).

1.7.3 Broader implications

Finally, the study's contributions extend beyond the UK, offering insights that may be applicable in other contexts where regional governance and entrepreneurial ecosystems intersect. It provides a framework for understanding how decentralised decision-making can shape the effectiveness of entrepreneurial support mechanisms (Cooke,

2001), with implications for countries pursuing similar devolutionary or federalist approaches (Keating, Cairney and Hepburn, 2009).

As the study moves towards its empirical findings and broader discussion, these contributions will be further elaborated to underscore their relevance to both academic discourse and practical decision-making. By bridging theoretical insights with real-world applications, the research aims to inform ongoing efforts to address regional disparities through targeted entrepreneurial support.

Chapter 2: Literature review

2.1 Introduction

The day-to-day lifestyle and experience of billions of people around the world is radically different today compared to at any time in history. Much of this change can be traced to the direct and indirect impact of countless new products and services that have been introduced to the world by new ventures; organisations that did not exist themselves until recently. Examples include a low-cost water filtering system developed by an entrepreneurial company in Tianjin, China, helping families treat polluted water, and soil testing services in Madhya Pradesh, India, that has enabled farmers to maximise productivity (Hammond *et al.*, 2007). The rise of digital technologies has democratised entrepreneurship, reducing the startup costs of new ventures and enabling cloud-based solutions (M. Nawaz and A. Mahmood, 2021). Mobile technology has revolutionised financial services, particularly in developing countries, providing access to banking, savings, and transactions through cell phones (Qureshi, 2010; Chandy and Kharas, 2012).

Founded by entrepreneurs, these new ventures have emerged from regions across the world. However, their geographical origin is not evenly distributed. Some regions appear particularly well suited to the foundation of new ventures. Geographical environments play a role, with certain areas offering more favourable conditions for entrepreneurship (Malecki, 2009). Prior human networks – especially those formed by immigrant entrepreneurs – also influence the spiky globalisation pattern of venture capital flows (Iriyama, Li and Madhavan, 2010). Cultural factors matter too: some societies appear to produce more entrepreneurs than others (Busenitz and Lau, 1996). In the UK, Mason (1985) argues that the regional concentration of successful small firms is largely due to underlying occupational structures and economic milieu. This spatial tendency brings a range of potential benefits, including job creation, wealth, and inward investment. Given these benefits, it is unsurprising that regional stakeholders take an active interest in interventions and policies aimed at enhancing their area's propensity to generate and support new ventures. Such efforts have evolved over several decades, beginning with science parks and technology incubators in the twentieth century (Smith and Zhang, 2012). Following the global influence of Y Combinator – founded in 2005 in Cambridge, Massachusetts – business accelerators have emerged as a key intervention

model (Christiansen, 2009). While their specific objectives vary, most accelerators aim to increase the rate at which successful new ventures are formed (Pauwels *et al.*, 2016).

In many countries, including Brazil, Mexico, India, China, the USA, the UK and several European counties, there is a growing trend at national government level to devolve powers to sub-national regions and localities. While devolution is a complex process involving a wide range of powers, and can take many forms (Rodríguez-Pose and Gill, 2003), it is frequently the case that devolution involves the transfer of a range of powers relating to local economic development (Phelps and Tewdwr-Jones, 2001) and a range of opportunities for intervention in new ventures seeking to establish in the region, including planning concessions and frameworks to expediate inward investment.

While business accelerators often align with the goals of devolved economic development – such as stimulating innovation, attracting investment, and supporting high-growth firms (Keating, Cairney and Hepburn, 2009) – the ways in which they interact with specific policy levers in devolved contexts remain underexplored. The potential for accelerators to operate as intermediaries within regional policy ecosystems is examined further in the conceptual framework that follows.

2.1.1 Context of study

This review builds on the introduction by examining how previous research has understood the relationship between business accelerators and their regional contexts. Rather than revisiting the aims of the study, the focus here is on exploring how accelerators are theorised within the wider field of entrepreneurship, how regional dynamics influence their operation, and where conceptual and empirical gaps remain. The review sets out the intellectual ground on which the study is based and clarifies the specific debates and assumptions it seeks to engage with.

2.1.2 Review structure

This literature review is organised around three core themes, each addressing a different dimension of how business accelerators influence the emergence of new ventures in subnational regions.

The first theme, business accelerators and new venture support, examines the evolution of accelerator models and how they assist early-stage ventures in overcoming resource and capability constraints.

The second theme, sub-national regions, devolution, and entrepreneurial ecosystems, explores how accelerators are shaped by, and embedded within, regional policy contexts and governance structures.

The third theme, theoretical perspectives on new venture emergence and legitimation, introduces relevant conceptual frameworks, with particular attention to institutional theory and the role of legitimacy in regional accelerator effectiveness.

Together, these themes provide a foundation for understanding the policy and contextual conditions that shape accelerator outcomes, and they identify opportunities for further inquiry into the strategic role of accelerators within devolved entrepreneurial ecosystems. The first theme begins by reviewing how accelerators function as a form of venture support and why their influence continues to attract growing academic and policy interest.

2.2 Theme 1 – Business accelerators and new venture support

Business accelerators have emerged as pivotal entities in the entrepreneurial ecosystem, providing essential support to nascent ventures through mentorship, training, and resource facilitation. These accelerators play a crucial role in addressing the myriad challenges faced by startups, such as developing business models, securing funding, and developing a strategy for product development, thereby significantly enhancing their chances of market survival and commercial success (Bańka *et al.*, 2023). The impact of accelerators on startup performance is influenced by the startup's founding environment, with those from more resource-rich environments experiencing stronger gains from accelerator programs (Fehder, 2023). Furthermore, the human capital of entrepreneurs, particularly their educational background, significantly affects the benefits derived from accelerator participation, enhancing both innovation and social performance (Chowdhury and Audretsch, 2024). Despite their effectiveness, there are still gaps in the operational structures and outcomes of accelerators, necessitating further research to optimise their functioning and impact (Aljalahma and Slof, 2022).

Different models of accelerators, such as the networked venture builder model exemplified by the Alacrity Global Ecosystem, have shown success in rapidly growing new ventures and achieving economic development goals by integrating characteristics of multiple accelerator types (Spigel, Khalid and Wolfe, 2022). The role of accelerators is also critical in specific sectors, such as energy, where they support startups in

developing innovative solutions essential for energy transformation and sustainability (Bańka, Salwin, Kukurba, *et al.*, 2022). Social impact accelerators specifically cater to for-profit social ventures, facilitating their transition from ideas to viable organisations by providing access to external financing, revenue generation, and employment opportunities (Kher, Yang and Newbert, 2022). The taxonomy of business incubators and accelerators, based on human, social, and organisational capital, underscores their role in fostering open innovation practices and regional economic development (Leitão, Pereira and Gonçalves, 2022). Corporate accelerators, which are increasingly used by global companies to complement their R&D activities, enhance corporate innovation by engaging with startups and fostering entrepreneurial behaviour within the corporation (Bettenmann, 2023).

Despite the proliferation of entrepreneurial support organisations like incubators and accelerators, their impact on entrepreneurs, ventures, and the wider entrepreneurial ecosystems remains an active area of study with further research needed (Bergman and McMullen, 2022). Recent studies have indicated that business accelerators are not universally beneficial to all new ventures; with certain advantages of not attending a business accelerator shown to exist for high potential fintech new ventures (Browne *et al.*, 2024). The authors attribute this to countersignalling theory; in that the absence of need for assistance may be more attractive to investors. This finding highlights the importance of the audience in new venture outcomes; and raises the need for greater understanding as to how and why business accelerators appear to add value in some contexts, but not others.

The following review focuses on the multifaceted role of business accelerators in supporting new ventures, highlighting their impact on regional innovation systems, entrepreneurial ecosystems, economic development at the sub-national region level, and identifies areas of further research required. The review is divided into three sections; (1) the origin of business accelerators and the history of new venture support; (2) a description of how business accelerators operate and (3) the impact of business accelerators on new venture outcomes.

2.2.1 The origin of business accelerators and the history of new venture support

The conceptual roots of business incubators and, by extension, accelerators, can be traced to the post–World War II evolution of industrial R&D practices. Early research into organisational behaviour within research laboratories during the 1950s and 1960s laid important theoretical foundations for thinking about how innovation-supporting entities could be structured (Galbraith, McAdam and Cross, 2022). Although not described as incubators at the time, these early models embodied principles such as autonomy, experimentation, and streamlined decision-making – qualities that arguably influenced the managerial philosophies underpinning later incubator and accelerator designs.

Over the decades, business incubators became essential entities in the entrepreneurial ecosystem, providing office infrastructure, business support services, mentoring, and access to finance and networks to facilitate the commercialisation of tech-based startups (Galbraith, McAdam and Cross, 2022). The traditional focus of incubators was on regional development and university-based initiatives, but the landscape began to diversify significantly with the advent of private corporate incubators and accelerators, which gained traction in both theory and practice (Hausberg and Korreck, 2020).

The early 2000s marked a significant milestone with the establishment of Y Combinator in 2005, which is often credited with popularising the modern accelerator model. Y Combinator introduced a structured, cohort-based program that provided seed funding, intensive mentorship, and a network of investors, fundamentally transforming how startups were nurtured and scaled (Aljalahma and Slof, 2022). This model emphasised short-term, intensive support aimed at rapidly validating ideas and accelerating growth, distinguishing itself from the longer-term, more infrastructure-focused approach of traditional incubators (Crișan *et al.*, 2021; Aljalahma and Slof, 2022).

The role of accelerators has since expanded, with various forms emerging to address specific needs, such as corporate accelerators, which integrate startups into larger organisational structures to drive innovation, and hybrid models that combine elements of both internal and external support mechanisms (Bańka, Salwin, Kukurba, *et al.*, 2022). Accelerators have become crucial in supporting startups through the early stages of development, helping them overcome challenges related to business model

formulation, funding acquisition, and market access (Bańka *et al.*, 2023). They also play a significant role in regional development by enhancing the entrepreneurial ecosystem, particularly in environments with abundant resources (Fehder, 2023). The evolution of accelerators has been accompanied by a growing body of research, which has identified key mechanisms through which they operate, including idea validation, product development support, and market access facilitation (Crișan *et al.*, 2021).

The journey from skunkworks to modern accelerators highlights a continuous evolution in supporting innovation and entrepreneurship, reflecting broader changes in organisational behaviour and the entrepreneurial ecosystem. This journey continues, with the business-accelerator model diverging into several specialised types (Pauwels *et al.*, 2016). The business model has evolved significantly since its inception, emerging as a crucial innovation intermediary over the past two decades. Initially conceptualised to support nascent startups through mentorship and training programs, with returns derived from equity in successful new ventures, accelerators have grown in both form and function, addressing various gaps in organisational structure, operations, and outcomes in the absence of corporate funding (Aljalahma and Slof, 2022). Publicly funded business accelerator programmes have also emerged with an emphasis on welfare stimulation, economic development and job creation (Pauwels *et al.*, 2016). Corporate sponsorship and public funding, including through the UK government, local government and universities, now make up the majority of funding for UK based accelerators (Haley *et al.*, 2022).

2.2.2 How business accelerators operate

Business accelerators are structured programs designed to fast-track the growth of new ventures through a combination of investment, mentorship, and networking opportunities. Unlike incubators, which typically support ventures over a longer period, accelerators offer intensive, short-term programs aimed at rapid growth and market entry (Hausberg and Korreck, 2020). One study of 146 US business accelerators found that programme duration ranges from four weeks to one year, with an average of sixteen weeks (Cohen *et al.*, 2019).

Various types of accelerator programmes are identified in the literature, each with distinct operational models and characteristics. Generally, accelerators can be categorised into generic, cross-sector accelerators and sector-specialised accelerators.

Generic accelerators, such as Y Combinator and Techstars, provide broad-based support across multiple industries, offering education programs, mentoring services, networking opportunities, and demo days to help startups validate ideas, develop products, and access markets and growth opportunities (Drori and Wright, 2018; Kim, Kim and Lee, 2022). In contrast, sector-specialised accelerators focus on specific industries, such as supply chain management (SCM) accelerators, which tailor their curriculum and participant selection to logistics and SCM operations, thereby addressing the unique needs and challenges of that sector (Fink *et al.*, 2022). Another classification includes corporate accelerators, which are either internal, external, or hybrid models. Internal corporate accelerators are embedded within a corporation, focusing on fostering innovation internally, while external accelerators are independent entities that collaborate with corporations. Hybrid models combine elements of both, facilitating broader innovation and collaboration (Bańka, Salwin, Kukurba, *et al.*, 2022).

The essential characteristics that distinguish business accelerators include their time-limited nature, cohort-based structure, mentor-driven approach, and the culmination in a demo day. These features create a structured and intensive environment that accelerates the growth and development of startups within a few months (Møller, 2023). Additionally, accelerators provide a range of services, including education and training, mentoring, consulting, and access to venture capital, which are crucial for the early-stage development of startups (Crișan *et al.*, 2021; Møller, 2023). The mentor-driven approach is particularly significant as it helps startups test key assumptions, receive feedback, and refine their business models, thereby mitigating issues related to overconfidence and inexperience (Kim, Kim and Lee, 2022). Furthermore, accelerators play a pivotal role in creating and nurturing entrepreneurial ecosystems by fostering communities of innovation and facilitating the flow of entrepreneurial knowledge and new ideas across sectors and countries (Drori and Wright, 2018). Accelerators also vary in their focus on different aspects of development, such as economic, social, and environmental sustainability. While most accelerators emphasise economic growth, some also address social and environmental issues, particularly in sectors like energy, where there is a growing need for innovative solutions to address energy transformation and sustainability challenges (Bańka, Salwin, Kukurba, *et al.*, 2022).

Moreover, accelerators can alleviate financing constraints for startups by providing short-term financing prospects and improving human capital for long-term growth, as

evidenced by the significant portion of early-stage venture financing that goes to accelerator-backed startups (Chen and He, 2021).

Despite the diversity in their forms and operations, the core objective of all accelerators remains the same: to support the rapid growth and success of startups by providing them with the necessary resources, mentorship, and network access (Aljalahma and Slof, 2022; Bańka, Salwin, Masłowski, *et al.*, 2022). This multifaceted support system not only enhances the capabilities of individual startups but also contributes to broader economic and social development by fostering innovation and entrepreneurship (Tepliuk and Shapran, 2022).

2.2.3 The impact of business accelerators on new venture outcomes

Some studies have found that business accelerators significantly enhance the performance of participating startups. Accelerators help startups with critical resources and support, raise investment, gain customer traction, and grow their number of employees more quickly than non-participating firms (Gonzalez-Uribe and Hmaddi, 2022). Additionally, accelerators contribute to the broader entrepreneurial ecosystem by fostering innovation and economic development (Hausberg and Korreck, 2020). However, the literature provides a range of views as to the benefits of business accelerators for new ventures, with some studies showing limited impact on some aspects of a new ventures performance (Chowdhury and Audretsch, 2024).

Accelerators offer a range of services, including mentorship, strategic advice, and access to networks, which are crucial for the growth and development of startups, particularly in technology and innovation sectors (Møller, 2023; Peniaz, 2023). For example, Clarifai, an AI-focused startup that participated in Techstars, has become a leading provider of computer vision technology, illustrating how accelerators can support the commercialisation of cutting-edge innovation. Empirical research indicates that accelerated ventures develop more rapidly, attract more capital, have more employees, and receive higher evaluations compared to non-accelerated ventures (Pinelli, Pistilli and Cozzolino, 2023). Additionally, accelerators help startups overcome challenges related to business model development, fundraising, and product development, which are critical for their survival and commercial success (Bańka *et al.*, 2023).

However, there is also evidence suggesting that the impact of accelerators can be heterogeneous. For example, a study on a regional acceleration program in Medellin,

Colombia, found that while treated firms had higher revenue than controls, this financial growth was mostly observed in service firms rather than other economic sectors (Rodríguez-Vahos, Aparicio and Urbano, 2024). This indicates that the impact of accelerators may vary depending on the type of industry. Moreover, the effectiveness of accelerators can be influenced by localised contexts and resource constraints, as seen in Pakistan's ecosystem, where accelerators have adapted to local challenges by internalising knowledge and networks from different institutions (Khalid and Spigel, 2023). Despite the evidence of a positive impact found by many researchers, some studies highlight gaps in the working behaviour, organisational structure, and outcomes of accelerators, suggesting that not all accelerators are equally effective (Aljalahma and Slof, 2022). Furthermore, the decision-making criteria and interdependencies between key factors used by accelerators to fund startups can also affect their success rates. For instance, a study on a European accelerator program emphasised the importance of technical competency and evidence of demand for the product in their funding decisions (Donne *et al.*, 2023). This suggests that accelerators may have a greater impact on ventures that meet specific criteria. Additionally, the role of entrepreneurial learning and digital capabilities in business model innovation highlights the importance of these factors in the success of internet startups, further indicating that the impact of accelerators can vary based on the startup's focus and capabilities (Luo, 2024).

Overall, while there is strong evidence supporting the positive impact of accelerators on new ventures, their effectiveness can vary based on industry, localised contexts, and specific startup characteristics, indicating that accelerators are not a one-size-fits-all solution.

2.3 Theme 2 – Sub-national regions, devolution, and entrepreneurial ecosystems

Sub-national regions – defined by administrative boundaries and governance structures – play a central role in shaping how entrepreneurship policy and support are delivered (Hutzschenreuter, Matt and Kleindienst, 2020). In the UK, devolved governance has enabled regions such as nations, combined authorities, and functional economic areas to pursue distinct approaches to entrepreneurial support (Haley *et al.*, 2022). Business accelerators, as one such intervention, vary in their form and level of regional embeddedness. While some operate virtually, particularly in response to hybrid and

remote working trends (Bone *et al.*, 2019), others are closely tied to local ecosystems. For these, there is significant interest in how accelerators influence – and are influenced by – the regions in which they operate.

More generally, it is increasingly recognised in the literature that the context within which a business accelerator is situated can have a significant impact on its role, function and performance. Alongside sub-national geographic regions, entrepreneurial ecosystems and regional innovation systems have been used by researchers to analyse the geographic context and significance of business accelerators (De Klerk, Miles and Bliemel, 2024). In particular, how different regional ecosystems can affect the performance and strategic orientation of an accelerator (Cohen *et al.*, 2019). However, it is also the case that business accelerators may have an impact on the region in which they are situated, for example, increasing the level of inward investment into local ventures, including those that have not attended the accelerator themselves (Fehder and Hochberg, 2014).

A regional perspective is increasingly recognised as vital in the study of new venture creation and business accelerators. This includes understanding the terms and frameworks used by different studies to define regional dynamics and assess their significance. In particular, to evaluate how devolved governance structures influence the effectiveness of business accelerators, it is essential to explore the regional frameworks through which such impacts are analysed. The concepts of sub-national regions, regional innovation systems (RIS), and entrepreneurial ecosystems offer distinct yet overlapping lenses for examining the geographic embeddedness and strategic behaviour of accelerators. The next section outlines these frameworks and their relevance for studying place-based entrepreneurial intervention.

2.3.1 Geographical frameworks of interest in the study of business accelerators

Sub-national regions, regional innovation systems (RIS), and entrepreneurial ecosystems are critical concepts in understanding the dynamics of business accelerators and the new ventures they support. Sub-national regions refer to specific geographic areas within a country that possess unique economic, social, and institutional characteristics influencing innovation and entrepreneurship activities. Regional innovation systems are frameworks that emphasise the role of regional institutions,

policies, and interactions among various actors, such as universities, firms, and government agencies, in fostering innovation. Entrepreneurial ecosystems, on the other hand, focus on the network of interconnected entrepreneurial actors, organisations, and processes that collectively support the creation and growth of new ventures. The concept of entrepreneurial ecosystems has gained popularity as it highlights the importance of a supportive environment for entrepreneurship, including access to finance, mentorship, and a culture of innovation (Cao *et al.*, 2023; Harris and Menzel, 2023; López-Rubio *et al.*, 2024).

Comparing these concepts, RIS is more structured around formal institutions and policies that drive innovation through coordinated efforts, while entrepreneurial ecosystems are more organic, emphasising the spontaneous interactions and synergies among various entrepreneurial actors. For instance, RIS might focus on the role of universities in regional development by providing knowledge, skills, and entrepreneurial bases, which significantly impact regional economies (Breznitz, Smith and Bagchi-Sen, 2022). In contrast, entrepreneurial ecosystems highlight the importance of informal networks and the role of business accelerators in providing mentorship, training, and access to resources for startups (Aljalahma and Slof, 2022). The implications for business accelerators are profound. In an RIS, accelerators can act as intermediaries that bridge the gap between research institutions and the market, facilitating the commercialisation of innovations. They can also help in aggregating and distributing innovation resources more effectively, as seen in the Beijing-Tianjin-Hebei region's efforts to create a balanced and efficient innovation ecosystem (Cao *et al.*, 2023). In the context of entrepreneurial ecosystems, business accelerators play a crucial role in nurturing early-stage ventures by providing a supportive environment that includes mentorship, networking opportunities, and access to funding. This is particularly important in regions with a strong industrial base or digital technology pioneers, where accelerators can help startups leverage existing industrial strengths and digital capabilities to achieve competitive advantages (Yi *et al.*, 2023). Moreover, the resilience of entrepreneurial ecosystems in the face of economic shocks, such as the oil price crisis in southern Norway, demonstrates the importance of robust knowledge networks and innovation strategies that accelerators can help foster (Rypestøl, Martin and Kyllingstad, 2022). Additionally, the diversity of environmental conditions across regions necessitates tailored approaches for accelerators to be effective, as favourable

conditions like professional support, incubators, and R&D investments significantly influence entrepreneurial success (Guerrero *et al.*, 2021).

The interplay between RIS and entrepreneurial ecosystems suggests that business accelerators must adapt their strategies to the specific regional context, leveraging both formal institutional support and informal networks to maximise their impact. This dual approach can enhance the formation of regional intellectual capital and support the growth of high-growth new ventures, as evidenced by studies on the concurrent effects of entrepreneurial ecosystems on innovation capital (Mikić, Horvatinović and Kovac, 2021). By understanding and integrating the principles of both RIS and entrepreneurial ecosystems, business accelerators can better support new ventures and contribute to regional economic development (O'Connor and Audretsch, 2022).

2.3.2 The significance of sub-national region size, scale and complexity

The size, scale, and complexity of sub-national regions significantly influence the opportunities for business accelerators to support new ventures by shaping the regional entrepreneurial ecosystems and regional innovation systems (RIS). Larger and more complex regions often have more robust entrepreneurial ecosystems, characterised by a higher concentration of resources, talent, and networks, which can enhance the effectiveness of accelerators. For instance, accelerators in regions with a rich pre-existing entrepreneurial environment tend to yield stronger performance gains for startups, as these environments provide a fertile ground for resource abundance and ecosystem effects (Fehder, 2023).

The decision-making criteria of accelerators, such as those in a £21M program funded by the European Regional Development Fund, emphasise the technical competency of proposers and market demand, which are more readily met in well-developed regions with established innovation systems (Donne *et al.*, 2023). The regional dimension of entrepreneurial ecosystems, analogous to forest ecosystems, highlights the importance of socioeconomic stability and the interplay of economic, social, and technological factors, which are more pronounced in larger regions (O'Connor and Audretsch, 2022). Constructing a Regional Innovation Ecosystem (RIE) in areas like Beijing-Tianjin-Hebei involves leveraging both market and administrative approaches to optimise innovation resources, which can be more challenging in smaller or less developed regions (Cao *et al.*, 2023). Empirical studies show that entrepreneurial ecosystems positively affect

high-growth firms and regional innovation capital, suggesting that accelerators in regions with higher innovation capital can better support new ventures (Mikić, Horvatinović and Kovac, 2021).

The entrepreneurial ecosystem concept, closely related to the cluster concept, underscores the need for significant conceptual development to address the chaotic nature of these ecosystems, which is more feasible in larger regions with diverse economic activities (Harris and Menzel, 2023). Accelerators play a crucial role in supporting startups by addressing challenges related to business models, funding, and product development, which are often more complex in larger regions with diverse market needs (Bańka *et al.*, 2023). The Resource-Based View (RBV) theory applied to accelerators in Brazil, India, and the USA reveals that external ecosystems significantly impact new ventures' survivability and growth, with larger regions providing better external support and funding opportunities (Shetty, Sundaram and Achuthan, 2020). Networks of serial entrepreneurs and investors, or dealmakers, are more prevalent in larger regions, driving entrepreneurial performance and innovation hotspots, which accelerators can leverage to support new ventures (Pittz, White and Zoller, 2021). Finally, knowledge spillovers and regional absorptive capacity, critical for high-growth firms, are more pronounced in larger regions with research-intensive universities and innovative firms, providing accelerators with a richer environment to support startups (Fotopoulos, 2022).

Therefore, the size, scale, and complexity of sub-national regions profoundly impact the opportunities for business accelerators, with larger and more complex regions offering a more conducive environment for supporting new ventures.

2.3.3 Devolution as an international governance trend and its implications for regional entrepreneurship

Devolution has become a recurring feature of public governance reform, with many countries transferring powers to sub-national governments in an effort to make policymaking more responsive and locally grounded. While this thesis focuses on the UK, it may be helpful to consider this within a wider international context. Countries such as Germany, India, Mexico, Spain, and the USA have all pursued different forms of regional autonomy, shaped by their institutional histories and political structures (Rodríguez-Pose and Bwire, 2004; Fedele and Ongaro, 2008).

These international experiences suggest that the implications of devolution are not uniform. In Spain and Belgium, for instance, the historical allocation of powers and evolving territorial dynamics have given rise to contrasting approaches to sub-national governance (Keating and McEwen, 2005). While devolution is often associated with the potential for more tailored policies, improved public service innovation, and stronger democratic accountability, the evidence on its actual effectiveness is mixed (Rodríguez-Pose and Bwire, 2004). In practice, outcomes often depend on how well governance structures interact with local needs and institutional capabilities.

For those interested in entrepreneurship, this broader picture highlights how devolution can shape the environment in which new ventures emerge. It is not simply a matter of administrative design, but the ways in which devolved powers are configured and implemented may influence the institutional conditions that support or constrain entrepreneurial activity. In some settings, regional autonomy has been linked to more context-sensitive support systems; in others, fragmented or misaligned governance has hindered economic development.

These comparative insights do not offer direct answers, but they help frame the UK's own devolution arrangements within a wider field of institutional experimentation. They also reinforce the value of examining how different governance models affect regional entrepreneurship in practice – a question that becomes especially relevant when considering the UK's asymmetrical and evolving devolution landscape.

2.3.4 UK devolution and conceptual frameworks for understanding entrepreneurial support

Building on the background outlined in the Introduction, this section reviews how academic literature has conceptualised the relationship between devolution and entrepreneurial support. Rather than treating devolution as a static distribution of powers, recent studies examine how institutional variation across UK regions shapes the environments in which new ventures emerge. This has led scholars to explore how devolved governance interacts with broader frameworks such as entrepreneurial ecosystems and regional innovation systems, and what this means for support mechanisms like accelerators (Crescenzi, Gagliardi and Percoco, 2013; Mason and Brown, 2014).

To make sense of these regional differences, researchers have drawn on two main conceptual perspectives. One is the entrepreneurial ecosystems view, which highlights local, actor-led interactions and flexible responses to context. The other is the regional innovation systems (RIS) perspective, which places greater emphasis on institutional coordination, particularly among universities, public agencies, and infrastructure providers (Clifford and Morphet, 2015; Masterman, 2022). These frameworks offer different insights into how devolved powers operate in practice, and why similar policy tools may yield divergent outcomes depending on local conditions.

Taken together, these perspectives suggest that while devolution creates space for more tailored forms of entrepreneurial support, it also introduces a degree of structural complexity. Whether a devolved region functions more like an entrepreneurial ecosystem or a RIS-type configuration often depends on how effectively local flexibility is balanced with strategic coordination. In the UK, where the process of devolution remains uneven and evolving, these institutional dynamics are still playing out. This makes it a valuable area for further research and policy learning, particularly given renewed interest in regional growth strategies and levelling-up agendas (Clifford and Morphet, 2015; Jennings and Pabst, 2022; Masterman, 2022).

2.3.5 UK devolved powers and new venture creation

While the wider economic effects of devolution remain debated, a number of studies emphasise the influence of specific devolved powers – particularly over economic development, skills, and business support – on the emergence of new ventures. These powers allow regional governments to tailor support programmes, offer targeted incentives, and shape local ecosystems in ways that respond to their economic contexts (Crescenzi, Gagliardi and Percoco, 2013; OECD, 2018; Pope, Dalton and Coggins, 2023). Compared to broader fiscal or regulatory tools, these areas are generally seen as more directly supportive of entrepreneurship and innovation (Mason and Brown, 2014).

Infrastructure, planning, and regulatory powers also matter, but typically as enabling conditions. They shape the physical and institutional environment in which entrepreneurship unfolds, affecting access to transport, land use, and local connectivity (Pike, Rodríguez-Pose and Tomaney, 2016). Yet the ability to influence outcomes is not simply a function of which powers are devolved. Multiple studies have pointed to the importance of regional institutional capacity, policy coherence, and implementation

quality in determining how devolved tools translate into real entrepreneurial outcomes (Rodríguez-Pose and Ezcurra, 2011; Pope, Dalton and Coggins, 2023).

Taken together, these findings underline the critical role of sub-national policy in shaping the environments in which new ventures emerge. However, the mechanisms by which devolved powers generate or sustain entrepreneurial activity are not always straightforward. Similar tools may yield different results across regions, depending on how they are mobilised and embedded within local ecosystems. This variation points to the need for a more theory-informed understanding of the institutional and contextual factors that mediate these outcomes. The following section introduces the theoretical perspectives that help interpret how new ventures take shape, adapt, and gain legitimacy within diverse regional settings.

2.4 Theme 3 – Theoretical perspectives on new venture emergence and legitimation

This final theme turns to the theoretical perspectives that help interpret the dynamics explored in the preceding discussion of how business accelerators have evolved and how sub-national regions shape their operation. Rather than offering a single explanatory model, these perspectives provide complementary lenses through which to understand the broader conditions and processes that influence new venture outcomes.

The term *new venture* is used here in a broad sense to describe any initiative undertaken by a founding entrepreneur to bring into existence an organisation with a defined purpose or goal. While the term commonly includes startups, it also encompasses new business initiatives pursued within existing organisations (Blazenko, Pavlov and Eddy-Sumeke, 2012). In most studies, a venture is typically classified as "new" if it has been founded within the past eight years (Wang, Thornhill and Castro, 2017).

In what follows, the discussion turns to established theoretical perspectives that offer insight into the factors influencing the emergence – and eventual legitimation – of new ventures.

2.4.1 Extant perspectives on new venture emergence, growth and decline

To comprehend new venture emergence, growth and decline, it is useful to conceptualise a continuous processes involving complex interactions over time. Research has focused

on various stages of this process, from multiple perspectives, each of which may contribute some insight, but is unlikely to provide a holistic explanation for any particular outcome. Some studies have indicated that the growth of new ventures is often impeded by limited resources and adaptability (Khaire, 2010). Others recognise legitimation as playing a crucial role in enabling new ventures to acquire necessary resources and enhance performance (Wang, Thornhill and Castro, 2017). Entrepreneurial leadership and creativity within entrepreneurial teams contribute to improving the innovative capability of new ventures (Chen, 2007). Additionally, the process of embedding a small firm in its industrial context is vital for understanding the dynamics behind new venture creation and development (Shaw, Wilson and Pret, 2017).

Overall, the outcomes for each new venture and its founders are intuitively unique; two new ventures, with broadly the same founding team capabilities, resources and ideas, may achieve wildly different outcomes owing to a difference in timing or context. In other words, simply being in the right place at the right time. However, there is a broad base of research that seeks to offer insight into why some new ventures survive and grow, while others decline and fail. The prominent theories are briefly introduced and discussed here. These theories provide distinct yet complementary perspectives on the factors influencing new venture outcomes, ranging from internal capabilities and strategic orientations to external environmental forces and institutional dynamics. By examining each theory in turn, this section aims to explore how they contribute to our understanding of the diverse and often unpredictable pathways that new ventures may take.

2.4.1.1 Resource-based view

The resource-based view (RBV) emphasises the importance of a firm's internal resources and capabilities in achieving competitive advantage. According to RBV, new ventures that can acquire, develop, and leverage unique resources and capabilities that are valuable, rare, inimitable, and non-substitutable (VRIN) are more likely to succeed (Barney, 1991). This perspective suggests that the firm's internal assets, such as technology, knowledge, and human capital, are critical determinants of its performance.

While RBV offers a compelling framework for understanding competitive advantage, it is not without its limitations, particularly when applied to the context of new ventures. Barney's (1991) original articulation of the theory assumes a level of resource stability

and accessibility that may not hold true for nascent firms operating in resource-scarce environments. New ventures often face significant constraints in acquiring or developing VRIN resources, raising questions about how realistic RBV's assumptions are for early-stage firms. Furthermore, RBV has been critiqued for its inward-looking focus, which tends to underemphasise the role of external factors such as market conditions, policy environments, or regional ecosystems – elements that are particularly salient in devolved contexts where external supports like accelerators play a crucial role.

Another critique lies in the operationalisation of VRIN resources. Scholars have pointed out that the criteria for identifying what constitutes a VRIN resource are often vague and difficult to measure, making empirical validation challenging (Priem and Butler, 2001). Additionally, RBV offers limited guidance on how new ventures can overcome initial resource deficits, particularly in regions with underdeveloped entrepreneurial ecosystems. This is especially relevant to the UK's devolved regions, where structural disparities may limit the ability of new ventures to build the resource base necessary for competitive advantage. As such, while RBV provides valuable insights into resource utilisation, it requires integration with other theories – such as dynamic capabilities or institutional perspectives – to better capture the complex interplay between internal capabilities and external environments in shaping new venture outcomes.

2.4.1.2 Dynamic capabilities theory

Dynamic capabilities theory builds on RBV by focusing on a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece, Pisano and Shuen, 1997). This theory highlights the importance of agility, innovation, and continuous learning, suggesting that new ventures must be adaptable and responsive to market changes to achieve sustainable success.

While dynamic capabilities theory provides a valuable extension to the Resource-Based View (RBV) by emphasising adaptability and innovation, it has been critiqued for its conceptual vagueness and challenges in operationalisation. Teece, Pisano and Shuen's (1997) articulation of dynamic capabilities often lacks clarity on how these capabilities can be identified, measured, and developed, especially in resource-constrained contexts like new ventures. For example, the processes through which firms reconfigure their competencies to address environmental changes are often described in abstract terms, leaving practitioners and researchers with limited actionable guidance. Furthermore,

the theory assumes a level of managerial foresight and strategic capability that may not align with the realities faced by early-stage ventures, particularly those operating in less developed entrepreneurial ecosystems. This raises questions about the theory's applicability in explaining why some ventures succeed in volatile environments while others fail.

Critics have also pointed out that the theory tends to focus on firm-level capabilities, potentially underestimating the role of individual-level traits such as entrepreneurial orientation (EO) in shaping how ventures respond to environmental change. EO, which encompasses innovativeness, proactiveness, and risk-taking, offers a more granular lens for understanding how entrepreneurs drive adaptability and strategic renewal. This focus on entrepreneurial behaviour provides a useful complement to the structural emphasis of dynamic capabilities, offering further insights into how ventures navigate uncertainty and leverage opportunities. The next section explores entrepreneurial orientation in detail, examining its critical role in fostering resilience and innovation within new ventures.

2.4.1.3 Entrepreneurial orientation

Entrepreneurial orientation (EO) is a firm-level construct that describes the processes, practices, and decision-making activities that lead to new entry. It includes dimensions such as innovativeness, proactiveness, and risk-taking (Lumpkin and Dess, 1996). Research has shown that firms with high EO are more likely to pursue new opportunities and achieve better performance outcomes. EO emphasises the strategic posture and behaviour of the firm in identifying and exploiting entrepreneurial opportunities.

While the EO framework introduced by Lumpkin and Dess (1996) has significantly advanced the understanding of firm-level entrepreneurial behaviour, it has faced critique on several fronts. One key limitation lies in its dimensional structure, which treats innovativeness, proactiveness, and risk-taking as independent yet collectively defining elements of EO. Critics argue that this dimensionality is not always empirically supported; for example, Covin and Lumpkin (2011) later suggested that the dimensions may operate independently rather than in tandem, challenging the assumption that EO functions as a unified construct. This raises questions about the consistency of its application across different contexts, particularly in resource-constrained new ventures

or highly volatile environments where firms may emphasise one dimension (e.g., risk-taking) over others.

Furthermore, Lumpkin and Dess's emphasis on firm-level behaviours has been critiqued for underestimating the role of individual-level factors, such as the entrepreneurial traits of founders or managers, in driving EO. Scholars like Anderson *et al.* (2015) have argued that EO may be better conceptualised as a dynamic interplay between individual decision-makers and firm-level strategies, especially in smaller ventures where individual leadership significantly shapes organisational direction. This alternative view suggests that EO is not purely a structural characteristic, but a fluid construct influenced by external pressures and internal leadership styles. Such critiques call for a re-examination of EO's applicability, particularly in new ventures where strategic posture is often more adaptive and less systematically institutionalised than in established firms.

As the discussion now transitions to market orientation, the interplay between EO and external market factors becomes critical. While EO focuses on internal behaviours and strategic inclinations, market orientation emphasises outward-facing adaptability to customer needs and market trends. Together, these frameworks offer complementary insights but also highlight potential tensions in balancing proactive internal strategies with responsive external positioning. The next section delves into market orientation, exploring its role in aligning firm behaviours with market demands in ways that can amplify or constrain entrepreneurial success.

2.4.1.4 Market orientation theory

Market orientation theory underscores the significance of understanding and adapting to customer needs and market dynamics. Kohli and Jaworski (1990) argue that firms with a strong market orientation can achieve superior performance by systematically gathering and disseminating market intelligence throughout the organisation and responding effectively to evolving conditions. This process ensures that firms remain aligned with customer demands, enhancing customer satisfaction and competitive positioning. Furthermore, Narver and Slater (1990) provide empirical support for this perspective, highlighting that market orientation, when integrated with a focus on long-term customer relationships and inter-functional coordination, contributes to sustainable competitive advantage. Together, these studies establish market orientation

as a foundational concept for firms seeking to thrive in dynamic and competitive markets.

While market orientation theory provides valuable insights into the role of customer-centric strategies in driving firm performance, it has been critiqued for several limitations, particularly in its conceptualisation and practical application. Kohli and Jaworski (1990) focus on the processes of market intelligence and organisational responsiveness but fail to address the contextual and institutional constraints that firms may face in implementing such strategies. Critics such as Matsuno, Mentzer and Özsomer (2002) argue that the theory assumes a level of organisational flexibility and resource availability that may not hold true in smaller firms or resource-constrained environments. Additionally, the emphasis on market responsiveness can sometimes lead to short-term decision-making at the expense of innovation and long-term strategic goals, as firms may become overly reactive to immediate customer demands rather than pursuing transformative market opportunities.

While market orientation theory prioritises understanding and responding to customer needs, it often assumes that firms operate in isolation, with market intelligence flowing neatly through formal structures. Yet, markets themselves are rarely static or self-contained; they are embedded within networks of relationships and informal exchanges that shape both opportunities and constraints. Social network theory, discussed in the next section, challenges this atomistic view by highlighting how networks of trust, influence, and collaboration underpin much of the market behaviour that firms seek to interpret and respond to. Exploring this interplay offers a richer understanding of how market orientation is enacted within the complex web of social connections that define entrepreneurial ecosystems.

2.4.1.5 Social network theory

Social network theory emphasises the role of social relationships and networks in the success of new ventures. Strong and extensive networks can provide entrepreneurs with access to valuable resources, information, and support (Granovetter, 1973). Social capital, derived from network relationships, can enhance venture performance by facilitating resource acquisition, opportunity recognition, and trust-building.

While social network theory highlights the critical role of relationships in entrepreneurial success, it has been critiqued for its overemphasis on structural aspects

of networks, often neglecting the quality and dynamics of individual interactions. Burt (2000) argues that while network structure – such as the size and density of ties – can influence access to resources, it is the entrepreneur's ability to bridge structural holes that truly creates competitive advantage. This critique suggests that the simplistic assumption that more extensive networks inherently lead to better outcomes overlooks the complexities of navigating conflicting interests, trust asymmetries, and power imbalances within networks. Additionally, the theory assumes that network ties are inherently beneficial, yet weak or redundant ties may sometimes hinder resource acquisition or introduce competing pressures that dilute entrepreneurial focus.

Another limitation lies in the theory's neglect of agency and context. Social network theory often frames networks as static systems, offering limited insight into how entrepreneurs actively construct, adapt, or leverage networks over time, particularly under conditions of uncertainty. Jack (2010) points out that networks are not merely pre-existing structures but are continually reshaped through iterative processes of negotiation, experimentation, and learning. This dynamic perspective is particularly relevant in contexts where traditional networks are absent or weak, such as in nascent industries or geographically isolated regions, where entrepreneurs must rely more on creativity and improvisation than on established social capital.

In this way, the linear predictability implied by social network theory begins to unravel when entrepreneurs face environments where relationships are transient, unstable, or yet to be formed. Effectuation theory steps into this uncertainty, shifting the focus from leveraging existing networks to creating new possibilities through iterative, resource-constrained experimentation. Where social network theory seeks to map the known, effectuation theory thrives in the unknown, asking not what the network can offer but how the entrepreneur might co-create opportunities in collaboration with those who emerge along the way. This shift underscores a deeper question: to what extent are entrepreneurial outcomes shaped by the relationships one builds versus the actions one takes when no clear network exists?

2.4.1.6 Effectuation theory

Effectuation theory focuses on the decision-making processes of expert entrepreneurs. It contrasts with causation which involves traditional planning, by emphasising the use of available means and iterative experimentation to create new opportunities in

uncertain environments (Sarasvathy, 2001). Effectuation suggests that successful entrepreneurs leverage their existing resources and networks to co-create new markets and opportunities.

While effectuation theory offers a compelling alternative to traditional causation approaches, it has been critiqued for its lack of specificity in distinguishing when and how entrepreneurs transition between effectual and causal logics. Critics such as Arend, Sarooghi and Burkemper (2015) argue that the theory's broad and flexible framework can make it difficult to operationalise in empirical research, leading to challenges in validating its core propositions. Moreover, effectuation often assumes a level of control or influence over unpredictable environments that may not be accessible to all entrepreneurs, particularly those operating in highly constrained or institutionally underdeveloped contexts. The theory's emphasis on iterative experimentation and resource bricolage can overlook the structural barriers that limit the agency of entrepreneurs, such as access to capital or institutional support, which are critical for scaling and sustaining ventures.

Additionally, effectuation's focus on leveraging existing means and relationships can sometimes be limiting in dynamic environments where rapid changes require ventures to shift beyond what they currently control. Its relative underemphasis on external environmental factors, such as competitive pressures or ecological shifts, has been critiqued for failing to fully explain entrepreneurial behaviour in highly resource-constrained or rapidly evolving markets. This raises questions about its applicability in industries where adaptation and survival depend less on iterative creativity and more on an acute responsiveness to environmental forces.

The boundaries of effectuation theory blur further when viewed through the lens of ecological models, where survival and growth are shaped not only by entrepreneurial decisions but also by external environmental pressures and systemic interactions. While effectuation prioritises what entrepreneurs *do*, ecological models remind us of what they must *endure* – whether navigating competitive overcrowding or thriving in resource-abundant niches. The interplay between entrepreneurial agency and environmental selection offers a richer canvas for understanding the adaptive strategies ventures must employ to succeed in ecosystems that are as unforgiving as they are dynamic.

2.4.1.7 Ecological models

Theory based upon ecological models draw from population ecology and focus on the survival and growth of new ventures within a competitive environment (Hannan and Freeman, 1977). These models analyse factors such as the density of firms in a market, resource availability, and environmental changes that impact the likelihood of new venture success. Ecological models highlight the importance of environmental selection processes in shaping organisational outcomes.

Ecological models provide valuable insights into how external environmental factors influence new venture survival and growth, but they have been critiqued for their deterministic leanings and limited consideration of organisational agency. Hannan and Freeman's (1977) foundational work emphasises selection pressures within competitive environments, often portraying firms as largely reactive entities shaped by their external conditions. Critics, such as Aldrich and Ruef (2011), argue that this perspective underestimates the strategic agency of entrepreneurs and organisations, which can actively shape or circumvent environmental constraints. By focusing heavily on environmental selection, ecological models risk oversimplifying the dynamic interplay between adaptation and selection, particularly in rapidly changing industries where innovation can redefine competitive landscapes.

Additionally, ecological models often assume a level of environmental stability that may not hold in contemporary markets characterised by volatility and technological disruption. This limits the models' applicability in understanding how ventures navigate environments where the very nature of competition and resource availability is in flux. The theory's reliance on firm density and resource constraints as primary explanatory variables also tends to neglect the role of collaboration and network effects, which have become increasingly relevant in modern entrepreneurial ecosystems. This critique suggests a need for models that integrate both environmental pressures and the strategic choices entrepreneurs make to shape their niches.

Interestingly, ecological models, with their emphasis on selection and survival, illuminate the backdrop against which strategic choice theory operates. While ecological models position ventures as passive subjects of environmental forces, strategic choice theory shifts the focus to active decision-making and intentionality. This raises a deeper question: in environments governed by intense selection pressures, to what extent can

entrepreneurial choices truly shape outcomes? As we move into strategic choice theory, the balance between external constraints and internal agency takes centre stage, offering a contrasting lens through which to understand venture performance.

2.4.1.8 Strategic choice theory

Strategic choice theory suggests that the outcomes of new ventures are largely determined by the strategic decisions made by the entrepreneurs or managers (Child, 1972). This includes choices related to market entry, product or service offerings, competitive positioning, and resource allocation. The theory emphasises the role of strategic agency and decision-making in influencing venture performance.

While strategic choice theory highlights the agency of entrepreneurs in shaping venture outcomes, it has been critiqued for oversimplifying the decision-making process and underestimating the constraints imposed by external environments. Critics such as Pfeffer and Salancik (1978) argue that the theory assumes a level of autonomy that may not exist in resource-dependent contexts, where decisions are heavily influenced by external stakeholders, market dynamics, and institutional pressures. This critique is particularly relevant for new ventures, which often lack the bargaining power and resources to make unconstrained strategic choices. As such, the theory's focus on agency can obscure the systemic inequalities and power dynamics that shape entrepreneurial opportunities and outcomes.

Additionally, strategic choice theory tends to portray decision-making as a rational and deliberate process, potentially overlooking the cognitive biases and psychological factors that influence entrepreneurial behaviour. For instance, Kahneman and Tversky's (1979) work on prospect theory suggests that decision-makers often rely on heuristics and are prone to risk aversion or overconfidence, which can significantly skew strategic choices. This limitation highlights the need to integrate psychological and cognitive dimensions into strategic choice frameworks to better understand how entrepreneurs navigate uncertainty and complexity in real-world scenarios.

What strategic choice theory often treats as deliberate decision-making may, in fact, be deeply intertwined with cognitive distortions and psychological impulses. The apparent rationality of strategic choices often conceals the biases, mental shortcuts, and emotional influences that underpin them. In this way, psychological and cognitive theories extend the discussion by examining not just *what* decisions entrepreneurs make

but *how* and *why* those decisions are shaped by individual cognition and perception. This shift invites a more nuanced exploration of the internal landscapes that drive entrepreneurial strategy.

2.4.1.9 Psychological and cognitive theories

Psychological and cognitive theories focus on the individual characteristics and cognitive processes of entrepreneurs. Factors such as risk tolerance, need for achievement, internal locus of control, and cognitive biases can influence entrepreneurial behaviour and venture outcomes (McClelland, 1961; Rotter, 1966). These theories suggest that the personal attributes and mental models of entrepreneurs play a part in their decision-making and venture success that should not be overlooked in the study of new venture creation and the people behind them.

While psychological and cognitive theories have significantly advanced our understanding of the individual traits and decision-making processes influencing entrepreneurship, their explanatory power is not without limitations. Critics argue that these theories often underemphasise the broader systemic and institutional contexts within which entrepreneurs operate. For instance, by focusing on intrinsic attributes such as risk tolerance or cognitive biases, these theories risk over-individualising the entrepreneurial process, potentially neglecting the socio-economic and structural barriers that may equally dictate venture outcomes. This critique aligns with the argument advanced by Granovetter (1985), who highlighted the embeddedness of economic actions within social and institutional structures, suggesting that entrepreneurial success is not merely a function of personal traits but also of external legitimacy and resource networks.

Moreover, the reliance on psychological constructs can sometimes lead to deterministic interpretations, where success is seen as the inevitable result of possessing the right traits, overshadowing the importance of external support mechanisms such as business accelerators or policy interventions. Institutional theory, by contrast, provides a more holistic lens, emphasising how legitimacy, compliance with norms, and systemic support shape entrepreneurial success (Zimmerman and Zeitz, 2002). It challenges the implicit assumption in cognitive theories that entrepreneurial failure can often be attributed to individual deficits rather than structural inequities or institutional misalignment.

This shift from individualistic to systemic perspectives also raises questions about the interaction between cognitive and institutional factors. For instance, cognitive biases like overconfidence might be moderated – or exacerbated – by the presence of robust institutional frameworks that either validate or challenge entrepreneurs' assumptions. This interplay underscores the need for integrating these theoretical paradigms to capture the complexity of entrepreneurial ecosystems fully.

2.4.1.10 Institutional theory

Institutional theory provides a framework for understanding how organisations gain legitimacy and navigate their environments. Legitimacy is crucial for new ventures to acquire resources and achieve growth (Zimmerman and Zeitz, 2002). New ventures can employ various strategies to build legitimacy, including technology, operating, and anchoring strategies (Turcan, 2013). Organisations face pressures to conform to institutional norms, leading to isomorphism and increased survival chances (Zucker, 1987). However, entrepreneurs in emerging industries must overcome cognitive and sociopolitical legitimacy challenges (Aldrich and Fiol, 1994). Institutional theory has been increasingly applied to entrepreneurship research, offering insights into how new ventures navigate institutional contexts (Bruton, Ahlstrom and Li, 2010). Legitimacy, a central concept in organisational institutionalism, has evolved to encompass various dimensions, sources, and processes (Deephouse and Suchman, 2008). Understanding these dynamics is essential for explaining organisational behaviour and success in institutional environments (Greenwood *et al.*, 2017). Different perspectives on legitimation vary with respect to the locus of control; from the entrepreneur that takes action to acquire legitimacy, to audiences that bestow legitimacy upon a new venture based on judgements largely beyond the direct control of the entrepreneur (Überbacher, 2014).

While institutional theory has provided invaluable insights into the mechanisms by which organisations gain legitimacy, it is not without its limitations and critiques. One prominent criticism is its tendency to overemphasise conformity to institutional norms, potentially underestimating the role of agency and innovation in entrepreneurial success. By focusing predominantly on isomorphism and the pressure to align with established norms (DiMaggio and Powell, 1983), institutional theory risks portraying entrepreneurs as largely reactive actors constrained by their environments. This perspective can overlook the dynamic and sometimes disruptive strategies that

entrepreneurs employ to reshape institutional contexts, a critique well-articulated by Battilana, Leca and Boxenbaum (2009), who argue that institutional entrepreneurship – defined as the capacity to drive institutional change – is often sidelined in favour of studies focusing on compliance.

Furthermore, the theory's emphasis on legitimacy as a critical determinant of survival can lead to an overgeneralisation of the challenges faced by new ventures. It presupposes that legitimacy thresholds are relatively uniform across contexts, neglecting the significant variation in institutional and cultural landscapes between regions. This is particularly relevant when comparing entrepreneurial ecosystems in highly developed regions with those in less formalised or emerging markets. Critics, such as Suddaby, Hardy and Huy (2011), have pointed out that institutional frameworks can be highly context-dependent, and what constitutes legitimacy in one region may not translate seamlessly to another.

In transitioning to the broader summary of new venture emergence theories, legitimation, as articulated within institutional theory, intersects with other theoretical paradigms in critical ways. For example, cognitive theories often emphasise individual biases and decision-making processes, which can either align with or challenge institutional norms. The tension between these frameworks becomes especially pronounced in comparative analyses of regions with divergent institutional and cultural contexts. By framing legitimation as a dynamic and context-sensitive process, institutional theory provides a valuable lens through which to explore these regional differences, positioning it as a particularly relevant approach for understanding how business accelerators operate within the interplay of structure and agency in diverse entrepreneurial ecosystems.

2.4.1.11 Summary

The emergence and success of new ventures are influenced by a complex interplay of factors, and no single theoretical perspective fully captures the range of dynamics involved. Instead, researchers and practitioners often draw on a combination of lenses – such as resource-based views, institutional theory, dynamic capabilities, and cognitive theories - to understand why some ventures thrive while others struggle. Each offers distinct yet complementary insights into venture formation, strategy, and survival. For instance, legitimacy enables ventures to access critical resources by shaping stakeholder

perceptions (Zimmerman and Zeitz, 2002), a process best explained through institutional theory (Scott, 2014). The value of such legitimacy becomes clearer when viewed alongside the Resource-Based View, which focuses on how those acquired resources can be transformed into sustainable advantage (Barney, 1991).

Integrating these perspectives allows for a more holistic understanding of new venture outcomes - particularly in contexts where regional and institutional environments vary significantly. The next section brings these theoretical strands together to explore how new venture creation and accelerator effectiveness are shaped by sub-national conditions.

2.4.2 Integrating theoretical perspectives on new venture outcomes in sub-national regions

In relation to new venture emergence in general; legitimation from an institutional perspective is subject to the norms, values and expectations of a given society, hence the need for local adaptation in order to effectively pursue legitimation efforts is implied (Tracey, Dalpiaz and Phillips, 2018; Fisher, 2020). Several studies have observed that business acceleration can be effective in some contexts, but not in others. For example; high-quality new ventures in fintech showed stronger performance when not attending an accelerator programme (Browne *et al.*, 2024), suggesting the extent to which an accelerator programme can have a positive impact may depend on the extent to which it is able to support legitimation efforts within a given institutional context, such as a given industry sector or local region.

Other theories introduced in this review have implications at a sub-national level for new venture creation, and business accelerators intervening in new venture creation, at a sub-national regional level. The Resource-Based View (RBV) and dynamic capabilities provide a robust theoretical framework for analysing how new ventures in devolved regions can achieve and maintain a competitive edge. RBV asserts that firms gain competitive advantage through the acquisition and exploitation of resources that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991). In the context of devolved regions, where localised governance structures lead to varying economic and policy environments, the availability and utility of these resources are heavily shaped by regional characteristics and interventions (Cooke, 2001). However, the inherently dynamic nature of devolved regions, characterised by frequent changes in

local policies and market conditions, necessitates that new ventures not only possess valuable resources but also develop dynamic capabilities. Dynamic capabilities refer to the firm's ability to integrate, build, and reconfigure internal and external competencies in response to changing environments (Teece, Pisano and Shuen, 1997). For new ventures operating in these regions, this involves continuously adapting to regional shifts, capitalising on localised opportunities, and addressing region-specific challenges. By integrating the RBV's emphasis on resource endowments with dynamic capabilities, new ventures can more effectively navigate the complexities of devolved regions, leveraging regional resources while remaining agile and responsive to evolving local conditions (Sirmon, Hitt and Ireland, 2007).

Social network theory and institutional theory offer complementary yet sometimes conflicting perspectives on new venture legitimation, particularly when considering the influence of regional contexts. Social network theory emphasises the role of relationships and networks in providing access to resources, information, and social capital that are crucial for a new venture's survival and growth (Stuart and Sorenson, 2005). Networks can facilitate the diffusion of institutional norms and practices, thereby enhancing a venture's legitimacy within a specific regional context. For instance, in regions with well-established institutional frameworks, networks that connect new ventures to key industry players and institutions can help align these ventures with prevailing norms and expectations, thus fostering legitimacy (Jack and Anderson, 2002).

However, conflicts can arise when the dynamics within social networks do not align with institutional pressures. Institutional theory posits that organisational behaviour is significantly shaped by the formal and informal rules, norms, and beliefs that prevail in a given environment (Scott, 2014). In regions where institutions are weak, fragmented, or in transition, such as those experiencing devolution, networks might develop norms and practices that diverge from or even contradict institutional expectations (Battilana and D'Aunno, 2009). For example, in regions undergoing devolution, local networks may resist new institutional frameworks or cling to outdated practices, thereby creating tension and slowing the process of legitimation for new ventures (Greenwood *et al.*, 2011). These conflicts highlight the complexity of achieving legitimacy in regions where institutional change is ongoing, and network practices are deeply embedded.

Critically, the interaction between social network theory and institutional theory suggests that in regions with robust institutions, networks play a synergistic role in embedding institutional norms, thus facilitating new venture legitimation. Conversely, in regions with weaker or evolving institutions, networks may perpetuate practices that conflict with institutional expectations, thereby hindering legitimation. These dynamics underscore the importance of tailoring accelerator interventions and policy support to both institutional strength and the structure of local networks. At the centre of this challenge is the process of new venture legitimation, which shapes how ventures gain acceptance, access resources, and establish themselves within varied regional environments.

2.4.3 New venture legitimation

Entrepreneurs, as founders of new ventures, are variously defined in the literature as individuals who coordinates limited or scarce resources; making do with what is to hand, to create a particular objective in the form of a new venture (Loasby and Casson, 1983; Baker and Nelson, 2005). Several studies identify legitimacy as essential in this process; although differ in their view as to whether it is attained through the actions of the entrepreneur or bestowed via some other process by the audience. Via the legitimation of a new venture; entrepreneurs are able to steer decision making from external resource gatekeepers in their favour; leading to solutions that facilitate continuation and growth (Starr and MacMillan, 1990; Aldrich and Fiol, 1994; Überbacher, Jacobs and Cornelissen, 2015). Given the perceived fundamental role of legitimation in new venture emergence; many studies have sought to explain the intrinsic and extrinsic causes of new venture legitimation. Different theoretical perspectives offer contrasting views on why some new ventures successfully attain legitimacy, and others do not (Überbacher, 2014).

The success and longevity of new ventures are inextricably linked to the concept of legitimation, which refers to the process by which a new organisation gains societal acceptance and establishes itself as a credible and viable entity. Entrepreneurial orientation, defined as the firm's strategic posture towards innovation, risk-taking, and proactiveness, plays a crucial role in shaping the legitimation process for new ventures.

Extant research has identified multiple facets of venture legitimacy that reflect the socially constructed system of norms, values, beliefs, and definitions (Wang, Thornhill and Castro, 2017). Three key types of legitimacy are particularly salient for new

ventures: cognitive, regulative, and normative legitimacy. Cognitive legitimacy refers to the extent to which a new venture's activities are perceived as comprehensible and aligned with established industry practices. Regulative legitimacy, on the other hand, relates to the venture's compliance with relevant laws, regulations, and industry standards. Normative legitimacy pertains to the congruence between the new venture's actions and societal expectations of appropriate and desirable organisational behaviour (Wang, Thornhill and Castro, 2017).

The process of attaining legitimacy for new and emerging ventures is inherently challenging, as they lack the track record and reputation of established firms (Rutherford *et al.*, 2016). Nonetheless, scholars have identified various strategic actions entrepreneurs can take to enhance their firm's chances of being legitimised, such as signalling competence, forging partnerships with reputable organisations, and engaging in impression management (Rutherford *et al.*, 2016; Wang, Thornhill and Castro, 2017).

Legitimacy is not merely a symbolic or intangible construct; it confers tangible benefits that can enhance new venture performance. Research has shown that legitimacy can improve access to resources, facilitate stakeholder cooperation, and lend credibility to the new venture's claims and offerings (Rutherford *et al.*, 2016). Thus, understanding the dynamics of new venture legitimation is crucial for entrepreneurs seeking to navigate the uncertain and highly competitive landscape of early-stage ventures.

By integrating entrepreneurial orientation and legitimation, scholars can provide a more comprehensive understanding of the factors that contribute to new venture success and sustainable growth. This line of inquiry is particularly important given the urgency with which researchers and practitioners need to address the challenges facing new ventures in acquiring resources and exploiting entry opportunities.

2.4.4 Intervention in new venture outcomes

The themes introduced so far have considered both the internal characteristics of new ventures and the contextual environments in which they operate. While Theme 1 outlined the evolution of accelerator models and their role in supporting early-stage ventures, this section shifts focus to examine external interventions more broadly, with particular attention to the mechanisms through which they influence venture outcomes. A growing body of research highlights that new ventures do not emerge in a vacuum – their development is shaped by the interventions of external actors, which affect not

only access to tangible resources but also the venture's positioning within wider entrepreneurial ecosystems. These interventions are commonly framed in terms of capability-building or resource facilitation – offering entrepreneurs tools, networks, or structured support (Drori and Wright, 2018; Cohen *et al.*, 2019). Yet relatively little attention has been paid to the role these interventions play in legitimation – not merely helping entrepreneurs access opportunities, but enabling them to gain access themselves by being recognised as credible, investable, and aligned with institutional expectations (Clarke, 2011). This section reviews the most common forms of intervention discussed in the literature – including finance, mentoring, training, networking, and collaborative infrastructure – with a focus on how such mechanisms contribute to both the material development and perceived legitimacy of new ventures.

Economic interventions: These are among the most direct forms of support that new ventures receive from external actors. These interventions include financial support through grants and loans to help new ventures manage initial costs and scale operations. Multilateral organisations and government agencies often provide such support to foster economic development and innovation. Venture capitalists and angel investors may provide equity investment, which not only funds the venture but also brings in expertise and networks that are crucial for growth (Hausberg and Korreck, 2020).

Knowledge and skill development interventions: Often described as human capital interventions (Chen and He, 2021), these aim to build the entrepreneurial capabilities required for venture emergence and growth. By strengthening opportunity recognition and organisational legitimacy, such interventions have been shown to improve new venture performance (Donbesuur *et al.*, 2022). Human capital development is also identified as a core pathway through which accelerators influence entrepreneurial outcomes, particularly by enhancing founders' strategic knowledge and confidence (Cohen *et al.*, 2019).

Mentoring support: Mentoring for new and early-stage entrepreneurs has shown positive impacts on their development and success. Research indicates that mentoring relationships can enhance management abilities, confidence, and outcomes for novice entrepreneurs (Deakins *et al.*, 1998; St-Jean and Audet, 2013). The intervention style of mentors plays a crucial role, with a combination of maieutic approach and mentor involvement producing the best results (St-Jean and Audet, 2013). Mentor training programmes have been evaluated as effective in improving mentors' knowledge, skills,

and ability to support mentees (Sarri, 2011). Such mentoring support can yield positive returns on public sector investment, particularly in regions seeking economic diversification and increased new firm formation rates (Deakins *et al.*, 1998). Despite the potential benefits, support for new firm entrepreneurs has been reduced in some areas, highlighting the need for more research and evaluation of mentoring programmes to maximise their effectiveness in fostering entrepreneurial success (Deakins *et al.*, 1998).

Training and workshops: Targeted training sessions and practical workshops help entrepreneurs develop the skills and applied knowledge needed to navigate the operational and strategic complexities of running a business. Such interventions can play a foundational role in improving decision-making and venture resilience, particularly during early growth phases (Aljalahma and Slof, 2022).

Networking and strategic partnerships: Connections with investors, customers, and other stakeholders are vital for new ventures. External actors have often initiated such interventions due to the mutual benefits envisaged. Investor meetups and networking events are crucial mechanisms through which venture capitalists (VCs) promote deal flow and foster collaborative opportunities. These events serve as platforms for VCs to connect with potential syndicate partners, entrepreneurs, and other stakeholders in the investment ecosystem. By organising and participating in these meetups, VCs can identify and cultivate relationships with preferred partners, thereby enhancing their ability to co-syndicate deals effectively (Bubna, Das and Prabhala, 2020).

Collaborative physical infrastructure: The history of collaborative physical places for start-up entrepreneurs has evolved significantly, reflecting a growing recognition of the value these spaces provide. Initially, university business incubators emerged as key players, offering both tangible and intangible resources to support start-ups. These incubators create value through the interplay of physical environments and meaningful interactions among peers, coaches, and volunteers, fostering venture development, community, and legitimacy (Nicholls-Nixon *et al.*, 2022). Over time, the concept expanded to include co-working spaces, which became popular among small firms, freelancers, and start-ups seeking to escape the isolation of home offices and the distractions of coffee shops. These spaces, such as IndyCube and the Welsh Innovation Centre for Enterprise, provide essential support and infrastructure, promoting entrepreneurship even in regions with sparse entrepreneurial environments (Fuzi,

2015). In the UK, there has been a call for more coordinated efforts to create collaborative spaces that influence enterprise policy at a macro level, particularly focusing on inclusivity and structural change within the entrepreneurial ecosystem. This approach emphasises the importance of collective feminist action and engaged-activist scholarship to ensure that these spaces are inclusive and collaborative, fostering systemic change (Patterson, 2020).

Interstitial co-working environments: Research into financial technology (fintech) firms in London highlights the role of interstitial spaces and the conditionality of openness in fostering collaborative practices and innovation outcomes within co-working environments (Yacoub and Haefliger, 2022). Together, these developments illustrate a rich history of evolving collaborative spaces that support start-up entrepreneurs by providing not only physical infrastructure but also a nurturing environment for innovation, learning, and community building.

External interventions play a critical role in shaping the outcomes of new ventures by addressing common constraints around finance, knowledge, and access to networks. Yet beyond their practical utility, many interventions also serve a symbolic function – acting as legitimacy signals that help ventures to be perceived as credible and competent by investors, policymakers, and other influential audiences operating under conditions of uncertainty (Clarke, 2011). In this way, interventions extend beyond capability-building to shape how ventures are positioned within their ecosystems, and whether they are seen as aligned with prevailing institutional norms, cultural values, and policy agendas. Business accelerators are among the most visible examples of this logic in practice – integrating investment, mentoring, training, and ecosystem access into intensive programmes designed to stimulate early-stage growth. While often regarded as a novel support model, accelerators are in many respects a consolidation of earlier intervention types, formalised into a structured and time-bound format (Aljalahma and Slof, 2022). What remains underexplored, however, is the role that accelerators – and other interventions – may play in actively facilitating legitimation: not simply giving entrepreneurs access to resources, but helping them become resourceful and recognised as legitimate by others. Understanding this dual function – enhancing both capability and perceived legitimacy – is crucial for interpreting how support mechanisms contribute to new venture emergence in practice, particularly within the complex institutional and policy conditions found in devolved regional contexts.

2.5 Conclusion

The literature reviewed provides useful insights into the role of business accelerators in the context of new venture creation. These conclusions are derived from a comprehensive analysis of the impact of business accelerators, the various interventions that support new ventures, and the importance of regional perspectives.

The literature shows that the impact of business accelerators is not universal, with non-uniform effects across new ventures operating in different institutional contexts. Some studies suggest that highly resourced or well-connected fintech ventures may avoid accelerator programmes to prevent negative signalling or to retain strategic independence (Browne *et al.*, 2024). However, other research points to the benefits accelerators can offer, such as faster learning, access to networks, and improved chances of early-stage funding (Cohen *et al.*, 2019). Taken together, these findings suggest that the value of accelerator participation is shaped by a range of factors, including the characteristics of the venture, its sector, and the institutional environment in which it operates.

The importance of regional perspectives is clear from the literature. The review has shown the significance of adopting a regional perspective when examining new venture creation and the role of business accelerators. Understanding the regional frameworks and their relevance can provide more nuanced insights into the effectiveness of accelerator programs.

In summary, the review concludes that while business accelerators play a crucial role in supporting new ventures, their effectiveness is strongly influenced by context, and there is a significant need for further research to unravel the complexities of this relationship. Additionally, the regional perspective and the variety of intervention forms are critical factors in understanding and enhancing the outcomes of new venture creation.

2.5.1 Research gap

Despite the growing interest in business accelerators and their contribution to regional entrepreneurial ecosystems, several key gaps remain in the literature.

First, while accelerators are frequently discussed in terms of venture development, very little attention has been paid to the role they may play in facilitating new venture legitimation. Few studies explicitly explore how accelerators contribute to

entrepreneurs being perceived as credible or aligned with institutional expectations – despite the fact that such perceptions are widely understood to shape resource access and long-term survival.

Second, although accelerators have been examined in a range of national contexts, few studies investigate how their design and function are shaped by sub-national institutional conditions, particularly in devolved governance settings – where variations in policy autonomy, institutional capacity, and cultural norms can alter or constrain the legitimation pathways available to new ventures.

Third, there remains limited understanding of how accelerators adapt to regional variation or act as intermediaries between policy and entrepreneurial practice – not only delivering support but potentially helping ventures navigate and align with local policy logics.

These gaps suggest the need for more context-sensitive research that bridges institutional theory, regional innovation systems, and the practical operation of accelerator programmes in real-world settings.

This study addresses these issues by examining how accelerators interact with devolved policy environments in specific UK regions. In doing so, it responds to the need for a more context-sensitive understanding of how institutional and policy variation shapes the design, function, and legitimacy effects of accelerator interventions. These gaps form the foundation for the research design set out in the next chapter, which operationalises this agenda through a mixed-methods approach tailored to the complexity of regional entrepreneurial ecosystems.

Chapter 3: Research design

3.1 Introduction

This chapter establishes the methodological foundation for the thesis, setting out the approach taken to address the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions*?* It builds on the theoretical and contextual foundations presented in the literature review and provides the framework for understanding the practical and conceptual decisions that shaped the research.

The primary aim of this chapter is to explain the overall design of the study and the rationale behind its structure. By doing so, it connects the research objectives with the methods employed, ensuring clarity and coherence. While subsequent chapters will delve into the specific methodologies used in the quantitative and qualitative phases, this chapter takes a broader perspective, focusing on the strategic choices that underpin the research as a whole.

This study employs an explanatory sequential mixed-methods approach, chosen for its ability to address the complexity of the phenomena under investigation (Creswell and Plano Clark, 2018). The quantitative phase, which precedes the qualitative phase, is designed to identify patterns and relationships between devolved policies, business accelerators, and regional new venture creation. It provides an empirical foundation, offering insights into broad trends and statistically significant associations. These findings inform the qualitative phase, which explores the underlying mechanisms and contextual factors shaping these patterns (Yin, 2014). Through in-depth case studies, the qualitative phase provides a richer, more nuanced understanding of how devolved policies and accelerators interact in specific regional contexts (Sayer, 2000; Archer *et al.*, 2013).

The explanatory sequential design is particularly well-suited to the research because it allows for both breadth and depth. The quantitative phase captures generalisable patterns across UK devolved regions, while the qualitative phase offers the granularity needed to understand the context-specific dynamics at play. Together, these phases provide a comprehensive perspective on the research question, addressing not only what

is happening but also why and how it happens (Morgan, 2007; Creswell and Plano Clark, 2018).

This chapter proceeds by first outlining the philosophical underpinnings of the study, which shape the methodological approach and guide the interpretation of findings. It then provides an overview of the research design, describing the integration of the quantitative and qualitative phases and explaining how the findings from each phase inform the other. The chapter concludes by situating this design within the broader structure of the thesis, preparing the ground for the detailed methodological discussions that follow.

The philosophical perspectives underpinning this research are critical in understanding the methodological choices made and the interpretive lens applied to the findings. These perspectives provide the foundation for engaging with the complexities of devolution and its implications for business accelerators and new venture creation (Bhaskar, 1978; Archer *et al.*, 2013). The critical realist approach adopted acknowledges the interplay between structure and agency, making it particularly suitable for studying the interaction of devolved governance and entrepreneurial ecosystems (Danermark, Ekström and Karlsson, 2019).

3.2 Philosophical underpinnings

The philosophical foundations of this study play a central role in shaping its design, methodology, and interpretation of findings. Investigating the complex interplay between devolution, business accelerators, and new venture creation requires a methodological approach that acknowledges both observable patterns and the deeper, often hidden, mechanisms influencing these phenomena. To achieve this, the study is underpinned by critical realism as its ontological stance and pragmatism as its guiding epistemological approach. Together, these perspectives inform the choice of an explanatory sequential mixed-methods design.

Critical realism provides the ontological foundation for the research. It assumes that reality exists independently of our perceptions but can only be understood through imperfect human interpretation (Bhaskar, 1978; Sayer, 2000). This stance is particularly relevant for exploring how devolved policies and business accelerators interact to influence entrepreneurial outcomes, as these dynamics often involve underlying structures – such as economic systems, institutional norms, and regional

power dynamics – that are not directly observable. Instead, they manifest through measurable phenomena, including policy impacts, business support practices, and patterns of new venture creation. Adopting a critical realist perspective allows the research to go beyond surface-level observations, seeking to uncover the mechanisms that shape regional differences in entrepreneurial activity (Archer *et al.*, 2013; Danermark, Ekström and Karlsson, 2019).

This stance also engages with concerns raised by Lucas and Szatrowski (2014), who caution that critical realist research can become overly abstract unless grounded in methodological rigour. They argue that researchers must show how philosophical assumptions about structure and agency are operationalised in empirical strategies designed to identify causal mechanisms. In this study, that principle is operationalised through the sequential use of quantitative models to identify patterned variation, followed by qualitative inquiry to uncover the contextual and institutional factors that explain those patterns. The design thus reflects a realist interest in explanation, while taking seriously the methodological demands of making that explanation robust.

This approach aligns with the research aim of examining not just the existence of regional disparities but also their causes and implications. For instance, the quantitative phase quantifies patterns in new venture creation rates across devolved regions, identifying significant relationships between policies, accelerators, and entrepreneurial outcomes. However, critical realism emphasises that such patterns are likely influenced by deeper factors, such as how policies are implemented or how accelerators operate within specific regional ecosystems (Mason and Brown, 2014). This recognition necessitates the qualitative phase, where case studies delve into the contextual mechanisms that statistical analyses alone cannot fully explain.

Epistemologically, the study adopts pragmatism, which prioritises practical outcomes and the use of methods that best address the research questions (Morgan, 2007; Creswell and Plano Clark, 2018). Pragmatism values both quantitative and qualitative approaches, recognising that different types of knowledge contribute complementary insights. In this research, the quantitative phase identifies general trends, while the qualitative phase explores the contextual nuances that give meaning to these trends. This iterative process reflects a pragmatist commitment to understanding the research problem comprehensively and practically.

Pragmatism is particularly appropriate for this study's mixed-methods design, as it bridges the epistemological divide between the statistical relationships observed in the quantitative phase and the narrative, contextual insights generated in the qualitative phase (Teddlie and Tashakkori, 2009; Yin, 2014). By focusing on the utility of the findings, pragmatism ensures that the research remains grounded in addressing the central question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions*?*

The combination of critical realism and pragmatism also justifies the use of an explanatory sequential mixed-methods design. The two perspectives complement each other, with critical realism emphasising the need to uncover mechanisms behind observable phenomena and pragmatism providing the flexibility to use multiple methods to do so effectively. The quantitative phase examines broad, measurable outcomes, such as regional differences in new venture creation rates and their association with specific policies or accelerator presence (Arshed, Carter and Mason, 2014). The qualitative phase, guided by these findings, investigates the mechanisms at work within selected cases, such as how accelerators adapt their programmes to align with regional policy priorities or how local entrepreneurs navigate the opportunities created by devolution.

To support this goal, the qualitative analysis adopted a structured yet flexible coding process informed by the Gioia methodology (Gioia, 2021). This approach was well suited to a critical realist stance, as it enabled the study to move from surface-level descriptions to deeper conceptual patterns that reflect underlying causal mechanisms. By organising empirical observations into progressively abstracted themes, the analysis helped identify how policy logics and institutional structures shaped observable accelerator behaviours within specific regional ecosystems.

This approach also facilitates an iterative relationship between the phases. For example, patterns identified in the quantitative phase shape the focus of the qualitative inquiries, such as selecting regions or accelerators that demonstrate particularly strong or unexpected outcomes. Conversely, insights from the qualitative phase can prompt a re-examination of the quantitative data, enabling a more nuanced interpretation of observed trends (Stake, 2010). This dynamic process ensures that the research remains responsive to the complexity of the phenomena under investigation and adapts as new insights emerge.

In designing this study, it was essential to adopt a methodological framework that could address both the measurable and contextual dimensions of devolution's impact on new venture creation. The explanatory sequential mixed-methods design achieves this by combining the strengths of both quantitative and qualitative approaches, while the philosophical underpinnings of critical realism and pragmatism provide the theoretical coherence to integrate these methods effectively. This foundation not only guides the research process but also ensures that the findings are both robust and meaningful.

The practical application of these philosophical perspectives becomes clearer when considering how the research phases were structured and integrated. By connecting the quantitative findings to the qualitative exploration, the design reflects a deliberate and systematic approach to addressing the research question while maintaining flexibility to adapt to emerging insights. This integration is described in detail in the next section, which outlines the overall research design and its strategic alignment with the study's aims.

3.3 Research design overview

This study employs an explanatory sequential mixed-methods design to investigate how business accelerators interact with devolved policies to contribute to regional new venture emergence. This design unfolds in two interconnected phases: a quantitative phase, which establishes broad patterns and relationships, followed by a qualitative phase that provides contextual depth and explores the mechanisms underlying these findings. Together, the two phases ensure a comprehensive examination of the research question, balancing the identification of general trends with a nuanced understanding of the factors shaping these trends (Yin, 2014; Creswell and Plano Clark, 2018).

The explanatory sequential approach is particularly well-suited to the complexity of this research. Devolution and its impact on entrepreneurial ecosystems involve both observable phenomena – such as differences in new venture creation rates – and less tangible, context-specific dynamics, such as how policies are implemented or how accelerators adapt their strategies to regional needs. The quantitative phase provides an empirical foundation, offering statistically significant insights into these patterns, while the qualitative phase investigates their real-world implications. This sequential arrangement allows the findings of the first phase to shape the focus of the second,

fostering an iterative process that deepens understanding (Morgan, 2007; Miles, Huberman and Saldaña, 2014).

3.3.1 Justification for the mixed-methods approach

The mixed-methods approach was chosen for its ability to address the multifaceted nature of the research question. Quantitative methods are effective for uncovering generalisable trends and testing hypotheses, making them essential for identifying patterns across devolved UK regions. For example, they help to pinpoint regional disparities in entrepreneurial activity and assess the extent to which policies or the presence of accelerators are associated with these outcomes (Armington and Acs, 2002; Rodríguez-Pose and Bwire, 2004). However, quantitative methods alone cannot capture the rich, contextual details that explain how and why such patterns arise.

By integrating qualitative methods, the research bridges this gap. The qualitative phase allows for an in-depth exploration of the mechanisms underlying the quantitative findings. It focuses on understanding the perspectives of key stakeholders – such as policymakers, accelerator managers, and entrepreneurs – and examines how devolved policies and accelerators operate within specific regional contexts. This combination ensures that the research does not stop at identifying relationships but delves into the processes and experiences that shape these outcomes (Stake, 2010; Alvesson, 2018).

The sequential nature of the design further strengthens its capacity to address the research question. Insights from the quantitative phase guide the selection of regions and issues to explore in the qualitative phase. For instance, regions with unusual trends in new venture creation or where accelerators appear to have a disproportionately strong or weak impact are prioritised for deeper investigation. Conversely, findings from the qualitative phase may prompt a re-evaluation of the quantitative data or raise new questions for future inquiry. This dynamic interplay between the two phases enhances the coherence and relevance of the research as a whole (Creswell and Poth, 2018).

3.3.2 Positioning the quantitative and qualitative phases

In the quantitative phase, statistical analysis was used to examine regional variations in new venture creation rates, the relationship between devolved policy support and entrepreneurial outcomes, and the presence of business accelerators. Key datasets

included Companies House records, policy indicators, and information on accelerator programmes. To analyse these relationships, the study employed a combination of linear mixed-effects models and standard regression techniques, depending on the structure and availability of the data. Multi-year datasets were analysed using mixed-effects models to account for variation across time and region (Zuur *et al.*, 2009), while single-year cross-sectional data were explored using conventional linear regression to assess direct associations (Qian, Acs and Stough, 2013; Creswell and Plano Clark, 2018).

The qualitative phase builds on these results by focusing on selected regions identified during the quantitative analysis. Through case studies, interviews, and document analysis, this phase explores how devolved policies and accelerators interact in practice. The qualitative phase aims to answer questions that the quantitative analysis cannot fully address, such as how policies are interpreted and implemented locally or how accelerators adapt their operations to align with regional priorities. By combining these insights with the quantitative findings, the study provides a more complete picture of the interplay between devolution, accelerators, and entrepreneurial outcomes (Yin, 2014; Pauwels *et al.*, 2016).

This design, with its sequential and complementary phases, ensures that the study captures both the breadth of regional patterns, and the depth of contextual understanding needed to address the research question comprehensively. The logic underpinning this approach is reflected in the conceptual structure of the research, which connects the different elements – devolved policies, business accelerators, and regional entrepreneurial ecosystems – into a cohesive framework. This structure is explored further in the next section.

3.4 Research framework

The following conceptual framework provides a structured approach to examining how devolved policies and business accelerators interact within regional contexts to influence new venture creation. It reflects the study's focus on observable relationships while acknowledging the broader complexities of regional entrepreneurial ecosystems (Spigel, 2017). By framing these elements and their interactions, the framework helps to guide the analysis undertaken in the quantitative and qualitative phases.

At its centre, the framework positions new venture creation as the primary outcome of interest, shaped by the interplay of devolved policies, the activities of business

accelerators, and the characteristics of regional contexts. While the study focuses on devolved policy, it recognises that entrepreneurship is influenced by a mix of national, local, and devolved governance structures (MacKinnon, 2015; Pike, Rodríguez-Pose and Tomaney, 2016).

3.4.1 Conceptual framework

3.4.1.1 Devolved policies as enablers of regional development

Devolved policies represent targeted interventions designed to address regional challenges and opportunities, often with an emphasis on economic development, innovation, and skills (Rodríguez-Pose and Gill, 2003; Bailey, 2017). While their scope extends beyond entrepreneurship, certain policy areas can have a significant influence on new venture creation. This study examined six types of devolved policy, which were later used to construct a composite measure of policy breadth in the quantitative phase:

Access to finance: Programmes such as grants or investment schemes that help entrepreneurs access financial resources (Welsh Government, 2017; Development Bank of Wales, 2022).

Skills development: Initiatives aimed at improving workforce capabilities and entrepreneurial education (Clifford and Morphet, 2015).

Innovation support: Policies encouraging technological advancement and research (Cooke, 2001).

Infrastructure support: Investment in physical and digital infrastructure to improve business ecosystems (Tees Valley Combined Authority, 2016).

Business support services: Advisory services, mentorship programmes, and sectoral guidance (Bone, Allen and Halley, 2017).

Sector-specific initiatives: Policies tailored to regional strengths or industries of strategic importance (Tödtling and Trippl, 2005).

These six domains were not analysed individually but instead aggregated into a cumulative score capturing the breadth of entrepreneurship-supportive policy activity in each devolved region. This composite indicator allowed the study to assess whether more comprehensive policy environments – where multiple forms of support are simultaneously present – are associated with higher rates of new venture creation.

These policies are not exclusively entrepreneurial but often create enabling conditions for venture creation through investment in infrastructure, skills, or targeted business support. As noted in the literature review, business accelerators are frequently positioned as intermediaries that help entrepreneurs access and navigate these devolved resources (Mason and Brown, 2014). This study builds on that premise by examining how the presence and alignment of accelerators may influence the local impact of devolved policy, particularly in relation to new venture activity.

3.4.1.2 Business accelerators as key ecosystem actors

Business accelerators are positioned as intermediaries in entrepreneurial ecosystems (Aljalahma and Slof, 2022). Their role includes:

Supporting entrepreneurs: Offering structured programmes, mentorship, and access to networks that help early-stage ventures address critical challenges (Bone *et al.*, 2019).

Navigating opportunities: Helping entrepreneurs leverage policy-related resources, such as funding or sectoral initiatives (Hausberg and Korreck, 2020).

Bridging gaps: Filling operational or strategic gaps that may exist between policy objectives and entrepreneurial needs (Leitão, Pereira and Gonçalves, 2022).

The study examines the relationship between the presence of accelerators and patterns of new venture creation, exploring their potential to amplify policy impacts. However, it also acknowledges that this relationship is neither uniform nor guaranteed, with variations influenced by regional contexts and the alignment between accelerators and devolved priorities (Spigel, Khalid and Wolfe, 2022).

3.4.1.3 Regional context as a shaping influence

The regional context acts as a backdrop that conditions the impact of both devolved policies and business accelerators. Factors such as economic development levels, institutional capacity, and cultural attitudes towards entrepreneurship play a mediating role (Keating, Cairney and Hepburn, 2009). While these influences are not the primary focus of the research, they are recognised as shaping the dynamics between policies, accelerators, and outcomes. For example, policies promoting innovation may have a greater impact in regions with strong institutional support, whereas accelerators may struggle to thrive in areas with limited entrepreneurial activity (Rodríguez-Pose and Bwire, 2004).

3.4.1.4 Entrepreneurial outcomes

The study focuses on new venture creation, measured quantitatively as the rate of new companies formed relative to the working-age population in each region. This specific metric provides a practical lens for assessing the interactions between policies and accelerators, while acknowledging that broader entrepreneurial outcomes, such as venture sustainability or sectoral growth, are beyond the scope of this research (Audretsch and Fritsch, 1994).

3.4.1.5 Interactions in the conceptual framework

In this framework:

Devolved policies: provide a foundation for entrepreneurship by addressing barriers and creating opportunities, though their impact is shaped by the broader ecosystem.

Business accelerators: act as intermediaries, translating policy-driven opportunities into actionable support for entrepreneurs, but their effectiveness varies by region.

Regional context: moderates these interactions, influencing how policies and accelerators are implemented and received.

The relationships are dynamic and context dependent. For example, the effectiveness of a policy aimed at skills development may depend on how accelerators integrate these efforts into their programmes. Similarly, the presence of accelerators may help entrepreneurs navigate fragmented or uneven policy landscapes (Drori and Wright, 2018).

3.4.2 Research scope

This conceptual framework reflects the study's modest and focused approach to understanding the dynamics of devolved policies, business accelerators, and new venture creation. By concentrating on specific policy areas and measurable outcomes, the framework provides a practical structure for the research without overstating the scope or complexity of its findings. This approach aligns with calls for targeted regional innovation systems that account for local institutional and economic contexts (Cooke, 2001; Pike, Rodríguez-Pose and Tomaney, 2016).

The quantitative phase investigates statistical relationships between the overall strength of policy support, the presence of accelerators, and venture creation rates

across devolved regions. Rather than isolating individual policy areas, the analysis focuses on the extent to which regions offer a more comprehensive pattern of entrepreneurship-supportive interventions. This builds on existing work emphasising the importance of joined-up, policy-enabled ecosystems for fostering entrepreneurship (Audretsch and Lehmann, 2005; Stam, 2015). The qualitative phase complements this by exploring selected regional contexts in depth, focusing on how policies and accelerators interact in practice. Together, the two phases operationalise the study's conceptual framework and contribute to a more rounded understanding of regional entrepreneurship, in keeping with the explanatory sequential mixed-methods design outlined by Creswell and Plano Clark (2018).

The objectives of these phases, and their alignment with the study's overall framework, are outlined in the next section.

3.5 Objectives of the quantitative and qualitative phases

The research is structured into two interconnected phases – quantitative and qualitative – designed to comprehensively address the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions*?* Each phase has distinct objectives, yet they work together to build a nuanced understanding of the patterns, mechanisms, and contexts influencing regional entrepreneurship. The findings from the quantitative phase inform the focus of the qualitative phase, ensuring that both phases contribute cohesively to the overall study (Creswell and Plano Clark, 2018).

3.5.1 Quantitative phase objectives

The quantitative phase aims to establish broad patterns and relationships between devolved policies, the presence of business accelerators, and rates of new venture creation across UK regions. It addresses three specific sub-questions:

QNT.Q1: Are there significant differences in the rate of new venture creation between devolved regions in the UK? This question aims to establish whether regional variations in entrepreneurial activity exist and to what extent these differences can be attributed to the devolved governance structures in place (Rodríguez-Pose and Bwire, 2004; Xu and Warner, 2016).

QNT.Q2: Do devolved regions that implement entrepreneurship-supportive policies, such as access to finance, skills development, and innovation support, exhibit higher rates of new venture emergence? This inquiry investigates whether regions with broader coverage across key domains of entrepreneurship-supportive policy are associated with higher rates of new venture creation. Rather than testing individual policy types, the analysis uses a composite measure of policy breadth to assess the cumulative effect of multiple supportive interventions implemented under devolved governance (Arshed, Carter and Mason, 2014; Bailey, 2017).

QNT.Q3: Is there an association between the presence of business accelerators and recent rates of new venture emergence in subnational regions? By exploring this relationship, the study seeks to determine whether the density and distribution of accelerators contribute significantly to regional entrepreneurial outcomes (Bone, Allen and Halley, 2017; Cohen *et al.*, 2019).

This phase uses a data-driven approach to explore the interplay between devolved policies, business accelerators, and new venture creation across the UK. By examining measurable indicators – such as regional new venture creation rates, policy interventions, and the presence of accelerators – it identifies regional disparities and assesses how devolved governance influences entrepreneurial outcomes. The findings provide insights into whether devolved policies targeting entrepreneurship foster higher rates of venture emergence, whether the presence of business accelerators amplifies this effect, and how these elements contribute to regional entrepreneurial ecosystems. These quantitative results form the foundation for selecting and analysing case studies in the qualitative phase, offering a nuanced exploration of regions where these dynamics are particularly pronounced. This integration ensures a coherent and comprehensive explanatory framework for understanding the broader research question.

3.5.2 Qualitative phase objectives

The qualitative phase complements the quantitative analysis by focusing on the interactions between devolved policies and business accelerators within specific regional contexts. It seeks to answer three sub-questions that align with the broader aim of understanding how these elements interact to influence new venture creation:

QLT.Q1: How do devolved policies support or enable business accelerators to drive new venture creation in subnational regions? This question investigates the mechanisms through which devolved governance creates conditions that are favourable to accelerator activity.

QLT.Q2: How do business accelerators adapt their programmes and strategies to align with the specific needs and policy priorities of devolved regions? Here, the focus is on how accelerators respond to the local context – tailoring their approaches in light of devolved priorities and constraints.

QLT.Q3: How do business accelerators and devolved policies interact to amplify their collective impact on entrepreneurial activity in devolved regions? This final question explores the dynamic interplay between accelerators and devolved policy – including how mutual reinforcement and feedback mechanisms may strengthen their combined contribution to regional entrepreneurial ecosystems.

The qualitative phase adopts a multiple-case study design, selecting two regions – Wales and the Tees Valley Combined Authority (TVCA) – to provide contrasting examples of devolved governance structures. Wales, operating under a reserved powers model, offers insights into the opportunities and constraints of higher policy autonomy (Keating, Cairney and Hepburn, 2009). By contrast, TVCA, characterised by a collaborative governance model, enables examination of accelerator activity under different institutional conditions (Rodríguez-Pose and Gill, 2003).

This design follows a theoretical replication approach (Yin, 2014), where cases are purposefully selected to identify patterns and variations. Data collection methods include non-participatory observations, secondary data analysis, and document review, with coding aligned to the research questions. Coding followed a structured, first- and second-order process informed by the Gioia methodology (Gioia, 2021). While traditionally applied to interview-based research, this approach was adapted to suit observational and documentary material, supporting the development of conceptually grounded themes aligned with the research questions.

This approach aligns with empirical research in regional entrepreneurship that uses comparative case study methods to investigate how policy and institutional dynamics shape entrepreneurial outcomes. For instance, Mason and Brown (2014) explore how entrepreneurial ecosystems evolve in different UK regions, combining regional-level

data with policy insights to assess how governance arrangements and institutional support structures shape ecosystem performance. Their analysis emphasises the importance of contextually aligned policies, particularly in devolved or semi-devolved settings. Similarly, Spigel (2017) undertakes a comparative case study of entrepreneurial ecosystems in Calgary and Waterloo, using in-depth qualitative interviews and documentary analysis to examine how cultural, social, and material attributes interact to enable or constrain venture creation. Brown *et al.* (2019) further illustrate these dynamics through an in-depth case study of a Silicon Valley accelerator, highlighting how such programmes operate as institutional intermediaries within entrepreneurial ecosystems. Their findings emphasise the brokerage role of accelerators and raise important caveats about replicating these models in different regional contexts – reinforcing the need for regionally grounded, qualitative research into accelerator-policy interaction.

The qualitative phase builds on the quantitative phase, which identified regional disparities in new venture creation rates and the role of policy and accelerator presence. Together, these phases contribute to an explanatory framework for understanding how devolved policy and accelerator strategies interact to shape regional entrepreneurial outcomes.

3.5.3 Interconnection between the phases

The two phases are deliberately designed to complement each other, creating a sequential and iterative relationship that enhances the overall coherence of the study. The quantitative findings guide the qualitative inquiry by identifying regions and themes that merit closer examination. For example, regions showing unexpected trends in new venture creation or strong policy-accelerator associations are prioritised for qualitative case studies. Conversely, the qualitative insights help refine and contextualise the quantitative findings, revealing underlying mechanisms and processes that cannot be captured by numerical data alone (Morgan, 2007; Stake, 2010).

This interplay ensures that the study remains focused, with each phase contributing to a comprehensive understanding of the dynamics between devolved policies, business accelerators, and regional entrepreneurship. The next section discusses the strategy for selecting cases in the qualitative phase, building on the patterns and relationships identified in the quantitative analysis.

3.6 Case selection strategy

The selection of cases for the qualitative phase of this study was driven by insights from the quantitative analysis and guided by a theoretical replication approach (Yin, 2014). The aim was to explore the interplay between devolved policies and business accelerators in specific regional contexts, focusing on cases that could illustrate diverse governance arrangements and entrepreneurial dynamics. This strategy ensured that the qualitative phase provided depth and contextual understanding to complement the broad patterns identified in the quantitative phase.

3.6.1 Rationale for case selection

The case selection was informed by the explanatory sequential design of the study, where the quantitative findings shaped the focus and scope of the qualitative inquiry (Creswell and Plano Clark, 2018). The analysis of new venture creation rates, policy implementation, and the presence of accelerators across devolved regions highlighted regions of interest for deeper exploration. Cases were chosen to represent theoretical replication, ensuring that insights could be drawn from contrasting governance arrangements and contexts (Yin, 2014).

The selection process prioritised regions that aligned with the following considerations:

Governance models: The study focused on two contrasting governance arrangements to examine how differences in devolved authority shape the relationship between regional policies and business accelerators.

Wales: Operating under a reserved powers model since the Wales Act 2017, it holds significant legislative authority over economic development, skills, infrastructure, and innovation (Welsh Government, 2021, 2022a).

Tees Valley Combined Authority: Established through negotiated devolution deals with central government. While it exercises control over selected policy areas, it lacks the legislative autonomy of a devolved nation and remains situated within a more centralised constitutional framework (Tees Valley Combined Authority, 2024b).

Patterns in the quantitative findings: These cases were also selected based on their relevance to the quantitative results, ensuring that the qualitative inquiry could provide a deeper understanding of observed patterns. For example, Wales showed strong alignment between devolved policy initiatives and entrepreneurial activity (Welsh

Government, 2017), while Tees Valley offered an opportunity to examine a different governance model's impact on policy-accelerator dynamics (Tees Valley Combined Authority, 2019b).

Practical and theoretical relevance: Both cases were chosen because they offer practical insights into the operation of devolved policies and accelerators in contrasting settings. Additionally, they allowed for the exploration of how regional contexts mediate these interactions (Cooke, Gomez Uranga and Etxebarria, 1997).

3.6.2 Selected cases

While the specifics of each case are discussed in the qualitative phase chapter, it is important to note the distinct rationales behind their inclusion:

Wales: Selected due to its broader devolved powers, which allowed for a detailed examination of how a reserved powers model influences the design and implementation of entrepreneurship-related policies (Fuzi, 2015; Welsh Government, 2022a).

Tees Valley: Chosen to represent a mayoral combined authority, providing a contrasting case to explore the implications of a more collaborative governance arrangement on policy–accelerator dynamics (Tees Business, 2024a; Tees Valley Combined Authority, 2024a).

These cases were purposefully selected to highlight variations in governance structures and their influence on the interaction between devolved policies and business accelerators.

3.6.3 Connection to quantitative findings

The quantitative phase provided the foundation for case selection by identifying regions where the relationships between policies, accelerators, and new venture creation warranted further investigation (Audretsch and Lehmann, 2005; Mason and Brown, 2014). The selection of Wales and Tees Valley ensured that the qualitative phase could explore both supportive and potentially constraining factors, helping to explain how and why certain patterns observed in the quantitative analysis emerged.

This approach illustrates the explanatory sequential nature of the study, where quantitative results guide the focus of qualitative inquiry (Morgan, 2007). By examining these cases, the qualitative phase contributes a deeper understanding of the

mechanisms, processes, and contextual factors shaping the interaction between devolved policies and business accelerators.

The next section addresses the ethical considerations that informed all stages of the research, ensuring that the study adhered to principles of integrity, transparency, and respect for participants and data sources.

3.7 Ethical considerations

Ethical considerations are fundamental to the integrity and credibility of this research. This study, which explores the interplay between devolved policies, business accelerators, and new venture creation, involves both quantitative and qualitative phases, each with specific ethical dimensions. While detailed discussions of ethical protocols are provided in the respective chapters for each phase, this section focuses on overarching principles and the strategies employed to ensure ethical rigour throughout the research process.

At the heart of the study is a commitment to transparency, respect for participants and data sources, and adherence to ethical research standards. This required careful attention to issues such as confidentiality, informed consent, data security, and the potential for researcher bias. These principles guided every stage of the research, from the handling of secondary data in the quantitative phase to the collection and analysis of qualitative data.

3.7.1 Confidentiality and anonymity

Protecting the confidentiality of organisations and individuals involved in the study was a priority. While the quantitative phase relied on publicly available secondary data, such as company incorporation records and accelerator directories, efforts were made to aggregate and anonymise data to avoid inadvertently identifying specific organisations or individuals. In the qualitative phase, where interviews and document analysis were conducted, rigorous protocols were followed to ensure that participants' identities and any sensitive information they shared were safeguarded. This included anonymising transcripts, masking identifiable details in reporting, and securely storing all data in accordance with institutional guidelines (Economic and Social Research Council, 2015; British Sociological Association, 2017).

3.7.2 Informed consent

Informed consent was central to the qualitative phase of the research. Participants were provided with clear and detailed information about the purpose of the study, the nature of their involvement, and how their data would be used. This ensured that they could make an informed decision about their participation (Yin, 2014).

3.7.3 Data integrity and secondary data handling

The quantitative phase relied heavily on secondary data from sources such as Companies House, policy documents, and accelerator directories. Ethical considerations in this context focused on ensuring that data were used responsibly and in ways consistent with their intended purpose. This involved verifying the reliability of sources, avoiding misrepresentation, and acknowledging the limitations of secondary data, such as potential biases or gaps in coverage. Additionally, efforts were made to handle and store data securely, adhering to institutional and legal standards for data protection (Information Commissioner's Office, 2023).

3.7.4 Mitigating researcher bias

Given the interpretive nature of qualitative research, particular attention was paid to mitigating the potential for researcher bias. Steps were taken to ensure that data collection and analysis were as objective and balanced as possible. For instance, coding frameworks and thematic analysis techniques were used to minimise subjective interpretation of qualitative data (Miles, Huberman and Saldaña, 2014). Reflexivity also played a role, with regular reflection on the researcher's positionality and potential influence on the research process (Alvesson, 2018).

3.7.5 Transparency and accountability

Throughout the study, transparency was maintained in data collection, analysis, and reporting. This included documenting decisions made during the research process, such as the rationale for case selection and the methods used to handle data (Yin, 2014). By ensuring a clear and traceable research process, the study aimed to enhance its credibility and provide a foundation for future research in the field.

These ethical considerations were not just procedural requirements but integral to ensuring the research was conducted responsibly and respectfully. They reflect a commitment to upholding the highest standards of integrity and respect for the

individuals, organisations, and data involved in the study. As the findings from the quantitative and qualitative phases are integrated, this ethical grounding continues to shape the analysis and interpretation of results, ensuring that the research remains fair, reliable, and respectful of its context.

3.8 Integration of findings

Integrating the findings from the quantitative and qualitative phases is a critical step in addressing the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions? This integration ensures that the study provides a comprehensive and nuanced understanding of the interplay between devolved policies, business accelerators, and entrepreneurial outcomes in regional contexts. The process draws on the strengths of both research phases, combining statistical analysis with contextual insights to produce a well-rounded exploration of the research problem (Creswell and Plano Clark, 2018).

The quantitative phase identified patterns and relationships across devolved regions, offering measurable insights into the association between devolved policies, accelerator presence, and new venture creation rates. These findings set the foundation for the qualitative phase, which explored the mechanisms and contextual factors shaping these relationships through case studies. The integration of these two phases is not merely additive; it involves synthesising the findings to provide a deeper, more holistic interpretation of the phenomena under investigation (Yin, 2014).

3.8.1 Strategies for integration

To achieve coherence and consistency, the study employs several strategies for integrating findings:

Narrative synthesis – The discussion chapter presents a unified narrative that draws connections between the quantitative patterns observed across devolved regions and the contextual explanations derived from qualitative analysis. For example, quantitative results showing a positive association between accelerator presence and new venture creation rates are considered alongside qualitative insights into how accelerators interpret regional priorities, navigate devolved policy landscapes, and respond to specific institutional conditions (Creswell and Poth, 2018).

Triangulation – Where appropriate, insights from the qualitative phase are used to reinforce, clarify, or challenge the patterns identified through statistical analysis. This comparative process strengthens the study's credibility by situating numerical findings within the lived realities of policy delivery and entrepreneurial support observed in the case studies (Yin, 2014).

Complementarity – The research design draws on the complementary strengths of both phases. The quantitative phase provides an overview of regional patterns and associations, while the qualitative phase investigates how and why these patterns emerge in practice. Together, they offer a layered perspective that addresses both the scale of observed outcomes and the mechanisms through which they are shaped (Morgan, 2007; Alvesson, 2018).

3.8.2 Addressing the research question

The integration of findings allows the study to address its central research question comprehensively. The quantitative phase provides evidence of relationships, such as the association between the overall breadth of devolved policy support and regional entrepreneurial outcomes, or the correlation between accelerator presence and new venture creation rates. However, these statistical relationships alone do not reveal the mechanisms or contextual conditions that enable or constrain them. By incorporating the qualitative findings, the study explains how these dynamics unfold in practice, shedding light on the roles of governance structures, regional capacities, and the extent to which accelerators align with broader policy priorities (MacKinnon, 2015).

For instance, the quantitative analysis indicates that regions with greater accelerator density tend to exhibit higher levels of entrepreneurial activity. The qualitative phase adds depth to this finding by exploring how accelerators interpret and respond to their policy environment – for example, by aligning their programmes with sector-specific initiatives or responding to skills gaps identified in qualitative accounts of devolved strategies. Similarly, unexpected patterns observed in the quantitative phase – such as regions with broad policy coverage but lower-than-expected venture creation rates – are contextualised through qualitative insights into challenges such as institutional capacity or infrastructure limitations (Pike, Rodríguez-Pose and Tomaney, 2016).

3.8.3 Enhancing the study's contribution

Through integration, the study moves beyond a fragmented view of the relationship between devolved policies and accelerators to offer a cohesive understanding of their interaction. This process ensures that the findings are not only robust and generalisable where appropriate but also deeply contextualised, providing practical implications for policymakers, accelerator managers, and regional stakeholders (Creswell and Plano Clark, 2018).

As the discussion chapter synthesises these findings, it emphasises the importance of interpreting data through a dual lens, blending measurable patterns with grounded, real-world insights. This approach not only strengthens the study's conclusions but also sets the stage for reflecting on its broader contributions to the literature on regional entrepreneurship and devolution (Rodríguez-Pose and Gill, 2003).

This integrated perspective also naturally leads into the study's conclusions, where the key findings and their implications are summarised, providing a basis for future research and practical recommendations.

3.9 Conclusion

This chapter has outlined the overarching methodological foundation for the thesis, detailing the approach taken to address the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions*?* It has introduced the explanatory sequential mixed-methods design that structures the study, explained the rationale for this approach, and described the processes for integrating quantitative and qualitative findings. Together, these elements provide a cohesive framework for understanding the complex dynamics at play within devolved entrepreneurial ecosystems.

The explanatory sequential mixed-methods approach is particularly well-suited to this research. By beginning with a quantitative phase, the study identifies broad patterns and relationships across devolved regions, focusing on how policies, accelerators, and contextual factors influence rates of new venture creation. The subsequent qualitative phase builds on these findings, delving into specific regional contexts to explore the mechanisms and processes underlying the observed trends. This integration of breadth and depth ensures that the research not only captures measurable outcomes but also

provides meaningful insights into the factors that shape them. Creswell and Plano Clark (2018) highlight the utility of this approach in exploring complex phenomena where numerical patterns need to be understood in rich contextual terms.

A further strength of this approach lies in its flexibility and adaptability. The iterative relationship between the two phases allows the study to remain responsive to the complexities of its subject matter. Quantitative findings guide the qualitative inquiry, while qualitative insights inform the interpretation of statistical results. This interplay ensures that the research remains focused, comprehensive, and grounded in both empirical evidence and contextual understanding. Such iterative designs have been emphasised as critical for addressing multi-layered research questions in mixed-methods research (Morgan, 2007; Creswell and Plano Clark, 2018).

The explanatory framework adopted also aligns with key theories underpinning regional innovation and entrepreneurial ecosystems. The inclusion of devolved policies and accelerators in the analysis reflects their role as institutional mechanisms driving regional economic activity (Cooke, 2001; Mason and Brown, 2014). Furthermore, insights into the role of accelerators as intermediaries between entrepreneurs and policy frameworks resonate with the concept of organisational embeddedness within regional systems (Granovetter, 1985).

The next chapter will present the detailed methodologies and findings of the quantitative phase. This will include an examination of the statistical relationships between devolved policies, the presence of business accelerators, and rates of new venture creation across UK regions. By building on the foundation established in this chapter, the quantitative phase provides the first step in addressing the research question and setting the stage for the qualitative exploration that follows.

Chapter 4: Quantitative phase

4.1 Introduction to the quantitative phase

Building on the mixed-methods strategy outlined in the Research design chapter (Creswell and Plano Clark, 2018), this chapter opens with a quantitative phase that provides a broad empirical assessment of new venture creation across the UK's regions. Rather than revisiting the detailed rationale of the explanatory sequential design, the focus here is on the aim and scope of the quantitative analysis. This phase examines statistical patterns in entrepreneurial activity to determine whether devolved regions display distinct rates of new venture emergence compared to other areas (Rodríguez-Pose and Bwire, 2004; Xu and Warner, 2016). It further seeks to evaluate how devolved policy interventions and entrepreneurial support mechanisms contribute to these outcomes, thereby laying the groundwork for deeper exploration in the subsequent qualitative phase.

The core objective of the quantitative phase is to identify and explain regional disparities in new venture creation. To achieve this, the study employs advanced statistical methods – notably linear mixed-effects models – that account for differences across time and between regions. This approach enables a nuanced analysis of how specific factors influence entrepreneurial activity, isolating fixed effects (common temporal trends) while accounting for random effects like region-specific variability (Zuur *et al.*, 2009; Hox, Moerbeek and Van De Schoot, 2010). Within this framework, the study analyses data on new firm formations and survival rates alongside relevant regional indicators to discern significant differences in entrepreneurial outcomes across devolved and non-devolved areas.

In assessing the influence of policy environments, the quantitative phase investigates whether regions implementing a broader set of entrepreneurship-supportive policies – across domains such as access to finance, skills development, innovation support, infrastructure support, business support services, and sector-specific initiatives – tend to exhibit higher rates of new venture creation. While these six domains were used to construct the dataset, they were not analysed individually. Instead, a composite variable capturing the breadth of policy support was employed in the final model to reflect the cumulative presence of these interventions across regions (Arshed, Carter and Mason, 2014; Bailey, 2017). Similarly, the study explores the role of business accelerators by

testing whether regions hosting such accelerators exhibit increased entrepreneurial activity. A cross-sectional regression examines the association between accelerator presence and new venture formation, reflecting insights from prior studies that link accelerators to stronger startup outcomes (Bone, Allen and Halley, 2017; Cohen *et al.*, 2019). Taken together, these quantitative inquiries offer a comprehensive view of how devolved policy measures and support mechanisms interact to shape regional entrepreneurial ecosystems.

By concentrating on these aims and datasets, the quantitative phase establishes an evidence base that will inform the thesis's later qualitative investigations. The findings from this statistical analysis – including any identified patterns of regional disparity, policy impact, and accelerator effect – will set the stage for a more detailed, context-rich inquiry in the following chapters. In doing so, the quantitative phase not only addresses its specific research sub-questions but also aligns with the study's broader mixed-methods strategy by guiding and contextualising the qualitative phase to follow.

4.2 Overview of quantitative sub-questions

The quantitative phase of this research is structured around the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions? To address this overarching inquiry, three quantitative sub-questions have been formulated, each designed to explore specific aspects of the relationship between regional policies, business accelerators, and new venture creation.

The first sub-question (QNT.Q1) asks: Are there significant differences in the rate of new venture creation between devolved regions in the UK? This question aims to identify whether regional disparities exist in entrepreneurial activity across the devolved areas, and how these differences might reflect variations in local economic conditions, policy environments, or other contextual factors. By exploring these disparities, this analysis provides a baseline for examining the broader patterns of entrepreneurial activity across the devolved regions and establishes the foundation for subsequent analyses of policy and ecosystem influences.

The second sub-question (QNT.Q2) explores: Do devolved regions that implement entrepreneurship-supportive policies, such as access to finance, skills development, and innovation support, exhibit higher rates of new venture emergence? This inquiry

examines whether regions with more extensive and sustained policy support across key domains are associated with stronger rates of entrepreneurial activity. The analysis employed a linear mixed-effects model, using a composite measure of devolved policy support as the main predictor. This approach captures both the diversity of policy types in place and the continuity of support over time. It enables the study to assess whether more embedded and multi-faceted policy environments are linked to increased new venture creation (Aguinis, Gottfredson and Culpepper, 2013).

The third sub-question (QNT.Q3) considers: Is there an association between the presence of business accelerators and recent rates of new venture emergence in subnational regions? This question explores whether the distribution of accelerators may be related to regional differences in entrepreneurial activity. A cross-sectional analysis was conducted using data from 2021, examining whether accelerator presence was statistically associated with variation in new venture creation rates.

To explore this question, a multiple linear regression model was used to assess whether regions with a greater number of business accelerators tended to have higher rates of new venture creation. The dependent variable was *NewCosPer1000*, representing the number of new companies registered per 1,000 working-age people in each devolved area. The model included two predictors: *Num_Accelerators*, reflecting the count of active accelerators in each region during 2021, and *Dev_Composite*, a composite score capturing the breadth of entrepreneurship-supportive policies in place. Other potentially relevant variables – such as regional GDP, unemployment rate, or working-age population – were not included, as the final model was limited to the two theoretically grounded predictors, given the small sample size (n = 16). This model allowed for a focused and interpretable examination of how accelerator presence and policy environment may be associated with regional differences in entrepreneurial activity.

Additionally, while a linear regression model is appropriate for this cross-sectional analysis, it is acknowledged that the inclusion of regional or temporal variability in future analyses could benefit from mixed-effects modelling. Such models allow the decomposition of variance into fixed and random effects, which is particularly valuable in examining nested data structures like regions and accelerators over time (Zuur *et al.*, 2009; Raudenbush and Bryk, 2010). Although this study employs cross-sectional data for accelerators, the utility of linear mixed-effects models is well-documented for

exploring multi-level influences on entrepreneurship and regional economic outcomes (Hox, Moerbeek and Van De Schoot, 2010; Almeida and Zouain, 2016).

This study examines whether the presence of business accelerators is associated with stronger regional entrepreneurial ecosystems, and whether they may complement devolved policies aimed at fostering economic growth. While the analysis is cross-sectional and does not seek to establish causality, it offers indicative patterns that help frame the subsequent qualitative phase. There, the focus shifts to exploring how these relationships unfold in practice, allowing for a more contextualised understanding of the mechanisms through which accelerators and policy measures interact to influence entrepreneurial outcomes.

4.3 Framing the transition to the qualitative phase

The transition from the quantitative to the qualitative phase in this research is a critical juncture that leverages the insights gained from the quantitative analysis to inform and shape the subsequent qualitative inquiry. The quantitative findings, which have illuminated significant patterns and associations regarding new venture creation across devolved regions, serve as a foundation for deeper exploration through qualitative methods. This transition is guided by the overarching aim of understanding the nuanced interactions between business accelerators, devolved policies, and new venture emergence in subnational regions.

The quantitative phase has provided a broad overview of regional disparities in new venture creation and highlighted the potential influence of devolved policy support and the presence of business accelerators. These insights are invaluable for identifying key areas of interest that warrant further investigation. By focusing on regions where particular patterns or anomalies have been observed, the qualitative phase can delve into the contextual factors and mechanisms that underpin these quantitative trends. This approach ensures that the qualitative inquiry is both targeted and relevant, addressing specific questions that have emerged from the quantitative analysis.

Moreover, the qualitative phase is designed to capture the complexity and diversity of experiences within selected case study regions. Through in-depth interviews, focus groups, and other qualitative methods, this phase will explore how entrepreneurs and stakeholders perceive and interact with business accelerators and devolved policies. The aim is to uncover the underlying processes and contextual influences that contribute to

regional variations in new venture success. By doing so, the qualitative research will provide rich, detailed insights that complement and enhance the quantitative findings, offering a more comprehensive understanding of the dynamics at play.

In summary, the transition to the qualitative phase is strategically informed by the quantitative results, which have identified key patterns and areas for further exploration. This phase aims to provide a deeper understanding of how regional contexts influence new venture creation, thereby contributing to a holistic view of the interaction between business accelerators, devolved policies, and entrepreneurial outcomes. Through this integrated approach, the research seeks to generate meaningful insights that can inform policy and practice in supporting new ventures across diverse regional settings.

4.4 Methodology

4.4.1 Research design

The research design for this study employs a comprehensive statistical framework to address the three quantitative sub-questions examining new venture creation across UK devolved regions. The methodological approach combines longitudinal analysis through linear mixed-effects models (LMM) for the first two research questions with cross-sectional regression analysis for the third question, providing a robust analytical foundation for understanding regional variations in entrepreneurial activity (Aguinis, 2004; Hox, Moerbeek and Van De Schoot, 2010).

4.4.1.1 Statistical methods selection and justification

The choice of statistical methods was driven by the nature of the research questions, the structure of the available data, and the need to account for complex relationships within the dataset. For QNT.Q1 and QNT.Q2, linear mixed-effects models were selected as the primary analytical tool due to their capacity to handle hierarchical data structures and account for both fixed and random effects (Hox, Moerbeek and Van De Schoot, 2010; Raudenbush and Bryk, 2010). Linear mixed-effects models are particularly appropriate for this research context as they can effectively model the nested nature of observations within regions while accounting for temporal dependencies.

The decision to use linear mixed-effects models over alternative methods, such as repeated measures ANOVA or generalised estimating equations (GEE), was based on

several key considerations. Firstly, LMM offer greater flexibility in handling unbalanced designs and missing data (Zuur *et al.*, 2009), which is crucial when dealing with regional data that may have inconsistencies across time periods. Secondly, LMM allow for the inclusion of both time-invariant and time-varying predictors, enabling a more nuanced analysis of policy effects over time (Hox, Moerbeek and Van De Schoot, 2010). Thirdly, the ability to model random effects for devolved areas captures region-specific variations that might not be adequately addressed by fixed-effects models alone (Raudenbush and Bryk, 2010).

Furthermore, linear mixed-effects models were preferred over simpler regression techniques like ordinary least squares (OLS) regression because they account for the non-independence of observations within regions. This is particularly important in the context of regional analysis, where observations from the same region are likely to be more similar to each other than to observations from different regions. By incorporating random effects, linear mixed-effects models can partition the variance between within-region and between-region components, providing a more accurate estimation of standard errors and reducing the risk of Type I errors (Aguinis, Gottfredson and Culpepper, 2013).

4.4.1.2 Cross-sectional analysis framework and rationale

For QNT.Q3, a cross-sectional linear regression approach was adopted to examine the relationship between business accelerator presence and new venture creation rates. This methodological choice was primarily dictated by the nature of the available accelerator data, which was limited to a single time point in 2021. While a longitudinal analysis would have been preferable to capture the dynamic effects of accelerators over time, the cross-sectional approach allows for an initial exploration of the association between accelerator presence and entrepreneurial activity (Aguinis, 2004).

The decision to use linear regression for this analysis, rather than more complex models, was based on the need to establish a clear, interpretable relationship between the variables of interest (Cohen *et al.*, 2013). Alternative methods such as propensity score matching or instrumental variable approaches were considered but deemed less suitable due to the lack of historical data on accelerator presence and the difficulty in identifying valid instruments for accelerator location decisions.

4.4.1.3 Statistical validation procedures

To ensure the robustness of the statistical analyses, several validation procedures were implemented. For the linear mixed-effects models, model diagnostics included examination of residual plots, assessment of normality assumptions, and verification of variance homogeneity (Field, 2018). These checks are crucial for ensuring the validity of model inferences and identifying potential violations of model assumptions that could lead to biased or inefficient estimates.

The Intra-Class Correlation Coefficient (ICC) was calculated to quantify the proportion of variance attributable to between-region differences, providing a crucial metric for validating the multilevel modelling approach (Raudenbush and Bryk, 2010). A high ICC value justifies the use of mixed-effects models by demonstrating substantial between-region variability that would be overlooked in single-level analyses.

For the cross-sectional regression analysis, standard diagnostic procedures were employed, including tests for multicollinearity, heteroscedasticity, and influential observations. These checks ensure the reliability of the regression estimates and help identify potential sources of bias or inefficiency in the model (Cohen *et al.*, 2013).

4.4.1.4 Integration with research objectives and mixed-methods design

The selected statistical methods align closely with the research objectives and the explanatory sequential mixed-methods design of the study. The quantitative analyses provide a robust foundation for identifying patterns and relationships that will inform the subsequent qualitative phase. The combination of longitudinal and cross-sectional analyses enables a comprehensive examination of both temporal trends and specific point-in-time relationships, contributing to a nuanced understanding of how devolution and business support mechanisms influence new venture creation.

The methodological approach acknowledges the complexity of regional entrepreneurial ecosystems while maintaining statistical rigour. By employing LMM for the longitudinal analyses, the research can account for the nested structure of the data and the potential for region-specific effects, which is crucial for understanding the nuanced impact of devolution on entrepreneurial activity (Zuur *et al.*, 2009; Hox, Moerbeek and Van De Schoot, 2010). The cross-sectional analysis, while more limited in scope, provides valuable insights into the current landscape of accelerator presence and its relationship with new venture creation (Field, 2018).

The use of multiple analytical techniques allows for triangulation of findings and provides a solid empirical basis for the selection of case studies in the qualitative phase of the research. This approach ensures that the qualitative investigation is grounded in statistically significant patterns and relationships identified in the quantitative phase, enhancing the overall coherence and validity of the mixed-methods design (Aguinis, Gottfredson and Culpepper, 2013; Creswell and Plano Clark, 2018).

In conclusion, the chosen statistical methods represent a thoughtful and rigorous approach to addressing the research questions, balancing the need for complex modelling of longitudinal and hierarchical data with the practical constraints of available data sources. The combination of linear mixed-effects models and cross-sectional regression analysis provides a comprehensive framework for examining the multifaceted relationships between devolution, policy interventions, accelerator presence, and new venture creation in the UK context (Raudenbush and Bryk, 2010; Cohen *et al.*, 2013).

4.4.2 Data collection and sources

The quantitative phase of this research is integral to the overall explanatory sequential mixed-methods design, aimed at elucidating the complex interplay between business accelerators and devolved policies in fostering new venture emergence within subnational regions. This phase serves a dual purpose: to quantitatively assess the landscape of new venture creation across various devolved regions in the UK alongside non-devolved areas, and to establish empirical foundations for the subsequent qualitative inquiry.

By employing a robust quantitative methodology, this phase seeks to uncover patterns and relationships that inform our understanding of how regional policies and support mechanisms contribute to entrepreneurial success. Recent studies have shown only a weak correlation between devolution and general economic growth, with most studies adopting a broad view on devolution by typically considering the proportion of spending allocated at a devolved level compared to the national level (Rodríguez-Pose and Gill, 2003; Xu and Warner, 2016). Through systematic analysis, the research aims to contribute valuable insights into the dynamics of regional entrepreneurship and inform policy development aimed at enhancing economic resilience and innovation.

4.4.2.1 Question QNT.Q1 data collection and sources

The data collection and sources for addressing sub-question QNT.Q1, "Are there significant differences in the rate of new venture creation between devolved regions in the UK?", were carefully selected to ensure a comprehensive and reliable analysis of new venture creation across the United Kingdom's devolved regions. The primary data source for this study was Companies House, the official registrar of companies in the UK. This choice was motivated by the need for authoritative and comprehensive data on company incorporations, which serves as a proxy for new venture creation.

Companies House maintains a register of all limited companies in the UK, including detailed information on their incorporation dates, registered offices, and current status. This data is particularly valuable in the study as it provides a complete and accurate record of new company formations across all regions of the UK. The use of official government data enhances the credibility and reliability of the analysis, as it is subject to rigorous quality control measures and is widely recognised as the authoritative source for company information in the UK.

To construct the dataset, I extracted information on new company incorporations for each year from 2010 to 2021. This time frame was chosen to provide a sufficiently long period for observing trends and patterns in new venture creation, while also capturing the effects of recent policy changes and economic events (Cohen *et al.*, 2013). The data included the date of incorporation and the registered office address for each new company. This information was crucial for accurately attributing new ventures to their respective regions and calculating annual rates of new venture creation.

In addition to the Companies House data, I utilised population statistics from the Office for National Statistics (ONS) to calculate the rate of new venture creation per capita (Office for National Statistics, 2023b). Specifically, I used the working-age population (ages 16-64) for each devolved region as the denominator in the calculations. This approach allows for a more meaningful comparison between regions of different sizes and demographic compositions. The ONS data was chosen for its reliability and consistency with other official UK statistics, ensuring compatibility with the Companies House dataset.

To map the company incorporation data to the appropriate devolved regions, I developed a comprehensive postcode lookup table. This table was created by combining

information from the ONS Postcode Directory and additional sources on administrative boundaries for devolved authorities (Office for National Statistics, 2023a). The lookup table enabled me to accurately assign each new company to one of the 15 devolved areas or the non-devolved area based on its registered office postcode.

The resulting dataset for QNT.Q1 included the following key variables for each devolved area and year:

1. *DevolvedArea*: The name of the devolved region or non-devolved area
2. *Year*: The year of incorporation
3. *NoNewCos*: The number of new companies incorporated in that year and region
4. *WorkPopulation*: The working-age population of the region in that year
5. *NewCosPer1000*: The number of new companies per 1,000 working-age population

This comprehensive dataset facilitated a robust analysis of regional differences in new venture creation rates, accounting for variations in population size and temporal trends. The use of official, publicly available data sources ensures transparency and reproducibility of the research, while also facilitating potential future studies or policy evaluations.

It is important to acknowledge some limitations of this data collection approach. Firstly, using company incorporations as a proxy for new venture creation may not capture all forms of entrepreneurial activity, such as sole proprietorships or partnerships that do not require formal registration with Companies House. However, given the legal requirements for limited company formation in the UK, this data provides a reliable indicator of formal business creation activities across regions. While this study does not treat incorporation as a full indicator of legitimacy, formal registration may confer a basic level of institutional recognition. The act of incorporation signals that a venture has entered the formal economy and complies with legal requirements – particularly in terms of regulative legitimacy (Suchman, 1995). From this perspective, Companies House data captures ventures that have passed an early threshold of institutional visibility. This enables comparative analysis across regions using a consistent, observable measure – without implying that unregistered or informal ventures are illegitimate or irrelevant.

Secondly, the registered office address may not always reflect the primary location of business operations, particularly for companies that use registered office services. Despite this limitation, the large sample size and the assumption that such discrepancies are relatively evenly distributed across regions mitigate the potential impact on the comparative analysis.

In conclusion, the data collection and sources for QNT.Q1 were carefully selected to provide a comprehensive, reliable, and longitudinal view of new venture creation across UK devolved regions. The combination of authoritative company registration data from Companies House, population statistics from the ONS, and a meticulously constructed postcode lookup table enables a robust analysis of regional disparities in entrepreneurial activity. This approach lays a solid foundation for addressing our research question and contributes to a deeper understanding of the dynamics of new venture creation in the context of devolved governance structures.

Companies house data

Companies House is the official registrar of companies in the UK, which provides comprehensive data on company incorporations and filings. Companies House is a reliable and comprehensive data repository for corporate activity, including key details such as company registration dates, account filings, and legal status (Companies House, 2023).

The choice of Companies House as the primary data source is supported by its legal role in maintaining records of company incorporations and dissolutions (Companies Act 2006). The legal obligation for companies to file regular accounts with Companies House ensures that this data source is both reliable and up to date, making it ideal for estimating company survival rates.

The collection of Companies House data forms a crucial component of this study's methodology for addressing QNT.Q1, which examines the differences in new venture creation rates across devolved regions in the UK. Companies House, as the official registrar of companies in the UK, provides a comprehensive and authoritative source of information on company incorporations, making it an ideal dataset for this research.

The data extraction process involved accessing the Companies House bulk data service, which offers complete datasets of basic company information. Specifically, the `BasicCompanyData` file was utilised, which contains essential details such as company

name, registration number, incorporation date, and registered office address. This dataset was chosen for its completeness and reliability, as it is regularly updated and maintained by a government body.

The extraction process was automated using a Python script, which downloaded the most recent `BasicCompanyData` file. This approach ensured that the most up-to-date information was used for the analysis. The script then parsed the CSV file, focusing on extracting the following key fields: `Company Number`, `Incorporation Date`, and `Registered Office Address`.

Data interpretation and cleaning were critical steps in preparing the dataset for analysis. The incorporation date was used to determine the year of company formation, allowing for a temporal analysis of new venture creation rates. The registered office address, particularly the postcode, was crucial for mapping companies to their respective devolved regions. A lookup table was created to match postcodes to devolved areas, ensuring accurate regional attribution.

The cleaning process involved several steps:

1. Removal of duplicate entries based on Company Number to ensure each company was counted only once.
2. Filtering out companies with invalid or missing incorporation dates.
3. Excluding companies with non-UK registered addresses to focus solely on domestic new ventures.
4. Standardising postcodes to ensure consistency and accurate regional mapping.

A critical aspect of the data cleaning was handling dissolved companies. While the dissolution date was not directly used in the analysis, companies that were dissolved within 30 months of incorporation were flagged. This information, while not central to answering QNT.Q1, provides valuable context for understanding the survival rates of new ventures across regions. Headd (2003) highlights the distinction between business closure and failure, underscoring the importance of survival analysis for understanding entrepreneurial dynamics.

The use of Companies House data for this study is justified on several grounds. Firstly, it provides a comprehensive view of formal business creation across the UK, covering all limited companies regardless of size or sector. This inclusivity is crucial for capturing the full spectrum of entrepreneurial activity. Secondly, the data's official nature ensures

a high degree of accuracy and reliability, which is essential for drawing robust conclusions about regional differences in new venture creation (Companies Act 2006).

Moreover, the use of incorporation data as a proxy for new venture creation is well-established in entrepreneurship research. While it does not capture informal entrepreneurial activity or sole traders, it provides a consistent and measurable indicator of formal business creation across regions. This consistency is particularly important when comparing devolved areas with varying economic structures and policy environments.

However, it is important to acknowledge the limitations of this data source. The registered office address may not always reflect the primary location of business operations, particularly for companies using registered office services. Despite this limitation, the large sample size and the assumption that such discrepancies are relatively evenly distributed across regions mitigate the potential impact on our comparative analysis.

In conclusion, the Companies House data provides a robust foundation for analysing regional differences in new venture creation rates. Its comprehensiveness, reliability, and consistency make it an invaluable resource for addressing QNT.Q1, enabling a thorough examination of how devolution may influence entrepreneurial activity across the UK.

Company survival rate estimation

The estimation of new venture survival rates in the UK relies heavily on the analysis of account filing data, as mandated by legal requirements for incorporated companies. According to Companies House (2023), newly incorporated entities must submit their initial financial accounts within 21 months of incorporation, with subsequent filings due within 9 months of each financial year-end. These statutory filings serve as a crucial proxy for assessing company activity and survival, providing a standardised measure across the diverse landscape of new ventures.

To determine survival rates, a methodological approach was developed based on companies' compliance with these legal filing requirements. Companies that adhered to the mandated timeframes for account submissions were categorised as actively trading, thus considered survivors. Conversely, those failing to file within the stipulated periods or submitting dormant accounts were classified as non-active. This classification also

extended to companies marked as dissolved or in liquidation by Companies House, which were subsequently excluded from the survival count. The rationale for using account filings as a survival indicator is underpinned by the legal obligation for companies to maintain current financial records, as stipulated in the Companies Act 2006. Moreover, non-compliance with filing deadlines often signals financial distress or operational cessation, rendering this metric a reliable indicator for survival estimation in large-scale datasets (Cefis and Marsili, 2006).

The 30-month filing date period, as derived from Companies House data, directly captures whether companies have complied with their statutory obligation to file accounts within this timeframe (Companies House, 2023). Companies that fail to file within this period are deemed in default of their legal obligations to Companies House. This non-compliance is interpreted as an indicator that such companies are less likely to be actively trading. Consequently, this criterion is applied as a data cleaning procedure to exclude companies that are potentially inactive or non-operational. By focusing only on companies that have adhered to their filing obligations, the dataset ensures a more accurate representation of actively trading ventures. This method leverages regulatory compliance as a proxy for operational status, refining the dataset to better support the analysis of regional entrepreneurial activity.

The geographical dimension of survival analysis was addressed through a meticulous process of mapping company postcodes to their respective devolved regions. Utilising the ONS Postcode Directory (Office for National Statistics, 2023a), which provides comprehensive linkages between UK postcodes and various geographic units, each company's registered office address was assigned to one of fifteen devolved regions. For English postcodes outside these devolved areas, a separate 'Non-devolved' category was established. This mapping exercise facilitated the aggregation of new venture data at the regional level, enabling robust comparative analysis across different devolved contexts.

To ensure accuracy and consistency in this geographical attribution, a bespoke relational database was developed. This database, encompassing over 5.6 million company records, integrated a comprehensive mapping of UK postcodes to their corresponding devolved or non-devolved regions. The automation of this mapping process not only enhanced the efficiency of data handling but also significantly reduced the potential for human error in regional classification. This methodological approach provides a solid

foundation for analysing regional variations in new venture survival rates, offering valuable insights into the potential impact of devolved governance structures on entrepreneurial outcomes.

Legitimacy considerations and interpretive limits

Although this study uses Companies House data primarily as a proxy for new venture creation, it is useful to reflect on how this data also intersects – albeit indirectly – with theories of legitimacy. The analysis does not claim that company incorporation or account filing equates to full legitimacy in an institutional sense. Rather, it treats the act of incorporation and compliance with statutory filing requirements as signals that a venture has entered the formal economic system and achieved a minimum threshold of institutional recognition. In this sense, what is measured is not merely emergence, but emergence that has passed an early legitimation filter – particularly in terms of regulative legitimacy (Suchman, 1995).

This interpretation aligns with Zimmerman and Zeitz's (2002) argument that legal incorporation and formal registration are among the basic symbolic and structural acts through which new ventures establish credibility and gain access to external resources. Account filings serve as visible demonstrations of compliance and operational continuity, which may be necessary preconditions for accessing certain types of bank accounts, public grants, or business contracts – particularly where limited company status or evidence of formal trading history is required. From this perspective, the dataset includes ventures that have not only been founded, but also maintained sufficient conformity with institutional expectations to remain on record. Ventures that failed to reach or sustain this threshold – whether due to market failure, strategic pivoting, or structural exclusion – are likely absent from the dataset altogether.

However, it is important to acknowledge the limits of what this proxy captures. Incorporation and account filing reflect only one dimension of legitimacy – regulative and, to some extent, exchange – but say little about cognitive or normative legitimacy (Suchman, 1995). Moreover, firms may remain legally compliant while being inactive in practice, or may operate successfully outside of Companies House registration – such as sole traders or informal ventures. Therefore, the data reflects a partial and selective view of entrepreneurial emergence, privileging ventures that have passed through certain formal gatekeeping structures, but potentially omitting others that may be

equally legitimate in alternative institutional or cultural terms. The qualitative phase of this study helps address these limitations by exploring how legitimacy is constructed and contested in practice, beyond the confines of regulatory visibility.

Subnational areas

The distinct devolved areas of the UK include Wales, Scotland, Northern Ireland, and the English mayoral combined authorities – such as the North East and Tees Valley. Areas of England that do not currently fall within a region with devolved powers are grouped under a "non-devolved" category. This integration has produced a dataset comprising over five million companies, offering a comprehensive overview of new venture activity across all regions.

For the initial analysis of regional variations in new venture creation rates, the dataset included key variables capturing temporal and demographic dimensions. The *DevolvedArea* variable categorised each record into one of the sixteen analytical areas, while the *Year* variable recorded the date of incorporation. The number of new companies (*NoNewCos*) was calculated for each area-year combination, and this was complemented by working-age population data (*WorkPopulation*) obtained from the Office for National Statistics. These variables were used to compute the standardised measure *NewCosPer1000*, representing the number of new companies per thousand working-age residents (Office for National Statistics, 2023b).

Working population data

To accurately calculate the working population for each devolved area in the UK, a meticulous data collection and processing method was employed, utilising data from the Office for National Statistics (ONS). This approach was necessary due to the lack of explicitly published population data for regions that correspond precisely to devolved areas. Instead, the data had to be constructed from more granular sources to ensure accuracy and alignment with the complex administrative boundaries of devolved regions.

The process began with the importation of ONS population estimates into a SQL Server database. These estimates provide detailed population figures broken down by age groups for local authority districts (LADs) across the UK. As of 2021, there were 374 LAD codes covering the entirety of the UK, offering a sufficiently granular level of data to accurately map populations to devolved areas.

The use of LAD-level data was crucial due to the complex nature of devolved area boundaries. Some devolved areas, particularly Combined Authorities, do not always consist of a discrete number of counties or local authorities. This complexity is exemplified by cases such as York City Council, which has opted for associate membership of a combined authority rather than full membership. Such nuances necessitated a more precise approach to population calculation.

To associate populations with the relevant devolved areas, a SQL query was executed that joined the ONS population data with a custom-created mapping table. This mapping table linked each LAD code to its corresponding devolved area. The SQL query summed the working-age population (typically defined as individuals aged 16-64) for all LADs within each devolved area (Office for National Statistics, 2023a).

The resulting dataset provided accurate working population figures for each devolved area, essential for subsequent analyses of new venture creation rates and policy impacts.

The use of LAD-level data ensured that even in cases where devolved areas had complex boundaries or included partial local authorities, the population calculations remained precise. This level of granularity allowed for the accurate inclusion or exclusion of specific areas based on their devolved status or level of membership within combined authorities.

By employing this methodical approach, the research was able to overcome the challenges posed by the lack of directly published data for devolved areas. The resulting dataset provided a robust foundation for analysing the rates of new venture creation across different devolved regions, ensuring that subsequent statistical analyses were based on accurate and relevant population figures.

Data validation and quality assurance procedures for QNT.Q1

The data validation and quality assurance procedures employed for QNT.Q1 were rigorous and multifaceted, ensuring the integrity and reliability of the dataset used for analysis. Given the substantial volume of data processed, comprising approximately 5.6 million company records, and the integration of multiple data sources, these procedures were essential to maintain the accuracy and validity of the research findings.

The initial step in data preparation involved a comprehensive cleaning process of the Companies House data. This process began with the removal of duplicate entries, which

was accomplished through the execution of a SQL query designed to identify and eliminate duplicate company records based on unique company registration numbers. This step was crucial in preventing the overrepresentation of individual companies in the analysis, which could have skewed the results and led to erroneous conclusions about new venture creation rates.

Subsequently, records with missing or invalid incorporation dates were flagged and excluded from the analysis. This decision was made to ensure data completeness and accuracy, as incorporation dates are fundamental to the temporal analysis of new venture creation rates. The exclusion of these records, while potentially reducing the overall sample size, was deemed necessary to maintain the integrity of the time-based analyses central to addressing QNT.Q1.

To facilitate consistent temporal analysis, all incorporation dates were standardised to a uniform format (YYYY-MM-DD). This standardisation was essential for accurate aggregation and comparison of data across different time periods and regions. It also ensured compatibility with the SQL Server database system used for subsequent analyses.

A critical step in the cleaning process involved the validation of registered office postcodes against the official UK postcode directory. This ensured geographical accuracy and allowed for precise mapping of companies to their respective devolved regions. Invalid or missing postcodes were flagged for further investigation, with particular attention paid to potential data entry errors or outdated information. In cases where postcodes could not be verified or corrected, the corresponding records were excluded from the analysis to maintain the geographical integrity of the dataset.

To focus the analysis on domestic new venture creation, companies with registered addresses outside the UK were identified and removed from the dataset. This step was essential in maintaining the study's scope and ensuring that the findings accurately reflect the dynamics of new venture creation within the UK's devolved regions.

The integration of data from multiple sources into a single relational dataset in normal form was a critical step in the data preparation process. This involved the creation of a unified schema designed to accommodate data from Companies House, ONS population statistics, and the custom-created postcode lookup table for devolved areas. The dataset was normalised to the third normal form (3NF) to eliminate data redundancy and ensure

data integrity. This normalisation process involved creating separate tables for companies, postcodes, devolved areas, and population statistics, with appropriate primary and foreign key relationships established between them.

A custom process was developed using a sequence of structured query language (SQL) queries and executed in Microsoft SQL Server to populate the normalised database schema with data from the various sources. This process ensured that data from different origins was consistently formatted and integrated, allowing for seamless analysis across all variables of interest.

To ensure temporal alignment, data from different sources were carefully matched to ensure consistency across the 2001 to 2021 timeframe of the study. This alignment was particularly important for the accurate calculation of new venture creation rates, which required the integration of company incorporation data with population statistics for each year and region.

Several validation procedures were implemented to ensure data quality throughout the process. A sample of company records was cross-referenced with the official Companies House website to verify the accuracy of key fields such as incorporation date and registered office address. This manual verification process provided an additional layer of confidence in the data's accuracy.

Consistency checks were performed using SQL queries to identify logical inconsistencies, such as ensuring that incorporation dates were not in the future and that company status changes followed a logical sequence. These checks helped to identify and rectify any anomalies in the dataset that could have impacted the analysis.

Statistical validation techniques were employed, including the generation of descriptive statistics and visualisations for key variables. This allowed for the identification of potential outliers or anomalies in the data distribution, which were then investigated and addressed as appropriate.

The mapping of companies to devolved areas was validated using Geographic Information System (GIS) software to ensure accurate regional attribution based on postcode data. This geospatial validation was crucial for the accurate calculation of new venture creation rates within each devolved region.

To maintain data quality throughout the analysis process, version control was implemented for all data processing scripts and database schemas using Git, a distributed version control system. This allowed for tracking of changes and easy rollback if issues were identified during the analysis phase.

Automated unit tests were written for critical data processing functions to ensure consistent behaviour and catch potential errors early in the data pipeline. These tests were run regularly throughout the data preparation and analysis phases to maintain data integrity.

Regular data profiling was conducted using SQL Server Data Tools to monitor data quality metrics over time and identify any unexpected changes in data patterns. This ongoing monitoring allowed for the early detection and resolution of any data quality issues that might have arisen during the analysis process.

Comprehensive documentation was maintained throughout the data preparation and analysis phases, detailing data sources, processing steps, and any assumptions made during the data integration and cleaning process. This documentation ensures transparency and reproducibility of the research findings.

Finally, the data preparation and integration processes were subjected to peer review by colleagues with expertise in data management and analysis. This external validation helped to ensure the robustness of the methodology and identify potential improvements in the data handling processes.

By implementing these rigorous data validation and quality assurance procedures, I ensured that the integrated dataset used for QNT.Q1 analysis was of high quality, reliability, and integrity. The resulting normalised database allowed for efficient querying and analysis of the 5.6 million company records, providing a solid foundation for addressing the research question regarding regional differences in new venture creation rates across devolved areas in the UK. This comprehensive approach to data management and quality assurance enhances the credibility of the research findings and supports the overall objectives of the study in understanding the dynamics of new venture creation in the context of devolution (Field, 2018).

Variable definitions and operationalisation for QNT.Q1

The variables for quantitative sub-question 1 (QNT.Q1) were operationalised to enable a robust and meaningful analysis of new venture creation rates across the UK's devolved regions. This section sets out the definitions and rationale for the dependent, independent, and control variables included in the model.

The dependent variable, *NewCosPer1000*, represents the rate of new venture creation and is calculated as the number of new companies founded per 1,000 people of working age in a given devolved area and year. This measure was chosen for several reasons. Firstly, it provides a standardised metric that allows for meaningful comparisons across regions with varying population sizes. By using the working-age population as the denominator, rather than total population, the measure more accurately reflects the pool of potential entrepreneurs in each region. This approach aligns with previous research on regional entrepreneurship, which often focuses on the working-age population as the primary source of new venture creation (Audretsch and Fritsch, 1994; Armington and Acs, 2002).

The calculation of $NewCosPer1000$ is as follows:

$$NewCosPer1000 = \frac{Number\ of\ new\ companies\ founded}{Working\ age\ population} \times 1000$$

This formulation allows for a clear interpretation of the entrepreneurial activity in each region, expressed as the number of new ventures per thousand working-age individuals. The use of a rate rather than absolute numbers is crucial for comparing regions of different sizes and demographic compositions, ensuring that the analysis captures relative entrepreneurial intensity rather than being skewed by population differences.

The primary independent variable in this analysis is *DevolvedArea*, which categorises the geographical regions based on their devolved status. This variable includes 15 devolved areas and one non-devolved analytical area, encompassing all remaining areas without devolved powers. The devolved areas include regions such as Scotland, Wales, Northern Ireland, and various combined authorities in England. This categorisation allows for a comprehensive comparison of new venture creation rates across different governance structures within the UK.

The inclusion of *DevolvedArea* as the main independent variable is crucial for addressing the research question, as it enables the identification of regional disparities in

entrepreneurial activity. By comparing new venture creation rates across these areas, the analysis can reveal whether devolution is associated with differences in entrepreneurial outcomes. This approach aligns with the growing body of literature examining the impact of devolved governance on economic development and innovation (Cooke and Asheim, 2013; Pike, Rodríguez-Pose and Tomaney, 2016).

Year is included as a control variable to account for temporal trends in new venture creation. This is essential for several reasons. Firstly, it allows for the identification of any overall trends in entrepreneurial activity across the UK over time. Secondly, it controls for macroeconomic factors or policy changes at the national level that might affect all regions similarly. By including *Year* as a fixed effect in the linear mixed-effects model (LMM), the analysis can isolate the impact of regional differences while accounting for these broader temporal influences.

The decision to use *Year* as a control variable rather than as a primary independent variable reflects the focus of the research question on regional differences rather than temporal changes. However, its inclusion is critical for ensuring the robustness of the analysis and avoiding potential confounding effects of time-dependent factors.

While other variables such as regional GDP, unemployment rates, or industry composition could potentially influence new venture creation rates, they were not included as control variables in this specific analysis. This decision was made to maintain focus on the direct relationship between devolved governance structures and entrepreneurial activity. Additionally, many of these factors are likely to be partially captured within the random effects structure of the LMM, which accounts for unobserved heterogeneity between regions (Raudenbush and Bryk, 2010).

The operationalisation of these variables allows for a comprehensive examination of regional differences in new venture creation while controlling for temporal effects. By focusing on the rate of new company formation relative to the working-age population, the analysis provides insights into the entrepreneurial dynamism of different devolved areas. This approach enables a nuanced understanding of how devolution may be associated with variations in entrepreneurial activity across the UK, setting the stage for further exploration of the mechanisms through which devolved governance might influence economic outcomes.

4.4.2.2 Question QNT.Q2 data collection and sources

The data collection and sources for quantitative sub-question 2 (QNT.Q2) built upon the foundation established for QNT.Q1, while introducing a composite measure of devolved policy support (*Dev_Composite*) to explore whether regions implementing entrepreneurship-supportive policies – such as access to finance, skills development, and innovation support – tend to exhibit higher rates of new venture emergence. This approach necessitated the development of a comprehensive policy database that captured the nuanced policy landscapes across the UK's devolved regions.

The investigation of policy impacts required the creation of a detailed policy database encompassing all devolved regions in the UK. This database captured the presence of six distinct policy categories: access to finance, skills development and entrepreneurial education, innovation support, infrastructure and place-based support, business support services, and sector-specific initiatives. The primary sources for this data were official government documents, including devolution deals, regional growth strategies, and policy frameworks published by combined authorities and devolved administrations. Each policy category was coded as a binary indicator (0 for absence, 1 for presence) for each region and year, allowing for a nuanced temporal analysis of policy implementation across the study period. These binary scores were then summed to produce the *Dev_Composite* variable – an integer score from 0 to 6 representing the cumulative breadth of policy support in place. This composite score was used as the main predictor in the final linear mixed-effects model.

To ensure the reliability and validity of the policy data, a rigorous data collection process was undertaken. This involved a systematic review of official websites, policy documents, and press releases published by relevant governmental bodies. Key sources included GOV.UK – the official website of the UK Government – as well as the websites of devolved administrations (e.g. Scottish Government, Welsh Government), combined authorities, and local enterprise partnerships. In addition, reports from think tanks and academic institutions specialising in devolution and regional development were consulted to provide contextual insight and support the verification of the policy information gathered.

The process of coding policies into binary indicators required careful consideration and consistent application of criteria. For instance, the 'Access to Finance' category was

coded as present if the region had implemented specific funding schemes or financial support mechanisms targeted at new ventures or SMEs. Similarly, 'Skills Development and Entrepreneurial Education' was marked as present if there were dedicated programmes or initiatives aimed at fostering entrepreneurial skills within the region. This approach allowed for a standardised comparison across regions, despite the inherent variations in policy implementation and scope.

To capture the overall policy environment in each region, a composite variable called *Dev_Composite* was created by summing the six individual policy indicators for each region-year combination. This composite measure provided a quantitative representation of the breadth of entrepreneurship-supportive policies in place, ranging from 0 (no policies present) to 6 (all policy categories present). While this approach simplifies the complex nature of policy environments, it offers a useful metric for comparing the overall policy support for entrepreneurship across different regions and over time.

The temporal aspect of the data collection was particularly crucial, as it allowed for the analysis of policy evolution and its impact on new venture creation rates over time. The dataset covered the period from 2001 to 2021, aligning with the timeframe used for the new venture creation data in QNT.Q1. This alignment enabled the examination of potential lag effects between policy implementation and observable changes in new venture creation rates.

One of the challenges encountered in the data collection process was the varying levels of detail and accessibility of policy information across different regions. To address this, multiple sources were cross-referenced for each region, and where discrepancies or ambiguities arose, direct inquiries were made to relevant regional authorities for clarification. This approach ensured a high level of data accuracy and consistency across the dataset.

It is important to note that while the binary coding of policies provides a clear and comparable measure across regions, it does not capture the nuances of policy implementation or effectiveness. To mitigate this limitation, qualitative notes were maintained alongside the quantitative data, documenting specific details of policy initiatives where available. These notes, while not directly used in the statistical

analysis, provided valuable context for interpreting the results and identifying areas for further exploration in the qualitative phase of the research.

The integration of this policy data with the new venture creation rates from QNT.Q1 created a rich dataset that allowed for a multifaceted analysis of the relationship between regional policies and entrepreneurial activity. This combined dataset formed the basis for the linear mixed-effects model (LMM) analysis, which aimed to identify significant associations between the breadth of policy support (as captured through a composite measure) and rates of new venture creation, while controlling for temporal trends and regional variations (Zuur *et al.*, 2009).

In summary, the data collection and sources for QNT.Q2 represented a comprehensive effort to quantify the policy landscapes of devolved regions in the UK. By combining rigorous data collection methods with a standardised coding approach, this study created a unique dataset that enables a nuanced examination of how the overall configuration of devolved policy support relates to new venture creation. This approach not only addresses the specific research question at hand but also contributes to the broader understanding of how devolved governance structures and coordinated policy environments can influence entrepreneurial ecosystems at the regional level.

Data validation and quality assurance procedures for QNT.Q2

The data validation and quality assurance procedures for the second quantitative question (QNT.Q2) were designed to ensure the integrity, accuracy, and reliability of the policy data integrated with the new venture creation rates. This process was crucial for maintaining the robustness of the subsequent statistical analyses and the validity of the research findings (Field, 2018).

The initial step in validating the policy coding involved a systematic cross-check of reliability. Two researchers independently coded a randomly selected 20% sample of the policy data, covering all regions and years. Inter-rater agreement was assessed using Cohen's kappa coefficient, which yielded a value of 0.87. This indicates a high level of consistency between coders, surpassing the commonly accepted threshold for strong reliability in qualitative coding (Miles, Huberman and Saldaña, 2014). Discrepancies were resolved through discussion, and minor refinements were made to the coding criteria to improve clarity and ensure consistency across the full dataset.

To address the challenge of varying levels of detail in policy information across regions, a standardised data extraction template was developed. This template included specific criteria for each policy category, ensuring that the binary coding process was applied uniformly across all regions and time periods. For instance, the 'Access to Finance' category required evidence of at least one dedicated funding programme for SMEs or startups, while 'Innovation Support' necessitated the presence of initiatives specifically aimed at fostering technological or process innovations within the region.

Data cleaning procedures were implemented to identify and rectify any anomalies or inconsistencies in the dataset. This included checks for logical inconsistencies, such as ensuring that policy indicators did not show unrealistic fluctuations (e.g., frequent changes from present to absent and back within short time frames). Temporal consistency checks were also performed to verify that policy implementations aligned with known dates of devolution agreements or major policy announcements (Field, 2018).

The integration of policy data with the new venture creation rates from QNT.Q1 presented a unique challenge due to the diverse sources and formats of the data. To address this, a custom Google Sheet App Script was developed to automate the data integration process. This script extracted data from multiple sources, including Microsoft SQL Server databases containing company incorporation data, Excel spreadsheets with regional population statistics, and other Google Sheets containing the coded policy data.

The Google Sheet App Script performed several critical functions in the data integration process. Firstly, it standardised date formats across all data sources to ensure accurate temporal alignment. Secondly, it matched regional identifiers between datasets, accounting for variations in naming conventions or administrative boundary changes over the study period. The script also calculated the *NewCosPer1000* variable for each region-year combination, using the company incorporation data and population statistics.

A crucial aspect of the data integration process was the handling of missing data. The script implemented a series of logical checks to identify missing values and applied appropriate imputation methods where necessary. For continuous variables like *NewCosPer1000*, missing values were imputed using linear interpolation between

adjacent years, but only if the gap was no more than two years. For binary policy indicators, no imputation was performed to avoid introducing unfounded assumptions about policy implementation (Field, 2018).

To ensure the accuracy of the integrated dataset, a series of automated validation checks were implemented within the Google Sheet App Script. These checks included range validations for numerical variables, consistency checks for categorical variables, and logical relationship verifications between related variables. Any anomalies detected by these checks were flagged for manual review and correction.

The final step in the data preparation process involved exporting the integrated dataset from Google Sheets into a format compatible with SPSS for statistical analysis. This export process included additional data integrity checks, such as verifying that no data was truncated or altered during the format conversion. The resulting SPSS dataset was then subjected to descriptive statistical analyses to identify any remaining outliers or anomalies that may have escaped earlier detection.

Throughout the data validation and integration process, documentation was maintained recording all data sources, processing steps, and any assumptions or decisions made during the cleaning and integration phases. This documentation not only ensured transparency and reproducibility of the research but also facilitated the identification and resolution of any issues that emerged during the subsequent statistical analyses (Field, 2018).

The rigorous data validation and quality assurance procedures implemented for QNT.Q2 were essential in creating a reliable and robust dataset for analysing the relationship between regional policies and new venture creation rates. By leveraging both manual verification processes and automated data integration techniques, this approach minimised the risk of errors and inconsistencies, thereby enhancing the validity and reliability of the research findings. The resulting dataset provided a solid foundation for the linear mixed-effects model analysis, enabling a nuanced examination of how entrepreneurship-supportive policies in devolved regions relate to rates of new venture emergence (Zuur *et al.*, 2009).

Variable definitions and operationalisation for QNT.Q2

The operationalisation of variables for quantitative sub-question 2 (QNT.Q2) was designed to facilitate a comprehensive analysis of the relationship between

entrepreneurship-supportive policies and new venture creation rates in devolved regions of the UK. This section delineates the dependent, independent, and control variables utilised in the study, providing a rationale for their selection and elucidating their operationalisation.

The dependent variable, *NewCosPer1000*, represents the rate of new venture creation and is calculated as the number of new companies founded per 1,000 people of working age in a given devolved area and year. This measure was retained from QNT.Q1 due to its effectiveness in standardising entrepreneurial activity across regions with varying population sizes. The calculation is expressed as:

$$NewCosPer1000 = \frac{Number\ of\ new\ companies\ founded}{Working\ age\ population} \times 1000$$

This formulation allows for meaningful comparisons between regions, controlling for demographic differences and providing a clear interpretation of entrepreneurial intensity. The use of the working-age population as the denominator, rather than total population, more accurately reflects the pool of potential entrepreneurs in each region, aligning with established practices in regional entrepreneurship research (Audretsch and Fritsch, 1994; Armington and Acs, 2002).

The dataset for QNT.Q2 includes six binary policy indicators: *Finance*, *Skills*, *Innovation*, *Infrastructure*, *BizSupport*, and *Sector*. Each variable represents the presence (coded as 1) or absence (coded as 0) of devolved policy support in a given domain for each region-year. These indicators represent specific entrepreneurship-supportive policies implemented by devolved authorities to enhance the conditions for new venture creation. The *Finance* variable reflects dedicated funding schemes or financial mechanisms for new ventures or SMEs. *Skills* captures programmes aimed at building entrepreneurial capabilities and education. *Innovation* reflects support for technological or process-based development. *Infrastructure* refers to investment in place-based or digital infrastructure. *BizSupport* denotes the provision of business support services, such as advisory or mentoring schemes. *Sector* represents policies targeted at specific industries or areas of strategic regional importance.

While these six variables were not included individually in the statistical model, they were used to construct a composite measure of policy support, referred to as *Dev_Composite*. This score, ranging from 0 to 6, represents the number of policy

domains in which devolved support was present for a given region-year. It provides a quantitative summary of the extent and continuity of devolved entrepreneurship-supportive policies over time. Although this approach simplifies the complexity of regional policy environments, it offers a robust and interpretable metric for comparing the cumulative policy support available across different regions and time periods.

The *DevolvedArea* variable serves as both an independent variable and a control variable in the analysis. As an independent variable, it allows for the examination of regional differences in new venture creation rates, accounting for the unique characteristics of each devolved area. As a control variable, it helps to isolate the effects of specific policies by controlling for unobserved region-specific factors that may influence entrepreneurial activity (Zuur *et al.*, 2009).

Year is included as a control variable to account for temporal trends in new venture creation. This is essential for several reasons: firstly, it allows for the identification of any overall trends in entrepreneurial activity across the UK over time; secondly, it controls for macroeconomic factors or policy changes at the national level that might affect all regions similarly. By including *Year* as a fixed effect in the linear mixed-effects model (LMM), the analysis can isolate the impact of regional policies while accounting for these broader temporal influences (Hox, Moerbeek and Van De Schoot, 2010).

The decision to use these specific variables was informed by both theoretical considerations and practical constraints. The policy variables were selected based on their relevance to entrepreneurship support, as identified in the literature and policy documents. The binary coding of these variables, while simplifying complex policy landscapes, allows for a clear and comparable measure across regions. The composite variable provides an additional dimension to the analysis, capturing the cumulative effect of multiple policies.

It is important to acknowledge that other factors, such as regional GDP, unemployment rates, or industry composition, could potentially influence new venture creation rates. However, these were not included as separate variables in this analysis to maintain focus on the direct relationship between devolved governance structures, specific entrepreneurship policies, and entrepreneurial activity. Additionally, many of these factors are likely to be partially captured within the random effects structure of the LMM, which accounts for unobserved heterogeneity between regions.

In conclusion, the operationalisation of variables for QNT.Q2 provides a robust framework for examining the relationship between devolved entrepreneurship-supportive policy environments and new venture creation rates. By combining region-specific measures of policy breadth with a standardised indicator of entrepreneurial activity, this approach enables a nuanced analysis of how more comprehensive policy support may be associated with higher levels of new venture emergence across diverse regional contexts. The inclusion of control variables and the use of a composite policy measure strengthen the analysis by capturing the cumulative effect of multiple supportive interventions, offering a more holistic view of the complex dynamics between devolved policy frameworks and entrepreneurial outcomes.

4.4.2.3 Question QNT.Q3 data collection and sources

The data collection and sources for quantitative sub-question 3 (QNT.Q3) built upon the foundation established for QNT.Q1 and QNT.Q2, while incorporating additional variables specific to business accelerators in the UK. This sub-question asked: Is there an association between the presence of business accelerators and recent rates of new venture emergence in subnational regions? To explore this, a dedicated dataset was compiled, focusing on the landscape of business accelerators operational in the UK during 2021.

The primary data collection for QNT.Q3 involved a meticulous process of web data extraction, conducted between Quarter 4 (October to December) 2021 and Quarter 1 (January to March) 2022. This timeframe was chosen to capture a snapshot of the accelerator ecosystem at the end of 2021, aligning with the most recent data available for new venture creation rates. The data extraction process utilised multiple sources, including accelerators' own web pages, advertisements, and promotional materials. This multi-source approach was adopted to ensure comprehensive coverage and to mitigate potential biases that might arise from relying on a single data source.

The data collection process involved mapping each identified accelerator to one of the sixteen devolved areas previously defined in QNT.Q1 and QNT.Q2. This geographical attribution was based on the accelerator's primary operational location, as indicated by their registered address or main area of activity. In cases where accelerators operated across multiple regions or virtually, a careful assessment was made to determine the most appropriate regional classification based on their primary focus or impact area.

The resulting dataset included several key variables for each accelerator: `Programme_Name`, `Parent_organisation`, `Programme_Region`, `Programme_Type`, `Operational_Status`, `Postcode`, `Local_Authority`, `Combined_Authority`, and `Devolved_Region`. This detailed categorisation allowed for a nuanced analysis of the accelerator landscape, enabling the exploration of potential relationships between accelerator characteristics and regional new venture creation rates.

To facilitate the integration of this accelerator data with the existing dataset on new venture creation and policy implementation, a new variable, *Num_Accelerators*, was created. This variable represents the count of active accelerators in each devolved area for the year 2021. By incorporating this variable into the cross-sectional dataset, the study could examine the potential impact of accelerator density on regional entrepreneurial activity.

The data collection process prioritised reliability and comprehensiveness, with particular attention paid to maintaining consistency in the classification of accelerator programmes across different regions. Where data discrepancies or ambiguities were encountered, primary sources and official documentation were consulted to ensure accurate categorisation. This rigorous approach was essential given the diverse nature of accelerator programmes and the potential for regional variations in their structure and focus.

One of the challenges encountered in the data collection process was the dynamic nature of the accelerator landscape, with programmes frequently emerging, evolving, or ceasing operations. To address this, the data collection period was strictly defined, and any changes occurring after the cut-off date were not included in the analysis. This approach ensured a consistent temporal frame for the study, aligning with the 2021 new venture creation data.

It is important to acknowledge the limitations of this data collection approach. The reliance on web-based sources may have resulted in the underrepresentation of smaller or less visible accelerator programmes. Additionally, the cross-sectional nature of the 2021 data limits the ability to draw causal inferences about the relationship between accelerator presence and new venture creation rates.

In conclusion, the data collection and sources for QNT.Q3 represent a comprehensive effort to quantify the presence and distribution of business accelerators across the UK's

devolved regions. By combining rigorous web data extraction methods with historical data and careful geographical mapping, this study created a unique dataset that enables a nuanced examination of the relationship between accelerator presence and new venture creation rates. This approach not only addresses the specific research question at hand but also contributes to the broader understanding of how entrepreneurial support mechanisms may influence regional economic development in the context of devolved governance structures.

Data validation and quality assurance procedures for QNT.Q3

The data validation and quality assurance procedures for quantitative sub-question 3 (QNT.Q3) were meticulously designed to ensure the accuracy, consistency, and reliability of the dataset on business accelerators in the UK during 2021. Given the diverse sources of data and the integration of historical and contemporary information, these procedures were essential for creating a robust dataset suitable for statistical analysis.

The initial step in data validation involved a thorough review of the web data extraction process used to compile information on accelerators. The data was collected from multiple sources, including accelerator websites, promotional materials, and government or regional development agency records. To ensure consistency across these sources, each record was cross-referenced against at least two independent sources. This triangulation method was critical for verifying the operational status, geographical location, and organisational affiliation of each accelerator. Any discrepancies identified during this process were resolved by consulting primary sources or contacting the relevant organisations directly.

Data cleaning was a central component of quality assurance. The raw data extracted from web sources often contained inconsistencies, such as variations in naming conventions, incomplete entries, or outdated information. For example, discrepancies in accelerator names or locations were standardised to ensure uniformity across the dataset. Missing values were addressed by consulting additional sources or imputing data where appropriate. For instance, if an accelerator's postcode was missing but its city was available, the postcode was inferred using publicly available geographic databases. However, records with critical missing information that could not be reliably imputed were excluded from the final dataset to maintain its integrity.

To manage this integration effectively, Google Sheet App Scripts were developed to automate key aspects of data processing. These scripts extracted data from various sources, including Microsoft SQL Server databases containing regional demographic information and other Google Sheets or Excel files with policy and new venture creation data. The scripts performed several critical functions: they standardised date formats, matched geographic identifiers across datasets, and calculated derived variables such as *Num_Accelerators* – the count of active accelerators in each devolved area for 2021. By automating these tasks, the scripts reduced the risk of human error and ensured consistency in data processing.

Once integrated into a single dataset, additional validation checks were performed to identify anomalies or inconsistencies. For instance, logical checks ensured that no accelerators were assigned to non-existent regions or had operational statuses inconsistent with their reported activities. Outlier detection methods were applied to identify any unusually high or low counts of accelerators in specific regions that might indicate errors in data entry or integration. Any flagged records were manually reviewed and corrected as necessary.

The final dataset underwent a series of statistical validation procedures to confirm its readiness for analysis. Descriptive statistics were generated for key variables to identify any unexpected distributions or patterns that might suggest underlying issues with the data. Additionally, geospatial validation was conducted using Geographic Information System (GIS) software to confirm that all accelerators were correctly mapped to their respective devolved areas based on postcode data.

Comprehensive documentation was maintained throughout the data validation and quality assurance process. This included detailed records of all sources consulted, decisions made during data cleaning and integration, and any assumptions applied during imputation or mapping procedures. This documentation ensures transparency and reproducibility of the research findings.

In conclusion, the rigorous data validation and quality assurance procedures implemented for QNT.Q3 ensured that the dataset on business accelerators was accurate, consistent, and reliable. By combining manual verification processes with automated tools like Google Sheet App Scripts and GIS software, this approach minimised errors and enhanced the overall quality of the dataset. The resulting

integrated dataset provides a robust foundation for analysing the relationship between accelerator presence and new venture creation rates across UK devolved regions in 2021.

Variable definitions and operationalisation for QNT.Q3

The operationalisation of variables for quantitative sub-question 3 (QNT.Q3) was designed to facilitate a comprehensive analysis of the relationship between business accelerator presence and new venture creation rates in devolved regions of the UK. This section delineates the dependent, independent, and control variables utilised in the study, providing a rationale for their selection and elucidating their operationalisation.

The dependent variable, *NewCosPer1000*, represents the rate of new venture creation and is calculated as the number of new companies founded per 1,000 people of working age in a given devolved area for the year 2021. This measure was retained from QNT.Q1 and QNT.Q2 due to its effectiveness in standardising entrepreneurial activity across regions with varying population sizes. The calculation is expressed as:

The calculation of $NewCosPer1000$ is as follows:

$$NewCosPer1000 = \frac{Number\ of\ new\ companies\ founded\ in\ 2021}{Working\ age\ population\ in\ 2021} \times 1000$$

This formulation allows for meaningful comparisons between regions, controlling for demographic differences and providing a clearer interpretation of entrepreneurial intensity. Using the working-age population as the denominator, rather than total population, more accurately reflects the pool of potential entrepreneurs in each region and aligns with established practice in regional entrepreneurship research.

The primary independent variable for QNT.Q3 is *Num_Accelerators*, which represents the count of active business accelerators in each devolved area for the year 2021. This variable was created by aggregating data on individual accelerators and their geographical locations. Using a count rather than a binary presence/absence indicator allows for a more nuanced analysis of how accelerator density may relate to new venture creation rates.

The regression model for QNT.Q3 included only two predictors: *Num_Accelerators*, representing the count of active business accelerators in each region, and *Dev_Composite*, a composite policy score capturing the breadth of entrepreneurship-supportive interventions. The dependent variable, *NewCosPer1000*, was constructed as

a standardised rate using the working-age population as the denominator, which implicitly accounts for regional population size. However, no additional control variables were included in the model. This specification reflected the small sample size and supported a focused examination of whether regions with greater accelerator density and broader policy support were associated with higher rates of new venture creation.

The cross-sectional nature of the data for 2021 necessitates careful interpretation of the results. While this approach provides a snapshot of the relationship between accelerator presence and new venture creation, it does not allow for causal inferences. Nevertheless, the model offers useful insight into how these two predictors – accelerator presence and policy breadth – are associated with regional variation in entrepreneurial outcomes.

In conclusion, the operationalisation of variables for QNT.Q3 provides a robust framework for examining the relationship between business accelerator presence and new venture creation rates in devolved regions. By combining a standardised measure of entrepreneurial activity with a quantitative representation of accelerator presence, while controlling for relevant regional factors, this approach enables a nuanced analysis of how accelerators may influence the rate of new venture emergence across diverse regional contexts.

4.4.3 Data analysis procedures

The data analysis procedures employed in this study were carefully designed to address the three quantitative sub-questions, each requiring a distinct analytical approach. These procedures were selected to ensure rigorous examination of the data while accounting for the unique characteristics of each research question. The following sections provide a detailed exposition of the statistical methods utilised, including linear mixed-effects models (LMM) for the first two questions and cross-sectional linear regression for the third (Aguinis, 2004; Hox, Moerbeek and Van De Schoot, 2010). This comprehensive analytical framework allows for a nuanced exploration of regional variations in new venture creation, the impact of devolved policies, and the association between business accelerator presence and entrepreneurial activity. By employing these diverse yet complementary analytical techniques, the study aims to provide robust insights into the complex dynamics of new venture emergence within the context of devolved governance structures in the UK. The rationale behind the selection of each

method, along with critical evaluations of their strengths and limitations, will be elucidated in the subsequent sections, ensuring transparency and facilitating a thorough understanding of the analytical process.

4.4.3.1 Linear mixed models and their role in management and entrepreneurship research

Mixed-effects models (MEM) are a versatile class of statistical techniques designed to handle data with both fixed and random effects, making them particularly suitable for hierarchical or nested data structures. Within this broader framework, linear mixed-effects models (LMM) represent a specific type of MEM that assumes a linear relationship between predictors and outcomes. LMM are especially well-suited to analysing longitudinal or clustered data, where observations are not independent but instead grouped within larger units, such as regions, organisations, or individuals (Aguinis, Gottfredson and Culpepper, 2013).

Despite their utility, MEM, and LMM in particular, have historically been underutilised in management and entrepreneurship research. This is largely due to the limited availability of longitudinal data and the methodological training required to apply these advanced techniques effectively. Nevertheless, their adoption is growing, with researchers increasingly recognising their ability to address complex research questions that involve variability at multiple levels (Lazega and Snijders, 2016). For example, MEM allow researchers to model the influence of fixed factors, such as policy interventions, while simultaneously accounting for random variability attributable to contextual factors like regions or organisations.

Recent studies have highlighted the potential of linear mixed-effects models in advancing quantitative analysis within the field. Aguinis, Gottfredson and Culpepper (2013) provide a robust introduction to MEM, illustrating their capacity to disentangle fixed and random effects in organisational studies. Lazega and Snijders (2016) expand on this by demonstrating their application in social network and management research, emphasising the adaptability of linear mixed-effects models for multilevel and longitudinal designs. More specifically, studies by Almeida and Zouain (2016) and Vörös (2024) have applied linear mixed-effects models to explore regional and organisational dynamics, such as policy impacts on entrepreneurial activity, showcasing their relevance in economic and management contexts.

For this thesis, which investigates the interplay between devolved policies and business accelerators in the UK's entrepreneurial ecosystems, linear mixed-effects models offer a methodologically rigorous approach. By treating devolved regions as random effects, linear mixed-effects models enable the examination of region-specific variability while assessing the fixed effects of key policies or interventions (Hox, Moerbeek and Van De Schoot, 2010). This aligns with the broader MEM framework, where random effects capture context-dependent deviations, and fixed effects test overarching hypotheses. Thus, linear mixed-effects models provide the dual benefit of modelling hierarchical relationships and offering precise insights into how regional characteristics influence entrepreneurial outcomes.

Given the longitudinal nature of the data in this study, which spans over a decade and captures dynamic trends in new venture creation, and the hierarchical structure of observations nested within devolved regions, LMM emerges as an appropriate and logical technique to apply. Its ability to account for variability at both regional and temporal levels ensures robust and nuanced insights into the complex interplay of policies, accelerators, and entrepreneurial activity. This choice not only aligns with the scale and scope of the data but also maximises the potential for meaningful, generalisable findings.

4.4.3.2 Data analysis procedures for QNT.Q1

The data analysis procedure for quantitative sub-question 1 (QNT.Q1) employed a linear mixed-effects model (LMM) to investigate significant differences in new venture creation rates across devolved regions in the UK. This sophisticated statistical approach was chosen for its ability to handle the complex, hierarchical structure of the data and account for both fixed and random effects simultaneously (Aguinis, Gottfredson and Culpepper, 2013).

A linear mixed-effects model (LMM) was selected over simpler alternatives such as analysis of variance (ANOVA) due to several critical considerations. First, the hierarchical nature of the data – with observations nested within devolved regions over time – required a model capable of capturing this multi-level structure. Unlike ANOVA, which assumes independence of observations, linear mixed-effects models can explicitly model the dependency patterns inherent in longitudinal and clustered data. This is particularly important in regional analysis, where observations from the same region

are likely to be more correlated with each other than with observations from different regions (Almeida and Zouain, 2016).

Secondly, linear mixed-effects models offer greater flexibility in handling unbalanced designs and missing data, which is often encountered in real-world datasets spanning multiple years and regions. This robustness to missing data is a significant advantage over traditional repeated measures ANOVA, which typically requires complete data for all time points. Furthermore, linear mixed-effects models can accommodate both time-invariant and time-varying predictors, allowing for a more nuanced analysis of the factors influencing new venture creation rates over time.

In the specific context of QNT.Q1, the LMM was structured with *DevolvedArea* as a random effect and *Year* as a fixed effect. This configuration was chosen to reflect the research question's focus on regional differences while controlling for temporal trends. The random effect for *DevolvedArea* allows for the modelling of region-specific variations in new venture creation rates, capturing the unique characteristics of each devolved area that may influence entrepreneurial activity. This approach recognises that regions may differ not only in their average rates of new venture creation but also in how these rates change over time.

The inclusion of *Year* as a fixed effect serves to control for overall temporal trends in new venture creation that may affect all regions similarly. This could include national economic conditions, policy changes, or other time-dependent factors that influence entrepreneurial activity across the UK. By modelling *Year* as a fixed effect, the analysis can isolate the impact of regional differences while accounting for these broader temporal influences.

This model, specified in full in the following section, allows for the estimation of both fixed effects (the overall trend across years) and random effects (the variation between devolved areas). The random effects component captures the deviation of each devolved area from the overall mean, providing insights into regional disparities in new venture creation rates. The intra-class correlation coefficient (ICC) derived from this model quantifies the proportion of total variance in new venture creation rates attributable to differences between devolved areas, offering a measure of the importance of regional factors in explaining variations in entrepreneurial activity.

To ensure the robustness of the analysis, several diagnostic procedures were implemented. These included examining residual plots for normality and homoscedasticity assumptions, assessing the need for transformation of variables, and checking for influential observations or outliers that might unduly affect the results. Additionally, likelihood ratio tests were conducted to compare nested models and determine the significance of including random effects for *DevolvedArea*.

In conclusion, the use of a linear mixed-effects model for analysing QNT.Q1 provides a sophisticated and appropriate approach to addressing the research question. By accounting for the hierarchical structure of the data and allowing for both fixed and random effects, this method offers a nuanced understanding of regional differences in new venture creation rates while controlling for temporal trends. The results from this analysis lay the foundation for further exploration of the factors influencing entrepreneurial activity across devolved regions in the UK.

Specific description of the model used for QNT.Q1

The linear mixed-effects model (LMM) used for quantitative sub-question 1 (QNT.Q1) was designed to analyse regional differences in new venture creation rates across devolved areas in the UK. The model specification was as follows:

$$NewCosPer1000_{ij} = \beta_0 + \beta_1 Year_{ij} + u_{0j} + \epsilon_{ij}$$

Where:

- $NewCosPer1000_{ij}$ is the rate of new venture creation for region j in year i, based on the number of companies formed and surviving for at least three years per 1,000 working age people in the devolved region
- β_0 is the overall intercept
- β_1 is the fixed effect of *Year*
- u_{0j} is the random intercept for *DevolvedArea* j, capturing region-specific deviations from the overall intercept
- ϵ_{ij} is the residual error term

Fixed effects:

- *Year*: Included as a fixed effect to account for overall temporal trends in new venture creation rates across all regions.

Random effects:

- *DevolvedArea*: Included as a random intercept to capture region-specific variations in new venture creation rates.

This model structure allows for the examination of both temporal trends (through the fixed effect of *Year*) and regional differences (through the random effect of *DevolvedArea*) in new venture creation rates. The random intercept for *DevolvedArea* accounts for the hierarchical nature of the data, where observations are nested within regions. This approach enables the estimation of region-specific deviations from the overall intercept, providing insights into how different devolved areas vary in their baseline rates of new venture creation.

The LMM was fitted using Restricted Maximum Likelihood (REML) estimation, which provides unbiased estimates of variance components. The model's performance was assessed using likelihood ratio tests to compare nested models and determine the significance of including the random effect for *DevolvedArea*. Additionally, the Intra-Class Correlation Coefficient (ICC) was calculated to quantify the proportion of total variance in new venture creation rates attributable to differences between devolved areas.

4.4.3.3 Data analysis procedures for QNT.Q2

The data analysis procedures for quantitative sub-question 2 (QNT.Q2) were designed to examine the relationship between entrepreneurship-supportive policies and new venture creation rates across devolved regions in the UK. To address this question, a linear mixed-effects model (LMM) was employed, building upon the analytical framework established for QNT.Q1 while introducing a composite measure of policy support *Dev_Composite* as the key explanatory variable alongside *Year*.

The decision to use an LMM for QNT.Q2 was based on several critical considerations that align with the nature of the research question and the structure of the data. Firstly, the hierarchical nature of the data, with observations nested within devolved regions over time, necessitated a model that could account for this multi-level structure. Linear mixed-effects models are particularly well-suited for such data as they can explicitly model the dependency structure inherent in longitudinal and clustered data. This is crucial when analysing regional policy impacts, as observations from the same region are likely to be more correlated with each other than with observations from different regions.

Secondly, linear mixed-effects models offer greater flexibility in handling unbalanced designs and missing data, which is often encountered in real-world datasets spanning multiple years and regions. This robustness to missing data is a significant advantage over traditional repeated measures ANOVA, which typically requires complete data for all time points. In the context of policy analysis, where the implementation of policies may vary across regions and time, this flexibility is particularly valuable.

Furthermore, linear mixed-effects models can accommodate both time-invariant and time-varying predictors, allowing for a more nuanced analysis of how policy changes over time might influence new venture creation rates. This capability is essential for QNT.Q2, as it enables the examination of the temporal dynamics of policy implementation and its effects on entrepreneurial activity.

The LMM for QNT.Q2 was structured with *Dev_Composite* as a fixed effect, alongside *Year*. *Dev_Composite* represents the cumulative presence of six devolved entrepreneurship-supportive policy domains: *Finance*, *Skills*, *Innovation*, *Infrastructure*, *BizSupport*, and *Sector*. Although these six domains were coded individually in the dataset, they were not entered into the model separately. Instead, the composite score was used to capture the breadth of policy support in each region-year, enabling the model to assess whether more comprehensive policy environments were associated with higher rates of new venture creation.

Year was included as a fixed effect to control for temporal trends in entrepreneurial activity that may influence all regions. This approach allows the model to isolate policy effects from broader economic or societal changes that could shape new venture creation patterns across the UK.

The model also retained *DevolvedArea* as a random effect, capturing the region-specific variations in new venture creation rates that are not explained by the fixed effects. This random effect component accounts for unobserved heterogeneity between regions, which is crucial for obtaining unbiased estimates of policy impacts.

This model structure allows for the estimation of both overall trends across the UK and region-specific deviations from those trends. Because the six policy domains were combined into a single composite policy score, the model examines whether broader policy coverage is associated with higher rates of new venture creation. It does not evaluate how different policy domains interact with one another, nor does it estimate

the effectiveness of individual policy types. Instead, it provides a more holistic indication of whether entrepreneurial activity is stronger in regions where more elements of policy support are simultaneously in place.

The use of LMM for QNT.Q2 offers several advantages over alternative statistical techniques such as ANOVA. While ANOVA could potentially be used to analyse differences in new venture creation rates between regions or before and after policy implementation, it would not be able to handle the complex, multi-level structure of the data as effectively. ANOVA assumes independence of observations, which is violated in this case due to the repeated measures within regions over time. Additionally, ANOVA would struggle to incorporate multiple continuous predictors and would not allow for the simultaneous estimation of fixed and random effects.

By modelling the hierarchical structure of the data and including *Year* and the *Dev_Composite* score as fixed effects, this approach evaluates whether broader policy coverage is associated with higher rates of new venture creation. The use of a linear mixed-effects model enables region-specific variation to be treated as a random effect, capturing unobserved heterogeneity across devolved areas. Because only the composite score is included, the model does not estimate the individual effects of specific policy domains. Instead, it provides an overall assessment of whether regions with a more extensive mix of entrepreneurship-supportive policies tend to experience stronger venture creation outcomes.

Specific description of the model used for QNT.Q2

The linear mixed-effects model (LMM) used for quantitative sub-question 2 (QNT.Q2) was designed to evaluate the relationship between the breadth of entrepreneurship-supportive policy environments and new venture creation rates across devolved regions in the UK. The model incorporated both fixed and random effects to account for the hierarchical structure of the data – including repeated observations within regions – and to estimate the extent to which more comprehensive policy support is associated with higher levels of entrepreneurial activity.

The dependent variable in this model is *NewCosPer1000*, representing the number of new ventures created per 1,000 working-age individuals in each devolved area and year. The fixed effects included *Year*, to control for broader temporal trends, and *Dev_Composite*, a composite variable capturing the cumulative presence of six devolved

policy domains: *Finance*, *Skills*, *Innovation*, *Infrastructure*, *BizSupport*, and *Sector*. While these domains were coded individually in the dataset, they were not included separately in the model. Instead, they were summed to produce a single score ranging from 0 to 6 for each region-year, reflecting the breadth of policy support in place. This approach allowed the model to assess whether more comprehensive policy environments, rather than any specific type of intervention, were associated with higher rates of new venture creation.

A random intercept was included for *DevolvedArea*, allowing for variation in baseline levels of entrepreneurial activity across regions. This random effect accounts for unobserved heterogeneity – such as differences in industrial structure, infrastructure, or institutional capacity – that may influence new venture creation independently of policy variables. By including this random intercept, the model adjusts for clustering within regions and avoids underestimating standard errors, thereby reducing the risk of Type I errors.

The mathematical specification of the model is:

$$NewCosPer1000_{ij} = \beta_0 + \beta_1 Year_{ij} + \beta_2 Dev_Composite_{ij} + u_{0j} + \epsilon_{ij}$$

Where:

- $NewCosPer1000_{ij}$ is the rate of new venture creation for region j in year i
- β_0 is the overall intercept
- β_1 and β_2 are fixed effect coefficients for *Year* and *Dev_Composite*
- u_{0j} is the random intercept for *DevolvedArea* j, capturing region-specific deviations from the overall intercept
- ϵ_{ij} is the residual error term

The model was estimated using Restricted Maximum Likelihood (REML), which is well suited to variance component estimation in the presence of random effects. Diagnostic checks confirmed that model assumptions – including residual normality and homoscedasticity – were met. Likelihood ratio tests were also used to validate the inclusion of random effects.

By capturing both the fixed effects of time and policy breadth, and accounting for region-specific variation, this model provides a robust framework for evaluating whether more embedded and comprehensive devolved policy support is associated with stronger entrepreneurial outcomes. It offers a statistically grounded foundation for exploring how policy environments interact with broader regional dynamics to shape new venture creation rates.

4.4.3.4 Data analysis procedures for QNT.Q3

The data analysis procedures for quantitative sub-question 3 (QNT.Q3) employed a cross-sectional linear regression approach to examine the relationship between business accelerator presence and new venture creation rates in devolved regions of the UK. This methodological choice was primarily driven by the nature of the available data and the specific research question at hand.

Linear regression was selected due to its ability to model the relationship between a continuous dependent variable – new venture creation rate – and two independent predictors: the number of active business accelerators in each devolved region, and a composite measure of regional entrepreneurship policy support. This approach enabled a straightforward and interpretable analysis of whether regions with more accelerators and stronger policy coverage tended to exhibit higher rates of new venture formation.

The cross-sectional nature of the data, which was available only for the year 2021, necessitated an analytical approach that could model single time-point observations. Linear regression is well-suited for such cross-sectional analyses, allowing for the examination of relationships between variables at a specific moment in time. While longitudinal data would have enabled more complex causal analysis, the availability of accelerator data for only one year constrained the design to a cross-sectional framework.

Another reason for using linear regression was the clarity with which it communicates results. The coefficients indicate the direction and strength of each predictor's relationship with the outcome variable, supporting the translation of findings into accessible insights for policymakers and stakeholders interested in entrepreneurship support. In a policy context, this kind of interpretability is especially valuable.

Given the small sample size (n = 16), the model was kept intentionally parsimonious, including only two theoretically grounded predictors: the number of accelerators and the *Dev_Composite* policy score. Other variables that might plausibly influence new venture activity – such as GDP per capita or unemployment rate – were excluded to avoid overfitting and multicollinearity. Although these exclusions limit the model's scope, they help ensure a stable and interpretable estimation of the main relationships of interest.

As with any linear regression model, several limitations should be acknowledged. The analysis assumes linear relationships between variables and cannot capture the full complexity of entrepreneurial ecosystems. Moreover, because the data is cross-sectional, the results should not be interpreted as causal. The associations identified offer insight into potential patterns but cannot determine the direction or mechanisms of influence.

Alternative statistical approaches were considered but ultimately deemed unsuitable. Logistic regression was not appropriate due to the continuous nature of the dependent variable. More complex techniques – such as multilevel models or structural equation modelling – were not justified given the small sample size and lack of longitudinal data.

In conclusion, the linear regression model used for QNT.Q3 offers a reasonable and transparent way of exploring the relationship between accelerator presence, policy breadth, and new venture creation across devolved regions. While the model is deliberately simple, the findings provide a useful starting point for further research and offer timely insight into regional dynamics in entrepreneurship support.

Specific description of the model used for QNT.Q3

The data analysis for quantitative sub-question 3 (QNT.Q3) examined the relationship between new venture creation rates and two predictors across devolved regions of the UK in 2021, using a cross-sectional linear regression model. These predictors were the number of active business accelerators in each region and a composite policy score reflecting the breadth of entrepreneurship-supportive interventions.

$$NewCosPer1000_i = \beta_0 + \beta_1 \cdot Num_Accelerators_i + \beta_2 \cdot Dev_Composite_i + \varepsilon_i$$

Where:

- $NewCosPer1000_i$ is the number of newly registered companies per 1,000 working-age population in devolved region i (2021)

- $Num_Accelerators_i$ is the count of active accelerator programmes in region i
- $Dev_Composite_i$ is a composite score (0–6) representing the number of policy domains supporting entrepreneurship in region i
- ε_i is the error term

The model was estimated using data for the year 2021 and provides a snapshot of the association between accelerator presence, policy coverage, and new venture creation across devolved regions. Other variables – such as GDP per capita, unemployment rate, and working-age population – were excluded to avoid overfitting given the small sample size (n = 16). Although *Dev_Composite* was not statistically significant in this model, its inclusion was theoretically justified to account for regional policy context.

As the analysis draws on data from a single year (2021), the model provides a cross-sectional snapshot rather than a view of changes over time. This constraint reflects the availability of reliable accelerator data, which was limited to that year. While the design does not support causal inference or temporal comparison, it offers a focused lens on regional variation in entrepreneurial activity at a meaningful point in time.

4.4.3.5 Statistical software and packages

The selection of appropriate statistical software and packages is crucial for ensuring the accuracy, efficiency, and reproducibility of quantitative research. For this study, IBM SPSS Statistics (Version 28) was chosen as the primary software for conducting the statistical analyses outlined in the previous sections. This decision was made after careful consideration of various alternatives and the specific requirements of the research project (Field, 2018).

SPSS was selected for several compelling reasons. Firstly, its comprehensive suite of statistical tools aligns well with the analytical needs of this study, particularly for conducting linear mixed-effects models (LMM) and linear regression analyses. The software's ability to handle complex data structures, including hierarchical and longitudinal data, made it particularly suitable for addressing the research questions related to regional variations in new venture creation over time. Additionally, SPSS offers robust capabilities for data manipulation, which was essential for preparing and integrating the diverse datasets used in this research (Field, 2018).

Another significant factor in choosing SPSS was its user-friendly interface, which facilitates efficient data analysis without compromising on statistical rigour. This aspect

was particularly valuable given the large volume of data processed in this study, encompassing over 5.6 million company records across multiple years and regions. The software's graphical user interface (GUI) allowed for intuitive navigation through various analytical procedures, while its syntax functionality enabled the creation of reproducible analysis scripts, enhancing the transparency and replicability of the research.

Furthermore, SPSS's wide adoption in social sciences research, including business and entrepreneurship studies, was a consideration. This prevalence ensures a wealth of resources, including documentation, online forums, and academic literature, which can be consulted for troubleshooting and methodological guidance. The software's compatibility with other data formats, particularly its ability to import data from Microsoft Excel and SQL databases, was also advantageous, given the diverse sources of data utilised in this study.

While SPSS was the primary tool, it is important to note that other software packages were employed at various stages of the data analysis process. Microsoft SQL Server Management Studio was used for initial data storage, cleaning, and integration, particularly for handling the large volume of company incorporation data. Additionally, Google Sheets and its associated App Scripts were utilised for certain data preparation tasks, especially in combining data from multiple sources before importing into SPSS for final analysis.

Several alternatives to SPSS were considered before making the final selection. R, an open-source statistical programming language, was a strong contender due to its flexibility, extensive package ecosystem, and cost-effectiveness. However, the steeper learning curve associated with R, compared to SPSS's more intuitive interface, was a deterrent given the project's time constraints. Stata, another powerful statistical software package, was also considered for its strengths in panel data analysis. However, SPSS was deemed more suitable for this study due to its superior capabilities in handling mixed-effects models and its more comprehensive suite of post-estimation diagnostics for linear mixed-effects models.

SAS, a robust enterprise-level analytics software, was another alternative evaluated. While SAS offers powerful capabilities for handling large datasets and complex statistical analyses, its higher cost and the researcher's greater familiarity with SPSS

tipped the balance in favour of the latter. Python, with its scientific computing libraries such as NumPy and pandas, was also considered for its versatility in data manipulation and analysis. However, SPSS's more streamlined workflow for the specific statistical techniques required in this study made it the preferred choice.

In conclusion, the selection of SPSS as the primary statistical software for this research was based on a careful evaluation of its capabilities, ease of use, and suitability for the specific analytical requirements of the study. While acknowledging that alternative software packages each have their strengths, SPSS provided the best balance of functionality, user-friendliness, and compatibility with the research objectives. This choice ensured that the complex analyses required to address the research questions could be conducted efficiently and accurately, contributing to the robustness and reliability of the study's findings.

4.5 Results

4.5.1 Results for QNT.Q1

The results for quantitative sub-question 1 (QNT.Q1) offer insights into regional disparities in new venture creation rates across the UK's devolved areas. This section outlines the findings from the linear mixed-effects model (LMM) and the associated intra-class correlation coefficient (ICC), providing a clearer picture of how entrepreneurial activity varies between regions.

4.5.1.1 Descriptive statistics

Regional patterns of new venture formation vary notably across the UK's devolved areas. To explore this, the variable *NewCosPer1000* was used, capturing how many new companies were established per 1,000 working-age individuals in each region per year. Across the full dataset, the average was 1.311, with a standard deviation of 1.318. While the absolute values are modest, the relatively high standard deviation in relation to the mean suggests a broad spread of entrepreneurial activity – with some regions consistently outperforming others. This variation provides a useful starting point for examining the structural or institutional factors that may underpin such differences.

The minimum observed value for *NewCosPer1000* was 0.27, while the maximum reached 3.28. These figures further highlight the range in entrepreneurial activity across regions

and time periods, reinforcing the case for investigating the factors contributing to such disparities in new venture creation.

4.5.1.2 Linear mixed-effects model results

The linear mixed-effects model (LMM) was used to examine regional differences in new venture creation rates while accounting for temporal trends. The model included devolved area as a random intercept and year as a fixed effect. The fixed effect of year was statistically significant (F = 464.150, p < .001), indicating a consistent upward trend in new venture formation across all regions. The estimated coefficient for year (B = 0.135, SE = 0.006) suggests that, on average, the number of new companies founded per 1,000 working-age individuals increased by 0.135 each year.

There was also significant variation in baseline new venture creation rates across devolved areas. The estimated variance for the random intercept was 0.618 (SE = 0.234), with a Wald Z of 2.640 and p = .008, indicating meaningful regional differences that persisted even after accounting for the overall upward trend. The residual variance – representing within-region variation over time – was estimated at 0.485 (SE = 0.038), and also statistically significant (Wald Z = 12.629, p < .001). Together, these findings suggest that both regional structure and temporal progression shape patterns of entrepreneurial activity across the UK.

4.5.1.3 Intra-class correlation coefficient (ICC)

The intra-class correlation coefficient (ICC) was calculated to assess the proportion of total variance in new venture creation rates that can be attributed to differences between devolved areas. Using the variance components from the model, the ICC is computed as follows:

$$ICC = \frac{\sigma^2_{between}}{\sigma^2_{between} + \sigma^2_{within}} = \frac{0.618}{0.618 + 0.485} = 0.560$$

This value indicates that approximately 56.0% of the total variance in new venture creation is due to differences between regions, with the remaining 44.0% attributable to variation within regions over time. While this confirms that regional context plays a substantial role in shaping entrepreneurial activity, the ICC is moderate rather than overwhelming, suggesting that intra-regional factors also contribute meaningfully to the observed patterns.

It is also important to acknowledge the limitations inherent in company incorporation data. Regional differences in registration rates may reflect not only genuine entrepreneurial activity, but also strategic or administrative choices – such as the appeal of a London address, or the growing availability of low-cost online accounting services that encourage standardised incorporation practices across regions. These influences complicate the interpretation of regional disparities and highlight the need for further qualitative analysis to explore how place-based dynamics interact with administrative and behavioural factors.

4.5.1.4 Regional variation patterns

The intra-class correlation coefficient (ICC) of 0.560 and the significant random effect for devolved area suggest that regional factors account for a substantial portion of the variation in new venture creation rates. More than half of the variance is attributable to differences between devolved areas, reinforcing the argument that geography and regional structures matter. However, it is important to recognise that these differences likely arise from a complex mix of institutional capacity, cultural norms, historical legacies, and sectoral dynamics. It would therefore be misleading to attribute the disparities solely to governance structures or devolution. A fuller understanding requires qualitative inquiry into how these factors interact in practice.

Some devolved areas consistently exhibit higher rates of entrepreneurial activity, while others lag behind. These patterns persist even after accounting for the overall temporal trend, indicating that regional factors play a significant role in shaping entrepreneurial outcomes.

The statistical results offer a clear indication of both temporal and regional dynamics. The fixed effect of *Year* confirms a general upward trend in new venture creation across all UK regions, while the significant random intercepts suggest that this growth emerges from markedly different starting points. Together, these findings point to persistent disparities in entrepreneurial outcomes – and set the stage for considering their broader significance.

4.5.1.5 Implications of findings

The results carry several implications for how regional disparities in new venture creation are understood. The ICC value of 0.560 indicates that regional characteristics account for more than half of the total variation in entrepreneurial activity across the

UK's devolved areas. This is a substantial proportion, reinforcing the view that place-based context matters.

The persistence of interregional variation suggests that growth is not being experienced evenly. Some areas appear to be gaining more from national or macro-level trends than others, potentially contributing to a widening gap between higher- and lower-performing regions. This finding underscores the importance of tailoring policy interventions to the specific needs, capacities, and institutional environments of individual regions, rather than applying one-size-fits-all national strategies.

The observed differences also raise questions about how effectively devolved governance structures and regional policies are being implemented. While devolution creates opportunities for locally informed approaches, these results suggest that outcomes depend on how well such policies are aligned with local conditions, capacities, and institutional dynamics.

Finally, the analysis points to possible disparities in how entrepreneurial support and resources are distributed or taken up across regions. Recognising where these imbalances exist could help inform more targeted efforts to support new venture creation in underrepresented areas, and to strengthen the overall inclusiveness of the UK's entrepreneurial landscape.

4.5.1.6 Post-hoc analyses and robustness checks

To further validate the findings and explore potential explanations for the observed regional disparities, several post-hoc analyses and robustness checks were conducted. These included comparisons between devolved areas to identify where differences in new venture creation rates were most pronounced, helping to clarify which regions were driving the overall pattern of disparity. The stability of regional rankings was also examined over time, allowing for an assessment of whether the observed differences persisted consistently or shifted during the study period.

The model was specified to account for both temporal and spatial structure, incorporating *Year* as a fixed covariate and devolved area as a random intercept with a variance components structure. This approach provided consistent estimation of between- and within-region variance and supported derivation of the intra-class correlation coefficient (ICC).

Potential outliers were identified and reviewed, with additional attention given to whether any extreme values may have unduly influenced the results. Standard residual diagnostics – including visual inspection of residual plots and checks for normality – confirmed that model assumptions were adequately met.

Together, these supplementary checks provide reassurance that the findings are both statistically sound and substantively meaningful. They add confidence to the interpretation of regional variation in new venture creation and support the use of this model as a basis for further analysis.

In conclusion, the results for QNT.Q1 highlight meaningful regional disparities in new venture creation across the UK's devolved areas. The analysis points to the importance of regional context in shaping entrepreneurial outcomes, while also recognising that variation within regions remains considerable. Rather than indicating persistent or extreme divides, the findings suggest that new venture activity varies systematically across regions, reflecting deeper contextual and structural differences. These insights underline the need for further exploration of what drives this variation, and support a more regionally nuanced approach to understanding and supporting entrepreneurship.

4.5.2 Results for QNT.Q2

The results for quantitative sub-question 2 (QNT.Q2) provide insights into how the breadth of entrepreneurship-supportive policies relates to new venture creation rates across devolved regions in the UK. This section presents findings from the linear mixed-effects model (LMM), which was used to assess whether regions with more comprehensive policy support – as captured by the *Dev_Composite* score – tend to exhibit higher levels of entrepreneurial activity. Rather than examining individual policy domains, the analysis focuses on the cumulative presence of support across multiple areas, offering a more holistic view of how devolved policy environments may shape the conditions for new venture emergence.

4.5.2.1 Descriptive statistics

The analysis of new venture creation rates across the devolved areas reveals substantial variations in entrepreneurial activity. The dependent variable, *NewCosPer1000*, represents the number of new companies founded per 1,000 working-age individuals in each devolved area per year. The descriptive statistics show a mean of 1.31, with a

standard deviation of 1.32, indicating considerable variability in entrepreneurial activity across the dataset. The minimum observed value was 0.27, while the maximum reached 3.28, further highlighting the spread in new venture creation rates between regions and over time. These descriptive statistics underscore the importance of investigating the factors contributing to such disparities, particularly the role of entrepreneurship-supportive policies.

4.5.2.2 Linear mixed-effects model results

The linear mixed-effects model (LMM) analysis was conducted to examine whether regions with more extensive and sustained devolved policy support across key entrepreneurship-related domains exhibited higher rates of new venture creation. The model included year as a fixed effect and a composite policy score – referred to in the dataset as *Dev_Composite* – as the main predictor. This score captured the number of entrepreneurship-supportive policy domains present in each region-year. A random intercept was included for devolved area to account for regional clustering and unobserved heterogeneity.

Both fixed effects in the model were statistically significant. The effect of year was positive ($F(1, 323.83) = 152.47$, $p < .001$), indicating a general increase in new venture creation over the study period. The composite policy score was also highly significant ($F(1, 328.92) = 43.76$, $p < .001$), suggesting that regions with a broader and more embedded pattern of devolved policy support tend to see higher levels of new venture formation.

The model's marginal R^2 – capturing the variance explained by fixed effects alone – was 0.426, while the conditional R^2 – incorporating both fixed and random effects – was 0.761. This indicates that regional context plays a substantial role in shaping entrepreneurial outcomes. The intraclass correlation coefficient (ICC) of 0.584 confirms that a large share of the variance is attributable to persistent differences between regions, reinforcing the relevance of place-based policy dynamics.

The random intercept for devolved area had a variance estimate of 0.601 ($SE = 0.227$), and the residual variance was 0.429 ($SE = 0.034$), both statistically significant. These estimates reflect variation in both baseline rates of entrepreneurial activity across regions and year-to-year fluctuations within them.

Overall, the model provides strong evidence that a more comprehensive and sustained configuration of devolved policy support is positively associated with higher new venture creation rates, even after accounting for broader temporal trends. However, as with all observational models of this kind, these findings represent associations rather than definitive causal effects, and their interpretation should be situated within the broader institutional and contextual analysis developed in subsequent chapters.

4.5.2.3 Composite policy score analysis

The analysis tested whether regions offering broader entrepreneurship-supportive policy coverage tended to exhibit higher rates of new venture creation. Both fixed effects in the model were statistically significant. The effect of policy support was strong ($F(1, 328.92) = 43.76$, $p < .001$), suggesting that regions with more comprehensive and sustained patterns of support were more likely to see new ventures emerge. The model's marginal R^2 was 0.426 – indicating that fixed effects alone explained a substantial portion of the variance in new venture creation rates – while the conditional R^2 rose to 0.761 when regional clustering was taken into account. The intraclass correlation coefficient (ICC) of 0.584 confirms that regional context remained highly influential, with a large share of the total variance attributable to differences between devolved areas.

4.5.2.4 Temporal trends in policy effectiveness

The effect of time was also statistically significant ($F(1, 323.83) = 152.47$, $p < .001$), pointing to a general increase in new venture creation rates across the study period. This trend may reflect a mix of broader macroeconomic recovery, improvements in institutional capacity, or the cumulative maturation of policy environments. While not the main focus of this sub-question, the inclusion of time helps control for external influences and strengthens the inference that regions with broader policy coverage tended to perform better across the period analysed.

4.5.2.5 Patterns and implications of findings

The results highlight several important patterns in how devolved policy breadth relates to new venture creation across the UK. Regions with a wider mix of entrepreneurship-supportive policies – as captured by the *Dev_Composite* score – tend to exhibit higher rates of new firm formation. This supports the idea that a broad, cumulative approach

to entrepreneurship support is more conducive to venture creation than one based on isolated or narrowly targeted interventions.

Despite these positive policy effects, the significant random effect for devolved area indicates that substantial regional variation persists. This suggests that other contextual factors – such as institutional infrastructure, local culture, or historical path dependencies – continue to influence entrepreneurial outcomes alongside formal policy measures.

Finally, the positive association between policy breadth and new venture creation was consistent across the study period, even when controlling for broader temporal trends. This pattern suggests that more comprehensive policy environments may be linked to sustained entrepreneurial outcomes over time, underscoring the potential relevance of these policy levers within devolved governance settings.

4.5.2.6 Post-hoc analyses and robustness checks

To further validate the findings and explore potential nuances in the relationships observed, a series of post-hoc analyses and robustness checks were conducted. Alternative model specifications were tested, including variations in covariance structure and the inclusion of random slopes. The final model was selected based on its superior performance in likelihood ratio tests and its fit according to standard information criteria (AIC and BIC).

As the model included only two fixed effects – *Year* and *Dev_Composite* – multicollinearity was not expected to be a concern. These variables are conceptually distinct and varied independently over time and region. No signs of estimation instability or coefficient inflation were observed. Residual plots and normality checks were also examined to verify the assumptions of the linear mixed-effects model, and these diagnostics indicated that the assumptions were reasonably satisfied.

Additional sensitivity analyses were undertaken to test the robustness of results to the construction of the *Dev_Composite* variable. By applying alternative thresholds for defining the underlying binary policy indicators before aggregation, the analysis confirmed that the main findings remained consistent across specifications. To explore the possibility of delayed effects, models were also estimated with lagged versions of *Dev_Composite*, incorporating one-year and two-year delays. While some lagged effects

were detected, the contemporaneous effects consistently emerged as the strongest predictors of new venture creation.

It is important to acknowledge that while these findings point to clear associations between entrepreneurship-supportive policies and new venture activity, they should not be interpreted as evidence of direct causality. The use of aggregated regional data and the inherent limitations of linear mixed-effects modelling mean that the results reflect patterns of association rather than definitive cause-and-effect relationships. Further research including qualitative or mixed-methods approaches may be needed to understand the mechanisms through which these policy environments shape entrepreneurial outcomes.

In conclusion, the results for QNT.Q2 support the interpretation that regions with broader entrepreneurship-supportive policy environments tend to exhibit higher rates of new venture creation. Rather than isolating the effects of individual policy types, the analysis shows that the cumulative breadth of support – as captured by the *Dev_Composite* score – is positively associated with entrepreneurial activity. These findings offer useful guidance for regional policymakers, highlighting the potential value of a coordinated and comprehensive approach to fostering entrepreneurship within devolved governance structures.

4.5.3 Results for QNT.Q3

The results for quantitative sub-question 3 (QNT.Q3) provide insights into the relationship between business accelerator presence and new venture creation rates across devolved regions in the UK for the year 2021. This section presents the findings from the linear regression analysis, offering a focused view of how accelerator presence and devolved policy support relate to entrepreneurial activity across regions.

Descriptive statistics reveal substantial variations in accelerator distribution across the devolved areas. The independent variable, *Num_Accelerators*, represents the count of active business accelerators in each devolved area for the year 2021. The mean number of accelerators per devolved area is 4.69, with a standard deviation of 7.173, indicating considerable variability. The minimum observed value for *Num_Accelerators* is 0, while the maximum is 28, highlighting the substantial range in accelerator availability across different regions.

The dependent variable, *NewCosPer1000*, represents the number of new companies founded per 1,000 working-age individuals in each devolved area in 2021. Across the 16 devolved regions, the mean value of *NewCosPer1000* was approximately 3.18 (*SE* = 1.74), indicating modest but variable levels of entrepreneurial activity. This variation provides a rationale for exploring the factors that may shape regional differences in new venture creation, including the potential role of business accelerators.

It's important to note that the analysis of accelerator impact is based on available data, which may not encompass all programmes, particularly informal or lesser-known initiatives. Additionally, the cross-sectional nature of the data limits the ability to draw causal inferences. While the presence of accelerators is associated with higher new venture creation rates, this does not guarantee improved entrepreneurial outcomes universally, as their impact can vary depending on regional conditions, sector focus, and alignment with local policies.

The regression analysis revealed a statistically significant relationship between accelerator presence and new venture creation rates. The model included two predictors – the number of accelerators (*Num_Accelerators*) and the composite policy score (*Dev_Composite*) – and accounted for a moderate portion of the variance in *NewCosPer1000*. The adjusted R-squared value of 0.359 indicates that while these predictors contributed meaningfully to explaining regional differences, a substantial share of the variation remains unexplained by the model.

The coefficient for *Num_Accelerators* was positive and statistically significant (B = 0.038, p = 0.010), suggesting that, in 2021, each additional accelerator in a devolved region was associated with an increase of approximately 0.038 new companies per 1,000 working-age people. The coefficient for *Dev_Composite* was also positive (B = 0.157, p = 0.408), indicating a directional association in line with expectations, though this effect was not statistically significant in the model. Both variables were included on theoretical grounds to reflect the policy and ecosystem dimensions of the research question.

To ensure the validity of the regression analysis, several diagnostic tests were conducted. The linearity assumption was assessed through a scatterplot of standardised residuals against standardised predicted values, which showed no clear non-linear patterns, supporting the appropriateness of a linear model. Homoscedasticity was

evaluated using the same scatterplot, which displayed a relatively even spread of residuals across predicted values, indicating that the assumption of constant variance was reasonably met.

The Durbin-Watson statistic, which tests for autocorrelation in the residuals, yielded a value of 2.112. This value, being close to 2, suggests that there is no significant autocorrelation in the residuals, further validating the model's assumptions.

While the regression analysis provides evidence for a statistically significant relationship between accelerator presence and new venture creation rates, the overall explanatory power of the model is moderate. The adjusted R-squared of 0.359 indicates that a considerable portion of the variation remains unexplained, likely due to unmeasured regional factors such as industrial structure, institutional context, or entrepreneurial culture.

In conclusion, the results for QNT.Q3 indicate a positive association between business accelerator presence and new venture creation rates across devolved regions in the UK for the year 2021. However, these findings reflect cross-sectional correlations and should be interpreted with care. They are specific to the devolved regions and accelerators included in the analysis, and may not generalise to contexts with different governance models or institutional settings. The analysis cannot fully account for unmeasured factors – such as cultural attitudes towards entrepreneurship or long-standing economic structures – which may also contribute to regional disparities. These findings suggest that accelerator presence may be associated with stronger entrepreneurial ecosystems in some regions. Further research would be required to determine the causal pathways or broader generalisability of this association. The results offer potentially useful insights for policymakers and stakeholders seeking to foster entrepreneurship and regional development through strategically aligned accelerator programmes and supportive policy environments. Future research could usefully explore variation in accelerator impact across regions and investigate the contextual factors that shape their effectiveness.

4.6 Discussion

4.6.1 Interpretation and integration of findings

The interpretation and integration of findings from the three quantitative sub-questions provides valuable insights into the complex relationship between devolution, business accelerators, and new venture creation in the UK. This synthesis of results reveals several key patterns and relationships that contribute to our understanding of how regional policies and support mechanisms influence entrepreneurial activity. In QNT.Q3, the breadth of policy support (*Dev_Composite*) was not statistically significant once accelerator presence was included in the model. However, this does not suggest that policy has no effect. Rather, it highlights the limits of cross-sectional analysis in capturing how policy operates over time or in interaction with other ecosystem components – a point explored further in the qualitative phase.

The analysis of regional disparities in new venture creation rates (QNT.Q1) revealed moderate but persistent differences across devolved areas in the UK. This finding aligns with previous research on regional variations in entrepreneurship, such as the work of Mason (1985), who argued that the concentration of successful small firms in specific regions is largely due to underlying occupational structures and economic milieu. The results extend this understanding by showing that these disparities persist even within a devolved governance framework. This suggests that devolution alone may not be sufficient to equalise entrepreneurial activity across regions, and that deeper contextual factors – such as historical economic structures and local cultural attitudes towards entrepreneurship – continue to play a significant role.

The examination of the relationship between devolved policy support and new venture emergence rates (QNT.Q2) provided compelling evidence that a more comprehensive configuration of entrepreneurship-supportive policies is positively associated with higher levels of new venture creation. Rather than evaluating individual policy interventions, the analysis focused on a composite policy score that captured the presence of devolved support across six key domains. This approach reflects the idea that entrepreneurial ecosystems benefit not from isolated initiatives, but from a broad and sustained base of institutional support. These findings support the theoretical arguments put forth by Keating, Cairney and Hepburn (2009) regarding the potential for devolution to enhance regional development through locally embedded policy design.

They also align with the wider literature on entrepreneurial ecosystems, which highlights the importance of enabling environments that combine access to resources, institutional legitimacy, and policy coordination (Stam, 2015; Spigel, 2017).

While the analysis does not isolate the effects of individual policy types, the results suggest that regions implementing a broader and more sustained mix of entrepreneurship-supportive policies tend to experience higher rates of new venture creation. This lends weight to ongoing debates about the importance of coordinated, context-sensitive policy design over narrowly targeted or fragmented approaches (Audretsch and Lehmann, 2005; Arshed, Carter and Mason, 2014). Although the cumulative presence of support cannot be interpreted as a fully formed institutional logic, it may be indicative of a more developed regional environment in which entrepreneurship is actively prioritised across multiple domains. Further interpretation of this finding – including whether and how such environments are recognised or experienced by entrepreneurs themselves – is taken up in the qualitative phase.

The analysis of the relationship between business accelerator presence and new venture emergence rates (QNT.Q3) revealed a statistically significant positive correlation. This finding supports the growing body of literature on the role of accelerators in entrepreneurial ecosystems (Pauwels *et al.*, 2016; Cohen *et al.*, 2019). The study also extends this understanding by examining how this association plays out within devolved governance contexts. While the model does not test causal mechanisms, the observed relationship suggests that accelerator presence may be one of several factors associated with more active entrepreneurial ecosystems in certain regions, with the nature of this association likely shaped by local policy and institutional conditions.

An interesting and somewhat unexpected finding was the spatial distribution of accelerators across devolved regions. While accelerators were generally associated with higher rates of new venture creation, their presence was not uniform across all devolved areas. This uneven distribution raises questions about the factors that influence accelerator location decisions and whether there might be a potential mismatch between areas of high entrepreneurial potential and accelerator availability. This finding contributes to the literature on the geography of entrepreneurship support (Qian, Acs and Stough, 2013) and suggests a need for further research into the spatial dynamics of accelerator programmes within devolved governance structures.

Integrating the findings across all three sub-questions, a complex picture emerges of the interplay between devolution, policy interventions, and entrepreneurial support mechanisms. The persistent regional disparities in new venture creation rates (QNT.Q1) suggest that devolution alone is not a panacea for regional economic development. While QNT.Q1 revealed substantial variation between regions (ICC = 0.560), QNT.Q2 offers partial explanatory insight by showing that broader devolved policy support is positively associated with higher rates of new venture creation (marginal R^2 = 0.426; ICC = 0.584).

The positive associations between devolved policy support (QNT.Q2) and accelerator presence (QNT.Q3) with new venture creation rates indicate that devolved powers, when leveraged effectively, can stimulate entrepreneurial activity.

It's important to acknowledge that the study's focus on formal accelerators may not fully capture the contributions of informal or lesser-known programmes that play significant roles in specific regional contexts. Additionally, while the findings suggest a positive association between accelerator presence and new venture creation, it's crucial to recognise that this does not guarantee universal effectiveness. The impact of accelerators is likely contingent on factors such as regional conditions, sector focus, and alignment with local policies, highlighting the need for nuanced interpretations of their role in entrepreneurial ecosystems. In an empirical study of metropolitan statistical areas (MSAs) in the USA, Fehder and Hochberg (2014) found compelling evidence for increased early-stage venture deals associated with the presence of an accelerator; which they attributed to outside investor groups being more likely to visit the MSA as well as an emergence of new, local early-stage investors. It’s important to note that in their study; the benefiting new ventures are not limited to those attending the accelerator itself; the increased footfall of investors in the area is creating opportunities for other entrepreneurs in the region also.

These findings relate to the central research question by demonstrating that business accelerators and devolved policies do interact to contribute to new venture emergence in subnational regions, but in ways that are more nuanced and context-dependent than might have been initially assumed. The effectiveness of this interaction appears to be moderated by factors such as the specific mix of policies implemented, the density and distribution of accelerators, and underlying regional characteristics that persist despite devolution.

An unexpected finding that warrants further discussion is the high degree of regional variation that remains even after accounting for policy interventions and accelerator presence. This suggests that there may be deep-seated regional factors, perhaps related to culture, history, or industrial legacy, that continue to influence entrepreneurial activity despite devolved governance structures. This finding aligns with the work of Busenitz and Lau (1996) on cultural differences in entrepreneurial activity, but extends it to the context of devolved regions within a single country.

In conclusion, the integration of findings across the three quantitative sub-questions provides a rich and nuanced understanding of how devolution, policy interventions, and business accelerators interact to influence new venture creation in subnational regions. While the results generally support the potential for devolved governance to stimulate entrepreneurial activity through targeted policies and support mechanisms, they also highlight the complexity of this relationship and the persistent influence of regional factors. It's crucial to reiterate that the quantitative analysis primarily reveals correlational relationships rather than definitive causality. While the findings suggest that devolved policies and accelerators can play a significant role in fostering entrepreneurship, they do not conclusively prove a direct causal impact. The complexity of regional entrepreneurial ecosystems and the potential influence of unobserved factors necessitate a nuanced interpretation of these results. Further research, particularly longitudinal studies or those incorporating qualitative methodologies, could help disentangle the complex web of influences on new venture creation and provide more definitive insights into the causal mechanisms at play.

These insights not only contribute to the academic literature on regional entrepreneurship and economic development but also have important implications for policymakers and practitioners involved in designing and implementing entrepreneurship support initiatives in devolved regions.

4.6.2 Implications for policy and practice

The findings from this quantitative phase of research offer valuable insights that have significant implications for policymaking in devolved regions and the strategic development of business accelerators. These results provide a nuanced understanding of the complex interplay between devolution, policy interventions, and new venture

creation, which can inform more effective and targeted approaches to fostering entrepreneurial ecosystems in subnational regions.

One of the key implications for regional policymakers is the need for a tailored approach to entrepreneurship support that reflects the distinct characteristics and challenges of each devolved area. The observed regional disparities in new venture creation rates – with an intra-class correlation coefficient (ICC) of 0.560 – indicate that a uniform, one-size-fits-all policy approach is unlikely to be effective. Instead, region-specific strategies are likely to be more impactful, particularly when they address locally embedded barriers and build on existing strengths. This may involve detailed assessments of each region's entrepreneurial ecosystem and the development of targeted interventions that respond to both structural constraints and emerging opportunities.

The positive association between the presence of multiple entrepreneurship-supportive policies and new venture creation rates underscores the value of a well-developed policy environment in supporting entrepreneurship. Policymakers in devolved regions may benefit from implementing a diverse mix of complementary measures – such as initiatives related to finance, skills, and innovation – recognising that it is the overall policy context, rather than the effect of any single intervention, that appears most conducive to entrepreneurial activity. While this study does not assess which types of policy are most effective, the findings suggest that combining multiple forms of support may be a productive strategy. Ongoing monitoring and evaluation of policy delivery and outcomes will be important to ensure that resources continue to be deployed effectively and remain responsive to regional needs.

The findings regarding the relationship between business accelerator presence and new venture emergence rates have important implications for both policymakers and accelerator managers. The positive correlation between accelerator density and new venture creation suggests that devolved regions may benefit from actively encouraging the establishment and growth of accelerator programmes. Policymakers could consider providing incentives or support for accelerator development as part of their broader entrepreneurship strategy. However, the uneven distribution of accelerators across devolved areas highlights a potential opportunity for targeted intervention. Regions with lower accelerator presence might explore ways to attract or develop these programmes, potentially through public-private partnerships or by offering specialised support to align with regional industrial strengths.

For business accelerator managers, these findings underscore the importance of understanding and engaging with the broader regional policy landscape. Accelerators that align their programmes with local policy priorities and leverage available support mechanisms may be better positioned to contribute to and benefit from the regional entrepreneurial ecosystem. Additionally, the observed relationship between accelerator presence and new venture creation rates – although not shown to be causal – raises the question as to whether accelerators may play a part in translating devolved policies into tangible entrepreneurial outcomes. If so, this would provide a compelling case for accelerators to be recognised as key partners in regional economic development strategies.

The persistence of regional disparities in new venture creation rates, even in the context of devolution, highlights the need for long-term, sustained efforts in building entrepreneurial capacity. Policymakers should recognise that while devolved powers offer opportunities for targeted intervention, they are not a panacea for regional economic development. Efforts to stimulate entrepreneurship should be part of a broader, holistic approach to regional development that considers factors such as infrastructure, education, and cultural attitudes towards entrepreneurship. This may involve developing cross-sectoral partnerships and aligning entrepreneurship support with other areas of regional policy to create a more conducive environment for new venture creation.

Furthermore, the findings suggest that policymakers and accelerator managers should pay attention to the spatial dynamics of entrepreneurship support within their regions. The uneven distribution of accelerators and the potential mismatch between areas of high entrepreneurial potential and accelerator availability indicate a need for more strategic planning in the location and focus of support mechanisms. This could involve developing networks of accelerators that cover different geographical areas within a region or creating specialised programmes that target specific sectors or types of entrepreneurs that are underserved by existing support structures.

In conclusion, the quantitative findings of this study provide a robust evidence base for informing policy and practice in devolved regions. By highlighting the complex relationships between devolution, policy interventions, and new venture creation, these results can guide more effective and targeted approaches to fostering entrepreneurial ecosystems. Policymakers and accelerator managers should use these insights to develop

strategies that are responsive to regional specificities, leverage existing strengths, and address identified gaps in entrepreneurial support. Moving forward, continued research and evaluation will be crucial to refine these approaches and ensure that devolved regions can fully capitalise on their potential to drive new venture creation and economic growth.

4.6.3 Limitations of quantitative analysis

4.6.3.1 Data limitations

The quantitative phase of this research highlights several limitations in the data used, which must be acknowledged to contextualise the findings and inform future research. These limitations pertain to data availability, temporal constraints, and potential biases inherent in the sources and methodologies employed.

One significant limitation arises from the assumption that companies failing to file accounts or submitting dormant accounts are classified as non-active or failed businesses. While this approach is widely accepted in the literature as a proxy for business inactivity (Cefis and Marsili, 2006), it is not without shortcomings. Dormant account filings do not necessarily indicate business failure; some ventures may temporarily cease trading due to strategic decisions or external factors. Similarly, non-compliance with filing requirements may stem from administrative oversights rather than financial distress. However, given that failure to file accounts can lead to legal action and eventual dissolution, this assumption remains robust for large-scale analyses. Nonetheless, future research could benefit from incorporating additional indicators of business activity to refine these classifications further.

Another limitation relates to the temporal lag inherent in account filing data. Companies are legally required to submit their initial accounts within 21 months of incorporation, with subsequent filings due within nine months of each financial year-end. This creates a delay in the availability of complete survival data for recently incorporated companies. To mitigate this issue, the analysis focused on ventures incorporated at least three years prior to the study's reference date, ensuring a sufficiently complete dataset for assessing medium-term survival rates. Specifically, this is why data is only considered up to and including 2021. While this approach enhances data reliability, it excludes newer ventures and limits insights into their early-stage dynamics.

The availability of accelerator data exclusively for 2021 presents another constraint. This cross-sectional snapshot restricts the ability to examine longitudinal trends or causal relationships between accelerator presence and new venture creation rates. The limitation could be partially addressed by integrating a publicly available set of data from Bone, Allen and Halley (2017) which gives a snapshot of the accelerators that were operating across the UK in 2017. However, for a more comprehensive analysis; additional data covering a wider range of years would be required. Since the existence of accelerator programmes can be transient in nature; particularly prior to being recognised as a distinct form of business support, producing such a dataset would be very difficult. However, accelerators, particularly those in receipt of public funding, are increasingly expected to share and report data (Haley *et al.*, 2022), so it is conceivable that a more comprehensive analysis would be possible in future.

Regional discrepancies in new venture activity also pose challenges for interpretation. Variations across devolved areas may be influenced by factors unrelated to devolution or policy interventions, such as industrial composition, access to finance, or broader economic conditions (Mason and Brown, 2014). Although we acknowledge that such factors could plausibly influence regional entrepreneurial outcomes, the QNT.Q3 model did not include additional control variables due to the small sample size; these unmeasured influences remain potential confounders. For instance, cultural attitudes towards entrepreneurship or historical economic legacies were beyond the scope of this study but may significantly shape patterns of entrepreneurial activity across regions.

The integration of multiple data sources into a single relational dataset introduced additional complexities. While rigorous data cleaning and validation procedures were employed to ensure accuracy and consistency, discrepancies between sources or incomplete records posed challenges. For example, mapping company postcodes to devolved regions required extensive cross-referencing with administrative boundary data from the Office for National Statistics (ONS). Despite these efforts, some inaccuracies in geographical attribution may persist due to outdated or incomplete postcode information.

Finally, it is important to acknowledge potential biases introduced by relying on publicly available datasets such as Companies House and ONS statistics. These sources primarily capture formal economic activities and may underrepresent informal entrepreneurial efforts or sole proprietorships that do not require registration. Consequently, the

findings may not fully reflect the broader spectrum of entrepreneurial activity across regions.

In conclusion, while the data employed in this study provides valuable insights into regional disparities in new venture creation and the role of accelerators and policies within devolved contexts, its limitations must be carefully considered when interpreting the results. Addressing these constraints in future research could enhance our understanding of regional entrepreneurial ecosystems and inform more effective policy interventions.

4.6.3.2 Model and methodological limitations

The quantitative analysis conducted in this study, while rigorous and informative, is subject to several model and methodological limitations that warrant careful consideration when interpreting the results. These limitations arise from the inherent assumptions of the statistical models employed, the nature of the data available, and the broader constraints of quantitative approaches in capturing the complex dynamics of new venture creation and business accelerator interventions within devolved regions.

One of the primary limitations stems from the use of linear mixed-effects models (LMM) in addressing the first two research questions. While linear mixed-effects models offer significant advantages in handling hierarchical data structures and accounting for both fixed and random effects, they rely on several key assumptions that may not always be fully met in practice. The assumption of linearity, for instance, presupposes that the relationship between the predictor variables and the outcome (new venture creation rates) is linear. However, the reality of entrepreneurial ecosystems is often characterised by complex, non-linear interactions that may not be adequately captured by this model. Furthermore, the assumption of normality for the random effects and residuals, while robust to some violations, may not hold perfectly in all cases, potentially affecting the precision of parameter estimates and confidence intervals (Hox, Moerbeek and Van De Schoot, 2010).

The cross-sectional nature of the analysis for the third research question, which examined the relationship between business accelerator presence and new venture creation rates, presents another significant limitation. While this approach provides valuable insights into the association between these variables at a specific point in time, it precludes the establishment of causal relationships. The inability to account for the

temporal dynamics of accelerator establishment and their long-term impacts on entrepreneurial activity limits the depth of conclusions that can be drawn from this analysis. Additionally, the potential for reverse causality – where regions with higher entrepreneurial activity may be more likely to attract accelerators – cannot be ruled out within this methodological framework.

Another methodological constraint lies in the operationalisation of key variables, particularly in the measurement of policy implementation and accelerator presence. The use of binary indicators for policy variables, while necessary for quantitative analysis, inevitably simplifies the complex nature of policy environments. This approach may not fully capture the nuances of policy implementation, such as the quality, intensity, or specific targeting of interventions. Similarly, the quantification of accelerator presence through a simple count may not adequately reflect the diversity in accelerator types, sizes, and operational models, potentially masking important qualitative differences that could influence their impact on new venture creation (Aguinis, Gottfredson and Culpepper, 2013).

The reliance on official company registration data as a proxy for new venture creation, while a common and practical approach, introduces its own set of limitations. This method may underestimate entrepreneurial activity by excluding informal ventures, sole proprietorships, or other forms of business that do not require formal registration. Moreover, it does not account for the quality or potential of the new ventures, treating all registered companies equally regardless of their growth prospects or economic impact. This limitation could be particularly significant in regions where high-growth startups constitute a small but economically important subset of new ventures.

The geographical attribution of companies based on registered office addresses presents another potential source of bias. In an increasingly digital and globalised economy, the physical location of a company's registration may not accurately reflect its operational base or the region benefiting most from its economic activity. This limitation could lead to misattributions of entrepreneurial activity to certain regions, potentially skewing the analysis of regional disparities and policy impacts.

Furthermore, the study's focus on devolved regions within the UK, while providing valuable insights into this specific context, may limit the generalisability of findings to other countries or governance structures. The unique characteristics of the UK's

devolution process and the specific economic and cultural contexts of its regions may not be directly comparable to other national or subnational settings, necessitating caution in extrapolating the results to broader contexts.

The quantitative approach, while powerful in identifying patterns and associations, is inherently limited in its ability to explain the underlying mechanisms and contextual factors driving these relationships. The complex interplay between regional policies, business accelerators, and entrepreneurial ecosystems involves numerous qualitative factors – such as cultural attitudes towards entrepreneurship, informal networks, and the quality of mentorship – that are challenging to quantify and incorporate into statistical models. This limitation underscores the importance of complementing quantitative findings with qualitative insights to develop a more comprehensive understanding of the phenomena under study.

Lastly, the time frame of the analysis, while extensive, may not capture the full long-term impacts of devolution and accelerator interventions on new venture creation. The effects of policy changes and support mechanisms on entrepreneurial ecosystems can take years or even decades to fully manifest, potentially extending beyond the scope of this study's data range. This temporal limitation may result in an underestimation of the true impact of devolved policies and accelerator programs on regional entrepreneurial activity.

In conclusion, while the quantitative analysis provides valuable insights into the relationships between devolution, business accelerators, and new venture creation, these model and methodological limitations necessitate a cautious and nuanced interpretation of the results. Acknowledging these constraints not only ensures a more accurate understanding of the study's findings but also highlights areas for future research to address these limitations through alternative methodologies, expanded data sources, or longitudinal designs. The integration of these quantitative findings with qualitative insights in the subsequent phases of this research will be crucial in developing a more comprehensive and contextualised understanding of the complex dynamics at play in regional entrepreneurial ecosystems.

4.7 Linking quantitative findings to qualitative exploration

The transition from the quantitative to the qualitative phase in this research represents a crucial juncture in the mixed-methods approach, designed to provide a comprehensive

understanding of the interplay between business accelerators, devolved policies, and new venture emergence in subnational regions. The quantitative phase provided valuable insights into statistical relationships between these factors, offering a broad perspective on regional variations in entrepreneurial activity and the potential impact of policy interventions and accelerator presence. However, while these findings are informative, they cannot fully capture the nuanced mechanisms and contextual factors that underpin these relationships. The qualitative phase becomes essential here, enabling deeper exploration of the 'how' and 'why' questions that arise from the quantitative results.

The rationale for employing an explanatory sequential mixed-methods design lies in its ability to integrate the strengths of quantitative and qualitative methodologies, mitigating their respective limitations (Creswell and Plano Clark, 2018). The quantitative phase established a robust statistical foundation, identifying significant patterns and associations across a large dataset. However, these findings, while valuable, may obscure complex social, cultural, and institutional factors influencing entrepreneurial ecosystems in devolved regions. The qualitative phase, using in-depth case studies, will delve into these factors, providing contextualised insights to explain and expand upon the quantitative results.

4.7.1 Qualitative research questions

Building on the quantitative findings, the qualitative phase will address the following revised research questions:

QLT.Q1: How do devolved policies support or enable business accelerators to drive new venture creation in subnational regions?

QLT.Q2: How do business accelerators adapt their programmes and strategies to align with the specific needs and policy priorities of devolved regions?

QLT.Q3: How do business accelerators and devolved policies interact to amplify their collective impact on entrepreneurial activity in devolved regions?

To ensure clarity and internal consistency, the wording of these research questions was gradually refined during the quantitative phase and retrospectively harmonised across the thesis. This reflects the iterative nature of the research process, where emerging

insights prompted subtle but necessary adjustments to how the questions were framed and interpreted.

These questions are designed to explore the mechanisms underlying the statistical relationships identified in the quantitative phase. By focusing on the experiences and perspectives of key stakeholders, including policymakers, accelerator managers, and entrepreneurs, the qualitative phase aims to uncover the contextual factors and processes shaping the effectiveness of devolved policies and accelerator programmes in fostering new venture creation.

4.7.2 Methodological approach

The shift to a qualitative methodology involves moving from broad statistical analyses to detailed examinations of specific cases. This approach employs multiple data collection methods, including semi-structured interviews, focus groups, and document analysis, to build comprehensive case studies of selected devolved regions. These case studies aim to provide a holistic view of how devolution, policy interventions, and accelerator programmes interact within specific regional contexts to influence entrepreneurial outcomes (Yin, 2014).

Case selection for the qualitative phase is informed by quantitative results, focusing on regions exhibiting particularly interesting or unexpected patterns in new venture creation rates, policy implementation, or accelerator presence. This purposive sampling ensures that the qualitative investigation is directly relevant to the quantitative findings, facilitating a more integrated analysis (Stake, 2010).

4.7.3 Triangulation and contribution

The transition to the qualitative phase enables triangulation of findings, enhancing the validity of the research while providing a nuanced and comprehensive understanding of the dynamics within regional entrepreneurial ecosystems. This approach not only explains the quantitative results but also uncovers new insights and generates hypotheses for future research.

For instance, the interaction between devolved policies and accelerators is conceptualised as part of regional innovation systems (Cooke, Gomez Uranga and Etxebarria, 1997). This framework highlights how devolved administrations, through

tailored policies, can leverage accelerators to address regional challenges and enhance local entrepreneurial ecosystems (Bailey, 2017).

As the qualitative phase unfolds, the next steps involve detailing the case selection process, including the criteria and rationale for choosing specific devolved regions for in-depth study. This careful selection ensures that the qualitative investigation complements and extends the quantitative findings, contributing to a richer understanding of how devolution and business accelerators interact to shape new venture emergence in subnational regions.

4.7.4 Case selection for the qualitative phase

The case selection for the qualitative phase of this research was guided by a theoretical sampling strategy, designed to explore the complex interplay between devolution, business accelerators, and new venture creation in subnational regions. This approach aligns with the explanatory sequential mixed-methods design of the study, allowing for an in-depth examination of the patterns and relationships identified in the quantitative phase (Yin, 2014). The selection criteria were carefully crafted to ensure that the chosen cases would provide rich, contextualised insights into the research questions while offering a diverse representation of devolved governance structures and accelerator models within the UK.

The primary unit of analysis for each case study is defined as the devolved region, encompassing its governance structure, policy environment, and entrepreneurial ecosystem (Cooke, 2001; Mason and Brown, 2014). Within this broader context, business accelerators operating in the region serve as embedded units of analysis, allowing for a multi-level exploration of the phenomena under study (Yin, 2014). This nested approach enables a comprehensive examination of how regional policies and devolved powers interact with accelerator programmes to influence new venture creation.

Two case studies were selected, focusing on the devolved nation of Wales and the Tees Valley Combined Authority (TVCA). These regions were chosen based on several key criteria:

Variation in devolution models: The selection includes a devolved nation (Wales) and a mayoral combined authority (TVCA), allowing for comparison across different levels and structures of devolved governance (Rodríguez-Pose and Gill, 2003; Bailey, 2017).

Presence of active business accelerators: Each region hosts at least one operational business accelerator, providing concrete examples of how these entities function within devolved contexts (Cohen and Hochberg, 2014; Bone *et al.*, 2019).

Diversity in economic and social contexts: The chosen regions represent a range of economic backgrounds, industrial histories, and social demographics, enabling exploration of how these factors influence the relationship between devolution, accelerators, and new venture creation (Stam, 2015).

Temporal variation in devolution implementation: The selected regions have different histories of devolved powers, allowing for examination of how the duration and evolution of devolution impact entrepreneurial ecosystems (MacKinnon, 2015).

The first case study, centred on Wales, focuses on the Transport for Wales (TfW) Labs accelerator. This case offers insights into how a nation-level devolved government interacts with and supports accelerator initiatives within a specific sector (Welsh Government, 2017; Transport for Wales, 2023). The second case study examines the Tees Valley Combined Authority (TVCA), exploring how a recently established combined authority leverages devolved powers to foster entrepreneurship and support accelerator programmes (Tees Valley Combined Authority, 2016; Tees Business, 2024b).

The decision to rely on secondary data and non-participatory observation was made to ensure a comprehensive and multi-faceted understanding of each case. This approach allows for triangulation of data sources, enhancing the validity and reliability of the findings (Bowen, 2009). Secondary data sources include policy documents, regional economic reports, accelerator programme materials, and local media coverage. Non-participatory observation, as conducted with TfW Labs, provides valuable first-hand insights into accelerator operations and their interaction with regional stakeholders (Yin, 2014).

This case selection strategy and methodological approach enable a rich, contextualised exploration of how devolution and business accelerators interact to influence new venture creation in diverse subnational settings. By examining the two distinct cases, the research can identify both common themes and region-specific factors that shape entrepreneurial ecosystems in devolved contexts (Cooke, 1992; Mason and Brown, 2014). This multi-case approach enhances the generalisability of findings while still allowing for nuanced understanding of local dynamics.

The selection of these specific cases also facilitates a comparative analysis that can illuminate the relative effectiveness of different devolution models and accelerator strategies in fostering entrepreneurship. By including both a devolved nation and a combined authority, the research can explore how the scale and scope of devolved powers influence the ability of regions to support and leverage business accelerators for economic development (Rodríguez-Pose and Ezcurra, 2011).

In conclusion, the case selection for the qualitative phase of this research has been carefully designed to provide a comprehensive and nuanced exploration of the research questions. By focusing on Wales and the TVCA, the study aims to generate valuable insights into the complex relationships between devolution, business support mechanisms, and new venture creation in subnational contexts (Cooke, Gomez Uranga and Etxebarria, 1997). This approach not only builds upon the quantitative findings but also allows for the emergence of new themes and understandings that can contribute to both theory and practice in regional entrepreneurship development.

Chapter 5: Qualitative phase

5.1 Introduction

5.1.1 Purpose of the qualitative phase

This study's qualitative phase serves as the second stage of an explanatory sequential mixed-methods design. It aims to offer a nuanced look at how business accelerators and devolved policies work together to foster new venture creation across subnational regions in the UK. By building on the insights from the earlier quantitative analysis, it addresses "how" and "why" questions that shed light on the patterns identified in the numbers. More specifically, it examines the mechanisms, processes, and contextual factors that shape the relationship between devolved governance structures, business accelerators, and the broader entrepreneurial ecosystem. This phase also contributes to the thesis's broader concern with legitimacy by exploring how accelerators operate within devolved policy environments to help shape the conditions under which new ventures become accepted and supported.

To complement the quantitative findings, this phase focuses on two carefully selected case studies: Wales and the Tees Valley Combined Authority (TVCA). While TVCA is the formal designation used in official documents, this thesis refers to it as the Tees Valley Combined Authority (TVCA) to underscore the governance role of its directly elected mayor. These two regions were selected for their contrasting governance models and the differences they exhibited in new venture creation rates and accelerator presence during the quantitative phase. In Wales, a reserved powers model grants substantial legislative autonomy. By contrast, the Tees Valley operates under a collaborative governance framework with fewer devolved powers – an arrangement typical of mayoral combined authorities (MCAs). These distinct settings enable theoretical replication and offer deeper insight into how governance structures shape accelerator activity and regional entrepreneurial outcomes.

The primary objectives of the qualitative phase are threefold. First, it seeks to understand how devolved policies support or enable business accelerators to drive new venture creation (QLT.Q1). Second, it examines the strategies employed by accelerators to adapt their programmes to align with the specific needs, priorities, and challenges of their respective regions (QLT.Q2). Third, it investigates how accelerators amplify their

impact on new venture creation by leveraging opportunities provided by devolved policies (QLT.Q3). Together, these objectives align with the central research question and underscore the study's focus on the interaction between governance structures, entrepreneurial support systems, and regional innovation ecosystems.

Quantitative findings directly informed the selection of cases and the framing of the qualitative inquiry. The statistical analysis revealed significant regional disparities in new venture creation rates and identified a strong association between broader policy coverage – as captured by the *Dev_Composite* score – and increased entrepreneurial activity. Although the model did not isolate the effects of individual policy domains, the presence of multiple forms of support – including innovation and skills development – contributed to higher composite scores in regions such as Wales and TVCA. These insights provided a rationale for selecting these regions as cases of interest, allowing the qualitative phase to explore how such policy environments operate in practice.

By integrating and building upon the quantitative results, the qualitative phase aims to contribute a richer, more contextualised understanding of the dynamics shaping regional entrepreneurship. The findings are expected to illuminate the pathways through which devolved governance and business accelerators interact, providing actionable insights for policymakers, practitioners, and scholars interested in the intersection of regional development and entrepreneurial support. This phase bridges the gaps between quantitative patterns and the underlying realities, offering a more holistic perspective on how business accelerators contribute to the economic aims of devolution.

5.1.2 Qualitative research questions

The qualitative phase of this study is guided by an overarching aim to explore the interactions between business accelerators and devolved policies, with a particular focus on their combined influence on new venture creation in subnational regions. This part of the study builds on insights from the quantitative analysis and investigates the underlying institutional and contextual dynamics at work in two specific governance settings: Wales and the Tees Valley Combined Authority.

The central research question framing this phase is: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions?

To operationalise this inquiry, the following sub-questions are addressed:

QLT.Q1: How do devolved policies support or enable business accelerators to drive new venture creation in subnational regions?

This question explores the enabling role of policy frameworks – including funding models, skills strategies, and institutional mandates – in shaping the conditions under which accelerators operate.

QLT.Q2: How do business accelerators adapt their programmes and strategies to align with the specific needs and policy priorities of devolved regions?

This examines how accelerators adapt their strategies and programmes in response to regional policy environments, considering local economic conditions, institutional priorities, and cultural context.

QLT.Q3: How do business accelerators and devolved policies interact to amplify their collective impact on entrepreneurial activity in devolved regions?

Here, the focus is on mutual influence – how accelerator strategies and policy frameworks shape one another in practice, and how these interactions affect the broader regional entrepreneurial ecosystem.

This qualitative phase adopts an explanatory lens, aiming to understand the institutional relationships, strategic adaptations, and ecosystem-level consequences that emerge from these interactions. The following chapters present findings from each case, highlighting how accelerators operate as intermediaries within devolved policy environments – and how those environments, in turn, shape what accelerators can do.

5.1.3 Chapter overview

This chapter presents the qualitative phase of the study, forming the second stage of the explanatory sequential mixed-methods design. Following insights gained from the quantitative analysis, this phase delves into the nuanced interactions between devolved policies, business accelerators, and new venture creation within the context of selected case studies: Wales and the Tees Valley Combined Authority (TVCA). The chapter is structured to provide a coherent narrative that links the methodological underpinnings of the qualitative phase with the thematic findings derived from the analysis.

The chapter begins by situating the qualitative phase within the broader research framework, offering a detailed explanation of the methodology employed. The methodology section outlines the research design, justifying the use of a multiple-case study approach as aligned with Yin's (2014) framework. It describes the rationale for selecting Wales and TVCA as case studies, supported by quantitative phase findings, and details the data collection methods, including non-participatory observations, semi-structured interviews, and document analysis. This section also introduces the coding framework used to analyse qualitative data, linking its structure to the central research question and sub-questions guiding the study.

Subsequent sections of this chapter are devoted to each case study, providing a comprehensive exploration of the selected regions. For each case study, the narrative includes:

1. Contextual overview: An analysis of the regional context, covering the devolution framework, economic landscape, and entrepreneurial ecosystems.
2. Policy context: A detailed examination of devolved policies and associated initiatives relevant to entrepreneurship and new venture creation, highlighting how these policies align with the research themes identified in the quantitative phase.
3. Accelerator landscape: A review of key accelerator programmes within the region, their structures, objectives, and roles within the entrepreneurial ecosystem, with specific focus on TfW Labs in Wales and Tees Valley Innovation Accelerator in TVCA.
4. Findings: Thematic insights derived from the qualitative data analysis, addressing the research questions related to policy support for accelerators, adaptation of accelerator strategies to regional contexts, and the amplification of entrepreneurial outcomes through policy alignment.
5. Discussion: A critical analysis that integrates the findings with existing theoretical frameworks such as Regional Innovation Systems (Cooke, 1992) and entrepreneurial ecosystems. This section also reflects on the implications for governance structures, policy design, and the role of accelerators as intermediaries.

6. Conclusion: A synthesis of the key takeaways from the qualitative phase, linking the insights back to the central research question and setting the stage for the integrated discussion chapter.

The structure of this chapter is designed to ensure a logical progression from methodological considerations to empirical findings and their broader implications. By providing a rich, context-specific analysis of the selected case studies, this chapter seeks to deepen understanding of how devolved policies and business accelerators interact to influence regional entrepreneurial ecosystems. This analysis not only complements the quantitative findings but also contributes to the overall explanatory framework of the thesis, offering actionable insights for policymakers and practitioners.

5.2 Methodology

5.2.1 Research design

This section details the qualitative phase of the study, outlining the research design and its alignment with the central research question. The qualitative phase is situated within an explanatory sequential mixed-methods framework, following the quantitative analysis. This approach allows for a deeper exploration of the mechanisms, processes, and contextual factors underlying the interactions between devolved policies, business accelerators, and new venture creation.

5.2.1.1 Justification for the qualitative approach

The adoption of a qualitative approach in this phase is informed by the need to address the "how" and "why" aspects of the central research question: "How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions?" The study seeks to examine complex, context-dependent phenomena that cannot be fully captured through quantitative methods alone. By employing qualitative methods, the research enables an in-depth exploration of regional nuances, stakeholder perspectives, and institutional contexts, which are critical to understanding the dynamics of policy and entrepreneurial ecosystems (Creswell and Plano Clark, 2018).

This approach is grounded in a critical realist ontology, which acknowledges the existence of underlying structures and mechanisms influencing observed phenomena while recognising the role of human agency in interpreting these dynamics (Bhaskar,

1978; Danermark, Ekström and Karlsson, 2019). Epistemologically, the study adopts a pragmatist stance, emphasising the practical implications of research findings and the integration of multiple knowledge sources to address the research objectives effectively (Morgan, 2007). Together, these philosophical underpinnings justify the qualitative phase as an essential complement to the quantitative analysis, enabling a richer and more nuanced understanding of the study's central themes.

5.2.1.2 Case study methodology

The qualitative phase employs a multiple case study design, as defined by Yins (2014), to investigate the interplay between devolved policies and business accelerators across two regions: Wales and the Tees Valley Combined Authority (TVCA). The case study methodology is particularly well-suited to this research due to its ability to examine complex, context-specific phenomena within real-world settings. By focusing on two distinct cases, the study leverages a theoretical replication strategy to explore contrasting governance models and their implications for entrepreneurial ecosystems.

The rationale for selecting a multiple case study approach lies in its capacity to enhance the explanatory power of the research. Yin (2014) argues that multiple case studies allow for the identification of patterns across cases while accounting for contextual differences. This design aligns with the explanatory sequential mixed-methods framework by building on the quantitative phase findings to investigate regional variations in policy and entrepreneurial outcomes. Specifically, the cases of Wales and TVCA represent different devolution models – a reserved powers framework in Wales versus a collaborative governance model in TVCA – providing a comparative basis for understanding how varying levels of policy autonomy influence accelerator activities and venture creation.

5.2.1.3 Strengths of case study research in contextualised studies

Case study research offers several strengths in examining contextually embedded phenomena. First, it allows for the integration of multiple data sources, including observation notes, policy documents, and secondary data, to construct a comprehensive understanding of the case contexts (Stake, 2010). This triangulation enhances the validity of the findings and ensures that the analysis captures the complexity of interactions between devolved policies and accelerators.

Second, case studies provide a rich, detailed exploration of regional dynamics, enabling the identification of unique challenges and opportunities that shape entrepreneurial ecosystems. For example, the study examines how Welsh accelerators align with devolved policy priorities, such as sustainable tourism and decarbonisation, and how TVCA accelerators address skills gaps and industrial revitalisation. These insights contribute to theoretical advancements in understanding the role of regional governance in fostering entrepreneurship.

Finally, the case study methodology facilitates the integration of qualitative findings with the quantitative phase, ensuring coherence within the mixed-methods framework. By grounding the analysis in specific regional contexts, the research generates actionable insights for policymakers and practitioners, bridging the gap between academic theory and practical application.

The multiple case study approach provides the foundation for a detailed examination of Wales and TVCA as distinct yet comparable contexts. The selection of these cases, guided by the quantitative findings and theoretical considerations, ensures that the study captures a diverse range of governance structures and entrepreneurial outcomes. The next section elaborates on the criteria and process for selecting these case studies, highlighting their significance in addressing the central research question.

5.2.2 Case study selection

As outlined in the Research Design chapter, the selection of case study regions for the qualitative phase was guided by insights from the quantitative phase and aligned with the explanatory sequential mixed-methods design of the study. This chapter revisits that rationale in greater depth, focusing on the mechanisms and contextual factors underpinning the relationship between devolved policies, business accelerators, and new venture creation. Specifically, two regions – Wales and Tees Valley – were selected to provide diverse perspectives on the interaction between governance structures, entrepreneurial ecosystems, and policy implementation.

5.2.2.1 Rationale for case study selection

The decision to include Wales and the Tees Valley Combined Authority (TVCA) was informed by the findings from the quantitative phase, which highlighted regional variations in new venture creation rates (QNT.Q1) and the influence of devolved policy

configurations (QNT.Q2 and QNT.Q3). These two regions represent contrasting governance models and economic contexts, enabling the study to explore how different configurations of devolved powers shape accelerator effectiveness and entrepreneurial outcomes.

Wales was selected due to its reserved powers governance model, which grants significant legislative autonomy to the Welsh Government. This arrangement facilitates the development of region-specific policies, providing a distinctive context for examining how devolution influences entrepreneurial support systems. The region also demonstrated moderate performance in new venture creation during the quantitative phase and maintains a strong policy emphasis on strategic sectors such as renewable energy and digital innovation.

TVCA was chosen as a contrasting case, representing a mayoral combined authority model operating under more limited devolved powers and closer alignment with central government. The region's economic strategy centres on industrial regeneration and innovation in areas such as the hydrogen economy and advanced manufacturing. This context allows for investigation of how accelerators operate within multi-level governance frameworks, adapting to both regional priorities and national policy expectations.

5.2.2.2 Criteria for case selection

The selection of these regions was guided by the following criteria:

Quantitative performance insights: Regions were selected based on their new venture creation rates and policy effectiveness, as revealed in the quantitative phase. This ensures that the qualitative analysis addresses key patterns observed in the earlier phase.

Governance diversity: The cases represent distinct models of devolution – Wales with its reserved powers framework, and TVCA with a mayoral combined authority governance structure. This diversity allows for theoretical replication (Yin, 2014) to explore the impact of governance models on entrepreneurial outcomes.

Policy and accelerator presence: The regions were chosen for their active implementation of entrepreneurship-supportive policies and the presence of notable

business accelerators. Wales hosts programmes like TfW Labs, while Tees Valley features initiatives such as the Tees Valley Innovation Accelerator.

Sectoral focus: Each region prioritises distinct economic sectors, reflecting regional strengths and opportunities. Wales emphasises renewable energy and digital tourism, while Tees Valley focuses on industrial innovation and clean energy.

Taken together, these selection criteria ensured that each case offered both practical relevance and analytical contrast, setting the stage for a more detailed examination of their policy frameworks, entrepreneurial contexts, and accelerator landscapes in the sections that follow.

5.2.2.3 Contextual profiles of the selected regions

Wales operates under a reserved powers model, providing significant legislative autonomy in areas such as economic development, skills, and infrastructure. This autonomy allows the Welsh Government to implement targeted policies, such as the Economic Action Plan, which supports innovation and entrepreneurship. The region's entrepreneurial ecosystem is bolstered by accelerators like TfW Labs, which align their programmes with government priorities, including decarbonisation and sustainable tourism.

Tees Valley Combined Authority, part of the broader North East region, operates under a collaborative governance model with limited devolved powers. The region's economic strategy focuses on industrial revitalisation through initiatives such as the Teesworks industrial zone and the hydrogen economy cluster. Accelerators like the Tees Valley Innovation Accelerator play a critical role in aligning entrepreneurial support with these regional priorities.

5.2.2.4 Representativeness and uniqueness

The chosen regions are both representative of the broader dynamics of devolution in the UK and unique in their specific governance and economic contexts. Wales exemplifies the potential of legislative autonomy to create a cohesive entrepreneurial ecosystem, while Tees Valley highlights the challenges and opportunities of collaborative governance in driving economic regeneration. Together, these cases provide a comprehensive understanding of how devolved policies and accelerators interact to influence new venture creation.

The analysis of these regions relies on a combination of qualitative methods, including document analysis, observations, and interviews. The next section details the data collection methods employed in this phase, highlighting how they provide the empirical foundation for exploring the dynamics observed in Wales and Tees Valley.

5.2.3 Data collection methods

The qualitative phase of this research employed document analysis and non-participatory observation as complementary methods to explore the interaction between devolved policies and business accelerators within their regional contexts. These methods were selected to provide both breadth and depth in understanding the dynamics of entrepreneurial ecosystems under devolved governance, following the principles of qualitative case study research (Yin, 2014). By combining these approaches, the study aimed to address its qualitative research questions while ensuring the validity and richness of the data collected.

Document analysis was a foundational method, enabling a systematic review of policy frameworks, regional strategies, and accelerator-specific materials. This approach facilitated the exploration of how devolved policies and initiatives align with and support entrepreneurial activity. Key documents included the Welsh Government's Economic Action Plan (Welsh Government, 2017), the Future Wales National Plan 2040 (Welsh Government, 2021), and the Tees Valley Strategic Economic Plan 2016-2026 (Tees Valley Combined Authority, 2016). These documents were sourced from publicly accessible government repositories, regional authority publications, and accelerator reports, ensuring that they were directly relevant to the study's research questions. The selection process followed best practices for qualitative research, prioritising documents that addressed the study's theoretical and empirical concerns (Bowen, 2009).

At the same time, I remained cautious not to treat these documents as neutral representations of policy intent or accelerator performance. Many were produced for strategic or legitimating purposes – particularly government strategy documents, programme brochures, and accelerator reports – and often adopted an overtly promotional tone. Rather than taking them at face value, I read these materials as socially constructed texts – reflections of institutional narratives as much as operational realities. This awareness helped to guard against uncritical acceptance of policy or

organisational claims, especially where documents sought to portray coherence or success. Where possible, documentary material was interpreted alongside other forms of field data and always treated as a situated artefact rather than an objective account (Bowen, 2009). This reflexive stance helped to support more cautious interpretations by recognising the communicative function and potential biases embedded in the documents themselves.

The analysis of these documents was guided by thematic and content analysis techniques, operationalised through NVivo 15 software. A hierarchical coding framework aligned with the qualitative research questions and theoretical constructs such as Regional Innovation Systems (Cooke, 1992) was employed. Themes such as 'Policy Support for Accelerators' and 'Accelerator Adaptation' were pre-defined based on existing literature, while emergent sub-themes, including 'Cultural Legitimation' and 'Policy Gaps' were identified iteratively during the analysis. This approach ensured a balance between deductive and inductive insights, aligning with Yin's (2014) emphasis on maintaining methodological rigour in case study research. The findings from document analysis provided critical insights into the alignment between policy objectives and accelerator activities, which were then triangulated with observational data for enhanced validity.

Non-participatory observation complemented document analysis by providing real-time insights into accelerator operations and their interaction with regional policy frameworks. This method was particularly significant in the Wales case study, where the Transport for Wales (TfW) Labs accelerator was observed. Observation sessions included site visits to TfW facilities in Newport, Cardiff, and Taff's Well, as well as group discussions and presentations. These observations offered a micro-level perspective on how accelerator programmes operationalised policy priorities, such as addressing skills gaps and fostering innovation in sustainable transport.

The observational approach adhered to structured protocols to minimise researcher influence and maximise data reliability. Notes were taken during sessions to record activities, stakeholder interactions, and discussions, and these were supplemented by transcripts of key moments where available. Following ethical guidelines, all participants were informed of the researcher's role and the purpose of the study, ensuring transparency and voluntary participation. Anonymisation and secure storage

of the data ensured compliance with data protection requirements and upheld participant confidentiality.

By integrating these methods, the study was able to capture both the broader policy environment and the specific practices of accelerators within their regional contexts. Document analysis provided a macro-level understanding of the strategic and institutional landscape, while observation revealed the practical implementation of policies by accelerators. For example, while the Welsh Government's Economic Action Plan articulated a commitment to decarbonisation and innovation, observational data from TfW Labs demonstrated how these priorities were translated into tailored mentorship programmes for green technology startups. This integration of methods aligns with Yin's (2014) emphasis on the importance of multiple data sources in case study research to enhance the robustness of findings.

The combination of document analysis and non-participatory observation not only ensured a comprehensive exploration of the qualitative research questions but also allowed for the triangulation of data to strengthen the study's validity. The insights derived from these methods form the basis for the subsequent analysis, where patterns and themes are synthesised to address the central research question.

5.2.4 Data analysis

The qualitative analysis in this study followed a structured but adaptable approach, informed by the core principles of the Gioia methodology (Gioia, 2021) and supported by a broader grounding in qualitative research traditions such as grounded theory, thematic analysis, and case-based coding practices. While the full shape of the analysis evolved in response to the data and the needs of the case studies, the core logic – of progressing from informant-centric terms to more abstract theoretical dimensions – remained consistent throughout. This structure was particularly useful for making sense of complex, policy-rich environments and for maintaining analytical transparency in a study that sought to bridge theory, field observation, and regional variation.

From the outset, the aim was to develop a rigorous coding structure that could help reveal how business accelerators interacted with devolved policies in distinct regional contexts. The analysis began with the systematic identification of first-order terms – recurring patterns, concepts, and mechanisms observed across documentary sources, policy materials, and notes from accelerator sessions. These were identified through

repeated reading of the material and line-by-line open coding, using NVivo to tag segments of text that captured distinctive ideas, framings, or recurring terminology used by policymakers, programme designers, and accelerator stakeholders. The aim at this stage was to remain close to the language and framing of the sources themselves, particularly around themes such as regional priorities, programme adaptation, or legitimacy.

As the analysis progressed, these first-order terms were refined and grouped into broader second-order themes that reflected emerging conceptual patterns. This phase moved beyond simple description to begin interpreting the deeper structures and mechanisms that appeared to be shaping accelerator behaviour in context. For example, recurring references to alignment with government priorities or access to public credibility were grouped into a theme relating to policy legitimation, while patterns around tailoring delivery models to local norms informed a broader theme of cultural embeddedness.

A third stage involved further abstraction, identifying overarching dimensions that connected these second-order themes into a more integrated understanding of the phenomenon. These aggregate dimensions were shaped in part by the theoretical framing of the thesis – particularly institutional theory, regional innovation systems, and entrepreneurial ecosystem literature – but were not predetermined. Instead, they emerged through an abductive process that sought to make sense of the interaction between data and theory, consistent with the study's critical realist orientation (Sayer, 2000; Archer *et al.*, 2013).

This analysis process shares strong affinities with the Gioia methodology, particularly in its concern with maintaining a visible link between empirical codes and abstract constructs, and in structuring those links across three tiers of conceptual depth. However, some adaptations were necessary. Because the study formed part of a broader explanatory sequential mixed-methods design, the development of the coding structure was shaped not only by emergent insights but also by a need to maintain coherence with the patterns identified in the earlier quantitative phase. As such, while inductive coding remained central to the process, the development of the framework also drew on theoretical constructs identified during earlier stages of the research.

Another point of divergence from standard applications of the Gioia method lies in the nature of the data. Rather than relying on interviews, this study drew primarily on non-participatory observations, policy and programme documents, and written reflections from fieldwork. These sources required interpretive attention to how meaning was constructed through organisational language, programme framing, and policy discourse, rather than through spoken narrative alone. Nonetheless, the structured progression from first-order terms to second-order themes and theoretical dimensions proved equally useful in this context and was well-suited to unpacking the layered interactions between accelerators, policymakers, and regional institutions.

This process was managed using NVivo 15 software, which supported both the initial open coding and the development of the hierarchical thematic framework. NVivo also facilitated the organisation of data across cases and allowed for close comparison between regions – particularly helpful when applying the same framework to two distinct governance environments (Wales and Tees Valley).

5.2.4.1 Application of the framework

The final analytical framework was organised around three core domains, each corresponding to one of the qualitative research questions (QLT.Q1–Q3). Within each domain, subcategories were defined both deductively – drawing on theoretical literature and the quantitative findings – and inductively, through repeated engagement with the data. In some cases, sub-themes emerged during the coding process that had not been anticipated but proved conceptually important. For instance, distinctions emerged between different forms of accelerator adaptation – one focused on policy discourse and another on social or cultural embeddedness – leading to refinements in the structure of second-order themes.

The structure of this framework is summarised in the following two tables. The first outlines the themes directly linked to each qualitative research question. The second identifies cross-cutting themes and policy domains that shaped the coding structure across both cases.

Domain	Category	Description
QLT.Q1 - Policy Support for Accelerators	Enabling Policy Environment	Descriptions of policies facilitating accelerator activities or creating opportunities for startups.
	Initiatives	Regional authority programmes or policies that directly enable accelerators.
	Policy Alignment	How regional authority policies are designed or implemented to directly or indirectly support new venture creation and acceleration.
	Policy Gaps	Evidence of unmet needs or limitations in policy support for new venture creation and accelerators.
QLT.Q2 - Accelerator Adaptation	Cultural Alignment	Adaptations made by accelerators to align with the cultural or institutional norms of the region.
	Local Challenges	Evidence of accelerators or ventures addressing specific regional needs or barriers.
	Programme Customisation	How accelerators tailor their services to local entrepreneurs.
	Sectoral Focus	Accelerator activities targeting specific sectors or industries relevant to regional policy priorities.
QLT.Q3 - Accelerators Amplifying Impact	Amplification Mechanisms	Specific actions taken by accelerators to enhance the value of policy initiatives.
	Opportunity Identification	Examples of accelerators helping entrepreneurs recognise and exploit policy-driven opportunities.
	Opportunity Legitimation	How accelerators support startups in gaining credibility and legitimacy to capitalise on opportunities.
	Policy-Driven Impact	Evidence of tangible outcomes from policy-accelerator alignment.

Table 1: Coding framework – Thematic structure

Domain	Category	Description
Cross-Cutting Themes	Barriers to Success	Challenges faced by accelerators or entrepreneurs that hinder their success.
	Entrepreneurial Ecosystem	Entrepreneurial Ecosystem development.
	Legitimation Processes	How accelerators help entrepreneurs gain credibility within regional systems.
	Opportunities for Growth	Broader opportunities created by the regional entrepreneurial ecosystem.
	Regional Contexts	Insights into how local culture, governance, or infrastructure shape accelerator operations.
	Stakeholder Collaboration	Collaboration with regional stakeholders.
Policy Area	Access to Finance	Mentions of policies providing funding or financial incentives.
	Business Support Services	Services such as mentoring, consultancy, or networks.
	Infrastructure Support	Policies related to physical or virtual entrepreneurial infrastructure.
	Innovation Support	Policies encouraging R&D, innovation hubs, or technology adoption.
	Sector-Specific Initiatives	Initiatives targeting specific industries or sectors.
	Skills Development	Policies focused on entrepreneurial training and education.

Table 2: Coding framework – Cross-cutting categories

The coding process was iterative rather than linear. As new patterns were observed, earlier codes were revisited and refined, sometimes collapsed or split into more precise categories. This allowed the framework to remain responsive to the complexity of the empirical material while retaining enough structure to support comparison across cases. Memos were used throughout to record reflections on coding decisions, to track thematic developments, and to link data segments with theoretical insights.

Throughout, care was taken to preserve the link between observed data and conceptual interpretation. While the QLT.Q3 coding domain was originally structured around

accelerators' amplification of policy impact, the analysis also attended to mutual influences between accelerators and devolved policy frameworks. These relational dynamics, though not always formalised as separate codes, informed higher-level interpretation across both case studies. This was particularly important given the realist epistemology underpinning the study, which assumes that observable surface patterns are shaped by deeper generative mechanisms. The role of the researcher was not simply to summarise what was visible, but to trace how accelerators' observable behaviour might reflect responses to institutional logics, policy structures, or regional conditions. The resulting framework – a revised and partially adapted version of the Gioia structure – provided a coherent and flexible basis for interpreting these dynamics in a way that remained grounded in the empirical material while supporting theoretical abstraction.

5.2.4.2 Cross-case analysis approach

Building on the thematic framework developed in the previous section, the cross-case analysis aims to identify patterns, similarities, and differences between the two case study regions: Wales and the Tees Valley Combined Authority. This phase draws on established multiple-case study methodologies (Yin, 2014) and is structured to extend the explanatory power of the earlier coding by comparing how devolved governance arrangements shape the interaction between accelerators and regional policy contexts. By systematically applying the same coding structure across both cases, the analysis reveals how contextual factors, governance models, and accelerator strategies influence entrepreneurial outcomes in distinct settings.

The process begins with finalising within-case themes and findings for each region, ensuring the analysis is fully grounded in the data. These findings are structured using the hierarchical coding framework developed earlier, which provides a systematic basis for identifying and categorising themes aligned with the research questions. Summarised case narratives capture the unique dynamics and phenomena observed within each region, serving as a foundation for comparison.

A cross-case matrix is then constructed to systematically organise and compare themes, sub-themes, and findings across the cases. The matrix, consistent with best practices in qualitative research (Miles, Huberman and Saldaña, 2014), aligns with the qualitative research questions (QLT.Q1, QLT.Q2, and QLT.Q3) and includes cross-cutting themes such as stakeholder collaboration and regional contexts. This visual representation

facilitates the identification of convergent and divergent patterns across the cases, such as similarities in legitimation processes or differences in how accelerators adapt to regional policy priorities.

The next step involves synthesising these patterns to address the central research question. This synthesis draws on key theoretical frameworks, such as entrepreneurial ecosystems (Isenberg, 2010), to explain how contextual differences shape the interaction between accelerators and devolved policies. For example, the analysis may reveal that the more extensive devolved powers in Wales enable distinct opportunities for accelerators compared to the collaborative governance model in the Tees Valley.

Finally, the cross-case analysis concluded with the integration of findings into broader theoretical and practical implications. By situating observed patterns within existing literature, the study provided insights into how regional entrepreneurial ecosystems can be strengthened through tailored accelerator strategies and effective policy alignment. This structured comparative approach also supported the rigour and consistency of the findings, forming a bridge to the broader concerns of validity and reliability.

5.2.4.3 Ensuring validity and reliability

Ensuring validity and reliability in qualitative research is critical for maintaining the rigor and trustworthiness of findings. This study integrates multiple strategies to achieve these objectives, drawing on established methodological principles to enhance the robustness of its qualitative phase. These measures address the integration of diverse data sources, reflexivity to mitigate subjectivity, and triangulation to strengthen credibility, aligning with widely accepted criteria for trustworthiness in qualitative inquiry (Lincoln and Guba, 1985; Yin, 2014). In addition, the structured progression from first-order terms to second-order themes within the adapted Gioia framework supported analytic transparency and provided a traceable link between empirical material and theoretical interpretation.

The study relies on multiple data sources, including participant observation notes, secondary documents, and regional-specific data from the two case study regions, Wales and the Tees Valley Combined Authority. These sources were integrated systematically using the hierarchical coding framework, ensuring that the analysis remained structured and aligned with the research objectives. Each data source contributed complementary insights, allowing for a multifaceted exploration of the interaction

between business accelerators and devolved policies. For example, secondary documents detailing regional policy frameworks were triangulated with observational data to validate findings and provide a more comprehensive understanding of the phenomena under investigation.

Rigor and trustworthiness were prioritised throughout the research process, guided by the principles of credibility, transferability, dependability, and confirmability (Lincoln and Guba, 1985). Credibility was achieved through iterative engagement with the data, whereby coding and thematic interpretations were continuously refined to reflect emergent insights. Transferability was supported by offering detailed descriptions of the case study contexts, enabling others to assess the applicability of findings to different settings. Dependability was ensured by transparently documenting the research process, including the development of the coding framework and the steps taken during analysis. Confirmability was enhanced by maintaining an audit trail, documenting key decisions and the progression of coding iterations, thereby ensuring interpretations were grounded in the data.

Reflexivity played a key role in addressing the potential influence of researcher subjectivity on the qualitative analysis. Reflexive practices included maintaining a research journal to document assumptions, biases, and reflections throughout the research process. This journal was revisited during coding and analysis to ensure interpretations were informed by the data rather than preconceived notions. Reflexivity also shaped the researcher's approach to interacting with data sources, fostering critical awareness of how their role might influence the research outcomes and ensuring an ongoing commitment to methodological transparency.

Triangulation was a central strategy for enhancing validity, involving the comparison and corroboration of evidence across multiple data sources. This process ensured that findings were not reliant on a single perspective but reflected a more robust synthesis of available information. For instance, patterns observed in secondary documents were corroborated with data from participant observations to confirm themes related to accelerator adaptation and policy alignment. Triangulation extended to comparisons between the two case study regions, reinforcing the cross-case analysis and ensuring that findings were consistent across different contexts. Additionally, methodological triangulation was applied by integrating findings from the qualitative and quantitative

phases of the study, providing a richer and more contextualised understanding of the interactions between business accelerators and devolved policies.

Through these strategies, the study demonstrates a rigorous approach to ensuring validity and reliability in qualitative research. The integration of an adapted Gioia structure further contributed to the clarity and coherence of the analysis, supporting both empirical depth and theoretical alignment. Alongside reflexive practices and triangulated insights, these strategies align with established methodological standards (Lincoln and Guba, 1985; Miles, Huberman and Saldaña, 2014; Yin, 2014) and enhance the trustworthiness of the findings. This ensures that the conclusions drawn are robust, credible, and reflective of the complex dynamics underlying the interactions between business accelerators, devolved policies, and regional entrepreneurial ecosystems.

5.2.5 Ethical considerations

Ethical considerations were integral to the design and implementation of the qualitative phase of this study, ensuring that the research adhered to high standards of integrity and respect for participants. This sub-section outlines the informed consent procedures, confidentiality measures, and the ethical approval process undertaken, as well as specific ethical considerations related to the qualitative methodology employed.

Informed consent was a foundational element of the study's ethical approach. All participants involved in the case studies were provided with detailed information about the research objectives, methods, and their role in the study. In all sessions attended as part of participant observation, I was introduced along with my role and the purpose of my attendance.

Confidentiality measures were rigorously applied to protect participants' privacy and the sensitive nature of the data collected. Data from participant observations, and secondary sources were anonymised by removing identifying information and coding responses using pseudonyms. The anonymised data was securely stored in encrypted files, with access limited to the researcher. These measures ensured compliance with data protection regulations and upheld the ethical principle of confidentiality. Additionally, care was taken in reporting findings to ensure that individuals and organisations could not be inadvertently identified.

Ethical approval for the study was obtained through the institutional ethics committee, following a formal review process. The ethical consent forms for a multiple case study design were completed and approved ahead of the accelerator programme's commencement. This approval confirmed that the research adhered to ethical guidelines, including those outlined by the British Sociological Association (2017) and the Economic and Social Research Council (2015). Permission to conduct the study was also arranged with the accelerator programme organisers, ensuring that all stakeholders were informed and supportive of the research activities.

Specific ethical considerations arose from my use of non-participatory observation as a primary data collection method. While this approach offered valuable insights into the operational dynamics of business accelerators, it also required careful attention to participant rights and potential power imbalances. To mitigate the risk of participants feeling coerced or unaware of their right to withdraw, I adhered to ethical principles of transparency and informed consent. This involved creating an open environment, reminding participants of their rights to decline participation without consequences, and maintaining consistent communication to ensure they felt comfortable and respected. Such practices align with widely recognised ethical guidelines for qualitative research, which emphasise the importance of voluntary participation and minimising harm to participants (Clark *et al.*, 2021).

Given the non-participatory nature of the observation, it was important to maintain a professional distance while recognising the potential influence of my role as an observer on the dynamics of the sessions. To address this, I employed reflexivity as a core practice. This involved acknowledging my positionality, reflecting on how my presence might affect participants, and actively examining potential biases in my interpretation of the data. Reflexivity, as advocated in qualitative research methodology, is essential for maintaining ethical integrity and analytical rigor, ensuring that the research process does not unduly disrupt the natural flow of observed interactions (Alvesson, 2018).

In summary, the study was conducted in accordance with robust ethical principles, ensuring that the rights, privacy, and well-being of participants were prioritised throughout. The combination of informed consent procedures, confidentiality measures, and a thorough ethical approval process underpinned the ethical integrity of the research. These measures not only addressed potential risks but also enhanced the credibility and trustworthiness of the qualitative findings.

5.3 Case study 1: Wales

5.3.1 Introduction

The Wales case study examines the interplay between devolved policies and business accelerators within the context of new venture creation. Building on the findings of the quantitative phase and framed by the theoretical lens of regional innovation systems (Cooke, Gomez Uranga and Etxebarria, 1997; Tödtling and Trippl, 2005), this case provides a detailed, context-specific exploration of how devolved governance structures support entrepreneurial ecosystems. Wales was selected as a focal region due to its distinctive governance model and the rich opportunities it presents for investigating the operational dynamics of business accelerators in a devolved context.

Since the establishment of its devolved legislature in 1998, Wales has gradually expanded its legislative autonomy, operating under a reserved powers model since 2018, which grants a high degree of control to implement policies tailored to regional needs. This structure has enabled the Welsh Government to pursue policies aimed at fostering entrepreneurship, with a focus on areas such as innovation support, skills development, and infrastructure investment (Morgan, 2013). These initiatives reflect the government's strategic commitment to enhancing local economic activity and addressing regional disparities, positioning Wales as a leader in leveraging devolution for entrepreneurial growth.

A further rationale for selecting Wales is its well-established ecosystem of entrepreneurship-supportive policies, which provides a robust foundation for exploring the interactions between accelerators and devolved frameworks. Specifically, Wales exemplifies how devolved authorities can align their policy priorities with the operational strategies of accelerators, enabling a tailored approach to new venture support. Such alignment is essential for understanding how devolved governance can influence entrepreneurial outcomes, particularly in regions with distinct socio-economic and cultural contexts.

Data collection for this case study was enhanced by access to TfW Labs, an accelerator programme embedded within the Welsh entrepreneurial landscape. Observational insights gathered during group sessions, site visits, and engagements with TfW Labs facilities – including those in Newport and Taff's Well – provided an invaluable empirical basis for exploring how accelerators engage with devolved policies. Although interviews

were not conducted, the observational data was complemented by relevant policy documents and transcripts, enabling a multi-faceted understanding of the region's entrepreneurial ecosystem.

The Wales case study contributes to the broader research aim of elucidating the mechanisms by which devolved policies and business accelerators interact to shape regional entrepreneurial outcomes. By focusing on a region with a mature devolved governance structure and proactive entrepreneurship policies, this case highlights the opportunities and challenges inherent in leveraging devolution to foster economic development. The insights gained here will not only inform the discussion of Wales's regional innovation system but will also provide a comparative basis for analysing the second case study, Tees Valley Combined Authority.

5.3.2 Contextual background

Wales provides a compelling context for examining the interplay between devolved policies, business accelerators, and regional entrepreneurial ecosystems. This sub-section outlines the devolution framework, economic landscape, entrepreneurial ecosystem, and key economic challenges and opportunities in Wales, synthesising these elements into a cohesive narrative relevant to the study.

The devolution framework in Wales is characterised by significant legislative and executive autonomy, which has evolved considerably since the creation of the National Assembly for Wales in 1999. Operating under a reserved powers model since 2018, the Welsh Government possesses jurisdiction over critical areas such as health, education, transport, and economic development. The Wales Act 2017 further expanded these powers, granting legislative competence over areas like energy, natural resources, and some taxation policies. This progression underscores the Welsh Government's growing capacity to implement policies tailored to regional needs, creating an environment conducive to fostering entrepreneurship and innovation.

The economic landscape of Wales is shaped by a mix of challenges and opportunities. While Wales has a population of approximately 3.1 million, its GDP per capita remains below the UK average, reflecting ongoing issues with regional economic disparities (Office for National Statistics, 2022). The employment rate, though generally stable, is impacted by a historical reliance on industries such as coal mining and heavy manufacturing, which have experienced long-term decline. Today, Wales is increasingly

focused on transitioning to a knowledge-based economy, with sectors such as advanced manufacturing, renewable energy, and life sciences gaining prominence (Welsh Government, 2017). However, regional inequalities persist, with urban centres like Cardiff and Swansea showing stronger economic performance compared to rural areas.

The Welsh entrepreneurial ecosystem is an integral component of the region's economic strategy, heavily supported by the Welsh Government's targeted initiatives. Programmes such as the Development Bank of Wales and the Smart Cymru scheme exemplify the government's commitment to providing funding, innovation support, and mentorship to local businesses (Development Bank of Wales, 2022). Furthermore, accelerators like TfW Labs play a crucial role in fostering innovation by supporting startups through mentorship, funding opportunities, and access to industry networks. These programmes align with broader regional innovation policies, such as the Economic Action Plan, which prioritises skills development, infrastructure investment, and sector-specific initiatives to stimulate growth (Welsh Government, 2017).

Despite these efforts, Wales faces several economic challenges that influence its entrepreneurial landscape. Regional disparities remain a significant issue, exacerbated by infrastructure gaps and skill shortages in key growth sectors (Cooke, 1992). Additionally, the limited availability of venture capital in Wales constrains the scaling of innovative businesses (Development Bank of Wales, 2022). Addressing these challenges requires leveraging opportunities such as the region's burgeoning renewable energy sector and its strategic focus on digital innovation. Devolved governance provides Wales with a unique ability to tailor policies that respond directly to these issues, creating a fertile environment for targeted entrepreneurial interventions.

Overall, the Welsh context presents a complex but promising setting for exploring the interaction between devolved policies, business accelerators, and regional entrepreneurship. Its advanced devolution framework, coupled with an evolving economic landscape and proactive entrepreneurial ecosystem, highlights the potential for accelerators to act as intermediaries in translating policy objectives into tangible economic outcomes. By addressing persistent challenges and harnessing its unique opportunities, Wales exemplifies the broader dynamics at play in the study of devolved governance and entrepreneurial development.

5.3.3 Accelerator landscape

The accelerator landscape in Wales is a key component of its entrepreneurial ecosystem, contributing to the development of startups and small businesses through structured programmes that provide mentorship, funding access, and market connections. Business accelerators in Wales operate with a focus on addressing regional economic challenges while leveraging the opportunities created by devolved governance. This section provides an overview of accelerator activity in Wales, highlighting notable programmes and their roles, and focuses specifically on TfW Labs as a case study of regional accelerator activity.

Accelerators in Wales are diverse in their structures and objectives, with a shared emphasis on fostering innovation and supporting early-stage businesses. Notable programmes include the Development Bank of Wales's *Accelerate Wales*, which provides tailored funding packages and mentoring services to startups, and *Business Wales Accelerators*, which offers guidance and resources to entrepreneurs across a range of sectors. These programmes aim to enhance regional economic performance by addressing funding gaps, developing entrepreneurial skills, and fostering innovation. A significant outcome of these efforts has been an increase in startup survival rates and the growth of sector-specific entrepreneurial clusters, particularly in areas such as renewable energy and digital technologies (Development Bank of Wales, 2022).

Accelerators in Wales also play an explicit role in strengthening the regional entrepreneurial ecosystem by acting as intermediaries between policymakers, entrepreneurs, and private sector stakeholders. For instance, many accelerators align their objectives with the Welsh Government's Economic Action Plan, which prioritises innovation, infrastructure investment, and skills development (Welsh Government, 2017). This alignment ensures that accelerators not only support individual entrepreneurs but also contribute to broader regional development goals.

Among the accelerators in Wales, the Lab by Transport for Wales (TfW Lab) emerges as a leading innovation programme, aiming to support startups with solutions that enhance rail services and align with broader Welsh economic and environmental goals. Initiated by Transport for Wales in 2020, the programme seeks to promote innovation in areas like customer experience, digital tools, and sustainable transport solutions. This initiative represents a key component of Wales's strategy to foster regional development

by leveraging local talent and integrating innovative ideas into public infrastructure (Anna Flockett, 2020; Transport for Wales, 2020a).

The structure of TfW Lab is designed to accelerate early-stage businesses through a 12-week programme, providing participants with mentorship, access to sector experts, and opportunities for real-world testing within Wales's transport ecosystem. A hallmark of this programme is its focus on tangible outcomes, with startups presenting their solutions during a final demo day to secure further development opportunities. The Lab's commitment to nurturing impactful ideas is evident in its support of projects ranging from digital wayfinding tools to energy-efficient transport technologies. This hands-on approach not only facilitates the development of viable solutions but also strengthens Wales's position as a hub for innovation in public transport (Anna Flockett, 2020; Transport for Wales, 2024) .

TfW Lab's alignment with the Welsh Government's priorities underscores its strategic significance. By fostering innovation in sectors such as renewable energy, digital transformation, and sustainable infrastructure, the Lab contributes to addressing systemic challenges in regional transport and beyond. Its emphasis on collaborative development and testing within Wales's transport network ensures that the accelerator remains an integral part of the region's broader economic and environmental strategies (Transport for Wales, 2020a, 2020b, 2021b).

In summary, the accelerator landscape in Wales is a vital enabler of entrepreneurial activity, fostering innovation and supporting regional economic development. TfW Labs exemplifies this dynamic, combining a clear mission with a structured programme to deliver tangible benefits for startups and the wider ecosystem. By addressing regional priorities and leveraging Wales's devolved policy framework, accelerators such as TfW Labs demonstrate the critical role of targeted entrepreneurial support in driving sustainable growth and innovation.

5.3.4 Policy context

The policy context in Wales provides a critical foundation for understanding the dynamics of new venture creation and entrepreneurship within the devolved region. The Welsh Government's devolved powers over economic development, skills, and innovation have enabled the implementation of targeted policies designed to address regional challenges and opportunities. These policies are aligned with the priorities

outlined in the Economic Action Plan (Welsh Government, 2017), the Employability Plan (Welsh Government, 2018), and the Innovation Strategy (Welsh Government, 2022c), forming a cohesive framework to support entrepreneurial activity across the region.

Access to finance has been a central focus of Welsh Government policy, addressing a key barrier to new venture creation. The Development Bank of Wales plays a pivotal role in this regard, providing equity and debt finance to startups and small businesses. Initiatives such as the Micro Loan Fund and the Angel Co-Investment Fund are specifically designed to bridge funding gaps and enable early-stage ventures to scale. These financial mechanisms align with the Economic Action Plan's emphasis on providing the resources necessary for business growth, ensuring that entrepreneurs in Wales have access to diverse funding opportunities.

The development of entrepreneurial skills and education is another cornerstone of the policy framework in Wales. Recognising that a skilled workforce is essential for economic resilience, the Welsh Government has implemented initiatives such as the Skills Gateway for Business and the Entrepreneurship Exchange Wales. These programmes aim to equip entrepreneurs with the knowledge and capabilities required to navigate the complexities of business creation and growth. The Skills and Employability Plan further supports this agenda by targeting upskilling and reskilling efforts to meet the demands of a changing economy, with a particular focus on digital and technological skills.

Innovation support in Wales is delivered through a range of targeted initiatives, reflecting the Welsh Government's commitment to fostering a culture of research and development. Programmes such as Smart Cymru and Accelerate Wales provide critical funding and resources for businesses seeking to develop and commercialise innovative products and services. These initiatives align closely with the Innovation Strategy, which prioritises technology adoption, collaboration with academic and research institutions, and the creation of innovation hubs as drivers of economic growth.

Infrastructure and place-based support form a key part of the Welsh Government's strategy to enable entrepreneurship. The Transforming Towns initiative exemplifies this approach by investing in local infrastructure to revitalise town centres and create supportive environments for business activity. These efforts are underpinned by the Economic Action Plan's broader goals of enhancing connectivity and improving regional

accessibility, ensuring that entrepreneurs have the physical and digital infrastructure needed to succeed.

Business support services in Wales are provided through a network of initiatives, with Business Wales serving as a flagship programme. Business Wales offers comprehensive support, including mentoring, consultancy, and access to networks for startups and small businesses. The programme also focuses on inclusivity, with tailored support for underrepresented groups such as women entrepreneurs and social enterprises. This holistic approach ensures that entrepreneurs at all stages of development can access the resources they need to thrive.

Sector-specific initiatives reflect the Welsh Government's focus on fostering growth in strategic industries, such as renewable energy, life sciences, and digital technologies. The Tech Valleys Programme is a prominent example, aiming to establish high-tech clusters and promote entrepreneurship in emerging sectors. These targeted interventions are designed to enhance regional competitiveness and resilience by leveraging Wales's unique strengths and opportunities.

Overall, the policy context in Wales illustrates how devolved governance can create conditions that are more supportive of entrepreneurship. Through targeted initiatives in areas such as finance, skills, innovation, infrastructure, and sectoral development, the Welsh Government has contributed to the development of a policy environment that supports new venture creation. These efforts form part of the institutional backdrop within which accelerators like TfW Labs operate, highlighting the potential for alignment between regional policy and entrepreneurial support to shape local economic outcomes.

5.3.5 Findings

This section presents the findings from the qualitative analysis of data collected for the Wales case study. The analysis draws on observation notes from the Transport for Wales (TfW) Labs accelerator programme and a first- and second-order coding of key policy documents, following an adapted Gioia-style framework. Key documents included *Future Wales: The National Plan 2040* and *Annual Review of the South Wales Transport Programme*. The findings are organised around the qualitative research questions (QLT.Q1, QLT.Q2, and QLT.Q3) to explore the relationship between devolved policies, business accelerators, and new venture creation in Wales.

5.3.5.1 QLT.Q1: How do devolved policies support or enable business accelerators to drive new venture creation in subnational regions?

Devolved policies in Wales provide substantial support for business accelerators like TfW Labs through targeted funding initiatives, skills development programmes, and innovation-focused grants. For instance, the Economic Action Plan emphasises the importance of public investment in fostering entrepreneurship and innovation while aligning these efforts with the Welsh Government's decarbonisation goals (Welsh Government, 2017). Specific policies, such as the Young Person's Guarantee, aim to develop entrepreneurial skills among youth, which indirectly benefits accelerators by creating a pipeline of potential startup founders (Welsh Government, 2022b).

Transport for Wales (TfW) Labs demonstrates a robust capacity as a policy implementer, adeptly operationalising high-level devolved strategies into tangible support for entrepreneurial ventures. This capability was evident in its alignment with the Welsh Government's strategic objectives, particularly in promoting sustainable tourism through digital innovation. For instance, one observed accelerator project focused on developing a gamified app designed to incentivise train travel while simultaneously fostering engagement with local businesses. This initiative directly aligns with the priorities outlined in the Prosperity for All: Economic Action Plan, which emphasises sustainable transport and community development (Welsh Government, 2017).

Observation notes from the TfW Labs sessions reinforce this alignment, revealing a recurring theme of balancing economic goals with broader public value objectives. The gamified app's integration with a local loyalty scheme exemplified how accelerator initiatives can simultaneously support commercial activity and advance governmental aims such as decarbonisation and inclusive growth. These priorities echo those found in TfW's Annual Report 2022/23, which emphasises community engagement and sustainable transport (Transport for Wales, 2023).

This alignment between accelerator programming and policy priorities reflects the strategic role of entrepreneurship in Wales's devolved economic framework. As the Welsh Government notes, "Economic Development is devolved to Wales. Part of this role is to help create a stable, favourable business environment and address market failures. Business Wales will make a significant impact on these objectives by providing signposting to other relevant business support provision in Wales" (Welsh Government, 2022a, p. 9). While this statement references a range of support mechanisms, it

explicitly includes services for both pre- and post-startup businesses – a category that encompasses accelerator programmes like TfW Labs. Although focused on the transport sector, TfW Labs operates within this broader entrepreneurial infrastructure. By directing programme activities toward decarbonisation, active travel, and community development, the Lab effectively translates high-level policy priorities into startup-led interventions. This supports the argument that accelerators in Wales do not merely align with policy goals – they play an active role in operationalising them within devolved governance systems.

Taken together, this evidence illustrates the critical interplay between devolved policy frameworks and the strategic functioning of business accelerators. Rather than acting as neutral service providers, accelerators like TfW Labs contribute to policy delivery by embedding national priorities into their operational models. This integrated role helps explain how structured coordination between regional policy and entrepreneurial support can enable more effective venture creation and long-term ecosystem development.

Leading into the findings for the next research question (QLT.Q2), the focus shifts to exploring how business accelerators adapt their programmes and strategies to align with the unique needs and policy priorities of devolved regions. This next section will delve into the nuanced ways accelerators respond to regional contexts, further illuminating their role in driving innovation and fostering new venture emergence.

5.3.5.2 QLT.Q2: How do business accelerators adapt their programmes and strategies to align with the specific needs and policy priorities of devolved regions?

Transport for Wales (TfW) Labs serves as a prominent example of how business accelerators can effectively align with regional priorities within a devolved governance framework. Its activities are underpinned by the strategic goals outlined in the Welsh Government's Prosperity for All Economic Action Plan (Welsh Government, 2017), particularly in areas such as decarbonisation, sustainable transport, and inclusive economic growth. For example, one initiative supported by the accelerator involves the development of multimodal navigation systems designed to encourage active travel and reduce reliance on private vehicles. This directly contributes to the Welsh Government's broader decarbonisation agenda which was a key focus identified by many of the participants and emphasised during their presentations (Author's Observation, TfW

Labs Demo Day, 24th October 2023). Another project focuses on sustainable mobility solutions, further demonstrating the accelerator's capacity to align its programme with governmental goals (Author's Observation, TfW Labs Afternoon Session, 14th September 2023).

One of TfW Labs' key strengths lies in its ability to address regional challenges that hinder entrepreneurial activity. Limited access to finance, for example, is mitigated through strategic collaborations with organisations such as the Transport Research Laboratory, which provides startups with opportunities to refine their prototypes in advanced testing environments. This reduces the barriers to market entry for ventures addressing critical transport and mobility issues(Author's Observation, TfW Labs Morning Session, 14th September 2023). Additionally, TfW Labs may actively help to address regional skill shortages by fostering partnerships with local universities and technical experts, creating the possibility of retaining talent in the region equipped to tackle complex innovation challenges (Author's Observation, TfW Labs Afternoon Session, 14th September 2023).

Inclusivity is another cornerstone of TfW Labs' approach. The accelerator offers bilingual resources and support to ensure its programmes resonate with Welsh-speaking communities – a priority aligned with Welsh Government policy on linguistic inclusion and cultural identity (Welsh Government, 2017). This expectation was also made clear in relation to product development. As one mentor explained during the programme: "If your MVP isn't bilingual – Welsh and English – we just won't be able to promote it or roll it out. That's not to put you off; it's just about making sure it really works for our users and reflects what we stand for." (Author's observation, TfW Labs Demo Day, 24 October 2023, fieldnotes, p. 46).

This guidance illustrates how TfW, in its dual role as both accelerator host and potential client, helped startups understand not only the technical requirements of their MVPs, but also the institutional and cultural conditions necessary for their adoption. Rather than treating bilingualism as a marketing add-on, TfW Labs framed it as part of delivering a locally viable and legitimate product.

TfW Labs also embeds policy objectives into its operational framework by fostering ventures that directly address key regional priorities. One notable initiative involved public transport accessibility training and digital literacy campaigns in partnership with

regional stakeholders, aiming to increase engagement with underrepresented communities (Transport for Wales, 2023). Another example is a blockchain-based application developed for rail ticketing systems, which not only streamlined operational processes but also showcased how emerging technologies can be harnessed to address transport challenges (Author's Observation, TfW Labs Afternoon Session, 14th September 2023). Additionally, the accelerator supported a digital loyalty programme aimed at promoting local businesses and enhancing tourism, contributing to economic regeneration in rural areas (Welsh Government, 2017).

The emphasis on collaboration is a defining feature of TfW Labs' operations. By engaging with local councils, research institutions, and private-sector stakeholders, the accelerator has created a robust ecosystem for innovation. For example, its partnership with a geospatial data innovation hub, enabled the creation of precise cycling navigation systems. These systems integrate physical and digital wayfinding tools, combining data from local authorities with user-centric design principles to enhance safety and accessibility for cyclists (Author's Observation, TfW Labs Afternoon Session, 14th September 2023).

Through these initiatives, TfW Labs exemplifies how business accelerators can act as intermediaries between devolved policy objectives and grassroots innovation. The programme not only supports the operational needs of new ventures but also amplifies their impact by aligning with regional and national policy frameworks. This alignment enhances the accelerator's capacity to contribute to sustainable economic growth, social inclusion, and environmental resilience in Wales.

The role of TfW Labs in fostering innovation aligns closely with the Welsh Government's commitment to creating a low-carbon society and supporting industries of the future. For instance, the Building the Economy report highlights investments in sectors such as renewable energy and low-carbon technologies, which are critical to meeting decarbonisation targets. TfW Labs has supported ventures focusing on sustainable transport solutions, such as the development of electric mobility platforms and carbon-tracking apps for public transport users. These initiatives directly contribute to the broader policy aim of reducing carbon emissions while stimulating economic growth in emerging green industries (Thomas and Morgan, 2024).

Additionally, the Business Wales Future Provision Impact Assessment outlines the importance of fostering an inclusive and resilient entrepreneurial ecosystem. TfW Labs addresses these priorities by integrating accessibility and equity into its programme design. This includes initiatives to expand entrepreneurial capacity in underrepresented regions and among disadvantaged groups. For example, startups in the accelerator have benefited from tailored support services designed to reduce barriers to entry, including targeted mentorship and simplified access to funding streams aligned with Welsh Government initiatives (Welsh Government, 2022a). These efforts ensure that regional innovation systems are not only effective but also equitable, promoting sustainable economic growth across diverse communities.

The economic action plan (Welsh Government, 2017) also emphasises the need for collaboration between government, businesses, and research institutions to address systemic challenges such as industrial decline and skill shortages. TfW Labs exemplifies this approach through its partnerships with geospatial experts and local universities to develop innovative urban mobility solutions. These collaborations have resulted in pilot projects for multimodal transport systems that incorporate digital and physical wayfinding technologies, which were subsequently tested in real-world environments. This emphasis on collaboration ensures that the accelerator not only meets immediate entrepreneurial needs but also contributes to long-term regional development goals (Welsh Government, 2017). Observation notes further highlight the accelerator's role in creating opportunities for regional councils to engage directly with innovators, fostering a feedback loop that aligns grassroots innovation with policy priorities (Author's Observation, TfW Labs Afternoon Session, 14th September 2023).

The next section will examine findings related to QLT.Q3, focusing on how business accelerators and devolved policy frameworks interact in practice – and how their mutual influence can amplify their collective impact on new venture creation in devolved regions.

5.3.5.3 QLT.Q3: How do business accelerators and devolved policies interact to amplify their collective impact on entrepreneurial activity in devolved regions?

The TfW Labs accelerator demonstrates how devolved policies in Wales enable accelerators to play a critical role in fostering new venture creation while advancing regional economic objectives. Key direct policy interventions, such as the Business

Wales Accelerated Growth Programme, provide financial and advisory support to startups with high-growth potential. This programme reflects the broader Welsh Government strategy to create an inclusive and sustainable entrepreneurial ecosystem (Welsh Government, 2022a).

In addition to financial support, initiatives like the Net Zero Skills Action Plan equip local talent with skills that align with the needs of innovative ventures, particularly those focused on decarbonisation and emerging green technologies. This alignment ensures that business accelerators like TfW Labs can access a skilled workforce suited to tackling the region's economic and environmental challenges (Thomas and Morgan, 2024). Moreover, the Prosperity for All: Economic Action Plan further underscores the government's commitment to integrating entrepreneurial support into regional development strategies, aiming to drive growth through targeted collaboration with accelerators and other stakeholders (Welsh Government, 2017).

Observational data from TfW Labs reveals the accelerator's operational alignment with these policy goals. One startup, focused on developing a digital navigation system for cyclists, successfully leveraged the accelerator's mentorship to refine its prototype in line with sustainable transport objectives. This venture also secured external validation through collaboration with national transport and design bodies. As the founder explained during a stakeholder engagement session: "One of the most exciting parts of our project has been getting buy-in from the Transport Research Laboratory. They're internationally recognised, and they're now helping us test our navigation system in a VR environment and refine our signage with the UK Design Council. After that, we're planning a full trial launch in their London living lab." (Author's observation, TfW Labs Stakeholder Engagement Session, 14th September 2023, fieldnotes, p. 4).

This illustrates how aligning with devolved priorities – in this case, promoting active travel – helped the venture gain legitimacy and visibility beyond the regional context. TfW Labs thus functioned not only as a support platform, but as an institutional amplifier, opening access to networks, expertise, and trial environments.

TfW Labs also facilitates the legitimation of new ventures through structured stakeholder engagement activities. Entrepreneurs participated in workshops and one-on-one mentorship sessions, allowing them to adapt their business models to regional policy priorities while improving their market positioning. One such session highlighted

the importance of integrating user feedback and policy compliance into venture strategies, fostering mutual benefits for startups and public stakeholders (Author's Observation, TfW Labs Morning Session, 14th September 2023).

Despite these synergies, challenges persist. Observations highlighted systemic issues, such as the complexity of public procurement processes and difficulties in establishing long-term collaborations with local authorities. Entrepreneurs expressed frustration with navigating regulatory hurdles that slowed the implementation of their solutions, even when their innovations aligned with policy objectives (Author's Observation, TfW Labs Morning Session, 14th September 2023). These barriers underscore the importance of accelerators acting as intermediaries to bridge the gap between venture needs and regional policy frameworks.

TfW Labs further illustrates the importance of accelerators as collaborative platforms. For example, during cohort sessions, ventures were encouraged to tailor their pitches to align with government priorities such as decarbonisation, multimodal transport integration, and community engagement. These sessions reinforced the dual focus of policy alignment and market readiness (Author's Observation, TfW Labs Session, 28th September 2023). Additionally, the programme emphasised the critical role of storytelling and clear communication, enabling startups to articulate their value propositions effectively to stakeholders and potential investors (Author's Observation, TfW Labs Afternoon Session, 14th September 2023).

Secondary data provides further evidence of the interplay between devolved policies and accelerators. Reports like the Transport for Wales Annual Review highlight the accelerator's role in advancing active travel and decarbonisation initiatives, contributing to the Welsh Government's broader goals for sustainable development and economic resilience (Transport for Wales, 2023). The Business Wales impact assessment further corroborates the accelerator's alignment with regional strategies, showcasing how initiatives like digital platforms and entrepreneurship support programmes collectively create a cohesive and supportive ecosystem (Welsh Government, 2022a).

Moreover, strategic documents like the Future Wales National Plan 2040 emphasise the importance of integrating entrepreneurial activity into broader regional development goals. This plan provides a long-term framework for aligning economic growth with

sustainability, resilience, and community well-being, ensuring ventures supported by accelerators contribute to these objectives (Welsh Government, 2021).

In conclusion, the evidence from TfW Labs and supporting secondary data illustrates how devolved policies not only enable accelerators to foster new venture creation but also amplify their impact by aligning with regional priorities. By acting as intermediaries between government objectives and entrepreneurial needs, accelerators like TfW Labs contribute significantly to Wales's economic and environmental goals. These insights provide a robust foundation for the subsequent discussion, which will explore how the mechanisms observed in Wales might inform broader theoretical and practical understandings of the interplay between devolved governance and entrepreneurial ecosystems.

5.3.6 Discussion

The findings of this case study provide valuable insights into the complex interplay between devolved policies, business accelerators, and new venture creation in Wales. This discussion interprets these findings in the context of existing theoretical frameworks, the broader objectives of this research, and quantitative findings from the study's earlier phase.

5.3.6.1 Theoretical contributions

The findings align with and extend the framework of Regional Innovation Systems (RIS). RIS emphasises the importance of region-specific institutions and policy frameworks in fostering innovation and entrepreneurship. The evidence that devolved policies in Wales, such as the Welsh Government's Economic Action Plan and Stronger, Fairer, Greener Wales: Net Zero Skills Action Plan (Welsh Government, 2022b), help provide a supportive environment for accelerators reinforces the RIS perspective that local governance structures are critical in enabling regional innovation (Cooke, 2001). TfW Labs exemplifies this by acting as a conduit for implementing policy-driven initiatives like sustainable tourism and decarbonisation.

However, this case also highlights challenges that RIS theory does not fully address, particularly the tension between devolved and centralised policy frameworks. For instance, while Welsh Government initiatives create opportunities for accelerators, constraints such as limited funding from the Shared Prosperity Fund introduce

fragmentation. These findings suggest that RIS must account for multi-level governance dynamics in regions where devolved and centralised systems intersect.

5.3.6.2 Insights into devolution and accelerators

Devolution in Wales plays a dual role in shaping the entrepreneurial ecosystem. On the one hand, it empowers the Welsh Government to design region-specific policies that align closely with cultural, economic, and environmental priorities. On the other hand, accelerators like TfW Labs act as intermediaries, translating these policies into practical support for entrepreneurs. This interaction illustrates how devolved governance fosters not only policy innovation but also a mechanism for policy implementation.

For example, the development of ventures focused on multimodal transport and digital tourism directly reflects Welsh Government objectives. Such alignment underscores the accelerator's role as a policy implementer and highlights the potential of devolved governance to drive regionally specific entrepreneurial outcomes.

5.3.6.3 Summary of findings

The findings demonstrate a synergistic relationship between devolved policies and accelerators. Policies provide a framework for accelerators to prioritise sectors such as green technology and sustainable tourism, while accelerators operationalise these priorities by offering tailored mentorship, funding guidance, and technical expertise.

TfW Labs adapts its strategies to address specific regional challenges, including skills gaps and funding limitations. By fostering local partnerships and providing bilingual resources, the accelerator aligns its operations with the unique socio-economic and cultural context of Wales.

The alignment between Welsh policies and accelerator activities enhances the impact of both. For instance, ventures supported by TfW Labs gain access to regional funding opportunities and credibility with stakeholders, enabling successful pilot projects and broader adoption of their innovations.

5.3.6.4 Linkage to quantitative findings

The findings complement the quantitative phase of this study, which identified significant disparities in new venture creation rates across devolved regions (QNT.Q1). Wales demonstrated a relatively moderate performance in venture creation, which can

be partly attributed to the region-specific challenges highlighted in the qualitative analysis, such as skills shortages and limited access to early-stage funding.

The positive association between policy support and venture creation rates identified in QNT.Q2 is echoed in the qualitative findings. Programmes such as the Young Person's Guarantee and the Business Wales Accelerated Growth Programme contribute to a supportive policy environment for startups, while accelerators like TfW Labs amplify these effects by facilitating access to resources, mentorship, and stakeholder networks. The correlation observed in QNT.Q3 between accelerator presence and higher venture creation rates is consistent with the role of TfW Labs as both a policy implementer and an institutional intermediary within the devolved ecosystem.

5.3.6.5 Broader implications

The case study underscores the critical role of devolved policies in shaping entrepreneurial ecosystems. By tailoring initiatives to local needs and priorities, the Welsh Government supports both the supply (skills, funding) and demand (innovation, market alignment) sides of venture creation. However, the findings also highlight the importance of sustained funding and strategic coherence across governance levels to maximise the impact of these policies.

TfW Labs exemplifies how accelerators can act as agents for devolved policy implementation, bridging the gap between high-level strategic objectives and the operational needs of startups. This intermediary role not only enhances the effectiveness of policy-driven initiatives but also enables accelerators to drive innovation and economic development in alignment with regional priorities.

5.3.7 Conclusion

The Wales case study has provided valuable insights into the interaction between devolved policies and business accelerators in fostering new venture creation. The findings contribute directly to addressing the central research question by highlighting the mechanisms through which accelerators like TfW Labs act as intermediaries between policy frameworks and entrepreneurial ecosystems. Specifically, this case study demonstrates how devolved policies can shape the operational priorities of accelerators and how accelerators, in turn, implement these policies to enhance their impact on startups.

One of the key contributions of this case study is its emphasis on the dual role of accelerators as both beneficiaries and agents of policy implementation. The evidence shows that Welsh Government initiatives, such as the Economic Action Plan and sector-specific funding programmes, enable accelerators to align their activities with regional priorities, including decarbonisation and sustainable tourism (Welsh Government, 2017). This alignment not only enhances the credibility of supported ventures but also facilitates broader stakeholder engagement, creating a multiplier effect in the entrepreneurial ecosystem. These findings extend the theoretical understanding of how devolved governance structures can localise and operationalise policy objectives within specific regional contexts.

For policymakers, this case study underscores the importance of designing region-specific policies that address local challenges while capitalising on regional strengths. The Welsh Government's emphasis on bilingualism, sustainable innovation, and inclusive growth serves as a model for integrating cultural and economic objectives within policy frameworks. For accelerators, the findings suggest that tailoring programmes to align with devolved policy priorities can enhance their effectiveness and legitimacy. By leveraging local partnerships, such as those with universities and public bodies, accelerators can address regional skills gaps and funding barriers, as demonstrated by TfW Labs' targeted mentorship programmes and project collaborations.

The Wales case study offers several key takeaways. First, the alignment between devolved policies and accelerator activities is crucial for creating a supportive environment for new ventures. Second, accelerators that adapt their programmes to reflect regional contexts can enhance their operational effectiveness and legitimacy. Finally, the role of devolved governance in fostering entrepreneurship extends beyond financial support to include cultural alignment, stakeholder engagement, and infrastructure development. These findings contribute significantly to understanding how accelerators function within the broader policy ecosystems created by devolved administrations.

This analysis also lays the groundwork for the Tees Valley Combined Authority case study in the following section. The contrasting governance model and policy framework in Tees Valley provide an opportunity to explore how different degrees of devolution influence the role of accelerators and their interaction with regional policies. The

findings from the Wales case study thus serve as a comparative baseline, enabling a deeper exploration of the nuances in policy-accelerator dynamics across devolved regions.

5.4 Case study 2: Tees Valley Combined Authority

5.4.1 Introduction

The purpose of this case study is to investigate how business accelerators interact with devolved policies within the governance framework of the Tees Valley Combined Authority (TVCA) to support new venture creation. This analysis forms part of the qualitative phase of an explanatory sequential mixed-methods study designed to explore the interplay between devolved governance structures and entrepreneurial ecosystems. By focusing on TVCA, the study seeks to illuminate how collaborative governance, and targeted regional policies influence the strategic alignment and operational practices of business accelerators in fostering regional entrepreneurial activity. In doing so, this case contributes to the central research question: how do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions?

The selection of Tees Valley as a case study follows a theoretical replication strategy (Yin, 2014), chosen to provide a contrasting perspective to the reserved powers model examined in the Wales case study. The TVCA operates under a mayoral combined authority framework, characterised by limited devolved powers and a collaborative governance model that necessitates close interaction between local authorities and central government. This contrasts with Wales's more autonomous legislative framework, offering an opportunity to examine how variations in devolution models shape the interaction between policy frameworks, business accelerators, and regional entrepreneurial outcomes. As Yin (2014) posits, theoretical replication strengthens the explanatory power of multiple case studies by enabling the researcher to explore how differing conditions produce contrasting outcomes. This approach is particularly pertinent for assessing how governance structures mediate the realisation of policy goals through accelerators.

Tees Valley's socio-economic context further underscores its relevance as a case study. Historically, the region has faced economic challenges, including industrial decline, high unemployment, and persistent structural inequalities. In response, the TVCA has adopted a strategic approach to economic regeneration, emphasising innovation, skills

development, and infrastructure enhancement. These efforts are exemplified by regional initiatives such as the Tees Valley Innovation Accelerator, which integrates policy priorities with entrepreneurial support to address local challenges and create growth opportunities. By examining these dynamics, the study contributes to understanding how devolved governance frameworks and accelerators jointly address systemic regional barriers to entrepreneurship.

The comparative dimension of this case study, when juxtaposed with the Wales case, provides critical insights into how governance and devolution models influence the effectiveness of accelerators in operationalising devolved policy objectives. This approach aligns with the broader aim of the qualitative phase, which is to contextualise and deepen the findings from the quantitative analysis, thereby enriching the overall explanatory framework of the thesis.

5.4.2 Contextual overview

The Tees Valley Combined Authority (TVCA) provides a unique context for exploring the interaction between devolved governance structures and entrepreneurial ecosystems in a region grappling with economic regeneration. Situated in the North East of England, the Tees Valley comprises five local authority areas: Darlington, Hartlepool, Middlesbrough, Redcar and Cleveland, and Stockton-on-Tees. Historically rooted in heavy industries such as steelmaking and chemical production, the region has faced significant socio-economic challenges due to deindustrialisation, including persistently high unemployment, low average incomes, and systemic underperformance in comparison to the national economy (Tees Valley Combined Authority, 2022b). Nevertheless, Tees Valley has demonstrated potential for growth through strategic investments in innovation, infrastructure, and entrepreneurial support systems.

The socioeconomic indicators of the region underscore the scale of the challenges faced. As of the most recent data, Tees Valley's Gross Value Added (GVA) per capita remains well below the UK average, highlighting enduring disparities in economic productivity (Tees Valley Combined Authority, 2022a). Unemployment rates, though gradually declining, still exceed national levels, reflecting the region's reliance on public sector employment and the legacy of industrial decline. However, the development of strategic projects such as the Teesworks industrial zone and the designation of the region as a freeport represent targeted efforts to stimulate economic growth. These initiatives are

intended to leverage the region's industrial heritage while creating new opportunities in sectors such as renewable energy, advanced manufacturing, and digital technologies.

The establishment of the TVCA in 2016 marked a significant development in the region's governance, enabling greater control over local economic priorities through devolution. Under the Cities and Local Government Devolution Act 2016, the TVCA was granted powers in areas such as transport, education, and skills, alongside access to substantial funding streams to support regional development initiatives. The governance structure includes an elected mayor and representatives from the five constituent local authorities, supported by a collaborative decision-making framework that aligns local priorities with national policy objectives (Tees Valley Combined Authority, 2024b). This model of devolution contrasts with the more autonomous reserved powers model seen in Wales, requiring the TVCA to negotiate and align its strategies with central government initiatives. Yin (2014) highlights the value of studying such governance variations in multiple-case study research, as they provide a framework for understanding how differing institutional contexts influence the realisation of policy goals.

The entrepreneurial ecosystem in Tees Valley is an emerging network that seeks to catalyse economic revitalisation by fostering innovation and supporting new venture creation. Business accelerators, including the Tees Valley Innovation Accelerator (TVIA), play a pivotal role in this ecosystem by providing entrepreneurs with access to mentorship, funding, and market connections. These activities are closely integrated with regional strategies such as the Tees Valley Strategic Economic Plan 2016-2026 (Tees Valley Combined Authority, 2016), which emphasises the development of key sectors including low-carbon industries, digital technologies, and advanced manufacturing. Collaboration with academic institutions such as Teesside University enhances the region's capacity for innovation, providing research expertise and fostering entrepreneurial talent.

The regional innovation system (RIS) in Tees Valley reflects the collaborative governance model's emphasis on stakeholder coordination and resource alignment. By bringing together actors across the public and private sectors, the TVCA seeks to create a more integrated environment for supporting venture creation and growth. Yet the region's continued reliance on central government funding – alongside relatively limited devolved powers – poses significant constraints. These structural dependencies can

hinder the long-term realisation of local economic ambitions. For instance, high-profile projects such as the Teesworks Industrial Zone depend heavily on inward investment, illustrating the challenges of achieving self-sustaining regeneration within the current governance arrangements.

This contextual overview establishes the foundation for analysing how the TVCA leverages its governance structure and entrepreneurial support mechanisms to address systemic challenges and foster regional innovation. In particular, it highlights the socio-economic and institutional contexts that shape the region's strategic priorities. The subsequent section on policy context will delve into these priorities, exploring the specific devolved policies and initiatives that underpin the TVCA's efforts to support entrepreneurship and drive economic regeneration

5.4.3 Policy context

The policy context of the Tees Valley Combined Authority (TVCA) is characterised by a strategic focus on leveraging limited devolved powers to address regional economic challenges and foster new venture creation. Guided by the Tees Valley Strategic Economic Plan 2016-2026 (Tees Valley Combined Authority, 2016) and supported by key funding streams from central government, TVCA's policy framework aligns with the priorities outlined in the broader Cities and Local Government Devolution Act 2016. This alignment ensures that regional policies target structural challenges such as unemployment, industrial decline, and skills gaps, while also fostering entrepreneurship and innovation in key sectors.

A significant focus of TVCA's policies is on access to finance, a critical enabler of entrepreneurship and one of several domains captured in the composite policy measure (*Dev_Composite*) used in the quantitative phase of this research (QNT.Q2). Initiatives such as the Tees Valley Local Industrial Strategy (Tees Valley Combined Authority, 2019a) outline funding mechanisms designed to stimulate business growth. These include grants and loans targeting small and medium-sized enterprises (SMEs) in high-growth sectors, with a particular emphasis on supporting businesses aligned with the region's strategic priorities, such as renewable energy and advanced manufacturing. The freeport initiative at Teesworks also exemplifies a broader strategy to attract private investment by creating an environment conducive to innovation and venture creation (Tees Valley Combined Authority, 2019a).

Skills development is another cornerstone of TVCA's policy framework, addressing persistent skills shortages in the region. The Tees Valley Employment and Skills Strategy (2022b) prioritises equipping the local workforce with competencies required for emerging industries, including digital technologies and green energy. Programmes such as the devolved Adult Skills Fund, formerly the Adult Education Budget, are explicitly designed to enhance the employability of residents while creating a talent pipeline for local businesses (Tees Valley Combined Authority, 2024a). This focus resonates with the broader quantitative finding that stronger entrepreneurial outcomes are associated with regions where policy support spans key enablers – including skills development.

Innovation support forms a critical aspect of TVCA's approach to entrepreneurship. Tees Valley Local Industrial Strategy (Tees Valley Combined Authority, 2019b) highlights the region's commitment to fostering research and development (R&D) through partnerships with academic institutions such as Teesside University and industry stakeholders. Specific initiatives, such as the Innovation Catalyst, aim to support early-stage ventures by providing access to collaborative research opportunities, incubation facilities, and funding for product development. These efforts align with the priorities outlined in the Strategic Economic Plan, which emphasises the role of innovation in driving regional competitiveness.

Infrastructure support is another pillar of TVCA's policy landscape, designed to create an enabling environment for entrepreneurship. Investments in transport connectivity, industrial sites, and digital infrastructure are central to the Strategic Economic Plan. Projects such as the South Tees Development Corporation and the establishment of the Teesworks industrial zone exemplify targeted efforts to revitalise former industrial sites into hubs for business activity and innovation. These initiatives not only provide physical infrastructure but also enhance the region's attractiveness to investors and entrepreneurs.

Business support services are provided through initiatives such as the Growth Hub, which offers tailored advice, mentorship, and resources to local businesses. These services are integrated with TVCA's broader strategies, ensuring that entrepreneurs have access to a cohesive support network. For instance, the Growth Hub connects entrepreneurs with funding opportunities, skills programmes, and market insights, aligning with the region's overarching economic priorities (Tees Valley Combined Authority, 2016).

Sector-specific initiatives reflect TVCA's focus on fostering entrepreneurship in areas of strategic importance, including renewable energy, advanced manufacturing, and digital technologies. The Local Industrial Strategy (Tees Valley Combined Authority, 2019b) identifies these sectors as critical to the region's economic regeneration, emphasising their potential to create high-value jobs and attract investment. For example, the hydrogen economy initiative leverages the region's industrial expertise to position Tees Valley as a leader in clean energy innovation, creating new opportunities for entrepreneurs in this emerging sector.

Overall, the policy framework of TVCA illustrates the potential of devolved governance to support regional entrepreneurship, even within the limits of its current powers. Through initiatives targeting areas such as finance, skills, innovation, infrastructure, and sector-specific development, the combined authority has worked to establish conditions that may encourage new venture creation. At the same time, the region's reliance on central government funding and the constraints of a collaborative governance model present challenges that require ongoing negotiation and adaptation. These dynamics provide important context for understanding the role of accelerators within the TVCA region, which is explored in the sections that follow.

5.4.4 Accelerator landscape

The accelerator landscape within the Tees Valley Combined Authority (TVCA) plays a pivotal role in fostering regional entrepreneurship and innovation. These programmes act as intermediaries between policy objectives and entrepreneurial needs, addressing systemic challenges in the regional economy while aligning with strategic priorities such as decarbonisation, digital transformation, and advanced manufacturing. Anchored within the broader economic framework of the Tees Valley Strategic Economic Plan 2016-2026 (Tees Valley Combined Authority, 2016) and the Tees Valley Local Industrial Strategy (Tees Valley Combined Authority, 2019b), accelerators in the Tees Valley exemplify the region's commitment to creating a dynamic entrepreneurial ecosystem.

Accelerator activity in the Tees Valley is characterised by a targeted approach to supporting high-growth potential ventures. Programmes such as the Tees Valley Growth Hub and initiatives embedded within the Teesworks Freeport integrate elements of acceleration by providing tailored support for startups in priority sectors. These accelerators offer mentorship, funding opportunities, and access to specialised facilities,

facilitating venture creation and scaling. Such programmes reflect TVCA's strategy of leveraging accelerators to operationalise its policy objectives, addressing challenges such as skills gaps, limited access to finance, and the need for innovation pipelines.

Two key accelerators exemplify the region's strategic approach: the Tees Valley Innovation Accelerator (TIA) and Tees Valley Labs. Both programmes align closely with TVCA's policy priorities, contributing significantly to the regional entrepreneurial ecosystem.

5.4.4.1 Tees Valley Innovation Accelerator (TIA)

The Tees Valley Innovation Accelerator (TIA) serves as a flagship programme designed to stimulate innovation and entrepreneurship in the region. Its mission is to support early-stage ventures by providing a structured pathway to develop, test, and scale innovative business ideas. TIA aligns with TVCA's strategic focus on high-growth sectors, including renewable energy, advanced manufacturing, and digital technologies, as highlighted in the Local Industrial Strategy (Tees Valley Combined Authority, 2019b).

The design of TIA reflects a cohort-based model, with startups participating in a fixed-term programme that includes mentorship, funding access, and opportunities for market validation. Participants benefit from tailored guidance provided by industry experts, academic researchers, and experienced entrepreneurs, ensuring that ventures receive support aligned with their specific needs and challenges. The programme incorporates networking events and pitch days, enabling startups to connect with potential investors and collaborators. Additionally, TIA fosters integration with regional resources, including facilities at Teesside University and the Teesworks Freeport, to provide practical, real-world testing environments for innovative solutions.

TIA places particular emphasis on addressing systemic barriers to entrepreneurship, including limited access to early-stage funding and the need for skills development. By fostering collaboration between startups, academic institutions, and industry stakeholders, TIA contributes to building a sustainable pipeline of innovative ventures while addressing regional challenges such as decarbonisation and digital transformation.

5.4.4.2 Tees Valley Labs

Tees Valley Labs is another significant accelerator programme within the region, designed to catalyse the growth of innovative ventures by bridging gaps between policy objectives and entrepreneurial needs. The programme's mission focuses on leveraging regional strengths in advanced manufacturing and industrial innovation, supporting startups that can drive economic regeneration and create high-value jobs.

The structure of Tees Valley Labs incorporates elements of acceleration and incubation, providing startups with access to mentorship, funding, and specialised facilities. Notably, the programme integrates with Teesworks Freeport to enable startups to develop and pilot their innovations in a real-world industrial context. This alignment with regional infrastructure underscores Tees Valley Labs' role in operationalising TVCA's economic strategy.

Target sectors for Tees Valley Labs include clean energy, advanced manufacturing, and digital innovation. For example, ventures developing hydrogen technologies or digital tools for industrial efficiency have benefited from the programme's tailored support. Tees Valley Labs also fosters collaboration with local universities and research institutions, ensuring that startups have access to cutting-edge expertise and resources.

5.4.4.3 Impact and role in the entrepreneurial ecosystem

Both TIA and Tees Valley Labs exemplify the integration of accelerator programmes within the entrepreneurial ecosystem of the Tees Valley. These initiatives address critical regional challenges by fostering innovation, supporting venture creation, and aligning with TVCA's strategic priorities. Their documented outcomes include securing external investment for participating ventures, creating high-value jobs, and contributing to the region's decarbonisation and digital transformation goals (Tees Valley Combined Authority, 2016).

The role of these accelerators in operationalising TVCA's policy objectives highlights their importance as intermediaries between governance structures and entrepreneurial activity. By addressing systemic barriers and aligning with regional strengths, these programmes contribute to the broader goal of economic regeneration and innovation-driven growth in the Tees Valley.

5.4.5 Findings

This section presents the findings from the qualitative analysis of Tees Valley Combined Authority (TVCA) documents, structured around the study's three qualitative research questions (QLT.Q1, QLT.Q2, and QLT.Q3). The analysis explores how devolved policies support accelerators, how accelerators adapt to regional contexts, and how these interactions amplify their impact on new venture creation. These findings are drawn from a systematic thematic analysis of key regional policy documents and accelerator programme materials.

5.4.5.1 QLT.Q1: How do devolved policies support or enable business accelerators to drive new venture creation in subnational regions?

Devolved policies in the Tees Valley have played a critical role in fostering an environment that supports business accelerators by channelling financial resources, identifying sectoral priorities, and encouraging innovation-led growth. These devolved instruments align with the theme of ‘Access to Finance’ by directing targeted funding into key growth areas that enable accelerators to thrive. For example, the Tees Valley Investment Plan 2019–2029 allocates £146.5 million to business growth and £20 million to research, development, and innovation, reflecting a robust focus on enhancing the entrepreneurial ecosystem. This demonstrates a deliberate effort to create conditions conducive to new venture creation and accelerator success, directly linking to framework theme ‘Enabling Policy Environment’ (Tees Valley Combined Authority, 2019a).

The Tees Valley Local Industrial Strategy complements these efforts by prioritising sectors such as clean energy, low-carbon technologies, and industrial digitalisation, illustrating the ‘Sector-Specific Initiatives’ theme. It outlines a strategic vision that connects policy objectives with accelerator activities, encouraging alignment between regional goals and entrepreneurial support mechanisms. The focus on sector-specific growth highlights the importance of tailored approaches that enable accelerators to effectively address local economic priorities and opportunities, supporting framework theme ‘Policy Alignment’ (Tees Valley Combined Authority, 2019b).

This alignment between devolved policy priorities and entrepreneurial infrastructure is demonstrated by Tees Valley Labs, a flagship accelerator initiative supported through the UK Shared Prosperity Fund. Although not explicitly framed in core strategic policy

documents, the initiative operates with the backing of the Combined Authority and is positioned to advance the region's innovation goals. In a media interview, Dan Watson, programme lead for Tees Valley Labs, captured this ambition when he described the initiative as "about shaping the future of our region, creating a landscape where digital and tech companies can thrive, and ensuring that the Tees Valley is recognised as a core cluster within the UK's innovation ecosystem" (Tees Business, 2024b, p. 2). This public framing reflects how accelerator programmes have begun to assume roles that contribute to regional policy ambitions – even where formal policy recognition may still be emerging. Rather than acting solely as delivery vehicles for fixed strategies, accelerators like Tees Valley Labs operate in close collaboration with the Combined Authority. Their activities reflect local adaptation and strategic partnership, showing how entrepreneurial support can evolve in tandem with broader economic development narratives under devolved governance.

Programmes such as The Stable (incubator) and The Forge (accelerator), delivered through Tees Valley Labs, provide a more tangible sense of how policy objectives are implemented in practice. By offering mentoring, funding access, and sector-focused integration, they illustrate how accelerators can serve as intermediaries that translate strategic priorities into practical support for new ventures (Tees Business, 2024b).

The institutional infrastructure surrounding Tees Valley's entrepreneurial ecosystem reflects a deliberate effort to embed accelerator activity within a coordinated regional strategy. The Tees Valley Strategic Economic Plan 2016–2026 identifies key economic drivers and outlines support structures such as the Tees Valley Business Compass, which functions as an intermediary to help businesses navigate innovation pathways (Tees Valley Combined Authority, 2016). This positions accelerators within the broader economic development effort, rather than leaving them to operate in isolation.

Similarly, academic institutions – particularly Teesside University – have emerged as strategic partners. Through initiatives like the Net Zero Industry Innovation Centre, the university channels research and technological expertise toward regional industrial goals, such as hydrogen technologies and industrial digitalisation (Teesside University, 2023). These collaborations create shared platforms for accelerators and researchers, strengthening both policy alignment and resource access.

The regional emphasis on skills development further reinforces this ecosystem logic. The Tees Valley Employment and Skills Strategy addresses workforce needs by supporting a talent pipeline aligned with local innovation priorities – a foundation upon which accelerators and start-ups can reliably build (Tees Valley Combined Authority, 2022b).

These threads come together in the Innovate UK Tees Valley Action Plan, which positions accelerators as central actors within emerging innovation clusters. The plan outlines concrete actions to connect accelerator activity with strategic partnerships and global competitiveness goals (Innovate UK, 2024).

Taken together, these efforts reflect a maturing regional ecosystem in which devolved governance, institutional collaboration, and targeted investment converge to shape the operational environment for business accelerators. Rather than operating in isolation, accelerators in Tees Valley are increasingly embedded within this broader policy architecture – not simply as support providers, but as institutional intermediaries that translate strategic priorities into venture-level opportunities. This evolving role is examined in greater depth in the next section, which explores how accelerators themselves respond and adapt to the governance conditions in which they operate.

5.4.5.2 QLT.Q2: How do business accelerators adapt their programmes and strategies to align with the specific needs and policy priorities of devolved regions?

Business accelerators in the Tees Valley region have strategically adapted their programmes to align with the unique needs and policy priorities set out by the region's devolved governance framework. These adaptations are evident in how accelerators respond to sectoral demands, address skills shortages, and foster collaborative partnerships.

One example is the work of Tees Valley Labs, which has implemented programmes such as The Stable (focused on early-stage incubation) and The Forge (supporting startups with market traction). These initiatives specifically address regional gaps in support for sectors such as clean energy and digital transformation, as outlined in the Tees Valley Local Industrial Strategy (Tees Valley Combined Authority, 2019b). The alignment of these accelerator programmes with the region's priorities ensures that startups can

navigate challenges such as limited access to venture capital while benefiting from tailored mentorship and resources (Tees Business, 2024b).

The role of skills development is another significant area of adaptation. According to the Tees Valley Employment and Skills Strategy 2022, the region faces entrenched challenges related to low skills levels and economic inactivity. The strategy underscores the importance of accelerators integrating training elements into their offerings to prepare entrepreneurs for opportunities in high-growth sectors (Tees Valley Combined Authority, 2022b). Tees Valley Labs, for instance, has worked closely with Teesside University to embed training in leadership and digital transformation, addressing gaps highlighted in the Tees Valley Economic Assessment (Tees Valley Combined Authority, 2022a).

Local collaboration is also a defining feature of how accelerators adapt. Tees Valley Labs is delivered by Alt Labs on behalf of the Tees Valley Combined Authority and works with a range of industry-facing partners to ensure programme delivery is responsive to regional needs. These partnerships support objectives like the development of Tees Valley as a net-zero industrial cluster, a goal central to the Tees Valley Local Industrial Strategy (Tees Valley Combined Authority, 2019b) and reinforced in the Tees Valley Strategic Economic Plan (Tees Valley Combined Authority, 2016).

Financial support mechanisms provided by the Tees Valley Combined Authority have also shaped the operations of local accelerators. The Investment Plan 2019-2029 outlines significant funding allocations aimed at fostering innovation and business growth, enabling accelerators to provide grants and other forms of financial assistance to participating startups (Tees Valley Combined Authority, 2019a). This funding framework ensures that accelerators can focus on scaling high-potential ventures in line with regional policy priorities.

Sectoral focus plays a key role in these adaptations. Accelerators such as Tees Valley Labs actively target industries highlighted as priorities in the Innovate UK Tees Valley Action Plan, including biosciences, advanced manufacturing, and clean energy. By tailoring programmes to these sectors, accelerators align with the broader regional strategy of developing globally competitive clusters (Innovate UK, 2024).

Moreover, the constitution of the Tees Valley Combined Authority emphasises the importance of accountability and collaborative governance, which shapes how

accelerators align their strategies with policy frameworks (Tees Valley Combined Authority, 2024b). This structure ensures that accelerator activities contribute to the wider economic and social transformation objectives set by the Authority.

Tees Valley's efforts to address barriers to entrepreneurial success are further evidenced by the Adult Skills Fund, which provides flexible, needs-based training for adults seeking to upskill or reskill. Accelerators integrate this resource into their programmes to enhance the employability and entrepreneurial capacity of participants (Tees Valley Combined Authority, 2024a).

In addition to publicly supported programmes, accelerator adaptation in Tees Valley is also embedded in institutional efforts led by Teesside University. The University delivers several accelerator-style initiatives through its start-up hub Launchpad, the FUEL programme, and its commercial subsidiary TUEI Ltd. These initiatives are tailored to regional priorities such as digital innovation, gaming, and social enterprise. One example is the Launchpad games accelerator, described as "a key activity within TUEI Ltd," which "has so far supported six game studio start-ups. The new studios benefit from the support and input of the University, whilst their success could help commercial income generation for the University" (Teesside University, 2023, p. 13). This dual role – fostering new ventures while serving wider institutional goals – reflects how adaptation involves balancing multiple stakeholder agendas.

The University's evolving approach to partnerships further strengthens this alignment. A new framework introduced in 2023 seeks to embed collaboration with organisations that align with the institution's mission. As the University notes, "a proactive approach that seeks to work with partners linked to our mission ensures a varied portfolio of activity across several streams of work, including employability, innovation, research, and community interaction" (Teesside University, 2023, p. 13). These mechanisms allow the University to increasingly act not only as a skills provider but also as an entrepreneurial intermediary – shaping and supporting startup development in ways that reflect the region's devolved policy priorities.

In summary, business accelerators in Tees Valley demonstrate strategic alignment with devolved policies through sectoral focus, skills development, financial support, and local partnerships. These adaptations ensure that accelerators are not only helping to guide individual entrepreneurs towards relevant opportunities in the region, but also

contributing to the broader objectives of regional economic transformation. This sets the stage for examining how these adaptations amplify their impact on new venture creation, which will be explored in the next section focusing on QLT.Q3.

5.4.5.3 QLT.Q3: How do business accelerators and devolved policies interact to amplify their collective impact on entrepreneurial activity in devolved regions?

Business accelerators in the Tees Valley have played a pivotal role in amplifying their impact on new venture creation by aligning with devolved policy priorities. This alignment is reflected in their ability to integrate funding mechanisms, foster entrepreneurial ecosystems, and address structural challenges while leveraging opportunities created by regional policies.

Accelerators exemplify the Amplification Mechanisms framework theme through their strategic use of devolved funding streams to enhance startup capabilities and align with the region's industrial strategy. For example, the Tees Valley Investment Plan 2019-2029 articulates a vision for economic transformation by targeting clean energy and industrial digitalisation as core growth areas (Tees Valley Combined Authority, 2019a). Accelerators such as Tees Valley Labs have responded by channelling support into these sectors, facilitating the development of ventures like Eco-Trailer. Supported through the Made Smarter Programme, Eco-Trailer utilised a £10,000 grant to integrate robotics into its manufacturing processes, directly enhancing productivity and competitiveness (Tees Business, 2024a).

In terms of Opportunity Identification, accelerators have been instrumental in connecting startups to sector-specific opportunities that align with the region's economic priorities. The Local Industrial Strategy positions the Tees Valley as a leader in clean energy and hydrogen technologies, emphasising the importance of leveraging innovation for sustainable growth (Tees Valley Combined Authority, 2019b). Accelerators have enabled ventures in these industries to secure R&D funding, develop market-ready solutions, and access networks critical for scaling operations. The creation of the Teesside Freeport further underscores this alignment by offering infrastructure advantages that attract ventures aligned with clean growth goals (Tees Valley Combined Authority, 2022a).

The role of Opportunity Legitimation is evident in how accelerators facilitate startups in gaining credibility and attracting investment. The Tees Valley Strategic Economic Plan emphasises that accelerators should act as "drivers of regional competitiveness" by showcasing startups and fostering investor relationships (Tees Valley Combined Authority, 2016). For instance, Tees Valley Labs' programmes, including The Stable and The Forge, focus on preparing ventures for high-profile investment opportunities. Through pitch events and investor connections, these initiatives help startups establish legitimacy in national and international markets (Tees Business, 2024b). This process of legitimising opportunities aligns with regional priorities, fostering confidence among stakeholders and investors.

Beyond showcasing ventures through pitch events, accelerator programming itself is deliberately structured to embed legitimacy within the venture development process. The Forge, a 12-week accelerator programme delivered by Tees Valley Labs, is tailored to help firms transition from market traction to investment exposure. As reported in Tees Business, "businesses will have the opportunity to apply for significant levels of grant funding to support future growth phases, with the aim of becoming investor-ready" (Tees Business, 2024a, p. 2). This reflects alignment with devolved economic priorities, particularly around growth-stage financing and venture scaling. It also highlights the legitimating role accelerators play by preparing ventures to meet the expectations of external funders – not merely as training programmes, but as structured policy-aligned vehicles that help ventures translate regional strategic ambitions into investment-grade propositions.

Access to finance remains a cornerstone of accelerator operations in the region. A particularly vivid example is Southern Asset Management, which scaled rapidly after receiving blended support from both devolved funding streams and institutional actors. As reported by *Tees Business*, "Matched funding from the TVCA, TWI and support from Teesside University helped Steve's firm buy specialist equipment, IT software and find new employees" (Tees Business, 2024a, p. 2). This illustrates a coordinated deployment of financial and technical resources that aligns directly with policy priorities – not only facilitating venture growth but reinforcing the region's commitment to digital infrastructure and sector-focused capability-building. In addition, accelerators have utilised devolved funds, such as the Adult Skills Fund, to ensure that emerging ventures can access a workforce with the skills necessary to meet industry demands (Tees Valley

Combined Authority, 2024a). These examples demonstrate how financial instruments and skills policy are integrated through accelerator interventions to amplify their impact on new venture development.

In parallel with their roles in financing and skills development, accelerators also contribute significantly to Innovation Support by fostering an ecosystem where startups can experiment with and commercialise cutting-edge technologies. The Innovate UK Tees Valley Action Plan highlights the region's strengths in hydrogen and digital technologies, emphasising the need for innovation clusters to collaborate with accelerators to drive economic growth (Innovate UK, 2024). Tees Valley Labs has played a key role in facilitating partnerships between startups and research institutions like Teesside University, reinforcing not just skills pipelines but the region's wider innovation infrastructure. This focus on innovation complements the more operational forms of support discussed earlier, strengthening the ecosystem's long-term capacity to generate high-value ventures (Teesside University, 2023).

Despite these successes, structural challenges present significant Barriers to Success. The Economic Assessment identifies high rates of economic inactivity and an aging workforce as key obstacles to regional development (Tees Valley Combined Authority, 2022a). Accelerators have attempted to mitigate these barriers through targeted skills development initiatives. For example, the Adult Skills Fund has been leveraged to retrain local residents and equip them with in-demand skills, addressing workforce shortages in sectors like clean energy and advanced manufacturing (Tees Valley Combined Authority, 2024a).

Stakeholder Collaboration has emerged as a vital enabler of accelerator success. The Tees Valley Constitution outlines a collaborative governance framework that enhances partnerships between accelerators, local authorities, and academic institutions (Tees Valley Combined Authority, 2024b). This model has allowed accelerators to align their programmes with broader regional strategies, ensuring coherence in addressing shared economic goals. For example, the partnership between Tees Valley Labs and Teesside University has not only enhanced entrepreneurial training but also supported ventures in accessing R&D facilities and expertise (Teesside University, 2023).

Finally, the alignment of accelerators with Policy-Driven Impact is demonstrated in their capacity to operationalise regional ambitions, particularly in clean energy and industrial

digitalisation. The Local Industrial Strategy sets an ambitious goal for Tees Valley to become a global leader in hydrogen and carbon capture technologies by 2040 (Tees Valley Combined Authority, 2019b). Accelerators have directly contributed to this vision by supporting ventures that drive innovation and commercialisation in these fields, ensuring that the region remains competitive on a national and international scale (Tees Valley Combined Authority, 2022a).

In summary, business accelerators in Tees Valley operationalise devolved policies by implementing targeted Amplification Mechanisms, enabling Opportunity Identification and Opportunity Legitimation, and addressing Barriers to Success. Through robust Stakeholder Collaboration and alignment with regional economic strategies, they have significantly enhanced the entrepreneurial ecosystem while navigating persistent challenges. These findings underscore the pivotal role of accelerators in advancing regional economic ambitions and fostering sustainable new venture creation.

5.4.6 Discussion

The findings from the Tees Valley Combined Authority (TVCA) case study provide valuable insights into the relationship between devolved governance, business accelerators, and new venture creation. This discussion interprets the findings in relation to the theoretical framework of Regional Innovation Systems (RIS) and the broader context of this research, highlighting contributions to theory, practice, and policy.

The findings align with the RIS framework, which emphasises the integration of governance structures, institutions, and policy initiatives to enhance regional innovation. The Tees Valley Combined Authority (TVCA) strategically aligns its policies with regional priorities, particularly in clean energy and digital innovation, reflecting RIS's focus on leveraging local capabilities. The Tees Valley Strategic Economic Plan 2016-2026 emphasises the importance of developing the region's innovation ecosystem to drive economic growth and improve competitiveness by fostering collaboration between businesses, research institutions, and government bodies (Tees Valley Combined Authority, 2016). Accelerators, such as Tees Valley Labs, play a critical role in operationalising these objectives by offering tailored support to startups in high-priority sectors, such as clean energy and industrial digitalisation. This alignment

highlights the potential of devolved governance frameworks to enhance regional innovation when supported by targeted institutional initiatives.

Devolution emerges as a key enabler of accelerator activities in the region, albeit with some constraints. The findings reveal that devolved policies provide the necessary financial and strategic backing for accelerators to operate effectively. For example, the *Tees Valley Investment Plan* allocated £146.5 million to business growth and £20 million to innovation, creating an enabling environment for venture creation (Tees Valley Combined Authority, 2019a). However, the region's dependence on central government collaboration, as necessitated by its limited devolved powers, highlights systemic barriers to fully autonomous innovation. This dynamic underscores the need for more robust multi-level governance to address challenges such as infrastructure deficits and skills shortages.

The interaction between policies and accelerators in Tees Valley underscores their complementary roles in enabling venture creation. Devolved policies provide the strategic framework and resources, while accelerators act as intermediaries that translate these policies into actionable support for entrepreneurs. This synergy is evident in programmes like The Stable and The Forge, which provide sector-specific mentorship and resources aligned with TVCA's clean growth agenda (Tees Valley Combined Authority, 2019b). Furthermore, the case study demonstrates how accelerators adapt their strategies to address regional needs. TIA's cohort-based model and Tees Valley Labs' partnerships with local institutions exemplify how accelerators align their activities with regional strengths and policy priorities (Tees Valley Combined Authority, 2016).

These interactions not only enhance the effectiveness of accelerators but also amplify the impact of devolved policies. Specific examples, such as Eco-Trailer's adoption of digital tools funded through accelerator initiatives, illustrate the tangible outcomes of this alignment (Tees Valley Combined Authority, 2019a). By connecting startups with critical resources, accelerators reinforce their role as agents of policy implementation, driving venture creation and regional innovation.

The linkage between these findings and the quantitative phase of the research further underscores their relevance. Quantitative analysis revealed significant disparities in new venture creation rates across devolved regions, with a positive association between

the presence of accelerators and entrepreneurial activity. The qualitative findings from Tees Valley suggest that while its policies and accelerators are well-aligned, systemic challenges such as skills shortages may partially explain its modest performance relative to more autonomous regions like Wales. This highlights the importance of tailored strategies and sustained investment to address region-specific barriers and optimise policy outcomes.

Broader implications of the findings emphasise the transformative potential of devolved policies in enhancing entrepreneurial ecosystems. The TVCA case illustrates how accelerators can act as critical intermediaries, bridging gaps between policy frameworks and the practical needs of entrepreneurs. Policymakers may take from this case the importance of aligning devolved policies with regional strengths, fostering partnerships, and addressing systemic barriers to maximise their impact on venture creation.

In summary, the TVCA case highlights the dynamic interplay between devolved governance, accelerators, and entrepreneurial ecosystems. While challenges remain, the region's targeted policies and the adaptability of its accelerators demonstrate the potential for devolved governance to drive innovation and economic growth. These insights set the stage for a comparative analysis with the Wales case study to further explore the diverse pathways through which devolved policies influence new venture emergence.

5.4.7 Conclusion

This case study of the Tees Valley Combined Authority (TVCA) provides critical contributions to understanding the interaction between devolved policies and business accelerators, addressing the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions? The findings demonstrate that devolved governance frameworks create opportunities for accelerators like the Tees Valley Innovation Accelerator (TIA) and Tees Valley Labs to align their programmes with regional priorities, thereby operationalising high-level policy objectives into actionable entrepreneurial support (Tees Valley Combined Authority, 2016, 2019b).

Devolved policies in TVCA provide essential financial and structural support, enabling accelerators to thrive within the region's entrepreneurial ecosystem. For example, the Tees Valley Investment Plan allocates £146.5 million for business growth and £20

million for innovation, underpinning the activities of accelerators and ensuring access to necessary resources for new ventures (Tees Valley Combined Authority, 2019a). This highlights the importance of strategic policy alignment in fostering new venture creation and scaling opportunities in priority sectors such as clean energy, low-carbon technologies, and digital innovation (Tees Valley Combined Authority, 2019b).

Policymakers can learn from TVCA's approach by recognising the value of aligning devolved policy priorities with regional strengths. TVCA's focus on clean growth and industrial digitalisation showcases how targeted interventions can maximise economic impact. However, the findings also reveal systemic challenges, including skills shortages and infrastructure constraints, which necessitate stronger collaboration with central government to fully realise the potential of devolved governance (Tees Valley Combined Authority, 2016, 2019a).

For accelerators, this case study highlights the importance of adapting to regional contexts. TIA's cohort-based model and Tees Valley Labs' sector-specific initiatives demonstrate how accelerators can align their activities with regional policies while addressing unique challenges such as limited access to venture capital and skills gaps (Tees Valley Combined Authority, 2016). These adaptations not only enhance the relevance and impact of accelerators but also reinforce their role as intermediaries between policy frameworks and entrepreneurial needs.

Key takeaways from the case study include the importance of targeted policy alignment, the adaptability of accelerators, and the potential for devolved governance to drive innovation. Specific examples, such as the success of Eco-Trailer, which used funding to integrate digital tools into its manufacturing processes, illustrate the tangible outcomes of these interactions (Tees Valley Combined Authority, 2019a). These findings emphasise that accelerators amplify the effects of policy interventions by legitimising opportunities for startups and connecting them with vital resources and networks (Tees Valley Combined Authority, 2016).

The insights gained from this case study contribute to a deeper understanding of how devolved policies and accelerators complement each other to foster regional economic development. Devolved policies provide the strategic framework and resources, while accelerators operationalise these elements, enabling venture creation and growth. This

underscores the potential of devolved governance to support entrepreneurial ecosystems through targeted interventions and strategic partnerships.

As this chapter transitions to the cross-case analysis, the insights from TVCA will be compared with findings from the Wales case study. This comparison will provide a broader perspective on how different governance models shape the interaction between policies and accelerators, offering valuable lessons for theory and practice.

5.5 Cross-case analysis and discussion

5.5.1 Introduction

This cross-case analysis provides a comparative synthesis of the Wales and Tees Valley case studies, focusing on how business accelerators interact with devolved policies to foster new venture creation. It builds on the explanatory sequential mixed-methods design of the study, linking the quantitative findings and individual case studies to broader theoretical and practical implications. The aim is to provide a deeper understanding of the mechanisms, contextual factors, and outcomes that emerge from differing governance frameworks and regional contexts.

The cross-case themes presented in this chapter reflect the structured coding and thematic analysis process outlined earlier. Source material was coded using NVivo, guided by top-level categories derived from the research questions and conceptual framework. These first-order codes captured recurring concepts and framings across policy documents and observation notes. Through iterative re-analysis, these were grouped into second-order themes that reflected deeper institutional and strategic patterns. This thematic progression underpins the comparative interpretation presented in the following sections.

Building on this coding structure, the cross-case analysis is anchored in a hierarchical framework developed during the qualitative phase. This structure facilitates the identification of shared patterns, key divergences, and their broader implications. It was informed by theoretical constructs from the literature on Regional Innovation Systems (RIS) and Entrepreneurial Ecosystems, with categories aligned to the study's qualitative research questions (Cooke, 2001; Cohen and Hochberg, 2014; Gioia, 2021). The analysis draws on cross-cutting themes such as regional contexts, policy alignment, and

entrepreneurial ecosystem development, ensuring that the discussion remains theoretically grounded while addressing the specific dynamics observed in each region.

The Wales case study operates within a reserved powers governance model, where the Welsh Government holds significant autonomy to design and implement region-specific policies. These policies support accelerators through targeted funding, innovation programmes, and skills development initiatives, as exemplified by the activities of TfW Labs. In contrast, the Tees Valley Combined Authority (TVCA) represents a collaborative governance model, characterised by shared responsibilities between local authorities and central government. This comparative approach, consistent with Yin's (2014) theoretical replication strategy, enables the study to examine how variations in devolution frameworks shape the interaction between policy frameworks, accelerators, and regional entrepreneurial ecosystems.

Direct evidence from both cases, including observation notes, policy documents, and secondary data, substantiates the comparative analysis. For instance, the Economic Action Plan in Wales provides a cohesive framework for aligning accelerator activities with regional priorities such as decarbonisation and digital innovation (Welsh Government, 2017), while Tees Valley initiatives like the Tees Valley Innovation Accelerator address challenges of inter-institutional coordination and resource allocation (Tees Valley Combined Authority, 2022a). Quotes and data excerpts from these sources will illustrate how governance structures influence the capacity of accelerators to operationalise policy objectives.

The objectives of the cross-case analysis are threefold. First, it seeks to identify thematic consistencies, such as the role of accelerators as intermediaries in translating policy into practice, across the two governance models. Second, it aims to highlight divergences, such as the extent of policy autonomy and the challenges of multi-level governance, to deepen understanding of the contextual factors shaping entrepreneurial ecosystems. Third, it seeks to derive actionable insights for policymakers and accelerator practitioners, offering recommendations to enhance the effectiveness of accelerators within devolved governance frameworks.

The comparative findings will contribute to theoretical frameworks, such as RIS, by extending their application to regions with differing levels of devolution. For example, the findings may refine the understanding of multi-level governance within RIS,

particularly in regions where accelerators bridge gaps between centralised and localised policy priorities (Tödtling and Trippl, 2005; Isenberg, 2010). Practically, the analysis offers insights into designing policies that leverage accelerators as effective agents of regional development.

In conclusion, this cross-case analysis synthesises the findings from the Wales and Tees Valley case studies to provide a comparative understanding of how governance structures influence the interaction between business accelerators and devolved policies. It contributes to the study's overall aim of elucidating the mechanisms and contextual factors that underpin successful entrepreneurial ecosystems within devolved regions, offering both theoretical advancements and practical recommendations for enhancing regional innovation and economic development.

5.5.2 Thematic synthesis

This section presents a thematic synthesis of the findings from the Wales and Tees Valley Combined Authority (TVCA) case studies, structured around the three qualitative research questions (QLT.Q1, QLT.Q2, and QLT.Q3). Drawing on the hierarchical coding framework, the synthesis compares the interplay between devolved policies, business accelerators, and new venture creation across the two regions, supported by direct evidence and actionable insights.

5.5.2.1 QLT.Q1: How do devolved policies support or enable business accelerators to drive new venture creation in subnational regions?

Devolved policies in Wales and Tees Valley provide critical frameworks for enabling business accelerators, but their mechanisms differ significantly due to variations in governance structures. In Wales, the reserved powers model grants the Welsh Government extensive autonomy to design policies that align with regional priorities. Programmes such as the Economic Action Plan (Welsh Government, 2017) and Net Zero Skills Action Plan (Welsh Government, 2022b) focus on funding, innovation, and skills development, creating a conducive environment for accelerators like TfW Labs. For instance, the Economic Action Plan explicitly links funding to societal goals, such as decarbonisation and inclusive growth, enabling accelerators to align their activities with long-term regional objectives (Welsh Government, 2017).

In contrast, Tees Valley operates within a collaborative governance model with limited devolved powers, necessitating reliance on central government funding, such as the

Shared Prosperity Fund. This reliance introduces challenges in strategic continuity but also fosters cross-sector collaboration. Accelerators like the Tees Valley Innovation Accelerator draw on funding aligned with regional innovation priorities but must navigate constraints linked to centralised oversight, placing greater emphasis on TVCA to make innovative use of partnerships to maximise access to resources.

Similarities: Both regions align accelerator activities with regional policy priorities, such as skills development and sustainable innovation. In both cases, accelerators act as intermediaries, translating high-level policies into actionable support for startups.

Differences: Wales benefits from greater policy autonomy, which allows for the development of cohesive, region-specific programmes. In Tees Valley, reliance on central funding introduces external dependencies, shaping the scope and flexibility of accelerator activities.

5.5.2.2 QLT.Q2: How do business accelerators adapt their programmes and strategies to align with the specific needs and policy priorities of devolved regions?

Both TfW Labs and Tees Valley accelerators demonstrate adaptability by tailoring their programmes to address regional challenges and policy priorities. In Wales, TfW Labs aligns its initiatives with the Welsh Government's focus on decarbonisation and sustainable tourism, as seen in its support for startups developing energy-efficient transport solutions. Observation notes highlight the accelerator's ability to adapt to local cultural contexts through bilingual resources, ensuring inclusivity for Welsh-speaking entrepreneurs (Author's Observation, TfW Labs Morning Session, 14th September 2023). This emphasis on inclusivity is further evident in discussions about compliance with bilingual requirements to support Welsh-speaking entrepreneurs (Author's Observation, TfW Labs Afternoon Session, 14th September 2023).

Similarly, Tees Valley accelerators address skills gaps and economic disparities by integrating regional training initiatives into their programmes. For example, the Tees Valley Innovation Accelerator collaborates with local universities to upskill entrepreneurs in advanced manufacturing and renewable energy, directly supporting the region's industrial transformation efforts. However, the necessity of external partnerships to fill funding gaps reflects the constraints of Tees Valley's governance model.

Shared challenges: Both regions face skills shortages and funding barriers, which accelerators address through mentorship, training, and strategic partnerships. These challenges underscore the importance of regional adaptability in delivering effective entrepreneurial support.

Distinct strategies: TfW Labs benefits from the Welsh Government's consistent policy support, enabling it to integrate regional objectives seamlessly into its programmes. In contrast, Tees Valley accelerators operate within a more fragmented governance landscape, requiring greater reliance on external partnerships for programme viability.

5.5.2.3 QLT.Q3: How do business accelerators and devolved policies interact to amplify their collective impact on entrepreneurial activity in devolved regions?

Accelerators in both regions amplify their impact by leveraging alignment with devolved policies, though the nature and extent of this alignment vary. In Wales, direct opportunities such as innovation grants through Smart Cymru and funding programmes like the Business Wales Accelerated Growth Programme enable accelerators to support ventures addressing systemic challenges (Welsh Government, 2022a). For instance, TfW Labs facilitated a digital navigation system for cyclists that secured regional funding and completed successful trials in Newport and Cardiff, demonstrating the importance of regional collaboration and innovation in fostering active travel solutions (Author's Observation, TfW Labs Demo Day, 24th October 2023).

Tees Valley accelerators enhance their impact through indirect opportunities, such as integrating startups into regional infrastructure projects like Teesworks. These initiatives align with broader economic regeneration goals, supporting ventures focused on renewable energy and advanced manufacturing. However, as suggested in the Tees Valley Economic Assessment (Tees Valley Combined Authority, 2022a), achieving sustained impact requires navigating multi-level governance complexities, which can dilute the focus of local initiatives.

Direct vs. indirect impact: In Wales, the reserved powers model enables accelerators to align closely with regional policies, creating cohesive frameworks for innovation. In Tees Valley, accelerators contribute to regional transformation by aligning with broader infrastructure and regeneration projects, albeit within a more complex governance structure.

Amplification mechanisms: Both regions highlight the critical role of accelerators as intermediaries in operationalising policy objectives. However, the differing governance contexts shape the pathways through which impact is achieved, with Wales benefiting from direct policy integration and Tees Valley leveraging collaborative networks.

5.5.3 Cross-cutting themes

This section synthesises recurring themes that transcend individual research questions, focusing on insights into the legitimation processes, barriers to success, and opportunities for growth identified in the Wales and Tees Valley Combined Authority (TVCA) case studies. Using the hierarchical coding framework, these themes are critically analysed to highlight the shared dynamics and contextual differences between the two regions. Evidence from observation notes and policy documents substantiates the discussion, maintaining a critical perspective on governance, policy design, and accelerator roles.

5.5.3.1 Legitimation processes

Legitimation processes play a crucial role in how accelerators can enhance the credibility of startups, enabling them to secure resources, partnerships, and market access within a given institutional context (Fisher, 2020). In Wales, TfW Labs supports ventures in gaining legitimacy by aligning their activities with the Welsh Government's strategic priorities, such as decarbonisation and digital innovation. For example, startups working with TfW Labs have benefited from structured mentorship programs and facilitated pilot projects, which connect them to key stakeholders in the public transport sector, thereby enhancing their credibility and impact. During observation sessions, participants highlighted how TfW Labs' focus on aligning innovative solutions, such as navigation systems for active travel and carbon-reduction strategies, with regional goals helped ventures gain critical support and visibility (Author's Observation, TfW Labs Session, 28th September 2023).

This alignment with policy priorities is evident in TfW's broader strategic initiatives, such as promoting active travel and sustainable transport infrastructure, as outlined in their annual report (Transport for Wales, 2023). Additionally, the Prosperity for All economic action plan reflects the Welsh Government's emphasis on fostering ventures that advance decarbonisation and innovation, which aligns with TfW Labs' mentorship and project facilitation approach (Welsh Government, 2017). Structured feedback

mechanisms not only help ventures navigate regional challenges but also position them to contribute meaningfully to Wales' economic and environmental objectives (Welsh Government, 2022a).

In Tees Valley, accelerators contribute to legitimation by embedding startups within high-profile regional projects like Teesworks and the Freeport initiative. These connections enhance startups' visibility and credibility, particularly in sectors such as hydrogen economy and renewable energy. However, the reliance on multi-level governance complicates the legitimation process, as accelerators must align with both regional and central priorities. Tees Valley Economic Assessment 2022 (Tees Valley Combined Authority, 2022a) highlights that the integration of startups into large-scale infrastructure projects provides credibility, but navigating national funding frameworks can dilute regional focus.

Comparison: Both regions demonstrate the importance of aligning new ventures with regional policy priorities, which creates additional opportunities for their legitimation. However, while Wales benefits from a cohesive policy framework that facilitates direct integration, Tees Valley's multi-level governance creates additional layers of complexity, increasing the need for accelerators to act as mediators between regional and national agendas.

5.5.3.2 Barriers to success

Both regions face significant barriers to success, with limited funding and skills shortages emerging as shared challenges. In Wales, the availability of venture capital remains a persistent issue, constraining startups' ability to scale. The Economic Action Plan acknowledges this gap, emphasising the need for targeted funding mechanisms like the Development Bank of Wales (Welsh Government, 2017). While TfW Labs mitigates this barrier by connecting startups with regional grants and funding opportunities, the broader funding landscape remains underdeveloped compared to more affluent UK regions.

Similarly, Tees Valley faces funding constraints due to its reliance on central government allocations. Accelerators must navigate these limitations by fostering partnerships with private and academic stakeholders to secure additional resources. For instance, the Tees Valley Innovation Accelerator collaborates with local universities to

provide startups with access to research facilities and technical expertise, partially offsetting funding challenges (Tees Valley Combined Authority, 2022a).

Skills shortages are another shared barrier, particularly in sectors like renewable energy and advanced manufacturing. In Wales, initiatives like the Net Zero Skills Action Plan aim to address this gap, but the slow pace of implementation limits their immediate impact (Welsh Government, 2022b). Observation notes from TfW Labs highlight the challenges startups face in recruiting skilled workers, particularly in rural areas (Author's Observation, TfW Labs Afternoon Session, 14th September 2023). In Tees Valley, accelerators integrate training programmes into their activities, but the region's historical industrial decline exacerbates the skills gap, creating additional hurdles for startups aiming to innovate.

Comparison: Both regions share challenges related to funding and skills shortages, though the causes and mitigation strategies differ. Wales benefits from more cohesive policy-driven solutions, while Tees Valley relies heavily on external partnerships to address systemic barriers.

5.5.3.3 Opportunities for growth

Unique regional strengths present significant opportunities for growth in both Wales and Tees Valley. In Wales, initiatives emphasising sustainable tourism and decarbonisation align closely with the region's natural and cultural assets. Transport for Wales (TfW) plays a pivotal role in leveraging these opportunities by supporting ventures that integrate eco-friendly travel with local economic engagement. For instance, the integration of gamified applications incentivising sustainable transport, such as promoting train travel, showcases the region's commitment to aligning technological innovation with environmental and economic goals (Author's Observation, TfW Labs Afternoon Session, 14th September 2023). This aligns with the broader objectives set out in TfW's strategy to promote sustainable development and community integration (Transport for Wales, 2023).

In Tees Valley, the development of the hydrogen economy represents a transformative growth opportunity. The region's industrial heritage and recent investments in clean energy infrastructure provide a strong foundation for startups focused on renewable energy and advanced manufacturing. Accelerators are playing a role in assisting these ventures to pursue large-scale projects, ensuring alignment with regional economic

regeneration goals. The Tees Valley Economic Assessment (Tees Valley Combined Authority, 2022a) discusses how Teesside Freeport and its hydrogen cluster create unparalleled opportunities for innovation, but stresses the need for additional infrastructure to support start-ups to pursue these.

Comparison: Both regions illustrate how accelerators can act as catalysts for leveraging regional strengths. In Wales, this is achieved through alignment with cultural and environmental priorities, while Tees Valley focuses on industrial transformation and infrastructure development.

5.5.4 Policy implementation comparison

This section compares the effectiveness of policy implementation in Wales and the Tees Valley Combined Authority (TVCA), focusing on how governance models shape the operational dynamics of business accelerators and their alignment with regional policies. Using the hierarchical coding framework, the analysis evaluates the interplay between governance structures, policy frameworks, and regional support mechanisms, drawing on evidence from the two case studies.

5.5.4.1 Effectiveness of policy implementation

Policy implementation varies significantly between Wales and Tees Valley, shaped by their distinct governance frameworks. In Wales, the reserved powers model provides the Welsh Government with autonomy to craft policies that address regional priorities. Key examples include the Prosperity for All economic action plan, which outlines a vision for inclusive growth and decarbonisation efforts (Welsh Government, 2017). Additionally, the Net Zero Skills Action Plan underscores the commitment to aligning regional economic strategies with sustainable development goals (Welsh Government, 2022a).

This policy environment facilitates a structured operational landscape for initiatives like TfW Labs, enabling alignment between accelerator activities and broader objectives, such as sustainable tourism and reducing carbon emissions (Transport for Wales, 2023). The Welsh approach demonstrates how devolved governance can empower tailored interventions to address local challenges effectively, fostering coherence between policy frameworks and entrepreneurial ecosystems (Welsh Government, 2022a).

In contrast, the TVCA operates under a collaborative governance model, relying heavily on central government funding and oversight. While this model fosters cross-sector partnerships, it introduces challenges related to strategic continuity and regional specificity. Accelerators in Tees Valley must navigate a fragmented policy environment, aligning with both local priorities and national funding criteria. According to the Tees Valley Economic Assessment (Tees Valley Combined Authority, 2022a), the dependence on central funding can dilute the region's ability to implement cohesive, long-term strategies, limiting the responsiveness of regional initiatives.

Comparison: Wales's autonomy allows for streamlined policy implementation, enabling accelerators to align their activities directly with devolved priorities. Tees Valley's dependence on central funding creates additional layers of complexity, requiring accelerators to mediate between regional and national agendas. This dual alignment dilutes the impact of policy implementation in comparison to Wales.

5.5.4.2 Governance models and operational dynamics

Governance models significantly influence the operational dynamics of business accelerators and their alignment with policy objectives. In Wales, the reserved powers model establishes a stable policy environment that allows accelerators to effectively integrate strategic priorities into their programs. For instance, TfW Labs has tailored its approach to align with the Welsh Government's emphasis on sustainable transport and regional development, as evidenced by its focus on startups innovating in urban mobility and active travel solutions (Author's Observation, TfW Labs Session, 28th September 2023). Observations from program sessions highlight the accelerator's role in bridging ventures with policy-driven opportunities, fostering operational coherence and amplifying regional impact (Author's Observation, TfW Labs Morning Session, 14th September 2023).

Tees Valley's collaborative governance model fosters an ecosystem in which business accelerators engage flexibly with local authorities, universities, and private stakeholders to align with regional economic objectives. The Tees Valley Innovation Accelerator exemplifies this by integrating startups into transformative projects like Teesworks and the Freeport initiative. These initiatives reflect the region's strategic alignment of innovation with broader clean energy and industrial decarbonisation goals (Tees Business, 2024a). However, the multiplicity of partnerships and governance

levels introduces complexities that can hinder streamlined decision-making. A regional report suggests that effective collaboration is critical to surmounting these barriers and enhancing the efficiency of locally focused economic support systems (Tees Valley Combined Authority, 2022a).

While Wales benefits from a cohesive governance framework that streamlines accelerator alignment with policy goals, Tees Valley's collaborative model requires accelerators to adopt a more resource-intensive approach to achieve similar outcomes. This difference underscores the importance of governance structures in enabling or constraining the effectiveness of regional support mechanisms.

5.5.4.3 Implications for regional support mechanisms

The comparative analysis highlights critical implications for the effectiveness of regional support mechanisms. In Wales, the integration of accelerators into a stable, autonomous governance framework enables the delivery of targeted, region-specific interventions. For example, TfW Labs' alignment with the Net Zero Skills Action Plan (Welsh Government, 2022b) ensures that startups receive tailored support to address skills gaps in renewable energy and sustainable transport.

In Tees Valley, regional support mechanisms are heavily influenced by external dependencies, which can limit their adaptability. However, the collaborative governance model also fosters innovation by encouraging multi-stakeholder engagement. Accelerators like the Tees Valley Innovation Accelerator exemplify how partnerships can partially offset governance constraints, but this approach requires significant coordination and resources.

5.5.5 Integration with quantitative findings

This section integrates the qualitative findings from the Wales and Tees Valley case studies with the quantitative insights presented in the earlier phase of the thesis (QNT.Q1–QNT.Q3). By triangulating qualitative and quantitative evidence, this discussion elucidates the mechanisms through which devolved policy and business accelerators interact to influence new venture creation, survival, and growth. The mixed-methods approach enriches the study by providing a nuanced understanding of regional variations and their underlying drivers.

5.5.5.1 Corroborating and extending quantitative patterns

The quantitative findings demonstrated significant disparities in new venture creation rates across devolved regions (QNT.Q1), with regional differences influenced by factors such as policy presence, accelerator activity, and economic context. While the qualitative phase does not provide direct numerical validation, it identifies mechanisms that underpin these patterns. For example, in Wales, the alignment between devolved policies, such as the Economic Action Plan (Welsh Government, 2017), and accelerator initiatives like TfW Labs contributes to creating a supportive ecosystem for startups. This alignment ensures that ventures benefit from targeted funding, skills development, and innovation support, enhancing their prospects for growth and survival.

In Tees Valley, quantitative findings indicated moderate venture creation rates, reflecting structural economic challenges and reliance on central funding mechanisms. The qualitative analysis highlights how collaborative governance shapes the role of accelerators, such as the Tees Valley Innovation Accelerator, in mitigating these challenges. By integrating startups into regional projects like Teesworks, accelerators address local priorities, but the need to navigate multi-level governance reduces the coherence of policy implementation and limits the region's ability to sustain high venture creation rates (Tees Valley Combined Authority, 2022a).

5.5.5.2 Explaining regional variations

The qualitative findings provide critical insights into the regional variations observed in the quantitative phase, particularly the relationship between policy alignment and accelerator adaptability. In Wales, the reserved powers model enables the Welsh Government to craft cohesive, region-specific policies that support strategic sectors such as renewable energy, sustainable tourism, and active travel. This governance framework facilitates long-term planning and allows targeted support for accelerators like TfW Labs. Observation data from TfW Labs sessions demonstrate how the accelerator engages with regional strategies, ensuring that startups align with both market demands and policy priorities (Author's Observation, TfW Labs Morning Session, 14th September 2023). This alignment enhances the accelerator's ability to contribute meaningfully to regional economic development while addressing specific local challenges (Transport for Wales, 2023).

In contrast, Tees Valley's collaborative governance model introduces fragmentation in policy alignment. Accelerators must bridge gaps between local and national priorities, diluting the direct impact of regional policies on venture creation. For instance, while the Freeport initiative and hydrogen economy projects offer significant opportunities, the need for accelerators to coordinate across multiple stakeholders complicates their operational focus. The Tees Valley Economic Assessment (Tees Valley Combined Authority, 2022a) suggests that the absence of unified regional autonomy hinders the ability to implement cohesive startup support mechanisms.

These differences illustrate how the configuration of devolved policy frameworks influences the interaction between policies and accelerators, resulting in varying outcomes for new venture creation and survival. While Wales benefits from a more streamlined and supportive ecosystem, Tees Valley relies on accelerators' adaptability to navigate a complex governance landscape.

5.5.5.3 Contributions of the mixed-methods approach

The mixed-methods approach demonstrates its value by linking broad quantitative patterns with in-depth qualitative insights, offering a more comprehensive understanding of how devolved policies and business accelerators influence entrepreneurial ecosystems. While the quantitative phase identified significant associations between policy support, accelerator presence, and new venture creation rates (QNT.Q2, QNT.Q3), these patterns required further exploration to uncover the contextual mechanisms and institutional dynamics through which these relationships operate.

The qualitative phase addresses this gap by highlighting how accelerators act as intermediaries in operationalising devolved policies. In Wales, the integration of startups into regional innovation systems reflects the coherence of policy frameworks, while in Tees Valley, the emphasis on multi-stakeholder collaboration illustrates the flexibility required to compensate for governance constraints. These insights underscore the importance of understanding not only *what* patterns exist but also *how* and *why* they emerge.

The mixed-methods approach also enhances the study's practical relevance. By identifying specific mechanisms, such as policy alignment and local partnerships, the findings provide actionable insights for policymakers and accelerator practitioners. For

example, enhancing financial autonomy in regions like Tees Valley could enable more cohesive startup support, while fostering targeted sectoral initiatives in Wales could further strengthen its regional ecosystem.

Overall, the integration of qualitative and quantitative findings offers a holistic perspective on the interplay between devolved policies, business accelerators, and new venture creation. The mixed-methods approach reveals that while quantitative disparities in venture creation rates highlight regional challenges, qualitative insights illuminate the mechanisms underpinning these patterns, providing a deeper understanding of regional entrepreneurial ecosystems. This synthesis reinforces the study's central argument that governance structures and policy configurations critically shape the effectiveness of accelerators in fostering entrepreneurial growth.

5.5.6 Discussion of divergences

This section explores the divergences between the Wales and Tees Valley case studies, examining how unique regional characteristics influence the outcomes of business accelerators and their interaction with devolved policies. It highlights the contrasting governance frameworks, sectoral priorities, and disparities in accelerator effectiveness, providing a nuanced understanding of the factors shaping regional entrepreneurial ecosystems.

5.5.6.1 Regional characteristics and policy frameworks

A key divergence between Wales and Tees Valley lies in their governance models and the resulting influence on policy design and implementation. Wales operates under a reserved powers model, granting the Welsh Government significant autonomy to design and implement policies tailored to its regional priorities. This autonomy has facilitated the development of cohesive frameworks, such as the Economic Action Plan, which aligns funding, skills development, and innovation support with long-term goals like decarbonisation and digital tourism (Welsh Government, 2017). The alignment of TfW Labs with these priorities ensures that startups operate within a stable and supportive policy environment. Observation notes from the TfW accelerator programme highlight the accelerator's ability to embed ventures in regional strategies, enhancing both their operational focus and potential impact (Author's Observation, TfW Labs Demo Day, 24th October 2023). Additional observation notes from week four of the programme

underscore the importance of collaboration between startups and regional initiatives (Author's Observation, TfW Labs Morning Session, 14th September 2023).

In contrast, Tees Valley's collaborative governance model requires alignment with both regional and central government priorities. This configuration introduces challenges in policy coherence, as accelerators must navigate multi-level governance frameworks to secure funding and implement initiatives. For instance, while the Tees Valley Innovation Accelerator supports ventures in emerging sectors like hydrogen economy and renewable energy, its effectiveness is constrained by reliance on central funding mechanisms, such as the Shared Prosperity Fund. According to the Tees Valley Economic Assessment (Tees Valley Combined Authority, 2022a) the limited financial autonomy of the region creates barriers to implementing cohesive startup support strategies, increasing reliance on partnerships.

Comparison: Wales's governance model facilitates streamlined policy alignment, allowing accelerators to operate more effectively within a cohesive framework. Conversely, Tees Valley's collaborative model fosters flexibility and multi-stakeholder collaboration but at the cost of strategic continuity and operational efficiency.

5.5.6.2 Sectoral focus

Another critical divergence lies in the sectoral priorities shaping accelerator activities in each region. Wales emphasises sustainable tourism and digital innovation, leveraging its cultural and environmental assets to support startups that align with these priorities. TfW Labs exemplifies this focus, supporting ventures that develop eco-friendly travel solutions and promote local business engagement through digital platforms. For instance, a startup supported by TfW Labs developed a gamified app to incentivise sustainable travel while boosting tourism-related businesses (Author's Observation, TfW Labs Afternoon Session, 14th September 2023).

Tees Valley prioritises industrial transformation, with a strong focus on the hydrogen economy and renewable energy. The region's industrial heritage and recent investments in clean energy infrastructure create significant opportunities for accelerators to support startups addressing these priorities. The Freeport initiative and Teesworks industrial zone are key enablers, integrating startups into large-scale infrastructure projects that contribute to regional economic regeneration (Tees Valley Combined Authority, 2022a). However, this focus introduces challenges related to the long-term

sustainability of ventures, as the reliance on large infrastructure projects can limit the diversity of entrepreneurial activities.

Comparison: Wales's focus on digital tourism and sustainable innovation reflects its natural and cultural strengths, while Tees Valley's industrial focus capitalises on its existing infrastructure and expertise. These differing priorities highlight the role of regional characteristics in shaping the direction and impact of accelerator programmes.

5.5.6.3 Disparities in accelerator effectiveness

Unexpected findings reveal disparities in the effectiveness of accelerators between the two regions, shaped by governance structures, policy alignment, and sectoral focus. In Wales, TfW Labs benefits from a stable policy environment that ensures consistent support for startups, enhancing their credibility and growth prospects. However, challenges such as limited access to venture capital constrain the scaling potential of startups, particularly in rural areas (Welsh Government, 2021).

In Tees Valley, accelerators illustrate adaptability by collaborating with key partners to strengthen local innovation ecosystems. Programmes like Tees Valley Labs, developed in partnership with the Tees Valley Combined Authority and a local accelerator programme provider, aim to address skill gaps and enhance the growth potential of start-ups through tailored support and resources (Tees Business, 2024b). However, the region's policy landscape presents challenges, particularly in balancing large-scale infrastructure investments with the need to support smaller, high-growth enterprises in emerging sectors (Tees Valley Combined Authority, 2022a). The Tees Valley Strategic Economic Plan underscores the importance of inclusive growth, emphasising that cohesive support services and integrated innovation clusters are essential for maximising impact and overcoming resource constraints (Tees Valley Combined Authority, 2016).

Comparison: While both regions face challenges, the disparities in accelerator effectiveness highlight the influence of governance models and policy alignment. Wales demonstrates the benefits of autonomy in creating a cohesive support system, while Tees Valley's fragmented approach underscores the need for greater regional autonomy and coordination.

5.5.6.4 Conclusion

The divergences between Wales and Tees Valley highlight the importance of regional characteristics in shaping how business accelerators interact with devolved policy frameworks. In Wales, greater autonomy enables more coherent policy alignment and targeted support for entrepreneurship, while Tees Valley's collaborative governance model offers opportunities for partnership but introduces challenges in maintaining strategic continuity. Differences in sectoral focus further reflect each region's distinctive assets and priorities. Together, these findings offer important insights into the dynamics of regional entrepreneurial ecosystems and provide a foundation for the following discussion on theoretical contributions.

5.5.7 Theoretical contributions

This section explores the findings from the Wales and Tees Valley case studies to consider potential contributions to existing theories, focusing on Regional Innovation Systems (RIS), the role of accelerators as policy intermediaries, and the understanding of entrepreneurial ecosystems under differing governance models. It is important to note that these qualitative insights are derived from specific regional contexts and should be interpreted as illustrative rather than universally applicable. By integrating qualitative insights with theoretical frameworks, this discussion suggests potential areas where these findings extend, refine, or challenge established concepts in regional innovation and entrepreneurship studies.

5.5.7.1 Contributions to regional innovation systems (RIS) theory

The findings support and extend RIS theory by demonstrating how governance structures and policy configurations shape the interaction between regional actors, including accelerators, startups, and government institutions. RIS theory emphasises the importance of institutional frameworks and localised interactions in fostering innovation (Cooke, 2001). The Wales case illustrates how cohesive and autonomous policy frameworks enhance the coherence and effectiveness of regional innovation systems. Policies such as the Economic Action Plan (Welsh Government, 2017) and Net Zero Skills Action Plan (Welsh Government, 2022b) align with RIS principles by promoting sectoral innovation and supporting actors like TfW Labs in translating these goals into practical outcomes.

In contrast, Tees Valley highlights challenges in RIS theory by illustrating the effects of fragmented governance on regional innovation. The collaborative governance model requires accelerators to navigate multi-level policy environments, complicating the alignment of regional strategies with national funding priorities. This fragmentation suggests that RIS theory must account for the complexities of multi-level governance, particularly in regions with limited devolved powers. Several of the reports analysed, including Tees Valley Economic Assessment (Tees Valley Combined Authority, 2022a), perceive opportunities, such as the retention of talent in the area, that could stem from greater policy coherence at regional and national levels.

Theoretical Extension: The findings suggest that RIS theory should incorporate a more nuanced understanding of governance dynamics, highlighting how varying degrees of autonomy influence the integration and performance of regional actors. In regions like Tees Valley, accelerators' ability to act as connectors within the RIS framework is contingent on their capacity to overcome governance-related barriers.

5.5.7.2 Insights into the role of accelerators as devolved policy intermediaries

Both case studies underscore the role of accelerators as critical intermediaries in translating policy objectives into actionable entrepreneurial support. This intermediary function is consistent with the literature on accelerators as innovation catalysts (Cohen and Hochberg, 2014), but the findings refine this understanding by emphasising the contextual dependencies of their effectiveness.

In Wales, accelerators like TfW Labs benefit from a more stable policy environment, enabling them to act as direct implementers of regional strategies. For example, TfW Labs supports ventures focused on decarbonisation and sustainable tourism, thereby operationalising Welsh Government priorities. Observation notes indicate that the accelerator's alignment with policy-driven goals enhances its credibility and impact, fostering stronger collaborations with regional stakeholders (Author's Observation, TfW Labs Afternoon Session, 14th September 2023). This focus on sustainable development and integration with regional policies reflects the broader objectives outlined in the Economic Action Plan which emphasises fair, inclusive, and sustainable growth (Welsh Government, 2017).

Tees Valley accelerators face greater challenges in fulfilling this intermediary role due to fragmented governance. While they successfully integrate startups into large-scale

projects like Teesworks and Freeport, their reliance on multi-stakeholder coordination limits their capacity to deliver consistent, policy-aligned outcomes. This highlights the adaptive strategies accelerators must employ in regions with less cohesive policy frameworks.

Theoretical refinement: The findings suggest that the intermediary role of accelerators is highly contingent on the coherence of the policy environment. Accelerators in more autonomous regions like Wales can act as direct extensions of regional policy, whereas those in collaborative governance contexts must adopt adaptive, multi-stakeholder approaches to achieve similar outcomes.

5.5.7.3 Implications for understanding entrepreneurial ecosystems under varying governance models

The findings contribute to the understanding of entrepreneurial ecosystems by demonstrating how governance models influence their structure, adaptability, and effectiveness. Entrepreneurial ecosystems are often conceptualised as networks of interconnected actors, institutions, and resources that collectively support new venture creation (Isenberg, 2010). The case studies highlight how governance structures shape the alignment and interactions within these ecosystems.

In Wales, the reserved powers model creates a supportive environment for entrepreneurial ecosystems by enabling accelerators and startups to align closely with regional priorities. This coherence fosters strong collaborations between public and private actors, as seen in TfW Labs' partnerships with regional universities and industry stakeholders (Welsh Government, 2017).

Tees Valley's ecosystem reflects the influence of collaborative governance, which necessitates greater reliance on partnerships to address funding and resource gaps. While this model fosters innovation through cross-sector engagement, it also introduces inefficiencies that constrain the ecosystem's capacity to deliver sustained entrepreneurial outcomes. For example, the emphasis on large infrastructure projects risks overshadowing smaller, high-growth startups in other sectors (Tees Valley Combined Authority, 2022a).

Theoretical contribution: The findings suggest that entrepreneurial ecosystem frameworks should incorporate governance as a critical dimension influencing ecosystem dynamics. Regions with cohesive governance structures, like Wales,

demonstrate stronger alignment and integration, while those with fragmented models, like Tees Valley, require greater adaptability and resourcefulness to achieve similar outcomes.

5.5.7.4 Conclusion

The findings from the Wales and Tees Valley case studies extend and refine existing theoretical frameworks by highlighting the influence of governance structures, policy coherence, and sectoral priorities on regional innovation systems and entrepreneurial ecosystems. They underscore the importance of accelerators as intermediaries and the contextual dependencies of their effectiveness. These contributions provide a foundation for further theoretical development and set the stage for the next section on practical implications.

5.5.8 Practical implications

The findings from the cross-case analysis of Wales and Tees Valley provide actionable insights for policymakers, accelerator managers, and entrepreneurs. These implications emphasise the importance of tailoring policies and operational strategies to regional characteristics, enhancing the effectiveness of accelerators, and maximising the opportunities for new venture creation and growth.

5.5.8.1 Recommendations for policymakers

Policymakers focused on designing policies that address the unique needs of their regions should be alert to opportunities to foster coherence and alignment with accelerator activities.

Enhance regional autonomy: The Welsh case demonstrates the advantages of a cohesive and autonomous policy framework. Policymakers in regions with limited devolved powers, such as Tees Valley, should advocate for increased financial autonomy to enable the development of long-term, region-specific strategies (Welsh Government, 2017; Tees Valley Combined Authority, 2022a). Such autonomy would reduce reliance on central funding and allow for more responsive and targeted interventions.

Foster policy coherence: Aligning policies with regional priorities ensures that accelerators can operate effectively. For example, the integration of skills development, funding, and innovation support in Wales provides a clear framework for accelerator activities (Welsh Government, 2022b). In contrast, Tees Valley's less unified governance

highlights the need for improved coordination between regional and national policy agendas.

Support inclusive growth: Policymakers should prioritise inclusivity in entrepreneurial ecosystems by addressing barriers such as skills shortages and funding gaps. Initiatives like the Welsh Government's Net Zero Skills Action Plan provide a model for equipping entrepreneurs with the capabilities needed to thrive in key growth sectors such as renewable energy and digital tourism (Thomas and Morgan, 2024).

5.5.8.2 Recommendations for accelerator managers and founders

Accelerator managers and founders play a pivotal role in operationalising policy objectives and supporting entrepreneurs. The findings highlight several strategies to enhance their effectiveness:

Leverage regional strengths: Accelerators should align their programmes with the unique strengths and priorities of their regions. TfW Labs, for instance, successfully integrates startups into Wales's focus on sustainable tourism and decarbonisation, creating impactful outcomes that resonate with regional goals. This focus is demonstrated in the discussions about sustainable tourism and the integration of innovative startup solutions during the TfW accelerator program (Author's Observation, TfW Labs Morning Session, 14th September 2023). Further evidence of this alignment with decarbonisation and regional objectives can be seen in the exploration of gamified tourism apps that promote sustainable practices and local engagement (Author's Observation, TfW Labs Afternoon Session, 14th September 2023). Similarly, Tees Valley accelerators could further capitalise on the region's emerging hydrogen economy to foster high-impact ventures (Tees Valley Combined Authority, 2022a).

Adapt to governance constraints: In regions with fragmented governance, accelerators must adopt adaptive strategies to navigate multi-level policy environments. Building robust partnerships with local authorities, universities, and private stakeholders can mitigate challenges related to funding and resource gaps, as demonstrated by the Tees Valley Innovation Accelerator (Tees Valley Combined Authority, 2022a).

Enhance cultural and institutional alignment: Providing tailored support that reflects regional contexts can enhance accelerator effectiveness. TfW Labs' use of bilingual resources and its focus on regionally significant sectors exemplify how cultural

alignment strengthens programme legitimacy and engagement (Welsh Government, 2017).

5.5.8.3 Recommendations for entrepreneurs

Entrepreneurs can maximise the opportunities created by the alignment between accelerators and regional policies by adopting proactive and strategic approaches.

Exploit policy-driven opportunities: Entrepreneurs should engage with accelerators that align with regional policy priorities to access targeted funding, mentorship, and market opportunities. For example, startups in Wales have leveraged the TfW Labs programme, which integrates with Welsh Government decarbonisation objectives, to secure funding and enhance their credibility with stakeholders (Author's Observation, TfW Labs Session, 28th September 2023). This alignment not only supports entrepreneurial ventures but also advances broader sustainability goals (Transport for Wales, 2023).

Develop sector-specific expertise: Focusing on sectors prioritised by regional policies, such as renewable energy in Tees Valley or digital tourism in Wales, can increase entrepreneurs' chances of receiving support and achieving market success. Entrepreneurs should stay informed about regional priorities and tailor their ventures accordingly (Tees Valley Combined Authority, 2022a).

Leverage accelerator networks: Accelerator programmes can offer more than just resources and training – they also provide opportunities to build credibility through association. This research found that for some entrepreneurs, active engagement in accelerator networks helped open doors to investors, policymakers, and strategic partners who might otherwise have been out of reach. These connections can help signal that a venture is serious, supported, and worth paying attention to. However, the value of these networks depends on how they are used – simply being part of a programme is not enough. Entrepreneurs should approach these relationships thoughtfully, recognising that credibility is built through consistent, visible engagement and the ability to align with the expectations of the ecosystem they hope to enter.

5.5.8.4 Conclusion

The practical implications outlined here underscore the importance of aligning policy design, accelerator strategies, and entrepreneurial actions with regional characteristics. By fostering coherence and adaptability within entrepreneurial ecosystems,

policymakers, accelerators, and entrepreneurs can collectively enhance the impact of new ventures on regional economic development.

5.5.9 Limitations and reflections on methodology

The qualitative phase of this study has provided valuable insights into the interaction between devolved policies, business accelerators, and regional entrepreneurial ecosystems. However, as with any qualitative research, this phase is subject to certain methodological strengths and limitations, which are critically discussed below. These reflections also address issues of reflexivity, potential biases, and the generalisability of the findings.

5.5.9.1 Strengths of the methodology

The use of a multiple case study design (Yin, 2014) allowed for a detailed exploration of the dynamics within two distinct regions, Wales and Tees Valley, offering comparative insights into the role of governance models and policy frameworks. The integration of non-participatory observation and documentary analysis provided access to real-time programme interactions and formal policy discourse. Rather than applying generic thematic coding, the qualitative analysis adopted a structured first- and second-order coding process informed by the Gioia methodology (Gioia, 2021). This approach was adapted to suit the nature of the data and allowed for the development of theoretically grounded themes while remaining sensitive to context. The combination of this structured coding with a broader triangulated design enhanced the credibility of the findings by cross-validating insights across observational fieldnotes, public documents, and regional policy materials (Lincoln and Guba, 1985).

The hierarchical coding framework, grounded in theoretical constructs from Regional Innovation Systems (RIS) and entrepreneurial ecosystem literature, provided a robust structure for analysing the qualitative data. This alignment ensured that the findings were not only empirically grounded but also theoretically relevant, contributing to the study's broader aims.

5.5.9.2 Limitations of the research

Despite its strengths, the qualitative phase faced several limitations that must be acknowledged as follows:

Potential biases in data collection and analysis

The reliance on observation notes, particularly for TfW Labs in Wales, introduces the potential for observer bias, as the researcher's presence and interpretative lens could have influenced the data collected (Creswell and Poth, 2018). Similarly, the absence of direct interviews and observations in Tees Valley, due to constraints on primary data access, meant that this case relied heavily on secondary sources, which may not fully capture the perspectives of stakeholders.

Reflexivity played a critical role in mitigating these biases. A research journal was maintained to document assumptions, reflections, and decision-making processes during data collection and analysis. While this helped ensure transparency and critical self-awareness, the inherent subjectivity in qualitative analysis cannot be entirely eliminated.

Generalisability of findings

The findings from this study are inherently context-specific, reflecting the unique characteristics of Wales and Tees Valley. While the comparative approach provides transferable insights into how governance models and policy frameworks shape accelerator dynamics, the generalisability of these findings to other regions with differing socio-economic or political contexts is limited (Stake, 2010). The study focuses on two regions with distinct governance models, and while these represent contrasting cases within the UK, they do not capture the full diversity of regional contexts.

Constraints during the research process

Practical constraints affected the scope of data collection, particularly in Tees Valley. Limited access to primary stakeholders, such as policymakers and accelerator managers, restricted the depth of insights that could be obtained directly. This was mitigated by relying on publicly available documents, reports, and secondary data, but the lack of direct engagement with key actors represents a significant constraint.

Time constraints also posed challenges, as the qualitative phase was conducted within a tight timeline, potentially limiting opportunities for iterative refinement of the coding framework. Although the framework was grounded in existing literature and adjusted inductively during analysis, a more iterative process might have further enhanced its robustness.

5.5.9.3 Reflexivity and researcher role

Reflexivity was central to the research process, as the researcher's positionality and perspectives inevitably shaped data interpretation. The dual role of researcher as both observer and analyst necessitated ongoing critical reflection to ensure that findings were not overly influenced by personal biases or preconceptions. By maintaining an audit trail and engaging with the hierarchical coding framework, efforts were made to remain grounded in the data and align interpretations with theoretical constructs.

5.5.9.4 Implications of methodological limitations

These limitations do not diminish the value of the study but rather highlight areas for caution in interpreting the findings. Policymakers, accelerator managers, and scholars should consider the context-specific nature of the results and the constraints on data collection when applying these insights to other regions or settings. Future research could address these limitations by incorporating additional case studies, conducting longitudinal analyses, or engaging directly with a broader range of stakeholders to deepen understanding.

5.6 Conclusion

5.6.1 Summary of key findings

The qualitative phase of this study has provided illustrative insights, drawn from specific regional contexts, into how devolved policies and business accelerators interact to foster new venture creation within subnational regions. While not universally generalisable, these findings offer valuable perspectives on the mechanisms through which policies support accelerators, the adaptability of accelerators to regional contexts, and how accelerators amplify their impact by aligning with policy priorities. These insights were derived through a structured, Gioia-informed coding framework, which helped surface recurring mechanisms and connect grounded empirical observations to broader theoretical patterns across the two cases.

The comparative analysis of Wales and Tees Valley highlighted distinct governance-driven contrasts in their approaches to leveraging accelerators within regional strategies. Wales benefits from a reserved powers model, which enables a streamlined and cohesive policy environment. This structure supports initiatives like Transport for Wales (TfW) Labs in aligning with the Welsh Government's priorities, such as

decarbonisation and sustainable tourism. These priorities are detailed in the Prosperity for All: Economic Action Plan (Welsh Government, 2017) and further reinforced in the TfW Annual Review, which emphasises sustainable growth and integrated transport solutions (Transport for Wales, 2023).

In contrast, Tees Valley operates within a collaborative governance framework characteristic of mayoral combined authorities. While this model promotes partnership-based initiatives, it also requires accelerators to navigate fragmented policy landscapes, often necessitating close collaboration with stakeholders to address funding constraints and operational challenges. This dynamic is reflected in the Tees Valley Economic Assessment, which emphasises the region's ongoing challenges in coordinating economic development and aligning interventions (Tees Valley Combined Authority, 2022a).

Key findings include:

Policy alignment: Accelerators act as intermediaries that translate policy objectives into actionable entrepreneurial support, particularly in regions with cohesive governance frameworks.

Regional adaptation: The effectiveness of accelerators can be enhanced by their ability to align with unique regional priorities and cultural contexts, such as bilingual initiatives in Wales and industrial regeneration in Tees Valley.

Governance impact: The governance structure significantly influences accelerator dynamics, with Wales benefiting from greater policy coherence and Tees Valley demonstrating the challenges as well as opportunities of multi-level governance.

This phase contributes to the mixed-methods design by enriching the quantitative findings with in-depth contextual analysis. For instance, while the quantitative phase identified disparities in venture creation rates (QNT.Q1–QNT.Q3), the qualitative phase uncovered the mechanisms underpinning these patterns, such as the role of policy frameworks and sectoral priorities. This integration enhances the explanatory power of the study, providing a comprehensive understanding of the interaction between devolved policies and entrepreneurial ecosystems.

5.6.2 Contribution to knowledge

This qualitative phase contributes significantly to addressing the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions? By examining the interaction between governance structures, policy frameworks, and accelerator operations, this phase advances the understanding of how devolution shapes entrepreneurial ecosystems.

The findings extend existing theories of Regional Innovation Systems (RIS) by illustrating how variations in governance autonomy shape both policy alignment and the operational dynamics of business accelerators. In Wales, devolved governance enables coherent integration of policy priorities, fostering a supportive environment for startup development. In contrast, the Tees Valley case reveals the adaptive strategies accelerators must adopt in regions characterised by more fragmented, multi-level governance. This contrast offers new insights into the practical challenges of implementing regional innovation policy under differing constitutional arrangements (Cooke, 2001; Welsh Government, 2017).

This research also refines the conceptualisation of accelerators as policy intermediaries. The case studies reveal that accelerators not only support startups but also bridge gaps between policy goals and entrepreneurial needs, enhancing the operationalisation of devolved priorities. These findings are offered as context-specific illustrations rather than generalised claims, grounded in the dynamics observed in two contrasting devolved regions. By highlighting these dynamics, the qualitative phase underscores the broader implications of devolution for regional economic development and innovation.

5.6.3 Transition to overall thesis discussion

The findings from the qualitative phase provide a critical foundation for the broader discussion and conclusion of this thesis. They demonstrate how devolved policies and governance structures shape the effectiveness of business accelerators, offering nuanced explanations for the quantitative patterns observed in venture creation rates. The qualitative insights, particularly on policy alignment and governance impacts, deepen the study's overall contribution to understanding the interaction between devolution and entrepreneurial ecosystems.

The integration of qualitative and quantitative findings underscores the explanatory power of a mixed-methods approach. While the quantitative phase quantified regional

disparities, the qualitative phase revealed the underlying mechanisms driving these differences. Together, these phases offer a holistic perspective on the role of devolution in fostering new ventures, contributing both theoretical advancements and practical recommendations for policymakers, accelerators, and entrepreneurs.

As the thesis transitions to the overall discussion and conclusion, the emphasis will shift to synthesising these findings, addressing the broader implications of the study, and providing actionable insights for enhancing regional innovation and entrepreneurship under devolved governance frameworks.

Chapter 6: Discussion

6.1 Introduction

This chapter addresses the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions? It brings together the findings from the quantitative and qualitative phases to explore how these elements work together to shape entrepreneurial outcomes. By combining broader statistical patterns with detailed contextual insights, the discussion aims to build a more complete understanding of these interactions and their implications.

The quantitative phase identified substantial variation in new venture creation across the UK, with just over half of this variance attributable to regional-level differences. This suggests that while regional context plays an important role in shaping entrepreneurial activity, it is not the sole driver. Regions with broader policy coverage – as captured by higher *Dev_Composite* scores – were significantly associated with higher rates of new venture formation. This finding supports prior work on the role of coordinated regional policy frameworks in shaping entrepreneurial ecosystems (Cooke, Gomez Uranga and Etxebarria, 1997; Bone *et al.*, 2019). The presence of accelerators also emerged as a significant contributor (Cohen and Hochberg, 2014; Hausberg and Korreck, 2020). Yet these statistical patterns alone could not fully explain the underlying dynamics. Why are these policies and accelerators more effective in some regions than others? And how do they interact with the distinct institutional and governance conditions shaped by devolution?

To explore these issues in depth, I turned to qualitative case studies of Wales and the Tees Valley Combined Authority (MCA). These regions offer contrasting governance models. Wales operates under a reserved powers framework, giving it substantial autonomy to design and implement policies (Wales Act 2017; Welsh Government, 2021). In contrast, Tees Valley follows a more collaborative approach, relying on partnerships between local and central government (Tees Valley Combined Authority, 2024b). The case studies revealed how these structural differences influence the implementation of devolved policies and the role of accelerators. For instance, in Wales, accelerators were tightly integrated with regional priorities, such as sustainable transport initiatives (Transport for Wales, 2020a). Meanwhile, in Tees Valley, accelerators had to navigate a

more interdependent policy environment but demonstrated how collaboration could still produce meaningful support for entrepreneurs (Tees Business, 2024a).

The chapter is structured around three core themes. First, it examines how devolved policies create the conditions for accelerators to thrive, focusing on how policy frameworks set the stage for entrepreneurial activity (Pope, Dalton and Coggins, 2023). Second, it explores how accelerators adapt their programmes to align with local needs and regional priorities, drawing on evidence from the case studies to illustrate these processes (Tracey, Dalpiaz and Phillips, 2018; Cohen *et al.*, 2019). Finally, it considers how accelerators amplify their impact by strategically aligning with devolved policy frameworks, reflecting on the broader implications for regional innovation systems and economic development (Cooke, 2001; Tödtling and Trippl, 2005).

This integration of quantitative patterns with qualitative insights allows the discussion to move beyond surface-level correlations. It delves into the mechanisms through which policies and accelerators interact, while also considering how governance structures, institutional capacity, and local contexts influence these dynamics (Keating, Cairney and Hepburn, 2009; Bailey, 2017). The findings highlight the complexity of these relationships, offering practical lessons for policymakers and accelerator managers while contributing to theoretical debates on entrepreneurial ecosystems in devolved contexts (Mason and Brown, 2014; Spigel, 2017). By situating the analysis within both broad patterns and specific cases, I aim to provide a balanced and meaningful interpretation that supports actionable recommendations and future inquiry.

6.2 Revisiting the central research question

The findings from the quantitative and qualitative phases of this study converge to address the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions? This discussion reflects on the key insights gained, evaluates their implications, and positions the study within the broader context of entrepreneurial ecosystems and regional innovation systems.

At the heart of this analysis lies the recognition that devolution has created a fertile environment for regionally tailored policies, which business accelerators have drawn upon to support new venture activity. The quantitative phase highlighted substantial regional disparities in new venture creation, with over half of the variance attributable

to differences between regions rather than random variation. These disparities appear to reflect the combined influence of devolved policy design and wider regional conditions – including the entrepreneurial ecosystems within which accelerators operate. Regions with broader policy coverage – as captured by higher *Dev_Composite* scores – were significantly associated with increased entrepreneurial activity, supporting earlier theoretical work on the importance of integrated regional policy environments (Cooke, 1992; Bailey, 2017). These associations are likely shaped by how such policy frameworks interact with broader regional contexts.

The qualitative phase deepened this understanding by exploring how these dynamics unfold in specific regions. The Wales case study highlighted the role of accelerators like Transport for Wales Labs in aligning with devolved policy priorities to drive innovation in sustainable transport (Welsh Government, 2021; Transport for Wales, 2023). Similarly, the Tees Valley case points to the importance of collaboration between regional and central authorities in amplifying the impact of accelerator programmes (Tees Valley Combined Authority, 2019b, 2019a). These insights reveal a dual interaction: accelerators adapt to regional policies and simultaneously act as intermediaries that operationalise policy goals, translating them into tangible support for entrepreneurs (Hausberg and Korreck, 2020).

However, the findings also suggest a more nuanced and context-dependent relationship than might have been anticipated. While accelerators and devolved policies can act synergistically, their effectiveness is mediated by regional factors such as governance capacity, institutional norms, and the maturity of the local entrepreneurial ecosystem (Rodríguez-Pose and Gill, 2003; Mason and Brown, 2014). For instance, regions with a strong alignment between policy design and local needs, as seen in Wales, demonstrated accelerators directly acting to help achieve policy objectives. Conversely, in regions like Tees Valley, where governance structures are more collaborative and reliant on central support, the interaction between accelerators and policies takes on a different character, emphasising coordination and resource sharing.

These findings challenge the assumption that accelerators and devolved policies alone can directly drive new venture creation. Instead, their contribution appears to lie in enhancing the conditions under which ventures can emerge and thrive. This includes providing legitimacy (Aldrich and Fiol, 1994; Zimmerman and Zeitz, 2002), building institutional trust, and creating pathways for entrepreneurs to navigate complex local

and national systems. Of these mechanisms, legitimacy emerges as a particularly powerful and unifying thread. Across both regions, accelerators were found to act not simply as supporters or delivery agents, but as institutional intermediaries – helping startups to meet locally specific expectations, gain credibility, and align themselves with broader development goals. This perspective reframes the role of accelerators: they are not just service providers but meso-level actors that shape the very conditions under which new ventures are recognised as viable. As the following sections explore, this legitimacy-building role sits at the heart of how devolved policy frameworks and accelerator strategies interact in practice.

As this chapter transitions to integrating the quantitative and qualitative findings, it becomes clear that the interplay between accelerators and devolved policies operates at multiple levels. These include shaping regional opportunity structures, enhancing the adaptive capacity of entrepreneurial ecosystems, and fostering alignment between local and national development goals (Stam, 2015; Hutzschenreuter, Matt and Kleindienst, 2020). The discussion will now explore these dynamics in greater depth, synthesising the statistical patterns observed with the contextual insights gained, to provide a holistic understanding of the mechanisms driving new venture emergence in the UK's devolved regions.

6.3 Integration of quantitative and qualitative findings

This section synthesises the quantitative and qualitative findings of the study, providing a cohesive understanding of how devolved policies and business accelerators interact to foster new venture emergence in subnational regions. By integrating insights from both phases, the discussion highlights areas of convergence and divergence, offering nuanced perspectives on the central research question.

6.3.1 Regional disparities: quantitative evidence and qualitative insights

The quantitative analysis revealed that regional context plays a substantial role in shaping new venture creation across the UK. In QNT.Q1, which assessed overall regional variation without policy predictors, the intraclass correlation coefficient (ICC) was 0.560, indicating that just over half of the total variance in new venture creation rates was attributable to differences between devolved regions. This pattern remained consistent in QNT.Q2, where the model included policy support as a fixed effect – the ICC increased slightly to 0.584, reinforcing the conclusion that regional context

continues to matter even when controlling for policy breadth. While these results underscore the importance of regional ecosystems, they also highlight that within-region variation and temporal factors remain relevant. These findings align with qualitative insights from the case studies of Wales and Tees Valley, which reveal that the contextual characteristics of each region – such as governance structures, policy focus, and historical economic trajectories – shape entrepreneurial outcomes. These observations are consistent with theories of regional innovation systems, which stress the importance of tailoring interventions to local conditions (Cooke, Gomez Uranga and Etxebarria, 1997; Cooke, 2001).

What is particularly interesting about the increase in ICC from 0.560 to 0.584 is that it runs counter to a simple expectation that accounting for policy support would reduce the unexplained differences between regions. If regional disparities in entrepreneurial activity were in part being driven by variation in the presence or absence of supportive devolved policies, then controlling for policy breadth might be expected to reduce the share of variance attributed to region. Instead, the fact that it increases slightly may reflect the very nature of devolved policymaking itself – where policy is not only a predictor but also a reflection of the underlying regional context. In this view, devolved policies may act less as equalising forces and more as differentiating mechanisms. In regions where policy design is coherent, well-aligned, and responsive to local institutional conditions, policies may reinforce the visibility and credibility of entrepreneurship – helping to institutionalise support and strengthen ecosystem-level functions. In others, where policy frameworks are fragmented or poorly integrated, their effects may be limited or even counterproductive (Pope, Dalton and Coggins, 2023). Rather than smoothing out regional disparities, devolved policies may amplify them – particularly by shaping the availability and structure of legitimation pathways through which entrepreneurial activity becomes viable, supported, and recognised.

In Wales, for example, devolved policies prioritising skills development and sustainable innovation have created fertile ground for entrepreneurial activity, as exemplified by the Transport for Wales Labs accelerator. This initiative leverages region-specific policies to address local challenges, such as skills shortages in sustainable transport, fostering a supportive ecosystem for startups (Fuzi, 2015; Transport for Wales, 2021a). Conversely, the Tees Valley case highlights the limitations of narrower devolved powers, with accelerators such as Tees Valley Labs working in a more collaborative governance

framework. This requires balancing regional priorities with central government support, which can dilute the direct impact of devolved policies on entrepreneurship (MacKinnon, 2015).

The combination of these findings suggests that while devolution offers opportunities for tailored interventions, its effectiveness is contingent upon the alignment of policies with regional contexts and the capacity of accelerators to adapt to these dynamics (Mason and Brown, 2014).

6.3.2 Policy and accelerator roles: areas of convergence and divergence

The quantitative phase identified a strong association between broader policy support – as measured by a composite indicator of devolved entrepreneurship-supportive policies – and higher rates of new venture creation. The qualitative findings reinforce this, illustrating how regional policies are operationalised through accelerator programmes to provide tangible support for entrepreneurs (Bone, Allen and Halley, 2017; Aljalahma and Slof, 2022). In Wales, policies promoting regional innovation systems (RIS) have enabled accelerators to act as intermediaries, translating strategic priorities into actionable frameworks for startups (Cooke, 1992).

However, the effectiveness of these interactions varies. In the Tees Valley, the narrower scope of devolved powers has necessitated a more collaborative approach, where accelerators often compensate for gaps in regional policy capacities. This divergence highlights the importance of policy coherence and strategic alignment between regional authorities and accelerators (Rodríguez-Pose and Gill, 2003). While Wales demonstrates how a reserved powers model can empower accelerators to address regional needs directly, the Tees Valley's experience underscores the challenges of navigating fragmented governance structures (Keating, Cairney and Hepburn, 2009).

6.3.3 Unexpected findings: distribution and influence of accelerators

An unexpected finding from the quantitative analysis was the uneven distribution of accelerators across regions, with some high-potential areas underrepresented. Qualitative insights suggest that this disparity may stem from regional differences in institutional capacity and economic priorities. In Tees Valley, for instance, accelerators like Tees Valley Labs have adapted their strategies to address systemic challenges, such as limited local funding and infrastructural deficits, highlighting the critical role of

accelerators in amplifying regional policies under constrained conditions (Tees Valley Combined Authority, 2022a).

Moreover, both phases revealed that accelerators do more than simply support venture creation; they act as catalysts for recognising and exploiting region-specific opportunities. This dual role – legitimising entrepreneurs within regional contexts and facilitating their integration into broader markets – aligns with the conceptual framework of entrepreneurial ecosystems (Spigel, 2017).

6.3.4 Synthesis and implications for the broader discussion

The interplay between accelerators and devolved policies is neither linear nor uniform. Instead, it reflects a dynamic relationship shaped by regional contexts, governance frameworks, and the adaptive capacities of both accelerators and policymakers. This synthesis demonstrates that accelerators are not just recipients of policy support but active agents in translating and amplifying these policies within their ecosystems (Mason and Brown, 2014; Pauwels *et al.*, 2016).

As this discussion moves into interpreting how devolved policies shape entrepreneurial outcomes, it draws on insights from both the regional innovation systems (RIS) and entrepreneurial ecosystem frameworks. Rather than restating these models, the following section uses them as interpretive tools to make sense of the findings from Wales and Tees Valley. By integrating the quantitative and qualitative dimensions, the study offers a nuanced understanding of how devolved governance interacts with accelerator strategies to influence regional new venture emergence (Stam, 2015).

6.4 Interpreting devolved policy impacts through ecosystem and innovation system perspectives

As discussed in the literature review, devolved regions are often analysed through the lenses of either entrepreneurial ecosystems or regional innovation systems (RIS) (Cooke, 1992; Clifford and Morphet, 2015; Masterman, 2022). These frameworks reflect distinct logics: entrepreneurial ecosystems emphasise organic, networked forms of entrepreneurial support embedded in local context, while RIS prioritises structured coordination through institutions and policies. Rather than adopting one model over the other, this study finds that both perspectives help illuminate the interaction between devolved policy and accelerator activity – but neither fully captures it alone.

In Wales, where a reserved powers model grants substantial autonomy, devolved policies created favourable conditions for coordinated entrepreneurial support. Initiatives set out in the Wales national plan (Welsh Government, 2021) help shape a policy environment in which accelerators like Transport for Wales (TfW) Labs could align tightly with regional priorities. This supports the RIS perspective, with strong institutional coherence enabling structured translation of strategic goals into entrepreneurial support. At the same time, the case also revealed characteristics more closely aligned with entrepreneurial ecosystem thinking: local legitimacy, cultural fit, and dense regional networks enhanced the accelerator's effectiveness in ways not fully explained by institutional structures alone.

Tees Valley, in contrast, operated within a more constrained and collaborative governance framework. The mayoral combined authority's dependence on central government limited the autonomy and coherence of devolved policy implementation (Tees Valley Combined Authority, 2016). In this context, accelerators such as Tees Valley Labs had to act more flexibly, bridging fragmented initiatives, navigating competing stakeholder interests, and addressing capacity gaps. This case highlights the limits of a RIS approach when governance fragmentation hinders coordination – but also shows how accelerators can adopt an ecosystem intermediary role, enabling entrepreneurial activity despite structural limitations.

These contrasting cases suggest that devolved policy effectiveness in supporting new ventures is not determined by the presence of a single model, but by how well accelerators interpret and respond to the regional governance landscape. Where policy coherence and institutional capacity are strong, accelerators can act as delivery agents of strategic priorities. Where they are weaker, accelerators must adopt more adaptive roles, facilitating alignment and opportunity recognition across fragmented structures.

Overall, the findings indicate that rather than treating entrepreneurial ecosystems and RIS as opposing models, it is more productive to see them as overlapping logics. The contribution of accelerators lies in their ability to navigate and reconcile these logics – translating policy goals into practical support while embedding themselves in regional networks and norms. This dual capacity is essential for understanding how devolved policies interact with entrepreneurial ecosystems in practice.

6.5 Business accelerators as policy intermediaries

Business accelerators occupy a unique position within entrepreneurial ecosystems, not only as delivery agents of support but as meso-level legitimacy builders. They serve as the bridge between high-level policy ambitions and the evolving expectations of regional ecosystems, helping new ventures gain credibility within specific institutional and cultural contexts. By translating devolved policies into actionable support, accelerators operationalise regional development strategies in ways that are both tangible and context-sensitive. This legitimacy-enhancing role is particularly significant in devolved regions, where accelerators mediate between policy frameworks and the entrepreneurial realities on the ground – often shaping how new ventures are perceived, supported, and sustained (Bone *et al.*, 2019; Hausberg and Korreck, 2020).

The example of Transport for Wales (TfW) Labs provides a vivid illustration of how accelerators can act as effective intermediaries. Operating within a devolved governance framework, TfW Labs leverages policies like the Economic Action Plan to support startups addressing sustainability challenges in the transport sector (Welsh Government, 2017; Transport for Wales, 2020b). Through its tailored programmes, it offers mentorship, financial guidance, and access to specialised networks, effectively bridging the gap between the Welsh Government's strategic goals and the operational needs of emerging ventures. The accelerator's success lies in its ability to localise policy impacts, ensuring that regional priorities – such as skills development in green technology – translate into meaningful entrepreneurial opportunities (Cooke, Gomez Uranga and Etxebarria, 1997).

This alignment, however, is not without challenges. In regions like Tees Valley, where governance structures are more collaborative and less autonomous, accelerators such as Tees Valley Labs must navigate a more fragmented policy environment (Tees Valley Combined Authority, 2019a). Their role often involves compensating for gaps in regional policy capacity by acting as conveners of resources and facilitators of partnerships. For instance, Tees Valley Labs has developed programmes that focus on overcoming systemic barriers such as limited local funding and skill shortages, adapting their strategies to align with both local needs and the constraints of a narrower devolved powers model (Bone *et al.*, 2019).

Despite these adaptations, the alignment between accelerators and policy objectives can be inconsistent. One key challenge lies in achieving coherence between policy frameworks and accelerator strategies (Rodríguez-Pose and Ezcurra, 2011). Policies designed at the devolved level may lack the granularity needed to address specific entrepreneurial needs, leaving accelerators to fill in these gaps through bespoke interventions (Cohen and Hochberg, 2014). Moreover, competing priorities among regional stakeholders can dilute the focus of accelerator programmes, reducing their capacity to act as effective intermediaries (Spigel, 2017).

Best practices for enhancing the impact of accelerators in this intermediary role include fostering deeper collaboration between policymakers and accelerator managers during the policy design phase (Arshed, Carter and Mason, 2014). By involving accelerators in discussions about regional needs and strategic goals, policymakers can ensure that their initiatives are both relevant and implementable. Similarly, accelerators can benefit from engaging with regional policy frameworks more proactively, positioning themselves as essential partners in achieving policy outcomes (Crescenzi, Gagliardi and Percoco, 2013). TfW Labs' integration with the Welsh Government's sustainability objectives exemplifies the potential of such partnerships (Transport for Wales, 2023), as does the role of Tees Valley Labs in addressing local economic disparities through targeted support programmes (Tees Business, 2024b).

The regional adaptations of accelerator programmes further highlight their intermediary function. In Wales, accelerators operate within a supportive institutional framework, benefiting from a cohesive policy environment that aligns closely with the Regional Innovation Systems (RIS) model (Cooke, 1992). This integration enables accelerators to act as nodes of knowledge exchange and innovation, amplifying the impact of devolved policies. Conversely, in regions like Tees Valley, accelerators must navigate a more fragmented landscape, often stepping in to coordinate resources and align disparate initiatives (Rodríguez-Pose and Gill, 2003). While this adds complexity, it also underscores the flexibility and resilience of accelerators in adapting to varying governance contexts.

The success of accelerators as policy intermediaries hinges on their ability to balance regional specificity with broader policy objectives. Their dual role – supporting entrepreneurs while advancing policy goals – places them at the heart of regional innovation systems, enabling them to catalyse both individual and systemic change

(Cooke, 2001). However, their effectiveness in this role also depends on their capacity to legitimise entrepreneurial efforts and facilitate opportunity recognition (Zimmerman and Zeitz, 2002), which will be explored in the following section. This dual focus on legitimacy and opportunity not only enhances the direct impact of accelerators but also strengthens their ability to foster sustainable and inclusive entrepreneurial ecosystems (Mason and Brown, 2014).

Although individual policy interventions – such as a new road, a skills programme, or an innovation grant – may offer valuable support to entrepreneurs, their presence alone is not necessarily indicative of a distinctive or embedded regional institutional identity. However, when entrepreneurship-supportive policies are consistently present across multiple domains, they begin to form a cumulative and recognisable pattern. From an institutional perspective, this configuration may create region-specific legitimation pathways – shaping the signals, expectations, and support infrastructures through which entrepreneurship becomes viable and meaningful in context. This cumulative pattern is especially relevant in devolved regions, where local policy autonomy allows institutional logics to diverge. As the next section explores, these regional environments can shape not only the availability of resources, but also the terms under which entrepreneurial activity becomes seen as legitimate and aligned with local development goals.

6.6 Legitimation and opportunity recognition

Legitimation and opportunity recognition are crucial processes within entrepreneurial ecosystems, particularly in the context of devolved regions where new ventures often need to navigate unique cultural and institutional landscapes. Business accelerators, as pivotal intermediaries, play an essential role in preparing entrepreneurs to align with these regional norms while equipping them to identify and exploit opportunities effectively. Through tailored programmes and strategic alignment with policy objectives, accelerators help entrepreneurs build the credibility and capability necessary for success (Zimmerman and Zeitz, 2002; Überbacher, 2014).

6.6.1 The importance of legitimation

For new ventures, legitimacy is not merely about regulatory compliance or operational readiness; it is fundamentally about gaining acceptance and credibility within the social and institutional context in which they operate (Deephouse and Suchman, 2008).

Devolved regions, each with their distinct governance structures and policy priorities, create specific expectations for entrepreneurial behaviour. Business accelerators act as guides in this process, helping startups understand and align with these expectations (Aldrich and Fiol, 1994).

For example, the Transport for Wales (TfW) Labs accelerator explicitly integrates Welsh Government priorities into its operations, ensuring that participating startups are well-versed in the region's emphasis on sustainability and innovation (Transport for Wales, 2024). By embedding regional policy goals into its mentoring and development frameworks, TfW Labs effectively positions entrepreneurs as credible actors within the local ecosystem. This alignment not only enhances the ventures' chances of securing funding and partnerships but also strengthens their ability to navigate the institutional environment (Welsh Government, 2021).

Similarly, in Tees Valley, where the governance model necessitates collaborative engagement with multiple stakeholders, accelerators like Tees Valley Labs prepare entrepreneurs to operate within a more fragmented institutional landscape. Programmes here often focus on fostering connections between startups and key regional actors, such as local authorities and funding bodies, thereby bridging the gap between entrepreneurial aspirations and the practicalities of operating in a complex policy environment (Tees Valley Combined Authority, 2016; Bone *et al.*, 2019).

6.6.2 Facilitating opportunity recognition

Beyond legitimation, accelerators also play a central role in helping entrepreneurs identify and exploit opportunities. This involves not only recognising direct opportunities, such as grants or sector-specific funding, but also uncovering more nuanced or indirect advantages created by regional policies (Cohen and Hochberg, 2014; Tracey, Dalpiaz and Phillips, 2018). Opportunity recognition is particularly challenging in devolved contexts, where the interaction between multiple policies can create a dynamic and often opaque environment.

In Wales, for instance, the combination of skills development programmes and innovation grants creates fertile ground for startups in sectors like green technology and tourism. However, recognising and leveraging these opportunities requires an understanding of how these policy streams interact (Welsh Government, 2022b). Accelerators like TfW Labs offer structured guidance in this regard, using workshops

and mentorship sessions to help entrepreneurs navigate these complexities and develop strategies for exploiting regional advantages.

The process is similar in Tees Valley, although the challenges differ. Here, accelerators must contend with the constraints of limited devolved powers and the associated reliance on external partnerships. In this environment, Tees Valley Labs has developed targeted interventions that help entrepreneurs identify opportunities within these constraints, such as leveraging national funding schemes while aligning with local industrial priorities (Tees Valley Combined Authority, 2019b). This dual focus on local adaptation and external alignment underscores the adaptability of accelerators in facilitating opportunity recognition.

6.6.3 Cultural and institutional influences

Cultural and institutional factors play a significant role in shaping both legitimation and opportunity recognition processes. Devolved regions often have distinct cultural identities that influence how entrepreneurship is perceived and supported (Cooke, 2001). In Wales, for example, the emphasis on community-driven initiatives and sustainability reflects broader societal values, which accelerators must integrate into their programmes. This cultural alignment not only enhances the relevance of accelerator interventions but also fosters a sense of shared purpose among entrepreneurs and stakeholders (Mason and Brown, 2014).

Institutional differences also impact how opportunities are recognised and legitimised. In regions with more comprehensive devolved powers, like Wales, the institutional environment is often more cohesive, allowing for smoother integration of policies and entrepreneurial support mechanisms (Cooke, Gomez Uranga and Etxebarria, 1997). Conversely, in regions like Tees Valley, where governance is more fragmented, accelerators must navigate a patchwork of institutional actors and priorities. This requires a more strategic approach to aligning with policies and building the necessary networks for entrepreneurs to thrive (Keating, Cairney and Hepburn, 2009).

6.6.4 Legitimation in regional contexts

The dual processes of legitimation and opportunity recognition underscore the centrality of accelerators in fostering entrepreneurial success within devolved regions. By helping entrepreneurs align with regional norms and identify actionable opportunities,

accelerators not only enhance individual venture outcomes but also contribute to the broader development of entrepreneurial ecosystems (Spigel, 2017). However, the effectiveness of these processes is not uniform across regions. As the next section will explore, regional disparities and contextual nuances continue to shape the opportunities and challenges faced by accelerators and entrepreneurs alike, highlighting the need for tailored approaches that reflect the unique dynamics of each devolved region.

6.7 Regional disparities and contextual nuances

The persistence of regional disparities in entrepreneurial outcomes highlights the complexity of fostering equitable growth across devolved regions. The quantitative analysis showed that just over half of the variance in new venture creation is attributable to differences between regions, indicating that regional context plays a substantial role in shaping entrepreneurial activity. This finding underscores the importance of examining how devolved governance interacts with local institutional and economic conditions. It also prompts further reflection on the specific mechanisms behind these disparities and the types of interventions most likely to support more inclusive entrepreneurial ecosystems (Cooke, Gomez Uranga and Etxebarria, 1997; Aldrich and Ruef, 2011).

6.7.1 Evidence of disparities

Wales and Tees Valley exemplify the divergence in entrepreneurial outcomes shaped by regional contexts. As outlined in the literature review, devolved powers over areas such as economic development, skills, and infrastructure can significantly influence entrepreneurial activity (Mason and Brown, 2014; Pike, Rodríguez-Pose and Tomaney, 2016). In Wales, a reserved powers model has enabled more cohesive and aligned regional policy initiatives, contributing to a supportive startup environment in sectors like sustainable transport and tourism (Welsh Government, 2017; Transport for Wales, 2021a). These conditions have supported accelerators such as Transport for Wales (TfW) Labs in delivering targeted and policy-aligned entrepreneurial support (Cooke, 2001; Fuzi, 2015).

In contrast, Tees Valley operates under a mayoral combined authority model with fewer devolved powers, reflecting a more centralised governance structure that relies on collaboration between local authorities and central government. This arrangement has been linked to structural challenges in policy implementation and entrepreneurial

support (Tees Valley Combined Authority, 2016). This often results in fragmented policy implementation and reduced cohesion between support initiatives, which accelerators like Tees Valley Labs must work around by adapting their programmes and brokering external partnerships (Tees Business, 2024b). These contrasting cases show how governance structures and devolved capacity influence the effectiveness of accelerators and the translation of policy into entrepreneurial outcomes (Mason and Brown, 2014).

6.7.2 Contextual factors shaping disparities

Cultural, institutional, and structural factors further shape these regional variations. In Wales, a strong cultural emphasis on sustainability and community-driven initiatives fosters an entrepreneurial environment aligned with broader societal values (Spigel, 2017; Welsh Government, 2022c). This cultural coherence enables accelerators to embed regional priorities into their programmes more seamlessly (Tracey, Dalpiaz and Phillips, 2018). The institutional environment, characterised by a high degree of autonomy, supports this alignment by facilitating the integration of policies, funding mechanisms, and innovation strategies within a cohesive framework (Cooke, 1992).

Conversely, in Tees Valley, structural economic challenges such as industrial decline and skill shortages create additional barriers to entrepreneurial success (Rodríguez-Pose and Gill, 2003). The reliance on external funding and national partnerships often constrains the region's ability to implement policies tailored to local needs (Pike, Rodríguez-Pose and Tomaney, 2016). These structural limitations are compounded by a more fragmented institutional landscape, where competing priorities among stakeholders can hinder the development of a unified entrepreneurial strategy (Bailey, 2017). This divergence illustrates the importance of context in shaping how devolved policies are implemented and experienced at the local level (Cooke, Gomez Uranga and Etxebarria, 1997).

6.7.3 Strategies to address disparities

Addressing these disparities requires a nuanced approach that accounts for the unique dynamics of each region. One potential strategy is to enhance the capacity of regions with more constrained governance models, such as Tees Valley, by fostering greater collaboration between local, regional, and national stakeholders (Rodríguez-Pose and Bwire, 2004). This could involve creating platforms for shared decision-making and

resource allocation, ensuring that regional policies are more responsive to local needs (Morgan, 2013).

Another strategy is to invest in targeted interventions that address the specific barriers faced by underperforming regions. For example, initiatives aimed at addressing skills shortages in Tees Valley could complement existing industrial strategies, creating a more robust foundation for entrepreneurial growth (Tees Valley Combined Authority, 2022a). Similarly, expanding access to finance through region-specific funding mechanisms could help mitigate the reliance on external partnerships, providing entrepreneurs with the resources needed to pursue local opportunities (Welsh Government, 2022a).

Cultural factors must also be considered in the design and implementation of policies and accelerator programmes (Nicholls-Nixon *et al.*, 2022). Recognising and integrating regional cultural values, as seen in Wales, can enhance the relevance and legitimacy of entrepreneurial support mechanisms (Zimmerman and Zeitz, 2002). For regions like Tees Valley, fostering a stronger sense of regional identity and purpose could help build a more cohesive entrepreneurial ecosystem, aligning local efforts with broader policy objectives (Jack and Anderson, 2002).

Finally, accelerators themselves have a critical role to play in addressing regional disparities. By tailoring their programmes to reflect the unique challenges and opportunities of their regions, accelerators can act as catalysts for more equitable growth (Bone *et al.*, 2019). This includes not only adapting to the cultural and institutional contexts in which they operate but also proactively engaging with policymakers to advocate for the needs of local entrepreneurs (Hausberg and Korreck, 2020).

6.8 Theoretical contributions

The findings of this study contribute to theoretical frameworks in several meaningful ways, advancing our understanding of regional innovation systems (RIS), entrepreneurial ecosystems, and the processes of legitimation in the context of devolved governance. By integrating insights from both quantitative and qualitative analyses, this research offers a nuanced perspective on how policies and accelerators interact to influence new venture creation, highlighting areas where existing theories may benefit from refinement.

6.8.1 Extending regional innovation systems theory

Regional Innovation Systems (RIS) theory has long emphasised the importance of local institutions, knowledge exchange, and innovation networks in driving regional economic development (Cooke, 1992, 2001; Tödtling and Trippl, 2005). This study extends RIS theory by underscoring the role of business accelerators as intermediaries within these systems, particularly in devolved contexts where governance structures vary widely.

The analysis reveals that accelerators, such as Transport for Wales (TfW) Labs and Tees Valley Labs, serve as crucial nodes within regional innovation networks. They operationalise policy objectives by translating high-level strategies into tailored support for entrepreneurs, facilitating knowledge exchange and fostering connections between diverse stakeholders (Cooke, Gomez Uranga and Etxebarria, 1997; Mason and Brown, 2014). In Wales, the alignment between accelerator programmes and policy priorities, supported by a cohesive institutional framework, exemplifies how accelerators can amplify the impact of regional innovation strategies. Conversely, the challenges faced by Tees Valley Labs, operating within a more fragmented governance model, illustrate how limited institutional coherence can constrain the effectiveness of these intermediaries (Tödtling and Trippl, 2005).

These findings suggest that RIS theory could be refined to account for the dynamic and context-dependent roles of accelerators. Specifically, the theory might better integrate the concept of intermediary organisations as active agents that not only support innovation but also adaptively address gaps in regional policy capacity. This perspective highlights the need for a more flexible understanding of how RIS components interact under varying governance conditions (Cooke and Asheim, 2013; Pike, Rodríguez-Pose and Tomaney, 2016).

6.8.2 Insights into entrepreneurial ecosystems

Entrepreneurial ecosystems literature often focuses on the interplay between key actors, resources, and cultural dynamics that enable venture creation and growth (Isenberg, 2010; Spigel, 2017). This study contributes to this body of work by demonstrating how devolved policies and accelerators shape these ecosystems in distinctive ways, depending on regional contexts.

One key insight is the importance of cultural alignment in fostering effective entrepreneurial ecosystems. In Wales, the emphasis on sustainability and community-driven initiatives reflects broader societal values that permeate policy and accelerator strategies. This cultural coherence strengthens the legitimacy of entrepreneurial efforts and enhances the effectiveness of support mechanisms (Mason and Brown, 2014; Spigel, 2017). In contrast, Tees Valley illustrates the challenges of fostering ecosystem cohesion in regions with diverse and sometimes competing stakeholder priorities (Stam, 2015). These observations suggest that entrepreneurial ecosystems theory could benefit from a more explicit focus on the cultural and institutional dimensions of ecosystem development, particularly in regions with devolved governance.

The study also highlights the role of accelerators in addressing systemic barriers within ecosystems. By providing targeted support in areas such as skills development and access to finance, accelerators help entrepreneurs overcome structural challenges that might otherwise hinder venture creation (Bone *et al.*, 2019; Gonzalez-Uribe and Hmaddi, 2022). This reinforces the view that accelerators are not merely service providers but integral components of entrepreneurial ecosystems, shaping the conditions under which ventures can thrive.

6.8.3 Refining the understanding of legitimation processes

The concept of legitimation, central to institutional theory, is particularly relevant in the context of devolved regions, where new ventures must navigate complex and often unique institutional environments (DiMaggio and Powell, 1983; Scott, 2014). This study provides new insights into how accelerators contribute to legitimation processes by preparing entrepreneurs to align with regional norms and expectations.

In both Wales and Tees Valley, accelerators play a critical role in helping entrepreneurs establish credibility within their respective ecosystems. This involves not only meeting formal regulatory requirements but also gaining acceptance within local cultural and institutional contexts (Zimmerman and Zeitz, 2002; Fisher, 2020). For example, TfW Labs supports startups in aligning with the region's sustainability agenda, enhancing their legitimacy in a setting where environmental priorities are deeply embedded in both policy and societal values (Transport for Wales, 2020b; Welsh Government, 2021). Similarly, Tees Valley Labs helps entrepreneurs navigate a more fragmented

institutional landscape, fostering connections with key stakeholders to build the trust and credibility needed for success.

While legitimation was introduced in the literature review and conceptual framing as a key lens for understanding how accelerators support new ventures, it was not directly operationalised as a variable in the research design. Instead, the concept informed the qualitative phase, gaining empirical salience through case-based observations of how accelerators helped ventures align with regional policy logics and institutional expectations. The following discussion interprets these patterns through the lens of institutional theory, offering exploratory contributions to the literature on meso-level legitimation.

These findings suggest that legitimation processes are deeply intertwined with regional context, shaped by governance models, cultural values, and institutional capacity. Theoretical frameworks addressing legitimation could therefore be expanded to incorporate a more granular understanding of these contextual influences, particularly in settings characterised by devolved governance (Überbacher, 2014; Tracey, Dalpiaz and Phillips, 2018).

This perspective also invites a reconsideration of how an institutional logic may emerge at the regional level. While individual policy interventions may support entrepreneurship, their presence alone does not constitute an embedded institutional environment. However, when entrepreneurship-supportive policies are consistently present across multiple domains – such as finance, skills, and infrastructure – they begin to form a cumulative and recognisable pattern. This pattern does more than deliver resources; it shapes the conditions under which legitimation can occur, particularly by signalling coherence and intentionality in the regional policy environment (Spigel, 2017). In devolved regions, where governance autonomy allows institutional logics to diverge, the breadth and coordination of policy support may act as a proxy for an emergent regional identity. Building on Spigel's work on regional ecosystems, this study suggests that entrepreneurs operating within such environments are more likely to interpret the policy landscape as aligned with local expectations – thereby enabling region-specific legitimation pathways. This interpretation deepens theoretical understanding of how institutional structures, even when not formally codified, contribute to entrepreneurial legitimacy in practice.

6.8.4 Towards practical implications

While these theoretical contributions deepen our understanding of the complex interplay between policies, accelerators, and regional contexts, they also carry important implications for practice. The insights gained from this study can inform the design and implementation of policies and programmes aimed at fostering entrepreneurial ecosystems, highlighting the need for strategies that are not only evidence-based but also attuned to the unique dynamics of each region (Mason and Brown, 2014; Pike, Rodríguez-Pose and Tomaney, 2016). These practical considerations, which build on the theoretical advancements discussed here, will be explored in the following section.

6.9 Practical implications

The findings of this study offer illustrative examples and potential insights for policymakers, accelerator managers, and regional practitioners, all of whom play critical roles in fostering entrepreneurial ecosystems within devolved regions. While the specific strategies and outcomes observed in Wales and Tees Valley may not be directly transferable to all contexts, the underlying principles and considerations highlighted here can inform efforts to address regional disparities, align interventions with local needs, and enhance the overall impact of entrepreneurial support mechanisms.

The following recommendations should therefore be interpreted as points of departure for further exploration and adaptation, rather than as universally applicable solutions.

6.9.1 Implications for policymakers

Policymakers must prioritise the alignment of regional policies with the specific needs and characteristics of their local entrepreneurial ecosystems. This study highlights the importance of tailoring interventions, as exemplified by Wales' success in embedding sustainability and community-driven values into its entrepreneurial strategies (Welsh Government, 2021). Policies such as the Economic Action Plan demonstrate the potential for cohesive frameworks to enhance both legitimacy and opportunity recognition among entrepreneurs (Welsh Government, 2017). Policymakers in other regions can learn from this example by incorporating cultural values and regional strengths into their strategies (Rodríguez-Pose and Ezcurra, 2011; Pike, Rodríguez-Pose and Tomaney, 2016).

However, the challenges faced by regions like Tees Valley underscore the importance of building governance capacity and fostering collaboration among stakeholders (Tees Valley Combined Authority, 2019b). Policymakers can address these challenges by creating platforms for shared decision-making, ensuring that diverse voices, including those of entrepreneurs and accelerators, are represented (Rodríguez-Pose and Gill, 2003; Stam, 2015). Additionally, region-specific funding mechanisms, designed to address local constraints such as skill shortages or industrial decline, can enhance the effectiveness of devolved policies. This requires a nuanced approach to resource allocation, balancing short-term needs with long-term ecosystem development (Tödtling and Trippl, 2005).

6.9.2 Strategies for accelerator managers

Accelerators, as intermediaries between policy and practice, are uniquely positioned to operationalise regional strategies. To maximise their impact, accelerator managers should actively align their programmes with local policy priorities and the broader socio-economic context. For instance, TfW Labs' integration with Wales' sustainability agenda highlights the potential for accelerators to act as conduits for translating policy goals into actionable support for startups (Transport for Wales, 2024).

Customisation is key. Accelerator managers should design programmes that reflect the distinct needs of their regions, whether by addressing systemic barriers like limited access to finance or by fostering sector-specific expertise (Bone *et al.*, 2019). In Tees Valley, for example, accelerators have successfully adapted their strategies to align with industrial priorities, despite operating within a fragmented governance framework (Tees Valley Combined Authority, 2016). These efforts underscore the value of flexibility and responsiveness in programme design (Hausberg and Korreck, 2017).

Engaging more proactively with policymakers can also enhance the role of accelerators. By participating in policy discussions and advocating for the needs of local entrepreneurs, accelerators can help shape a more supportive ecosystem (Aljalahma and Slof, 2022). This collaborative approach not only strengthens the relevance of accelerator interventions but also positions them as vital partners in regional development (Cohen *et al.*, 2019).

6.9.3 Insights for regional practitioners

For regional practitioners, the findings emphasise the importance of leveraging accelerators as catalysts for broader development goals. Accelerators can serve as hubs for knowledge exchange, bringing together entrepreneurs, policymakers, and other stakeholders to co-create solutions that address regional challenges (Bone, Allen and Halley, 2017). This role is particularly critical in underperforming regions, where systemic barriers may hinder entrepreneurial growth (Rodríguez-Pose and Ezcurra, 2011).

Practitioners should also focus on building strong networks that connect local efforts to national and international opportunities. By fostering collaborations that transcend regional boundaries, practitioners can help entrepreneurs access resources and markets that might otherwise remain out of reach (Spigel, 2017). These networks can also facilitate the sharing of best practices, enabling regions to learn from each other's successes and challenges (Granovetter, 1985).

Finally, fostering a sense of regional identity can enhance the cohesiveness of entrepreneurial ecosystems. Initiatives that celebrate local culture and values, as seen in Wales, can build pride and engagement within the entrepreneurial community, creating a virtuous cycle of innovation and growth (Fuzi, 2015). For regions like Tees Valley, this may involve investing in programmes that address historical economic challenges while cultivating a forward-looking vision for the future (Tees Valley Combined Authority, 2022b).

As these recommendations suggest, practical strategies must be context-sensitive and collaborative, recognising that regional ecosystems are shaped by a complex interplay of governance, culture, and institutional capacity (Cooke, Gomez Uranga and Etxebarria, 1997). Building on these insights requires an ongoing commitment to learning and adaptation, ensuring that interventions remain responsive to the evolving needs of regions and their entrepreneurs (Aldrich and Fiol, 1994). These reflections naturally lead to a broader consideration of the research process itself and its implications, as explored in the closing reflections.

6.10 Reflective closing

As this discussion draws to a close, several key insights emerge that encapsulate the complexity and richness of the interplay between policies, accelerators, and regional contexts. The findings reveal a landscape where entrepreneurial ecosystems are profoundly shaped by the nuances of governance, institutional capacity, and cultural alignment. While devolved policies offer the potential for tailored interventions, their success is often contingent on the ability to address regional disparities and to adapt strategies to local needs and challenges (Cooke, 2001; Bailey, 2017).

The case studies of Wales and Tees Valley highlight this variability. In Wales, cohesive governance and a clear alignment between policy and cultural values create an environment where accelerators like TfW Labs thrive as intermediaries. They translate policy ambitions into practical support, demonstrating how alignment and cultural coherence can amplify the impact of both policies and entrepreneurial initiatives (Welsh Government, 2021). Conversely, the fragmented governance in Tees Valley illustrates the challenges of fostering entrepreneurial growth in less cohesive systems. Here, accelerators must act not only as intermediaries but also as problem solvers, bridging gaps in capacity and coordination while still striving to deliver meaningful outcomes (Pike, Rodríguez-Pose and Tomaney, 2016; Tees Valley Combined Authority, 2022a).

This dynamic underscores the importance of recognising entrepreneurial ecosystems as both adaptive and context-dependent. Accelerators, while central to the process, cannot succeed in isolation. Their effectiveness depends on robust partnerships with policymakers and practitioners who are willing to navigate complexity and experiment with innovative approaches (Mason and Brown, 2014; Spigel, 2017). The lessons from this research emphasise that fostering entrepreneurship is as much about embracing the unique character of each region as it is about deploying standardised tools and frameworks (Tödtling and Trippl, 2005).

Equally important is the need to address systemic barriers that perpetuate disparities across regions. From skill shortages to infrastructural deficits, these challenges require coordinated and sustained efforts that integrate regional strengths with national and international opportunities (Rodríguez-Pose and Ezcurra, 2011; Arshed, Carter and Mason, 2014). By celebrating regional identity while building bridges beyond local boundaries, entrepreneurial ecosystems can be made more inclusive and dynamic.

As these reflections suggest, the insights from this study not only deepen our theoretical understanding but also offer practical pathways for action. The lessons learned here contribute to the broader discourse on how devolved governance and targeted interventions can support entrepreneurial growth (Cooke, 2001), and they prompt further questions about how these systems might evolve. This naturally leads to a final consolidation of the thesis, where the key findings will be summarised, and their implications for future research and practice will be explored.

Chapter 7: Conclusion

7.1 Summary of key findings

This study has illuminated several important dimensions of how devolved policies and business accelerators interact to influence new venture creation within subnational regions. A central finding is the persistence of regional disparities in entrepreneurial outcomes, with consistent patterns emerging across places rather than random variation alone. The quantitative analysis revealed meaningful – though not overwhelming – differences in new venture creation rates and showed that these were partly explained by the breadth of entrepreneurship-supportive policies in each region. This composite measure reflected the cumulative presence of initiatives such as access to finance, skills development, and innovation support. These patterns align with previous research linking regional variation to broader contextual factors, including governance structures, institutional capacity, and cultural alignment (Rodríguez-Pose and Gill, 2003). The qualitative phase reinforced this picture by offering insight into how such disparities play out in practice, through the implementation of policies and accelerator programmes on the ground. Similar concerns about uneven support have also been raised in national-level assessments of the accelerator landscape (Bone *et al.*, 2019).

In Wales, the reserved powers model enables a high degree of policy cohesion, allowing initiatives such as the Economic Action Plan to integrate closely with regional cultural values and economic priorities (Welsh Government, 2017). This alignment fosters a supportive entrepreneurial ecosystem, where accelerators like Transport for Wales (TfW) Labs play a pivotal role in translating policy ambitions into tangible support for startups (Transport for Wales, 2020b). Conversely, in Tees Valley, the narrower scope of devolved powers and reliance on collaborative governance create challenges for implementing cohesive strategies. Accelerators in this context often find themselves compensating for gaps in regional capacity, working creatively to align fragmented resources and address systemic barriers.

A key finding is the dual role of accelerators as both intermediaries and problem solvers. They do more than support individual ventures; they actively operationalise regional policies and adapt to local contexts, serving as bridges between high-level governance frameworks and the practical needs of entrepreneurs. This dual role is particularly evident in how accelerators facilitate legitimation processes, helping startups align with

regional norms and institutional expectations (Zimmerman and Zeitz, 2002). For example, TfW Labs aligns its support with Wales' sustainability agenda, fostering credibility for entrepreneurs within a policy environment deeply influenced by environmental priorities (Transport for Wales, 2020a).

The study also emphasised the importance of opportunity recognition. Devolved policies often create direct opportunities, such as grants or sector-specific funding, as well as more nuanced advantages through the interaction of multiple policy streams. Accelerators play a critical role in helping entrepreneurs identify and exploit these opportunities, especially in regions like Tees Valley, where systemic challenges such as skill shortages and industrial decline can obscure potential pathways for growth (Tees Valley Combined Authority, 2019a).

These findings provide a nuanced response to the central research question: How do business accelerators and devolved policies interact to contribute to new venture emergence in subnational regions? The study demonstrates that this interaction is deeply context-dependent, shaped by the interplay of governance structures, institutional coherence, and cultural factors (Cooke, 2001). While accelerators amplify the impact of devolved policies, their effectiveness hinges on their ability to adapt to regional disparities and align with local priorities.

As the thesis now transitions to consider its contributions to theory, these findings lay a foundation for refining our understanding of how devolved policies, accelerators, and entrepreneurial ecosystems interrelate. In particular, they point to legitimacy as a central mechanism through which these elements interact. Accelerators do not simply deliver support – they play a meso-level role in shaping the institutional conditions under which ventures are recognised as credible and aligned with regional policy goals. This insight extends existing frameworks (Mason and Brown, 2014) and helps explain how regional innovation processes unfold in practice, especially within the complex dynamics of devolved governance.

7.2 Summary of theoretical contributions

This research advances theoretical understanding in several significant areas, providing new insights into the interaction between devolved policies, business accelerators, and regional entrepreneurial ecosystems. By integrating findings from quantitative and qualitative analyses, this study extends existing frameworks and highlights areas for

further refinement, particularly within Regional Innovation Systems (RIS) theory, entrepreneurial ecosystems literature, and the study of legitimation processes.

7.2.1 Advancing regional innovation systems theory

Regional Innovation Systems (RIS) theory provides a lens for examining how local institutions, policies, and networks contribute to regional economic growth and innovation (Cooke, 1992, 2001). This study builds on RIS theory by foregrounding the dynamic role of business accelerators as intermediaries within these systems. Accelerators operationalise policy objectives, acting as conduits for knowledge exchange and resource mobilisation. They not only enhance the connectivity of regional actors but also adaptively address gaps in policy coherence and institutional capacity (Bone *et al.*, 2019).

The contrasting cases of Wales and Tees Valley underscore the importance of context in RIS functioning. In Wales, where governance structures enable cohesive policy design, accelerators like Transport for Wales (TfW) Labs thrive by integrating regional priorities, such as sustainability, into their operations (Transport for Wales, 2020b). In Tees Valley, however, fragmented governance necessitates a more complex role for accelerators, which must align disparate resources and stakeholders to support entrepreneurial activity (Tees Business, 2024b). These findings suggest that RIS theory could be refined to incorporate a more explicit focus on the adaptive strategies of intermediary organisations in regions with varying degrees of policy autonomy and coherence.

7.2.2 Insights into entrepreneurial ecosystems

Entrepreneurial ecosystems literature often emphasises the interplay of actors, resources, and environmental factors that collectively enable venture creation and growth (Stam, 2015; Spigel, 2017). The study adds to this body of work by highlighting the bridging role of accelerators in translating policy into actionable support for entrepreneurs. Accelerators not only enhance the availability of resources, such as funding and mentorship, but also mediate cultural and institutional influences, enabling ventures to align with regional norms and expectations (Hausberg and Korreck, 2020).

The findings reveal that accelerators are pivotal in addressing systemic barriers within ecosystems. In both Wales and Tees Valley, they play an essential role in fostering

opportunity recognition, helping entrepreneurs identify and leverage advantages created by devolved policies. For instance, in Wales, accelerators align their programmes with region-specific initiatives like green technology grants (Welsh Government, 2021), while in Tees Valley, they adapt to systemic constraints by facilitating access to national funding streams and local industrial networks (Tees Valley Combined Authority, 2016). These insights suggest that entrepreneurial ecosystems theory could benefit from a deeper exploration of how accelerators influence the interplay between policy environments and entrepreneurial opportunities.

7.2.3 Contributing to legitimation theory

This study contributes to the understanding of legitimation processes in new venture creation, particularly within regions shaped by distinctive cultural and institutional contexts (Zimmerman and Zeitz, 2002). It demonstrates how accelerators contribute to these processes by preparing entrepreneurs to navigate and align with regional norms. For example, TfW Labs supports startups in integrating Wales' sustainability priorities into their business models, enhancing their credibility within a policy framework that prioritises environmental objectives (Transport for Wales, 2020b). Similarly, in Tees Valley, accelerators foster legitimacy by building trust and connections between entrepreneurs and key regional stakeholders (Tracey, Dalpiaz and Phillips, 2018).

These findings highlight the need to expand the theoretical understanding of legitimation to include the role of intermediaries like accelerators. While existing literature often focuses on the actions of entrepreneurs themselves, this research underscores the importance of external actors in facilitating legitimation, particularly in complex or fragmented institutional landscapes (Überbacher, 2014). Future theoretical frameworks could explore how these interactions evolve over time and contribute to the broader development of regional entrepreneurial ecosystems.

As these contributions demonstrate, this research provides a richer understanding of the interplay between devolved policies, accelerators, and regional contexts, offering pathways to refine existing theories and inform new lines of inquiry.

While the study highlights the valuable contributions of accelerators to regional entrepreneurial ecosystems, it's important to recognise that their effectiveness is not universal. The cross-sectional nature of the quantitative data limits the ability to draw

definitive conclusions about causality, and the focus on documented accelerators may not fully capture the impact of informal or lesser-known programmes.

Such limitations point to the need for more nuanced interpretations of accelerator impact – ones that remain sensitive to regional context, sector alignment, and institutional variation.

Taken together, the theoretical insights developed here lay the groundwork for practical implications, highlighting actionable strategies for policymakers, practitioners, and accelerators seeking to enhance entrepreneurial ecosystems in diverse settings.

7.3 Summary of practical implications

The findings of this study offer practical insights for policymakers, accelerator managers, and regional development practitioners, each of whom has a critical role in strengthening entrepreneurial ecosystems. By applying these insights, stakeholders can more effectively address regional disparities, align interventions with local needs, and enhance the overall impact of entrepreneurial support mechanisms.

7.3.1 Recommendations for policymakers

Policymakers must consider the integration of accelerators into regional development strategies as a means of operationalising policy objectives and bridging gaps in institutional capacity. The success of initiatives like the Transport for Wales (TfW) Labs demonstrates how tailored accelerator programmes can act as conduits for policy priorities, translating high-level goals into actionable support for startups (Transport for Wales, 2021b). For policymakers, this underscores the importance of designing policies that are not only clear in their objectives but also compatible with the operational frameworks of accelerators (Bone *et al.*, 2019).

In regions with fragmented governance structures, such as Tees Valley, policymakers should prioritise creating platforms for coordination among stakeholders. Collaborative governance mechanisms, including regular engagement with accelerators, local authorities, and private sector actors, can ensure that policies are responsive to local challenges while fostering a shared sense of purpose (Rodríguez-Pose and Gill, 2003). Additionally, region-specific funding mechanisms, such as grants or sector-targeted investments, can empower accelerators to address local barriers like skill shortages or infrastructural deficits (Welsh Government, 2021).

7.3.2 Guidance for accelerator managers

Accelerators occupy a unique position within entrepreneurial ecosystems, acting as intermediaries between policy and practice. To maximise their impact, managers should ensure their programmes are closely aligned with local cultural values and policy objectives. The case of TfW Labs highlights the value of embedding regional priorities, such as sustainability, into programme design (Fuzi, 2015). This alignment enhances the relevance and legitimacy of the accelerator while also fostering stronger connections with stakeholders and entrepreneurs (Zimmerman and Zeitz, 2002).

Customisation is another critical factor. Accelerator managers should adapt their offerings to address specific regional needs, whether by prioritising skill development in underrepresented sectors or by providing mentorship tailored to the unique challenges faced by local startups (Deakins *et al.*, 1998). For example, Tees Valley Labs has successfully adapted its strategies to align with industrial priorities in a region marked by economic transition, illustrating how flexibility can overcome systemic barriers (Tees Business, 2024b).

Managers should also engage more proactively with policymakers to advocate for the needs of their ecosystems. By participating in policy development processes, accelerators can help shape a more supportive environment for entrepreneurs while ensuring their programmes remain aligned with broader regional strategies (Spigel, 2017).

7.3.3 Strategies for regional development practitioners

Regional development practitioners can leverage accelerators as strategic hubs for fostering innovation and addressing systemic challenges. Accelerators provide a focal point for collaboration, connecting entrepreneurs with resources, networks, and knowledge that transcend regional boundaries(Mason and Brown, 2014). Practitioners should work to strengthen these connections, facilitating partnerships that enhance the capacity of accelerators to address regional disparities (Stam, 2015).

Building stronger links between local and national ecosystems is particularly important for regions with limited devolved powers. Practitioners can play a key role in integrating accelerators into broader development initiatives, ensuring that local efforts are amplified by access to national funding streams and expertise (Bone *et al.*, 2019). This

requires a concerted effort to foster networks that bring together regional strengths with external opportunities.

7.3.3.1 Framework for strategic regional development in devolved contexts

A key contribution of this research is the development of a framework based on top-level coding themes iteratively derived during the qualitative phase. This framework serves as a lens for understanding the interplay between devolved policies and business accelerators, offering actionable insights into their current dynamics and future potential across the UK's devolved regions. While it is evident that such interactions are nascent or even absent in some areas, the framework highlights the opportunity for strategic alignment to purposefully enhance these connections.

This alignment could yield significant benefits, including leveraging regional entrepreneurial talent to achieve targeted policy goals, fostering broader economic growth, and addressing long-term regional disparities. As strategic policy documents in devolved regions often operate on a 10–30-year planning horizon, this framework offers a tool for regional stakeholders to assess their current status and refine their strategic priorities.

While not all long-term strategies may come to fruition, their formulation and monitoring by regional actors position them as critical guides for shaping policy and economic ecosystems. By explicitly integrating this framework into policy development, regions could systematically enhance the role of accelerators in regional entrepreneurial ecosystems. This approach ensures that business accelerators not only support individual ventures but also align with and amplify regional policy objectives, creating a synergistic impact on new venture emergence and long-term economic sustainability.

Finally, practitioners should invest in initiatives that celebrate and reinforce regional identity. In Wales, for instance, the integration of cultural values into accelerator programmes has created a strong sense of purpose and cohesion within the entrepreneurial ecosystem (Welsh Government, 2021). Similar efforts in other regions, tailored to their unique contexts, can help build pride and engagement among local stakeholders, fostering a more inclusive and dynamic entrepreneurial environment (Møller, 2023).

These recommendations, while tailored to specific stakeholder groups, emphasise the interconnectedness of policy, practice, and regional dynamics. Strengthening entrepreneurial ecosystems requires collaboration across all levels, with accelerators acting as key agents of change. As these strategies are implemented, it is important to remain reflective, adapting approaches based on ongoing feedback and learning. These reflections are essential to understanding not only how these ecosystems evolve but also how future efforts can build on the foundations laid by this research.

7.4 Limitations and future research

7.4.1 Introduction

Reflecting on the limitations of this research is vital to understanding its scope and contribution to the study of devolution, business accelerators, and new venture creation. By recognising the methodological and contextual constraints inherent in the study, this section aims to situate its findings transparently while identifying opportunities for future inquiry.

This thesis adopted an explanatory sequential mixed-methods design to explore how business accelerators interact with devolved policies to influence regional entrepreneurship. While this approach facilitated an in-depth analysis of regional disparities and policy-accelerator dynamics, certain limitations inevitably emerged. The reliance on Companies House data, for instance, provided robust quantitative insights but may underrepresent informal entrepreneurial activities not captured in formal registrations. Similarly, the qualitative phase's focus on Wales and the Tees Valley Combined Authority offered critical contextual insights but may not fully account for the diversity of experiences across other devolved regions.

In the following sections, the methodological limitations of the study are critically examined, laying the groundwork for future research to build on these findings. By addressing these constraints, this discussion aims to enhance the relevance and applicability of subsequent investigations into the interplay between devolution and entrepreneurial ecosystems.

7.4.2 Methodological limitations

This study, while carefully designed to address its research question, encountered methodological constraints that warrant reflection. These limitations do not diminish

the findings but rather offer opportunities to improve future research and deepen the understanding of devolution, business accelerators, and new venture creation.

7.4.2.1 Data sources

The quantitative phase relied on Companies House data, which provides a comprehensive record of formal company incorporations in the UK. While this dataset enabled a robust analysis of regional venture creation rates, it does not account for informal entrepreneurial activity or non-incorporated ventures. This limitation is particularly significant given the role of sole proprietorships, partnerships, and informal businesses in certain regional economies (Armington and Acs, 2002). Informal entrepreneurship, often vital in economically disadvantaged areas, remains underexplored in this framework, leaving potential gaps in the study's portrayal of entrepreneurial ecosystems. This challenge is consistent with broader critiques of administrative datasets in entrepreneurship research, which frequently overlook smaller or less formal economic activities (Williams and Nadin, 2012).

Specifically, the data inherently overlooks ventures that do not incorporate, such as sole proprietorships or informal entrepreneurial efforts. The dataset also may not fully capture early-stage ventures that incorporate but subsequently dissolve within a short timeframe. However, given the absence of a comprehensive longitudinal dataset capturing the broader entrepreneurial landscape, Companies House data represents the most viable option to provide initial insights into regional variations in new venture creation.

Alternative data sources, including PitchBook, Beauhurst, and Crunchbase, were considered and contacted for this study. Financial constraints precluded access to PitchBook and Beauhurst data, as their pricing structures were prohibitive. However, Crunchbase offers a selective researcher programme granting access to substantial data volumes on venture activity based on study merit. Although this study's application was ultimately approved in December 2024, time constraints prevented integration of the Crunchbase data into the current analysis.

Future research could benefit from incorporating Crunchbase data to complement the Companies House dataset (*Crunchbase*, 2024). This integration would enable a more nuanced analysis of the entrepreneurial ecosystem by including non-incorporated ventures and shedding light on early-stage venture interactions with accelerator

programmes. Such data could also enhance the qualitative phase of the research by providing additional embedded units, encompassing both new ventures and accelerator programmes within each case study region. By doing so, future work could address current limitations and deepen our understanding of how accelerators operate within devolved policy frameworks to foster entrepreneurship.

7.4.2.2 Measurement limitations

The operationalisation of key variables also introduced certain constraints. Venture creation rates, measured as the number of new company incorporations per 1,000 working-age individuals, offered a practical proxy for entrepreneurial activity. However, this measure does not account for variation in venture quality, longevity, or broader economic contribution – dimensions that are often vital for assessing the impact of entrepreneurship (Audretsch and Mahmood, 1995). The composite policy score used to represent devolved policy support also involves trade-offs. While it enabled consistent measurement across regions, this approach may obscure meaningful differences in the intensity, implementation, or effectiveness of specific policy initiatives. These limitations are not unusual in quantitative research, where achieving analytical comparability often comes at the cost of some contextual richness (Bryman, 2016).

7.4.2.3 Temporal scope

Timing constraints further shaped the study. While Crunchbase data was approved late in the research process, its integration was limited to exploratory purposes. This dataset, which provides valuable insights into venture funding and growth patterns, could have complemented Companies House data and enriched the analysis of accelerator impacts. Future studies could benefit from earlier integration of such resources, enabling a more detailed examination of the dynamics within entrepreneurial ecosystems (Cohen and Hochberg, 2014).

7.4.2.4 Causality issues

The explanatory sequential mixed-methods design adopted in this research was well-suited to exploring relationships between devolved policies, business accelerators, and new venture creation. However, it was not designed to establish causal relationships definitively. While the quantitative phase revealed significant statistical associations, such as the relationship between accelerator presence and venture creation rates, these cannot confirm causation. This limitation aligns with Creswell and Plano Clark's (2018)

observation that mixed-methods studies are better suited to exploring processes and context than identifying direct causal links. The qualitative phase enriched the findings by providing insights into mechanisms, yet its cross-sectional nature limits the ability to trace these dynamics over time.

7.4.3 Contextual limitations

This study's exploration of the interplay between devolution, business accelerators, and new venture creation is inherently shaped by its contextual boundaries, which warrant careful consideration. While these boundaries do not undermine the validity of the findings, they do highlight the need for caution when interpreting the broader applicability of the results and offer clear pathways for future research.

A significant contextual limitation lies in the geographic scope of the study, which is focused exclusively on devolved regions within the United Kingdom. Although this focus aligns with the central aim of understanding the effects of devolution, it also constrains the generalisability of the findings to non-devolved or international contexts. Devolved regions in the UK, such as Scotland, Wales, and the Tees Valley Combined Authority, exhibit distinctive governance arrangements and institutional dynamics. These characteristics are not easily replicable in regions without devolved powers or in nations where decentralisation takes different forms. As such, caution must be exercised when applying these insights to contexts beyond the UK, particularly in countries where federalist systems or centralised governance dominate.

Additionally, the analysis does not fully account for the heterogeneity within and across devolved regions. Each region operates within a unique policy framework, influenced by varying levels of fiscal autonomy, institutional capacity, and historical economic trajectories. These factors inevitably shape the implementation and outcomes of devolved policies and business accelerator interventions. While the mixed-methods approach has illuminated regional disparities and provided depth through case studies, the findings may not fully encapsulate the diverse realities of all subnational contexts, especially regions with differing sectoral compositions or socio-economic conditions.

The study’s sectoral scope presents an additional limitation. While it examines entrepreneurial activity across devolved regions, it does not explore how accelerator-policy interactions may differ across specific industries. Certain sectors are likely to benefit more than others from accelerator support or policy interventions, depending

on factors such as funding availability, regulatory complexity, or alignment with regional priorities. These dynamics are not fully captured by a general analysis of regional venture activity. Future research could address this gap by investigating how accelerators engage with sector-specific challenges and opportunities, particularly in industries with high growth potential or strategic relevance to local economies.

Finally, the reliance on secondary data for quantitative analyses introduces constraints in capturing the full complexity of entrepreneurial ecosystems. While the use of Companies House data and policy documents provides a robust foundation, these sources may not fully reflect informal entrepreneurial activities or the nuanced ways in which accelerators and policies operate in practice. The study's qualitative phase addresses some of these gaps, but further research incorporating more granular, longitudinal data could offer richer insights into the evolving dynamics of regional entrepreneurship.

These contextual limitations do not diminish the significance of the study's contributions but rather underscore the complexity of studying entrepreneurship within the framework of devolution. By situating the findings within these boundaries, this research provides a foundation for future inquiry into how regional contexts shape and are shaped by entrepreneurial ecosystems. The following section transitions to a discussion of theoretical limitations, offering further reflections on how the study's conceptual framework and methodological choices influence its scope and conclusions.

7.4.4 Theoretical limitations

The theoretical limitations of this study stem from the challenges of applying and integrating diverse frameworks to investigate the interplay between devolution, business accelerators, and new venture creation. While institutional theory and entrepreneurial ecosystem perspectives have been central to the analysis, these frameworks are not without their constraints.

Institutional theory provided a valuable lens for examining how business accelerators contribute to new venture legitimation, particularly in aligning with devolved regional policies. However, its emphasis on compliance with established norms and structures (DiMaggio and Powell, 1983; Zimmerman and Zeitz, 2002) may underplay the agency of accelerators and entrepreneurs in reshaping institutional frameworks. This is particularly relevant in devolved governance contexts where institutional environments

are in flux, such as in the UK's mayoral combined authorities (MacKinnon, 2015). The focus on isomorphic pressures can also oversimplify the dynamic and bidirectional relationship between accelerators and their institutional environments, especially in regions striving for economic transformation through innovation.

The entrepreneurial ecosystem perspective (Spigel, 2017) offered critical insights into the role of accelerators as intermediaries, facilitating connections and resources. However, this perspective often prioritises organic, informal network dynamics over the formal, policy-driven interventions characteristic of devolved governance structures (Mason and Brown, 2014). As a result, the framework may not fully capture how devolved authorities strategically employ accelerators to realise policy goals, such as addressing regional disparities (Pike, Rodríguez-Pose and Tomaney, 2016).

Integrating institutional theory and entrepreneurial ecosystem perspectives presented conceptual challenges. While both frameworks contribute valuable insights, their distinct emphases on structural compliance (institutional theory) and network dynamism (entrepreneurial ecosystems) are not entirely harmonious. For instance, institutional theory emphasises the legitimacy-seeking behaviours of accelerators (Zimmerman and Zeitz, 2002), whereas entrepreneurial ecosystem theory focuses on their adaptability and the creation of informal networks (Spigel, Khalid and Wolfe, 2022). Reconciling these different emphases posed a challenge, particularly in understanding how accelerators simultaneously function as agents of institutional alignment and drivers of entrepreneurial dynamism.

Another limitation of this study is its contextual specificity. The research focuses on the UK's devolved regions, characterised by asymmetrical governance arrangements and region-specific powers (Keating, Cairney and Hepburn, 2009; Torrance, 2024). While this context provides a rich setting for exploring devolution and its implications, the findings may not be easily generalisable to countries with different decentralisation models or governance cultures. For example, regions with more uniform decentralisation structures might exhibit different dynamics between accelerators, policies, and entrepreneurial ecosystems.

Finally, the study's emphasis on formalised interventions, such as accelerators, may have overshadowed the significance of informal entrepreneurial practices. Research has shown that in regions with weaker institutional frameworks or fragmented policies,

grassroots entrepreneurship and informal networks often play a pivotal role in fostering innovation and venture creation (Jack and Anderson, 2002). These informal dynamics may have been underrepresented in this study's theoretical framework, which focused more heavily on policy-driven mechanisms and formal support systems.

Acknowledging these theoretical limitations highlights the need for future research to adopt hybrid or alternative frameworks. Combining institutional theory with approaches that emphasise informal dynamics and entrepreneurial agency could offer a more comprehensive understanding of how accelerators operate within diverse regional contexts. Additionally, exploring these dynamics in non-UK settings could provide comparative insights, further enriching the theoretical understanding of how regional governance and entrepreneurial ecosystems interact.

This discussion of theoretical limitations leads naturally into the next section on practical limitations, which addresses methodological constraints, data availability, and the challenges of operationalising complex theoretical constructs in applied research contexts.

7.4.5 Practical limitations

While this research provides significant insights into the interplay between devolved policies and business accelerators in fostering new venture creation, several practical limitations must be acknowledged. These limitations are rooted in the scalability of recommendations, the contextual specificity of the findings, and the broader applicability of the policy implications.

One of the key limitations lies in the scalability of the practical implications. The recommendations for aligning business accelerators with regional policy priorities were developed based on detailed examinations of specific case study regions, such as Wales and the Tees Valley Combined Authority. These regions were selected for their contrasting governance structures and entrepreneurial ecosystems, but the degree to which these insights can be generalised across all devolved regions remains uncertain. For example, regions with lower institutional capacity or differing levels of economic development may encounter unique challenges that limit the applicability of these recommendations. As Pike, Rodríguez-Pose, and Tomaney (2016) argue, regional disparities often necessitate bespoke strategies rather than one-size-fits-all solutions.

The findings also raise important questions about the generalisability of policy recommendations to regions beyond those studied. Policies that support entrepreneurship, such as skills development initiatives and access to finance, are intricately tied to the socio-economic and institutional contexts in which they are applied. The success of interventions in one region may depend on factors such as the strength of support networks or cultural attitudes toward entrepreneurship, which may not be present in other regions. For example, Rodríguez-Pose and Bwire (2004) highlight how regional governance structures can profoundly influence the outcomes of economic interventions. Without sufficient consideration of these nuances, policies that perform well in certain regions may yield limited results elsewhere, underscoring the importance of tailoring interventions to specific local conditions.

The methodological approach of this study, while robust, also introduces practical constraints. The reliance on mixed-methods and the integration of quantitative and qualitative data offer a comprehensive perspective. However, the cross-sectional nature of certain datasets, such as those pertaining to business accelerators, limits the ability to capture dynamic, longitudinal changes in regional entrepreneurial ecosystems. This means that the findings provide a snapshot rather than a fully dynamic representation of the evolving relationship between devolution and business accelerators. As noted by MacKinnon (2015), understanding the temporal dimensions of devolved policies and their interaction with regional actors is essential for assessing their long-term impacts.

Finally, the asymmetry of devolution in the UK, where regions possess varying degrees of autonomy and capacity, further complicates the application of universal solutions. The role of business accelerators as intermediaries between policy and practice may differ significantly across governance frameworks, reflecting the uneven nature of devolved powers and institutional capacities. This complexity highlights the importance of ongoing engagement with regional stakeholders to refine and adapt interventions over time, ensuring they remain relevant and effective within diverse local contexts.

These limitations not only highlight the constraints of this research but also suggest directions for future inquiry. Future studies could prioritise longitudinal analyses to better capture the evolving dynamics of regional entrepreneurial ecosystems, explore how policy recommendations can be scaled across diverse contexts, or develop frameworks to systematically tailor interventions to local conditions. By addressing these areas, future research can build on this study's findings and deepen understanding

of how devolution and entrepreneurial support mechanisms contribute to regional economic development.

7.4.6 Future research directions

Future research stemming from this study can address both the limitations encountered and the broader opportunities to expand knowledge on the interplay between business accelerators and devolved governance. One promising avenue involves enhancing the datasets used for analysis. While this study relied on Companies House data, future research could integrate additional sources such as Crunchbase or Beauhurst to capture richer dimensions of new venture dynamics, including funding patterns, sectoral engagement, and international activity. This integration could provide a more granular understanding of how accelerators influence and are influenced by their operational contexts.

Comparative analyses offer another valuable opportunity. Within the UK, future research could examine the differences between devolved and non-devolved regions, providing insights into whether and how governance arrangements shape entrepreneurial ecosystems. International comparisons, particularly with countries employing distinct decentralisation models, such as federalist systems in Germany or Canada, could further elucidate the relationship between regional governance and accelerator effectiveness. Such studies could explore whether accelerators adapt differently across cultural and institutional landscapes, adding depth to our understanding of their role in fostering entrepreneurship globally.

Longitudinal research also holds considerable potential. Tracking new ventures over extended periods, from their inception through various stages of growth, could reveal the sustained impacts of both accelerators and devolved policies. This approach could provide insights into how these mechanisms contribute to long-term venture survival and regional economic development. Longitudinal methods would also allow researchers to explore how accelerators evolve in response to shifting policy priorities and economic conditions, further clarifying their adaptability and strategic alignment with regional needs.

Sector-specific inquiries could complement these broader analyses. By focusing on particular industries, such as digital innovation, green technologies, or healthtech, future studies could investigate how accelerators align with regional economic strengths

and policy objectives. These investigations could provide actionable insights for tailoring accelerator programmes to maximise their contributions to both regional and sectoral development. Similarly, examining accelerators' responses to societal challenges such as climate change or economic resilience could illuminate their roles in addressing global priorities within local contexts.

Future research could expand upon the case study approach taken in this study by incorporating additional embedded units of analysis (Yin, 2014) within devolved regions, such as specific new ventures and accelerator programmes. These units would provide richer, more granular insights into the micro-level dynamics of how accelerators operate within and adapt to devolved policy frameworks. For instance, several candidates for embedded case study units were identified and contacted in the Tees Valley area during this study, including an accelerator and two successful new ventures. However, time and personal constraints precluded their inclusion in this iteration of the research. By including these elements in future research, scholars could explore the interplay between policy contexts, accelerator strategies, and entrepreneurial outcomes in greater depth, offering a more comprehensive understanding of their interconnections and regional impacts.

Finally, future work could evaluate the effectiveness of specific policy mechanisms within devolved frameworks. Comparative studies of interventions, such as innovation grants or sector-specific tax incentives, could identify best practices and inform policy design. Moreover, examining the governance models that underpin successful policy-accelerator partnerships would offer critical insights into fostering collaboration among regional governments, private stakeholders, and academic institutions to strengthen entrepreneurial ecosystems. Research in these areas would build on the insights of Mason and Brown (2014), who highlighted the importance of regional entrepreneurial ecosystems, and Rodríguez-Pose and Gill (2003), who emphasised the need for tailored economic interventions in sub-national contexts.

These directions for future research highlight unresolved questions and the potential to deepen our understanding of how accelerators interact with devolved governance and regional ecosystems. By addressing these issues, future studies can contribute significantly to theoretical advancements and practical applications, further enhancing the value of entrepreneurial support systems in achieving regional development goals. These reflections transition seamlessly into the broader considerations offered in the

closing section of this thesis, reaffirming its contributions to ongoing debates in regional innovation and entrepreneurship policy.

7.4.7 Reflections on contributions and complexity

As the discussion of limitations and future research draws to a close, this section takes a step back to consider the broader contributions of the study. It reflects on the complexity of the regional entrepreneurship landscape and the ways in which this research helps illuminate that complexity, while remaining open to ongoing inquiry.

Reflecting on the findings of this thesis, the exploration of how devolved policies and business accelerators interact to influence regional new venture creation offers both valuable insights and avenues for deeper inquiry. While this study has illuminated critical mechanisms, such as the alignment of policy initiatives with accelerator strategies and the contextual nuances of regional entrepreneurial ecosystems, it is clear that the landscape remains complex and dynamic.

A key contribution of this work lies in its ability to bridge the theoretical and practical dimensions of regional entrepreneurship within the framework of devolution. By employing an explanatory sequential mixed-methods approach, the research has uncovered patterns and processes that enrich our understanding of how devolved powers can shape economic activity through entrepreneurial support mechanisms. Nevertheless, these findings should be viewed as part of a larger and ongoing conversation about regional development.

Limitations in this study, while inherent to its scope and design, also highlight opportunities for further research. The focus on specific devolved regions and their entrepreneurial dynamics, for instance, provides rich contextual detail but limits generalizability across broader geographies. Future studies could build on this work by expanding the scope to include comparative analyses with international examples of devolved governance and entrepreneurial ecosystems. Similarly, while this thesis emphasises the interplay between policy and accelerators, it does not exhaustively explore how these interactions might vary across different industry sectors or stages of venture development – an area ripe for deeper exploration.

Moreover, the methodological constraints of cross-sectional data for accelerator presence underline the need for longitudinal approaches. Such methods could better

capture the temporal dynamics of how accelerator interventions unfold and influence venture trajectories over time. The inclusion of qualitative insights has offered depth to the analysis, yet future studies might integrate participatory or co-creative research methods to further elucidate the perspectives of entrepreneurs navigating these systems.

In conclusion, while the limitations identified do not detract from the core contributions of this research, they underscore the inherent complexity of studying the intersection of devolution, policy, and entrepreneurship. This thesis invites further scholarly engagement with the nuanced and evolving interplay of governance structures and entrepreneurial ecosystems. By continuing to explore these relationships, researchers and policymakers alike can better understand how to foster sustainable, inclusive, and regionally tailored economic growth. Such efforts remain crucial in addressing regional disparities and unlocking the full potential of entrepreneurship as a driver of innovation and prosperity.

7.5 Overall conclusion

This thesis set out to examine how business accelerators and devolved policy frameworks interact to support new venture emergence in the UK's subnational regions. In doing so, it asked: how do these two elements – each capable of influencing entrepreneurship in their own right – work together in practice, and how do their effects vary across different regional governance contexts?

The study combined a national-level quantitative analysis with two qualitative case studies – Wales and the Tees Valley – to explore these dynamics in both breadth and depth. The quantitative findings confirmed that new venture creation in the UK is shaped significantly by regional context. Notably, regions with broader and more integrated entrepreneurship-supportive policies, as measured through a composite policy indicator, tended to exhibit higher rates of new firm formation. The presence of business accelerators was also positively associated with these outcomes. However, while these statistical patterns point to meaningful relationships, they do not in themselves explain how or why some regions perform better than others – a question the qualitative phase sought to explore in more depth.

The qualitative phase helped address this gap. In Wales, where policy autonomy is more firmly embedded and economic priorities are clearly articulated, accelerators such as

TfW Labs were found to operate in close alignment with devolved strategies – particularly those targeting sustainability and regional skills. In contrast, in Tees Valley, where devolved powers are narrower and governance more fragmented, accelerators had to act as flexible intermediaries – adapting their strategies, brokering new partnerships, and at times compensating for missing policy infrastructure. These contrasts underscore the finding that the effectiveness of accelerators is not fixed or uniform. It is shaped by the extent to which they are embedded within, and responsive to, the institutional and governance environment around them.

A key insight from this research is the intermediary role that accelerators perform – not only by offering direct support to entrepreneurs, but by translating regional policy into forms of entrepreneurial activity that are both locally meaningful and institutionally grounded. In this capacity, accelerators do more than connect ventures with funding or mentoring opportunities. They help early-stage firms build legitimacy within their local context – interpreting prevailing norms, aligning with policy priorities, and guiding ventures towards the forms of credibility and recognition needed to secure support and be taken seriously by key stakeholders. This legitimacy-building function is particularly salient in devolved settings, where new ventures often face uncertainty about what counts as credible or desirable economic activity. By situating startups within locally resonant narratives – such as green transport in Wales or industrial regeneration in Tees Valley – accelerators help shape not only how ventures grow, but also how they are perceived and supported by the wider ecosystem.

Taken together, these findings suggest that in devolved regions where policy priorities are clearly articulated, accelerators attuned to those priorities may perform a distinctive role in supporting venture legitimacy. Rather than acting solely as programme providers, such accelerators can operate as intermediaries – translating broad policy objectives into grounded forms of entrepreneurial support that align with local institutional norms. Where this alignment occurs, it creates the potential for a form of co-production between policy and practice. Yet this dynamic is neither guaranteed nor uniform. In regions where governance is fragmented or institutional signals are weak, accelerators may struggle to fulfil this role – or may instead drift towards aims that bear little connection to regional development goals.

This research contributes to theoretical understandings of entrepreneurial ecosystems and regional innovation systems by foregrounding this meso-level interaction. It

positions accelerators not simply as service providers or passive recipients of policy, but as active agents shaping the institutional conditions under which entrepreneurship emerges. By doing so, it highlights the need to move beyond static models of policy impact, and instead to attend to the situated, adaptive work that intermediaries perform within specific regional settings.

7.6 Final reflections

This research began with a simple curiosity: why do some regions seem better at fostering entrepreneurship than others? That question was shaped in part by my own early experience of founding a technology startup in the North East of England – and later relocating it to London – where the contrasts in access to support, resources, and networks were significant. What this study found is that the answers lie not only in policy frameworks or funding availability, but in the quieter work of building legitimacy – the process through which ventures become recognised, trusted, and ultimately supported. Accelerators, at their best, help entrepreneurs cross that threshold. It's not always visible work, and not all programmes do it. But in devolved regions, where institutional signals are often mixed or uneven, this role feels especially critical.

Looking ahead, the challenge of legitimacy is likely to intensify. As new technologies continue to lower the barriers to starting a business, more people than ever will be able to enter entrepreneurship – but with that opportunity comes growing pressure to stand out, to be taken seriously, and to navigate rapidly evolving institutional landscapes. Ventures won't just need resources; they'll need recognition. This places new demands on ecosystems to offer support that not only accelerates ideas, but helps shape the narratives and networks that give them weight.

Meeting this challenge may require regions to think more deliberately about how entrepreneurial support intersects with long-term development goals. This could involve closer integration between accelerators and adjacent systems – including education, skills provision, and civic infrastructure – not merely to widen access, but to ensure that those pursuing entrepreneurship have the institutional support required to succeed. Over the coming decade, that support will matter more than ever. As technology continues to reshape economic structures, the ability to build credible, investable ventures may become one of the few enduring pathways to regional resilience and long-term prosperity.

Bibliography

Aguinis, H. (2004) *Regression analysis for categorical moderators*. New York London: Guilford Press (Methodology in the social sciences).

Aguinis, H., Gottfredson, R.K. and Culpepper, S.A. (2013) 'Best-practice recommendations for estimating cross-level interaction effects using multilevel modeling', *Journal of Management*, 39(6), pp. 1490–1528. Available at: doi:10.1177/0149206313478188.

Aldrich, H.E. and Fiol, C.M. (1994) 'Fools rush in? the institutional context of industry creation', *The Academy of Management Review*, 19(4), pp. 645–670. Available at: doi:10.2307/258740.

Aldrich, H.E. and Ruef, M. (2011) *Organizations evolving*. 2. ed., repr. Los Angeles: SAGE.

Aljalahma, J. and Slof, J. (2022) 'An updated systematic review of business accelerators: functions, operation, and gaps in the existing literature', *Journal of Open Innovation*, 8(4), pp. 214–214. Available at: doi:10.3390/joitmc8040214.

Almeida, G.D.O. and Zouain, D.M. (2016) 'E-government impact on business and entrepreneurship in high-, upper-middle- and lower-income countries from 2008 to 2014: a linear mixed model approach', *Global Business Review*, 17(4), pp. 743–758. Available at: doi:10.1177/0972150916645485.

Alvesson, M. (2018) *Reflexive methodology: new vistas for qualitative research*. Third edition. Los Angeles: Sage.

Anderson, B.S. *et al.* (2015) 'Reconceptualizing entrepreneurial orientation: reconceptualizing entrepreneurial orientation', *Strategic Management Journal*, 36(10), pp. 1579–1596. Available at: doi:10.1002/smj.2298.

Anna Flockett (2020) *Lab by Transport for Wales to showcase innovation and tech talent*, *Startups Magazine*. Available at: https://startupsmagazine.co.uk/article-lab-transport-wales-showcase-innovation-and-tech-talent (Accessed: 28 December 2024).

Archer, M. *et al.* (2013) *Critical realism: essential readings*. Hoboken: Taylor and Francis.

Arend, R.J., Sarooghi, H. and Burkemper, A. (2015) 'Effectuation as ineffectual? applying the 3E theory-assessment framework to a proposed new theory of entrepreneurship', *Academy of Management Review*, 40(4), pp. 630–651. Available at: doi:10.5465/amr.2014.0455.

Armington, C. and Acs, Z.J. (2002) 'The determinants of regional variation in new firm formation', *Regional Studies*, 36(1), pp. 33–45. Available at: doi:10.1080/00343400120099843.

Arshed, N., Carter, S. and Mason, C. (2014) 'The ineffectiveness of entrepreneurship policy: Is policy formulation to blame?', *Small Business Economics*, 43(3), pp. 639–659. Available at: doi:10.1007/s11187-014-9554-8.

Audretsch, D. and Mahmood, T. (1995) 'New firm survival: new results using a hazard function', *The Review of Economics and Statistics*, 77(1), pp. 97–103.

Audretsch, D.B. and Fritsch, M. (1994) 'On the measurement of entry rates', *Empirica*, 21(1), pp. 105–113. Available at: doi:10.1007/BF01383974.

Audretsch, D.B. and Lehmann, E.E. (2005) 'Does the knowledge spillover theory of entrepreneurship hold for regions?', *Research Policy*, 34(8), pp. 1191–1202. Available at: doi:10.1016/j.respol.2005.03.012.

Bailey, D. (2017) 'Economic renewal through devolution? tax reform and the uneven geographies of the economic dividend', *Competition and Change*, 21(1), pp. 10–26. Available at: doi:10.1177/1024529416678069.

Baker, T. and Nelson, R.E. (2005) 'Creating something from nothing: resource construction through entrepreneurial bricolage', *Administrative Science Quarterly*, 50(3), pp. 329–366. Available at: doi:10.2189/asqu.2005.50.3.329.

Bańka, M., Salwin, M., Masłowski, D., *et al.* (2022) 'Start-up accelerator: state of the art and future directions', *European Research Studies Journal*, XXV(Issue 1), pp. 477–510. Available at: doi:10.35808/ersj/2865.

Bańka, M., Salwin, M., Kukurba, M., *et al.* (2022) 'Start-up accelerators and their impact on sustainability: literature analysis and case studies from the energy sector', *Sustainability*, 14(20), p. 13397. Available at: doi:10.3390/su142013397.

Bańka, M. *et al.* (2023) 'Start-up accelerators and their impact on entrepreneurship and social responsibility of the manager', *Sustainability*, 15(11), pp. 8892–8892. Available at: doi:10.3390/su15118892.

Barney, J. (1991) 'Firm resources and sustained competitive advantage', *Journal of Management*, 17(1), pp. 99–120. Available at: doi:10.1177/014920639101700108.

Battilana, J. and D'Aunno, T. (2009) 'Institutional work and the paradox of embedded agency', in T.B. Lawrence, R. Suddaby, and B. Leca (eds) *Institutional Work: Actors and Agency in Institutional Studies of Organizations*. Cambridge: Cambridge University Press, pp. 31–58. Available at: doi:10.1017/CBO9780511596605.002.

Battilana, J., Leca, B. and Boxenbaum, E. (2009) 'How actors change institutions: towards a theory of institutional entrepreneurship', *Academy of Management Annals*, 3(1), pp. 65–107. Available at: doi:10.5465/19416520903053598.

Bergman, B.J. and McMullen, J.S. (2022) 'Helping entrepreneurs help themselves: a review and relational research agenda on entrepreneurial support organizations', *Entrepreneurship: Theory & Practice*, 46(3), pp. 688–728. Available at: doi:10.1177/10422587211028736.

Bettenmann, D. (2023) 'It's all about opportunities: sourcing and selection of new ventures to accelerate innovation', *R&D Management*, 53(5), pp. 733–744. Available at: doi:10.1111/radm.12587.

Bhaskar, R. (1978) *A realist theory of science*. Hassocks, Sussex : Atlantic Highlands, N.J: Harvester Press ; Humanities Press.

Blazenko, G.W., Pavlov, A.D. and Eddy-Sumeke, F. (2012) 'New venture start-ups and technological innovation', *International Journal of Managerial Finance*, 8(1), pp. 4–35. Available at: doi:10.1108/17439131211201013.

Bone, J. *et al.* (2019) *The impact of business accelerators and incubators in the UK*.

Bone, J., Allen, O. and Halley, C. (2017) 'Business incubators and accelerators: the national picture', 1, pp. 1–76.

Bowen, G.A. (2009) 'Document analysis as a qualitative research method', *Qualitative Research Journal*, 9(2), pp. 27–40. Available at: doi:10.3316/QRJ0902027.

Breznitz, S.M., Smith, H.L. and Bagchi-Sen, S. (2022) 'The contribution of students to regional economies: reframing the regional innovation systems approach', *Regional Studies*, 56, pp. 885–891. Available at: doi:10.1080/00343404.2022.2053097.

British Sociological Association (2017) *Statement of ethical practice*. Durham, UK: British Sociological Association. Available at: https://www.britsoc.co.uk/media/24310/bsa_statement_of_ethical_practice.pdf.

Brown, R. *et al.* (2019) 'Start-up factories, transnational entrepreneurs and entrepreneurial ecosystems: unpacking the lure of start-up accelerator programmes', *European Planning Studies*, 27(5), pp. 885–904. Available at: doi:10.1080/09654313.2019.1588858.

Browne, O. *et al.* (2024) 'Why avoid participating in an accelerator? countersignalling by high-quality FinTech ventures', *British Journal of Management*, pp. 1467-8551.12793. Available at: doi:10.1111/1467-8551.12793.

Bruton, G.D., Ahlstrom, D. and Li, H. (2010) 'Institutional theory and entrepreneurship: where are we now and where do we need to move in the future?', *Entrepreneurship Theory and Practice*, 34(3), pp. 421–440.

Bryman, A. (2016) *Social research methods*. International Edition. Oxford: Oxford University Press.

Bubna, A., Das, S.R. and Prabhala, N. (2020) 'Venture capital communities', *Journal of Financial and Quantitative Analysis*, 55(2), pp. 621–651. Available at: doi:10.1017/S002210901900005X.

Burt, R.S. (2000) 'The network structure of social capital', *Research in Organizational Behavior*, 22, pp. 345–423. Available at: doi:10.1016/S0191-3085(00)22009-1.

Busenitz, L.W. and Lau, C.-M. (1996) 'A cross-cultural cognitive model of new venture creation', *Entrepreneurship Theory and Practice*, 20(4), pp. 25–40.

Cao, Y. *et al.* (2023) 'Construct a regional innovation ecosystem: a case study of the Beijing-Tianjin-Hebei region in China', *Sustainability*, 15(9), pp. 7099–7099. Available at: doi:10.3390/su15097099.

Cefis, E. and Marsili, O. (2006) 'Survivor: The role of innovation in firms' survival', *Research Policy*, 35(5), pp. 626–641. Available at: doi:10.1016/j.respol.2006.02.006.

Chandy, L. and Kharas, H. (2012) *Old problems, new solutions: harnessing technology and innovation in the fight against global poverty*. Washington, D.C.: Brookings Institution. Available at: https://www.brookings.edu/wp-content/uploads/2016/06/10-blum-roundtable-full-report.pdf.

Chen, C. and He, J. (2021) 'Teaching them how to fish: the makings of business accelerators', *SSRN Electronic Journal* [Preprint]. Available at: doi:10.2139/SSRN.3869952.

Chen, M. (2007) 'Entrepreneurial leadership and new ventures: creativity in entrepreneurial teams', *Creativity and Innovation Management*, 16(3), pp. 239–249. Available at: doi:10.1111/j.1467-8691.2007.00439.x.

Child, J. (1972) 'Organizational structure, environment and performance: the role of strategic choice', *Sociology*, 6(1), pp. 1–22. Available at: doi:10.1177/003803857200600101.

Chowdhury, F. and Audretsch, D.B. (2024) 'Paradoxes of accelerator programs and new venture performance: Do varieties of experiences make a difference?', *Small Business Economics*, 62(1), pp. 381–409. Available at: doi:10.1007/s11187-023-00778-y.

Christiansen, J. (2009) *Copying Y-Combinator*. University of Cambridge.

Cities and Local Government Devolution Act 2016 (2016) *UK Public General Acts*. c. 1. London: The Stationery Office.

Clark, T. *et al.* (2021) *Bryman's social research methods*. Sixth edition. Oxford: Oxford University Press.

Clarke, J. (2011) 'Revitalizing entrepreneurship: how visual symbols are used in entrepreneurial performances', *Journal of Management Studies*, 48(6), pp. 1365–1391. Available at: doi:10.1111/j.1467-6486.2010.01002.x.

Clifford, B. and Morphet, J. (2015) 'Introduction to devolution and the geographies of policy', *The Geographical Journal*, 181(1), pp. 2–5. Available at: doi:10.1111/GEOJ.12113.

Coad, A. *et al.* (2014) 'High-growth firms: introduction to the special section', *Industrial and corporate change*, 23(1), pp. 91–112. Available at: doi:10.1093/icc/dtt052.

Cohen, J. *et al.* (2013) *Applied multiple regression/correlation analysis for the behavioral sciences, third edition*. Taylor and Francis. Available at: doi:10.4324/9780203774441.

Cohen, S. and Hochberg, Y.V. (2014) 'Accelerating startups: the seed accelerator phenomenon', *SSRN Electronic Journal* [Preprint]. Available at: doi:10.2139/ssrn.2418000.

Cohen, S.L. *et al.* (2019) 'The design of startup accelerators', *Research Policy*, 48(7), pp. 1781–1797. Available at: doi:10.1016/J.RESPOL.2019.04.003.

Companies Act 2006 (2006) *UK Public General Acts*. c. 46. London: The Stationery Office. Available at: https://www.legislation.gov.uk/ukpga/2006/46/contents (Accessed: 29 December 2024).

Companies House (2023) *Life of a company, part 1 - accounts*. London: GOV.UK. Available at: https://www.gov.uk/government/publications/life-of-a-company-annual-requirements/life-of-a-company-part-1-accounts.

Cooke, P. (1992) 'Regional innovation systems: competitive regulation in the new Europe', *Geoforum*, 23(3), pp. 365–382. Available at: doi:10.1016/0016-7185(92)90048-9.

Cooke, P. (2001) 'Regional innovation systems, clusters, and the knowledge economy', *Industrial and Corporate Change*, 10(4), pp. 945–974. Available at: doi:10.1093/icc/10.4.945.

Cooke, P., Gomez Uranga, M. and Etxebarria, G. (1997) 'Regional innovation systems: institutional and organisational dimensions', *Research Policy*, 26(4–5), pp. 475–491. Available at: doi:10.1016/S0048-7333(97)00025-5.

Cooke, P.N. and Asheim, B.T. (eds) (2013) *Handbook of regional innovation and growth*. Cheltenham: Edward Elgar.

Covin, J.G. and Lumpkin, G.T. (2011) 'Entrepreneurial orientation theory and research: reflections on a needed construct', *Entrepreneurship Theory and Practice*, 35(5), pp. 855–872. Available at: doi:10.1111/j.1540-6520.2011.00482.x.

Crescenzi, R., Gagliardi, L. and Percoco, M. (2013) 'Social capital and the innovative performance of Italian provinces', *Environment and Planning A: Economy and Space*, 45(4), pp. 908–929. Available at: doi:10.1068/a45221.

Creswell, J.W. and Plano Clark, V.L. (2018) *Designing and conducting mixed methods research*. Third edition. Thousand Oaks, California: SAGE.

Creswell, J.W. and Poth, C.N. (2018) *Qualitative inquiry & research design: choosing among five approaches*. Fourth edition. Los Angeles: SAGE.

Crișan, E.L. *et al.* (2021) 'A systematic literature review on accelerators', *Journal of Technology Transfer*, 46(1), pp. 62–89. Available at: doi:10.1007/S10961-019-09754-9.

Crunchbase (2024). Available at: https://www.crunchbase.com (Accessed: 1 July 2024).

Danermark, B., Ekström, M. and Karlsson, J.C. (2019) *Explaining society: critical realism in the social sciences*. Second edition. Abingdon, Oxon New York, NY: Routledge (Routledge studies in critical realism).

De Klerk, S., Miles, M.P. and Bliemel, M. (2024) 'A life cycle perspective of startup accelerators', *International Entrepreneurship and Management Journal*, 20(1), pp. 327–343. Available at: doi:10.1007/s11365-023-00933-7.

Deakins, D. *et al.* (1998) 'New venture support: an analysis of mentoring support for new and early stage entrepreneurs', *Journal of Small Business and Enterprise Development*, 5(2), pp. 151–161. Available at: doi:10.1108/EUM0000000006763.

Decker, R.A. *et al.* (2016) 'Declining business dynamism: what we know and the way forward', *The American Economic Review*, 106(5), pp. 203–207. Available at: doi:10.1257/aer.p20161050.

Deephouse, D.L. and Suchman, M. (2008) 'Legitimacy in organizational institutionalism', in *The SAGE Handbook of Organizational Institutionalism*. SAGE Publications Ltd, pp. 49–77.

Development Bank of Wales (2022) *Annual report and financial statements 2021/22*. Wales: Development Bank of Wales. Available at: https://developmentbank.wales/about-us/performance-and-impact/reports-and-documents.

DiMaggio, P.J. and Powell, W.W. (1983) 'The iron cage revisited: institutional isomorphism and collective rationality in organizational fields', *American Sociological Review*, 48(2), p. 147. Available at: doi:10.2307/2095101.

Donbesuur, F. *et al.* (2022) 'External knowledge resources and new venture success in developing economies: leveraging innovative opportunities and legitimacy strategies', *Technological Forecasting and Social Change*, 185, p. 122034. Available at: doi:10.1016/j.techfore.2022.122034.

Donne, K.E. *et al.* (2023) 'The underlying complexities impacting accelerator decision making—a combined methodological analysis', *IEEE Transactions on Engineering Management*, 70(1), pp. 312–327. Available at: doi:10.1109/TEM.2020.3041558.

Drori, I. and Wright, M. (2018) 'Accelerators: characteristics, trends and the new entrepreneurial ecosystem', in M. Wright and I. Drori (eds) *Accelerators*. Cheltenham: Edward Elgar Publishing, pp. 1–20. Available at: doi:10.4337/9781786434098.00005.

Economic and Social Research Council (2015) *Framework for research ethics*. Swindon, UK: Economic and Social Research Council. Available at: https://www.polis.cam.ac.uk/system/files/documents/esrc-framework-for-research-ethics.pdf.

Fedele, P. and Ongaro, E. (2008) 'A common trend, different houses: devolution in Italy, Spain and the UK', *Public Money & Management*, 28(2), pp. 85–92. Available at: doi:10.1111/j.1467-9302.2008.00626.x.

Fehder, D.C. (2023) 'Coming from a good pond: the influence of a new venture's founding ecosystem on accelerator performance', *Administrative Science Quarterly* [Preprint]. Available at: doi:10.1177/00018392231204839.

Fehder, D.C. and Hochberg, Y.V. (2014) 'Accelerators and the regional supply of venture capital investment', *SSRN Electronic Journal* [Preprint]. Available at: doi:10.2139/ssrn.2518668.

Field, A. (2018) *Discovering statistics using IBM SPSS statistics*. 5th edition. Los Angeles London New Delhi Singapore Washington DC Melbourne: SAGE (SAGE edge).

Fink, A.A. *et al.* (2022) 'Supply chain management accelerators: types, objectives, and key design features', *Transportation Research Part E-logistics and Transportation Review*, 164, pp. 102728–102728. Available at: doi:10.1016/j.tre.2022.102728.

Fisher, G. (2020) 'The complexities of new venture legitimacy', *Organization Theory*, 1(2), p. 263178772091388. Available at: doi:10.1177/2631787720913881.

Fotopoulos, G. (2022) 'Knowledge spillovers, entrepreneurial ecosystems and the geography of high growth firms', *Entrepreneurship Theory and Practice*, pp. 104225872211117–104225872211117. Available at: doi:10.1177/10422587221111732.

Fuzi, A. (2015) 'Co-working spaces for promoting entrepreneurship in sparse regions: the case of South Wales', *Regional Studies, Regional Science*, 2(1), pp. 462–469. Available at: doi:10.1080/21681376.2015.1072053.

Galbraith, B., McAdam, R. and Cross, S.E. (2022) 'Guest editorial: incubators and accelerators: integrating evolving incubator models and learning from the past', *IEEE Transactions on Engineering Management*, 69(4), pp. 1678–1681. Available at: doi:10.1109/TEM.2022.3167953.

Gioia, D. (2021) 'A systematic methodology for doing qualitative research', *The Journal of Applied Behavioral Science*, 57(1), pp. 20–29. Available at: doi:10.1177/0021886320982715.

Gonzalez-Uribe, J. and Hmaddi, O. (2022) *The multi-dimensional impacts of business accelerators: what does the research tell us?* London School of Economics. Available at: doi:10.21953/LSE.ZIHLDR5UUXHY.

Goswami, K., Mitchell, J.R. and Bhagavatula, S. (2018) 'Accelerator expertise: understanding the intermediary role of accelerators in the development of the Bangalore entrepreneurial ecosystem.', *Strategic Entrepreneurship Journal*, 12(1), pp. 117–150. Available at: doi:10.1002/sej.1281.

Granovetter, M. (1985) 'Economic action and social structure: the problem of embeddedness', *American Journal of Sociology*, 91(3), pp. 481–510.

Granovetter, M.S. (1973) 'The strength of weak ties', *American Journal of Sociology*, 78(6), pp. 1360–1380.

Greenwood, R. *et al.* (2011) 'Institutional complexity and organizational responses', *Academy of Management Annals*, 5(1), pp. 317–371. Available at: doi:10.5465/19416520.2011.590299.

Greenwood, R. *et al.* (2017) *The SAGE handbook of organizational institutionalism*. SAGE Publications Ltd.

Guerrero, M. *et al.* (2021) 'The influence of ecosystems on the entrepreneurship process: a comparison across developed and developing economies', *Small Business Economics*, 57(4), pp. 1–27. Available at: doi:10.1007/S11187-020-00392-2.

Haley, C. *et al.* (2022) *Incubation nation: the acceleration of UK startup support*. Centre for Entrepreneurs.

Haltiwanger, J., Jarmin, R.S. and Miranda, J. (2013) 'Who creates jobs? small versus large versus young', *The review of economics and statistics*, 95(2), pp. 347–361. Available at: doi:10.1162/REST_a_00288.

Hammond, A.L. *et al.* (2007) *The next 4 billion: market size and business strategy at the base of the pyramid*. Washington, DC: World Resources Institute, International Finance Corporation.

Hannan, M.T. and Freeman, J. (1977) 'The population ecology of organizations', *American Journal of Sociology*, 82(5), pp. 929–964. Available at: doi:10.1086/226424.

Harris, J.L. and Menzel, M.-P. (2023) 'Entrepreneurial ecosystems and clusters: how can economic geographers advance debates for regional development?', *Progress in Human Geography* [Preprint]. Available at: doi:10.1177/03091325231205091.

Hausberg, J.P. and Korreck, S. (2017) 'A systematic review and research agenda on incubators and accelerators', *SSRN Electronic Journal* [Preprint]. Available at: doi:10.2139/ssrn.2919340.

Hausberg, J.P. and Korreck, S. (2020) 'Business incubators and accelerators: a co-citation analysis-based, systematic literature review', *Journal of Technology Transfer*, 45(1), pp. 151–176. Available at: doi:10.1007/S10961-018-9651-Y.

Headd, B. (2003) 'Redefining business success: distinguishing between closure and failure', *Small Business Economics*, 21(1), pp. 51–61.

Hox, J., Moerbeek, M. and Van De Schoot, R. (2010) *Multilevel analysis*. 0 edn. Routledge. Available at: doi:10.4324/9780203852279.

Hutzschenreuter, T., Matt, T. and Kleindienst, I. (2020) 'Going subnational: a literature review and research agenda', *Journal of World Business*, 55(4), p. 101076. Available at: doi:10.1016/j.jwb.2020.101076.

Information Commissioner's Office (2023) *Guide to the General Data Protection Regulation (GDPR)*. Information Commissioner's Office. Available at: https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/data-protection-principles/a-guide-to-the-data-protection-principles/.

Innovate UK (2024) *Innovate UK Tees Valley Action Plan*. Swindon, UK: Innovate UK. Available at: https://www.ukri.org/councils/innovate-uk/.

Iriyama, A., Li, Y. and Madhavan, R. (2010) 'Spiky globalization of venture capital investments: the influence of prior human networks', *Strategic Entrepreneurship Journal*, 4(2), pp. 128–145. Available at: doi:10.1002/sej.87.

Isenberg, D.J. (2010) 'How to start an entrepreneurial revolution', *Harvard business review*, 88(6).

Jack, S.L. (2010) 'Approaches to studying networks: Implications and outcomes', *Journal of Business Venturing*, 25(1), pp. 120–137. Available at: doi:10.1016/j.jbusvent.2008.10.010.

Jack, S.L. and Anderson, A.R. (2002) 'The effects of embeddedness on the entrepreneurial process', *Journal of Business Venturing*, 17(5), pp. 467–487. Available at: doi:10.1016/S0883-9026(01)00076-3.

Jennings, C. and Pabst, A. (2022) 'Introduction: devolution and secession in question', *National Institute Economic Review*, 260, pp. 4–6. Available at: doi:10.1017/nie.2022.23.

Kahneman, D. and Tversky, A. (1979) 'Prospect theory: an analysis of decision under risk', *Econometrica*, 47(2), p. 263. Available at: doi:10.2307/1914185.

Keating, M., Cairney, P. and Hepburn, E. (2009) 'Territorial policy communities and devolution in the UK', *Cambridge Journal of Regions, Economy and Society*, 2(1), pp. 51–66. Available at: doi:10.1093/cjres/rsn024.

Keating, M.J. and McEwen, N. (2005) 'Introduction: devolution and public policy in comparative perspective', *Regional & Federal Studies*, 15(4), pp. 413–421. Available at: doi:10.1080/13597560500230516.

Khaire, M. (2010) 'Young and no money? Never mind: the material impact of social resources on new venture growth', *Organization Science* [Preprint]. Available at: doi:10.1287/orsc.1090.0438.

Khalid, F. and Spigel, B. (2023) 'Accelerators and acceleration policy in entrepreneurial ecosystems', *Revue de l'entrepreneuriat*, Hors Série 2(HS2), pp. 47–74. Available at: doi:10.3917/entre.hs4.0047.

Kher, R., Yang, S.-Y. and Newbert, S.L. (2022) 'Accelerating emergence: the causal (but contextual) effect of social impact accelerators on nascent for-profit social ventures', *Small Business Economics*, 61, pp. 389–413. Available at: doi:10.1007/s11187-022-00680-z.

Kim, H., Kim, D. and Lee, J. (2022) 'Accelerators: conceptualization and future research direction', *Insa jo'jig yeon'gu*, 30(3), pp. 107–134. Available at: doi:10.26856/kjom.2022.30.3.107.

Kohli, A.K. and Jaworski, B.J. (1990) 'Market orientation: the construct, research propositions, and managerial implications', *Journal of Marketing*, 54(2), pp. 1–18. Available at: doi:10.1177/002224299005400201.

Lazega, E. and Snijders, T.A.B. (eds) (2016) *Multilevel network analysis for the social sciences: theory, methods and applications*. Cham: Springer (Methodos series, 12).

Leitão, J., Pereira, D. and Gonçalves, A.M.C. (2022) 'Business incubators, accelerators, and performance of technology-based ventures: a systematic literature review', *Journal of Open Innovation*, 8(1), pp. 46–46. Available at: doi:10.3390/joitmc8010046.

Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic inquiry*. Beverly Hills, Calif: Sage Publications.

Loasby, B.J. and Casson, M. (1983) 'The entrepreneur: an economic theory', *The Economic Journal*, 93(372), p. 931. Available at: doi:10.2307/2232766.

López-Rubio, P. *et al.* (2024) 'The road to national competitiveness is paved with innovation and entrepreneurship: a qualitative comparative analysis', *Policy Studies*, pp. 1–22. Available at: doi:10.1080/01442872.2024.2306971.

Lucas, S.R. and Szatrowski, A. (2014) 'Qualitative comparative analysis in critical perspective', *Sociological Methodology*, 44(1), pp. 1–79. Available at: doi:10.1177/0081175014532763.

Lumpkin, G.T. and Dess, G.G. (1996) 'Clarifying the entrepreneurial orientation construct and linking it to performance', *The Academy of Management Review*, 21(1), p. 135. Available at: doi:10.2307/258632.

Luo, X. (2024) 'Exploring entrepreneurial learning, digital business management, and business model innovation in internet new ventures: An empirical study', *Journal of system and management sciences* [Preprint]. Available at: doi:10.33168/jsms.2024.0203.

M. Nawaz and A. Mahmood (2021) 'Successful Entrepreneurs Drive Innovation and Productivity Through Sustainable Automation'.

MacKinnon, D. (2015) 'Devolution, state restructuring and policy divergence in the UK', *The Geographical Journal*, 181(1), pp. 47–56. Available at: doi:10.1111/GEOJ.12057.

Malecki, E.J. (2009) 'Geographical environments for entrepreneurship', *International Journal of Entrepreneurship and Small Business*, 7(2), p. 175. Available at: doi:10.1504/IJESB.2009.022805.

Mason, C. and Brown, R. (2014) 'Entrepreneurial ecosystems and growth-oriented entrepreneurship', in. OECD.

Mason, C.M. (1985) 'The geography of "successful" small firms in the United Kingdom', *Environment and Planning A: Economy and Space*, 17(11), pp. 1499–1513. Available at: doi:10.1068/a171499.

Masterman, R. (2022) 'Brexit and the United Kingdom's devolutionary constitution', *Global Policy*, 13(S2), pp. 58–68. Available at: doi:10.1111/1758-5899.13064.

Matsuno, K., Mentzer, J.T. and Özsomer, A. (2002) 'The effects of entrepreneurial proclivity and market orientation on business performance', *Journal of Marketing*, 66(3), pp. 18–32. Available at: doi:10.1509/jmkg.66.3.18.18507.

McClelland, D.C. (1961) *The achieving society*. New York: D Van Nostrand Company. Available at: doi:10.1037/14359-000.

Mikić, M., Horvatinović, T. and Kovac, I. (2021) 'Climbing up the regional intellectual capital tree: an EU entrepreneurial ecosystem analysis', *Journal of Intellectual Capital*, 22(6), pp. 1030–1054. Available at: doi:10.1108/JIC-07-2020-0258.

Miles, M.B., Huberman, A.M. and Saldaña, J. (2014) *Qualitative data analysis: a methods sourcebook*. Edition 3. Los Angeles London New Delhi Singapore Washington DC: Sage.

Møller, J.K. (2023) 'Start-up accelerators as service design and business model', 18, pp. 87–99. Available at: doi:10.1111/dmj.12089.

Mooney, G., Scott, G. and Williams, C. (2006) 'Introduction: rethinking social policy through devolution', *Critical Social Policy*, 26(3), pp. 483–497. Available at: doi:10.1177/0261018306065605.

Morgan, D.L. (2007) 'Paradigms lost and pragmatism regained: methodological implications of combining qualitative and quantitative methods', *Journal of Mixed Methods Research*, 1(1), pp. 48–76. Available at: doi:10.1177/2345678906292462.

Morgan, K. (2013) 'The regional state in the era of smart specialisation', *EKONOMIAZ. Revista vasca de Economía*, 83(02), pp. 103–126.

Narver, J.C. and Slater, S.F. (1990) 'The effect of a market orientation on business profitability', *Journal of Marketing*, 54(4), pp. 20–35. Available at: doi:10.1177/002224299005400403.

Nicholls-Nixon, C.L. *et al.* (2022) 'How incubation creates value for early-stage entrepreneurs: the people-place nexus', *Entrepreneurship and Regional Development*, 34(9–10), pp. 868–889. Available at: doi:10.1080/08985626.2022.2121858.

O'Connor, A. and Audretsch, D.B. (2022) 'Regional entrepreneurial ecosystems: learning from forest ecosystems', *Small Business Economics*, 60, pp. 1051–1079. Available at: doi:10.1007/s11187-022-00623-8.

OECD (2018) *The productivity-inclusiveness nexus*. OECD. Available at: doi:10.1787/9789264292932-en.

Office for National Statistics (2022) 'Regional gross value added (balanced) by industry: city and enterprise regions'. Office for National Statistics. Available at: https://www.ons.gov.uk/economy/grossvalueaddedgva.

Office for National Statistics (2023a) 'ONS Postcode Directory (May 2023) for the UK'. Office for National Statistics. Available at: https://geoportal.statistics.gov.uk/datasets.

Office for National Statistics (2023b) 'Population estimates for UK, England and Wales, Scotland and Northern Ireland: mid-2011 to mid-2022'. Newport, UK: Office for National Statistics. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity.

Patterson, N. (2020) 'Developing inclusive and collaborative entrepreneuring spaces', *Gender in Management: An International Journal*, 35(3), pp. 291–302. Available at: doi:10.1108/GM-10-2019-0191.

Pauwels, C. *et al.* (2016) 'Understanding a new generation incubation model: the accelerator', *Technovation*, 50–51, pp. 13–24. Available at: doi:10.1016/j.technovation.2015.09.003.

Peniaz, L. (2023) 'The role of startup accelerators in the formation and development of innovative entrepreneurship'. Available at: doi:10.30525/2500-946x/2023-4-2.

Pfeffer, J. and Salancik, G.R. (1978) *The external control of organizations: a resource dependence perspective*. New York: Harper & Row.

Phelps, N.A. and Tewdwr-Jones, M. (2001) 'Globalisation, regions and the state: exploring the limitations of economic modernisation through inward investment', *Urban Studies*, 38(8), pp. 1253–1272.

Pike, A., Rodríguez-Pose, A. and Tomaney, J. (2016) *Local and regional development*. 2nd edn. Routledge. Available at: doi:10.4324/9781315767673.

Pinelli, M., Pistilli, L. and Cozzolino, A. (2023) 'Paradoxical execution for new ventures' scalability: evidence from Y Combinator', in. *EURAM 2023 Conference Proceedings: Transforming Business for Good*, Dublin, Ireland: European Academy of Management. Available at: https://iris.unive.it/retrieve/f564634e-ccbb-4171-aaf4-321a2bad2cd1/proceedings%20euram%202023.pdf.

Pittz, T.G., White, R.J. and Zoller, T. (2021) 'Entrepreneurial ecosystems and social network centrality: the power of regional dealmakers', *Small Business Economics*, 56(4), pp. 1273–1286. Available at: doi:10.1007/S11187-019-00228-8.

Pope, T., Dalton, G. and Coggins, M. (2023) *How can devolution deliver regional growth in England?* Institute for Government. Available at: https://www.instituteforgovernment.org.uk/sites/default/files/2023-05/devolution-and-regional-growth-england.pdf (Accessed: 1 September 2024).

Priem, R.L. and Butler, J.E. (2001) 'Is the resource-based "view" a useful perspective for strategic management research?', *Academy of Management Review*, 26(1), pp. 22–40. Available at: doi:10.5465/amr.2001.4011928.

Qian, H., Acs, Z.J. and Stough, R.R. (2013) 'Regional systems of entrepreneurship: the nexus of human capital, knowledge and new firm formation', *Journal of Economic Geography*, 13(4), pp. 559–587. Available at: doi:10.1093/jeg/lbs009.

Qureshi, S. (2010) 'Information technology for development research: Are we investigating new phenomena or well known facts?', *Information Technology for Development*, 16(2), pp. 93–95. Available at: doi:10.1080/02681102.2010.484577.

Raudenbush, S.W. and Bryk, A.S. (2010) *Hierarchical linear models: applications and data analysis methods*. 2. ed., [Nachdr.]. Thousand Oaks, Calif.: Sage Publ (Advanced quantitative techniques in the social sciences, 1).

Rodríguez-Pose, A. and Bwire, A. (2004) 'The economic (in)efficiency of devolution', *Environment and Planning A*, 36(11), pp. 1907–1928. Available at: doi:10.1068/A36228.

Rodríguez-Pose, A. and Ezcurra, R. (2011) 'Is fiscal decentralization harmful for economic growth? evidence from the OECD countries', *Journal of Economic Geography*, 11(4), pp. 619–643. Available at: doi:10.1093/jeg/lbq025.

Rodríguez-Pose, A. and Gill, N. (2003) 'The global trend towards devolution and its implications', *Environment and Planning C: Government and Policy*, 21(3), pp. 333–351. Available at: doi:10.1068/c0235.

Rodríguez-Vahos, A., Aparicio, S. and Urbano, D. (2024) 'Business acceleration program as city sowers: assessing public funding's impact on new ventures in an emerging economy', *Journal of Entrepreneurship in Emerging Economies*, 17(7), pp. 97–126. Available at: doi:10.1108/JEEE-08-2023-0333.

Rotter, J.B. (1966) 'Generalized expectancies for internal versus external control of reinforcement', *Psychological Monographs: General and Applied*, 80(1), pp. 1–28. Available at: doi:10.1037/h0092976.

Rutherford, M.W. *et al.* (2016) 'Proposing a financial legitimacy threshold in emerging ventures: a multi-method investigation', *Group & Organization Management*, 41(6), pp. 751–785. Available at: doi:10.1177/1059601116669632.

Rypestøl, J.O., Martin, R. and Kyllingstad, N. (2022) 'New regional industrial path development and innovation networks in times of economic crisis', *Industry and Innovation*, 29(7), pp. 879–898. Available at: doi:10.1080/13662716.2022.2082271.

Sarasvathy, S.D. (2001) 'Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency', *The Academy of Management Review*, 26(2), p. 243. Available at: doi:10.2307/259121.

Sarri, K.K. (2011) 'Mentoring female entrepreneurs: a mentors' training intervention evaluation', *Journal of European Industrial Training*, 35(7), pp. 721–741. Available at: doi:10.1108/03090591111160814.

Sayer, R.A. (2000) *Realism and social science*. London ; Thousand Oaks, Calif: Sage.

Scott, W.R. (2014) *Institutions and organizations: ideas, interests and identities*. Fourth edition. Los Angeles London New Delhi Singapore Washington DC: Sage.

Shaw, E., Wilson, J. and Pret, T. (2017) 'The process of embedding a small firm in its industrial context', *International Small Business Journal: Researching Entrepreneurship*, 35(3), pp. 219–243. Available at: doi:10.1177/0266242616671170.

Shetty, S., Sundaram, R. and Achuthan, K. (2020) 'Assessing and comparing top accelerators in Brazil, India, and the USA: through the lens of new ventures' performance', *Entrepreneurial Business and Economics Review*, 8(2), pp. 153–177. Available at: doi:10.15678/EBER.2020.080209.

Sirmon, D.G., Hitt, M.A. and Ireland, R.D. (2007) 'Managing firm resources in dynamic environments to create value: looking inside the black box', *Academy of Management Review*, 32(1), pp. 273–292. Available at: doi:10.5465/amr.2007.23466005.

Smith, D.J. and Zhang, M. (2012) 'Introduction: the evolution of the incubator concept', *The International Journal of Entrepreneurship and Innovation*, 13(4), pp. 227–234. Available at: doi:10.5367/ijei.2012.0096.

Spigel, B. (2017) 'The relational organization of entrepreneurial ecosystems', *Entrepreneurship Theory and Practice*, 41(1), pp. 49–72. Available at: doi:10.1111/etap.12167.

Spigel, B., Khalid, F. and Wolfe, D. (2022) 'Alacrity: a new model for venture acceleration', *International Entrepreneurship and Management Journal*, 19(1), pp. 237–259. Available at: doi:10.1007/s11365-022-00817-2.

Stake, R.E. (2010) *The art of case study research*. Nachdr. Thousand Oaks, Calif.: Sage Publ.

Stam, E. (2015) 'Entrepreneurial ecosystems and regional policy: a sympathetic critique', *European Planning Studies*, 23(9), pp. 1759–1769. Available at: doi:10.1080/09654313.2015.1061484.

Starr, J.A. and MacMillan, I.C. (1990) 'Resource cooptation via social contracting: resource acquisition strategies for new ventures', *Strategic Management Journal*, 11, pp. 79–92.

St-Jean, E. and Audet, J. (2013) 'The effect of mentor intervention style in novice entrepreneur mentoring relationships', *Mentoring & Tutoring: Partnership in Learning*, 21(1), pp. 96–119. Available at: doi:10.1080/13611267.2013.784061.

Stuart, T.E. and Sorenson, O. (2005) 'Social networks and entrepreneurship', in S.A. Alvarez, R. Agarwal, and O. Sorenson (eds) *Handbook of Entrepreneurship Research*. Boston, MA: Springer US, pp. 233–252. Available at: doi:10.1007/0-387-23622-8_11.

Suchman, M.C. (1995) 'Managing legitimacy: strategic and institutional approaches', *The Academy of Management Review*, 20(3), p. 571. Available at: doi:10.2307/258788.

Suddaby, R., Hardy, C. and Huy, Q.N. (2011) 'Introduction to special topic forum: Where are the new theories of organization?', *Academy of Management Review*, 36(2), pp. 236–246. Available at: doi:10.5465/amr.36.2.zok236.

Teddlie, C. and Tashakkori, A. (2009) *Foundations of mixed methods research: integrating quantitative and qualitative approaches in the social and behavioral sciences*. Los Angeles: SAGE.

Teece, D.J., Pisano, G. and Shuen, A. (1997) 'Dynamic capabilities and strategic management', *Strategic Management Journal*, 18(7), pp. 509–533.

Tees Business (2024a) 'How Tees Valley Combined Authority schemes are supercharging local businesses', 20 December. Available at: https://teesbusiness.co.uk/2024/12/20/how-tees-valley-combined-authority-schemes-are-supercharging-local-businesses/.

Tees Business (2024b) 'How Tees Valley Labs is supercharging the growth of innovative businesses', 2 October. Available at: https://teesbusiness.co.uk/2024/10/02/how-tees-valley-labs-is-supercharging-the-growth-of-innovative-businesses/.

Tees Valley Combined Authority (2016) *Tees Valley Strategic Economic Plan 2016-2026*. Tees Valley, UK: Tees Valley Combined Authority. Available at: https://teesvalley-ca.gov.uk/about/tees-valleys-strategic-economic-plan/.

Tees Valley Combined Authority (2019a) *Tees Valley Investment Plan 2019-2029*. Tees Valley, UK: Tees Valley Combined Authority. Available at: https://teesvalley-ca.gov.uk/about/tees-valley-investment-plan/.

Tees Valley Combined Authority (2019b) *Tees Valley Local Industrial Strategy*. Tees Valley, UK: Tees Valley Combined Authority. Available at: https://teesvalley-ca.gov.uk/about/wp-content/uploads/sites/2/2023/03/10b-Appendix-2-Draft-Tees-Valley-Local-Industrial-Strategy.pdf.

Tees Valley Combined Authority (2022a) *Tees Valley Economic Assessment 2022*. Tees Valley, UK: Tees Valley Combined Authority. Available at: https://teesvalley-ca.gov.uk/business/market-intelligence/tees-valley-economic-assessment/.

Tees Valley Combined Authority (2022b) *Tees Valley Employment and Skills Strategy*. Tees Valley, UK: Tees Valley Combined Authority.

Tees Valley Combined Authority (2024a) *Adult Skills Fund*. Available at: https://teesvalley-ca.gov.uk/work/skills-support/skills-support-for-adults/adult-education/.

Tees Valley Combined Authority (2024b) 'Constitution of the Tees Valley Mayoral Combined Authority'. Tees Valley Combined Authority. Available at: https://teesvalley-ca.gov.uk/about/transparency-policy-procedures/transparency/tvca-constitution/.

Teesside University (2023) *Annual Report and Financial Statements 2022/23*. Middlesbrough, UK: Teesside University. Available at: https://www.tees.ac.uk/sections/about/public_information/financial_information.cfm (Accessed: 1 March 2024).

Tepliuk, M. and Shapran, O. (2022) 'The essence of the business accelerator as a driving trigger of entrepreneurship development', in *Scientific practice: modern and classical research methods. III International Scientific and Practical Conference*, Boston, USA, pp. 12–14. Available at: doi:10.36074/logos-16.09.2022.02.

Thomas, G. and Morgan, L. (2024) *Building the economy: Is the Welsh Government delivering on fair work, sustainability and the economy of the future?* Senedd Research, Welsh Parliament. Available at: https://research.senedd.wales/research-articles/building-the-economy-is-the-welsh-government-delivering-on-fair-work-sustainability-and-the-economy-of-the-future/.

Tödtling, F. and Trippl, M. (2005) 'One size fits all?', *Research Policy*, 34(8), pp. 1203–1219. Available at: doi:10.1016/j.respol.2005.01.018.

Torrance, D. (2024) *Introduction to devolution in the United Kingdom*. CBP 8599. House of Commons Library, p. 58. Available at: https://researchbriefings.files.parliament.uk/documents/CBP-8599/CBP-8599.pdf.

Tracey, P., Dalpiaz, E. and Phillips, N. (2018) 'Fish out of water: translation, legitimation, and new venture creation', *Academy of Management Journal*, 61(5), pp. 1627–1666. Available at: doi:10.5465/amj.2015.0264.

Transport for Wales (2020a) *Lab by Transport for Wales: innovation as a driver for the transformation of Wales' rail network*, *Transport for Wales News*. Available at: https://news.tfw.wales/news/lab-by-transport-for-wales-innovation-as-a-driver-for-the-transformation-of-wales-rail-network.

Transport for Wales (2020b) *Lab by Transport for Wales to showcase innovation and tech talent*, *Transport for Wales News*. Available at: https://news.tfw.wales/news/lab-by-transport-for-wales-to-showcase-innovation-and-tech-talent.

Transport for Wales (2021a) *Applications now open for Lab by Transport for Wales innovation programme*. Available at: https://news.tfw.wales/news/applications-now-open-for-lab-by-transport-for-wales-innovation-programme.

Transport for Wales (2021b) *TfW Labs*, *Transport for Wales*. Available at: https://tfw.wales/sites/default/files/2021-12/Labs_eng.pdf.

Transport for Wales (2023) *Annual report*. Cardiff, Wales: Transport for Wales. Available at: https://tfw.wales/about-us/transparency/publications/annual-report-and-financial-statements (Accessed: 1 February 2024).

Transport for Wales (2024) *Lab by Transport for Wales Accelerator*, *Transport for Wales*. Available at: https://tfw.wales/lab/accelerator.

Turcan, R. (2013) 'International new venture legitimation: an exploratory study', *Administrative Sciences*, 3(4), pp. 237–265.

Überbacher, F. (2014) 'Legitimation of new ventures: a review and research programme', *Journal of Management Studies*, 51(4), pp. 667–698.

Überbacher, F., Jacobs, C.D. and Cornelissen, J. (2015) 'How entrepreneurs become skilled cultural operators', *Organization Studies*, 36(7), pp. 925–951. Available at: doi:10.1177/0170840615575190.

Vörös, Z. (2024) 'Effect of the different forms of overconfidence on venture creation: overestimation, overplacement and overprecision', *Journal of Management & Organization*, 30(2), pp. 304–317. Available at: doi:10.1017/jmo.2019.93.

Wales Act 2017 (2017) *UK Public General Acts*. c. 4. London: The Stationery Office. Available at: https://www.legislation.gov.uk/ukpga/2017/4/contents.

Wang, T., Thornhill, S. and Castro, J.O.D. (2017) 'Entrepreneurial orientation, legitimation, and new venture performance', *Strategic Entrepreneurship Journal*, 11(4), pp. 373–392. Available at: doi:10.1002/sej.1246.

Welsh Government (2017) *Prosperity for all: economic action plan*. 978-1-78903-086–0 (Print). Cardiff, Wales: Welsh Government. Available at: https://www.gov.wales/prosperity-all-economic-action-plan.

Welsh Government (2018) *Employability plan*. Cardiff: Welsh Government. Available at: https://www.gov.wales/employability-plan-2018 (Accessed: 29 December 2024).

Welsh Government (2021) *Future Wales: the national plan 2040*. 978-1-80082-873–5. Cardiff, Wales: Welsh Government. Available at: https://www.gov.wales/sites/default/files/publications/2021-02/future-wales-the-national-plan-2040.pdf (Accessed: 1 December 2024).

Welsh Government (2022a) *Business Wales future provision: impact assessment*. Cardiff, Wales: Welsh Government. Available at: https://www.gov.wales/business-wales-future-provision-impact-assessment (Accessed: 1 December 2024).

Welsh Government (2022b) *Stronger, fairer, greener Wales: net zero skills action plan*. Cardiff: Welsh Government. Available at: https://www.gov.wales/net-zero-skills-action-plan (Accessed: 1 December 2024).

Welsh Government (2022c) *Wales innovates: creating a stronger, fairer, greener Wales*. Cardiff: Welsh Government. Available at: https://www.gov.wales/wales-innovates-creating-stronger-fairer-greener-wales-html (Accessed: 1 December 2024).

Williams, C.C. and Nadin, S.J. (2012) 'Tackling entrepreneurship in the informal economy: evaluating the policy options', *Journal of Entrepreneurship and Public Policy*, 1(2), pp. 111–124. Available at: doi:10.1108/20452101211261408.

Xu, Y. and Warner, M.E. (2016) 'Does devolution crowd out development? A spatial analysis of US local government fiscal effort', *Environment and Planning A*, 48(5), pp. 871–890. Available at: doi:10.1177/0308518X15622448.

Yacoub, G. and Haefliger, S. (2022) 'Coworking spaces and collaborative practices', *Organization*, pp. 135050842210740–135050842210740. Available at: doi:10.1177/13505084221074037.

Yi, C. *et al.* (2023) 'Cultivating regional innovation ecosystems in the digital age: case studies of four cites in China', *Science Technology & Society*, 28(2), pp. 191–212. Available at: doi:10.1177/09717218231160425.

Yin, R.K. (2014) *Case study research design and methods*. Sage Publications.

Zimmerman, M.A. and Zeitz, G.J. (2002) 'Beyond survival: achieving new venture growth by building legitimacy', *The Academy of Management Review*, 27(3), p. 414. Available at: doi:10.2307/4134387.

Zucker, L.G. (1987) 'Institutional theories of organization', *Annual Review of Sociology*, 13(1), pp. 443–464.

Zuur, A.F. *et al.* (2009) *Mixed effects models and extensions in ecology with R*. New York, NY: Springer New York (Statistics for Biology and Health). Available at: doi:10.1007/978-0-387-87458-6.

Appendices

Appendix A: Quantitative phase statistical results

This appendix presents the full statistical outputs associated with the quantitative phase of the study. It includes the results of the linear mixed-effects models (LMM) used to address quantitative sub-questions 1 and 2, as well as the simple linear regression model used for quantitative sub-question 3. The outputs are provided in three sections (A.1–A.3), corresponding to the respective sub-questions. These materials support the analysis in the quantitative phase and are included here in full to enable transparency, allow replication, and offer further context for the findings discussed in the main text.

A.1 Results for QNT.Q1

This section presents the full output from the linear mixed-effects model used to explore QNT.Q1, which examined regional variation in new venture creation across devolved areas over time. The model includes *Year* as a fixed effect to account for longitudinal trends in the data. As a result, the intercept value appears large in magnitude, but this is a product of the model specification and is not intended to carry standalone interpretive meaning.

Case Processing Summary

		Count	Marginal Percentage
DevolvedArea	Cambridgeshire and Peterborough	21	6.3%
	East Midlands	21	6.3%
	Greater London	21	6.3%
	Greater Manchester	21	6.3%
	Liverpool City Region	21	6.3%
	Non-devolved	21	6.3%
	North East	21	6.3%
	Northern Ireland	21	6.3%
	Scotland	21	6.3%
	South Yorkshire	21	6.3%
	Tees Valley	21	6.3%
	Wales	21	6.3%
	West Midlands	21	6.3%
	West of England	21	6.3%
	West Yorkshire	21	6.3%
	York and North Yorkshire	21	6.3%
Valid		336	100.0%
Excluded		0	
Total		336	

Descriptive Statistics

DevolvedArea		Count	Mean	Standard Deviation	Coefficient of Variation
Cambridgeshire and Peterborough	NewCosPer1000	21	1.556873954908780	1.012419635377034	65.0%
	Year	21	2011.00	6.205	0.3%
East Midlands	NewCosPer1000	21	1.010765393545106	.631595526904346	62.5%
	Year	21	2011.00	6.205	0.3%
Greater London	NewCosPer1000	21	3.278432175373450	2.406443055326847	73.4%
	Year	21	2011.00	6.205	0.3%
Greater Manchester	NewCosPer1000	21	2.255730133397324	1.783207386424525	79.1%
	Year	21	2011.00	6.205	0.3%
Liverpool City Region	NewCosPer1000	21	1.033046036562497	.721112927468286	69.8%
	Year	21	2011.00	6.205	0.3%
Non-devolved	NewCosPer1000	21	1.389163294357835	.822060450764455	59.2%
	Year	21	2011.00	6.205	0.3%
North East	NewCosPer1000	21	.752609037190807	.541100387468361	71.9%
	Year	21	2011.00	6.205	0.3%
Northern Ireland	NewCosPer1000	21	.373083059338574	.188353881733981	50.5%
	Year	21	2011.00	6.205	0.3%
Scotland	NewCosPer1000	21	1.187678701117025	.734842735612382	61.9%
	Year	21	2011.00	6.205	0.3%
South Yorkshire	NewCosPer1000	21	1.401364813269173	.905075905518143	64.6%
	Year	21	2011.00	6.205	0.3%
Tees Valley	NewCosPer1000	21	.763233487397076	.641580040030157	84.1%
	Year	21	2011.00	6.205	0.3%
Wales	NewCosPer1000	21	.380521181082880	.239026857431127	62.8%
	Year	21	2011.00	6.205	0.3%
West Midlands	NewCosPer1000	21	2.320827415863432	1.891919298836748	81.5%
	Year	21	2011.00	6.205	0.3%
West of England	NewCosPer1000	21	1.664290077531323	.864239568903176	51.9%
	Year	21	2011.00	6.205	0.3%
West Yorkshire	NewCosPer1000	21	1.339957509607153	.956329068790200	71.4%
	Year	21	2011.00	6.205	0.3%
York and North Yorkshire	NewCosPer1000	21	.268654357442141	.148754725825503	55.4%
	Year	21	2011.00	6.205	0.3%
Total	NewCosPer1000	336	1.311014414249036	1.318071499414532	100.5%
	Year	336	2011.00	6.064	0.3%

Model Dimension[a]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables
Fixed Effects	Intercept	1		1	
	Year	1		1	
Random Effects	Intercept	1	Variance Components	1	DevolvedArea
Residual				1	
Total		3		4	

a. Dependent Variable: NewCosPer1000.

Information Criteria[a]

-2 Restricted Log Likelihood	771.55189081
Akaike's Information Criterion (AIC)	775.55189081
Hurvich and Tsai's Criterion (AICC)	775.58814458
Bozdogan's Criterion (CAIC)	785.17417279
Schwarz's Bayesian Criterion (BIC)	783.17417279

The information criteria are displayed in smaller-is-better form.

a. Dependent Variable: NewCosPer1000.

Coefficients of Determination

Pseudo-R Square Measures	Marginal	.379
	Conditional	.727

Intraclass Correlation Coefficients

Overall ICCs	Adjusted	.560
	Conditional	.348

Fixed Effects

Type III Tests of Fixed Effects[a]

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	319.160	459.570	<.001
Year	1	319.000	464.150	<.001

a. Dependent Variable: NewCosPer1000.

Estimates of Fixed Effects[a]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Intercept	-270.655	12.625	319.160	-21.438	<.001	-295.495	-245.816
Year	.135	.006	319.000	21.544	<.001	.123	.148

a. Dependent Variable: NewCosPer1000.

Correlation Matrix for Estimates of Fixed Effects[a]

Parameter	Intercept	Year
Intercept	1	-1.000
Year	-1.000	1

a. Dependent Variable: NewCosPer1000.

Covariance Matrix for Estimates of Fixed Effects[a]

Parameter	Intercept	Year
Intercept	159.397	-.079
Year	-.079	3.940E-5

a. Dependent Variable: NewCosPer1000.

Covariance Parameters

Estimates of Covariance Parameters[a]

Parameter		Estimate	Std. Error	Wald Z	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Residual		.485	.038	12.629	<.001	.416	.567
Intercept [subject = DevolvedArea]	Variance	.618	.234	2.640	.008	.294	1.298

a. Dependent Variable: NewCosPer1000.

Correlation Matrix for Estimates of Covariance Parameters[a]

Parameter		Residual	Intercept [subject = DevolvedArea] Variance
Residual		1	-.008
Intercept [subject = DevolvedArea]	Variance	-.008	1

a. Dependent Variable: NewCosPer1000.

Covariance Matrix for Estimates of Covariance Parameters[a]

Parameter		Residual	Intercept [subject = DevolvedArea] Variance
Residual		.001	-7.036E-5
Intercept [subject = DevolvedArea]	Variance	-7.036E-5	.055

a. Dependent Variable: NewCosPer1000.

Random Effect Covariance Structure (G)[a]

	Intercept | DevolvedArea
Intercept | DevolvedArea	.618

Variance Components

a. Dependent Variable: NewCosPer1000.

Residual Covariance (R) Matrix[a]

	Residual
Residual	.485

a. Dependent Variable: NewCosPer1000.

A.2 Results for QNT.Q2

This section presents the model output for QNT.Q2, which explored the relationship between policy support and new venture creation over time. A linear mixed-effects model was used, incorporating both *Year* and a composite policy variable as fixed effects. As in QNT.Q1, the intercept arises from how the model is specified and is not intended to carry standalone interpretive meaning.

Mixed Model Analysis

Model Dimension[a]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables
Fixed Effects	Intercept	1		1	
	Year	1		1	
	Dev_Composite	1		1	
Random Effects	Intercept	1	Variance Components	1	DevolvedArea
Residual				1	
Total		4		5	

a. Dependent Variable: NewCosPer1000.

Information Criteria[a]

-2 Restricted Log Likelihood	735.46278977
Akaike's Information Criterion (AIC)	739.46278977
Hurvich and Tsai's Criterion (AICC)	739.49915341
Bozdogan's Criterion (CAIC)	749.07907475
Schwarz's Bayesian Criterion (BIC)	747.07907475

The information criteria are displayed in smaller-is-better form.

a. Dependent Variable: NewCosPer1000.

Coefficients of Determination

Pseudo-R Square Measures	Marginal	.426
	Conditional	.761

Intraclass Correlation Coefficients

Overall ICCs	Adjusted	.584
	Conditional	.335

Fixed Effects

Type III Tests of Fixed Effects[a]

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	323.887	151.295	<.001
Year	1	323.831	152.466	<.001
Dev_Composite	1	328.920	43.761	<.001

a. Dependent Variable: NewCosPer1000.

Covariance Parameters

Estimates of Covariance Parameters[a]

Parameter		Estimate	Std. Error
Residual		.429	.034
Intercept [subject = DevolvedArea]	Variance	.601	.227

a. Dependent Variable: NewCosPer1000.

A.3 Results for QNT.Q3

This section presents the output of a simple linear regression model used to examine associations between accelerator presence, policy support, and new venture creation. The model was cross-sectional and used data from 2021.

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Dev_Composite, Num_Accelerators[b]	.	Enter

a. Dependent Variable: NewCosPer1000

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.667[a]	.444	.359	1.737054	2.112

a. Predictors: (Constant), Dev_Composite, Num_Accelerators

b. Dependent Variable: NewCosPer1000

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.382	2	15.691	5.200	.022[b]
	Residual	39.226	13	3.017		
	Total	70.608	15			

a. Dependent Variable: NewCosPer1000

b. Predictors: (Constant), Dev_Composite, Num_Accelerators

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.899	.849		2.236	.044	.064	3.734		
	Num_Accelerators	.038	.013	.629	3.035	.010	.011	.065	.994	1.006
	Dev_Composite	.157	.184	.177	.856	.408	-.240	.555	.994	1.006

a. Dependent Variable: NewCosPer1000

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Num_Accelerators	Dev_Composite
1	1	2.180	1.000	.05	.08	.05
	2	.674	1.799	.04	.91	.05
	3	.146	3.865	.92	.01	.90

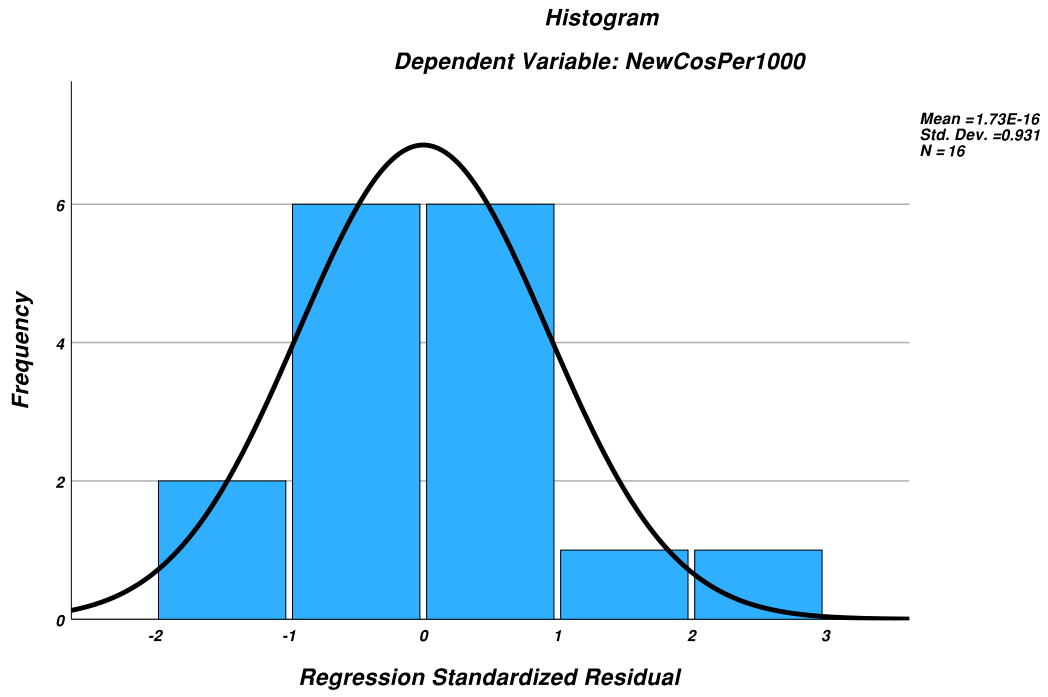
a. Dependent Variable: NewCosPer1000

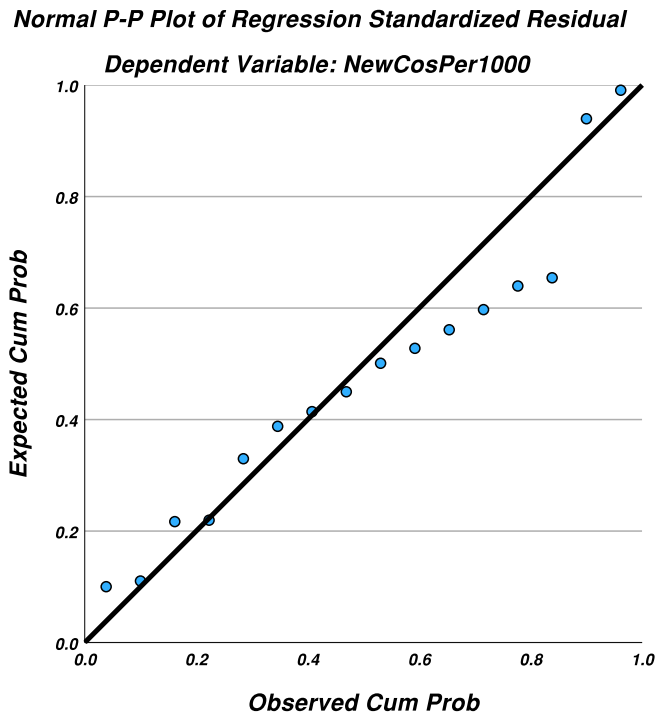
Residuals Statistics[a]

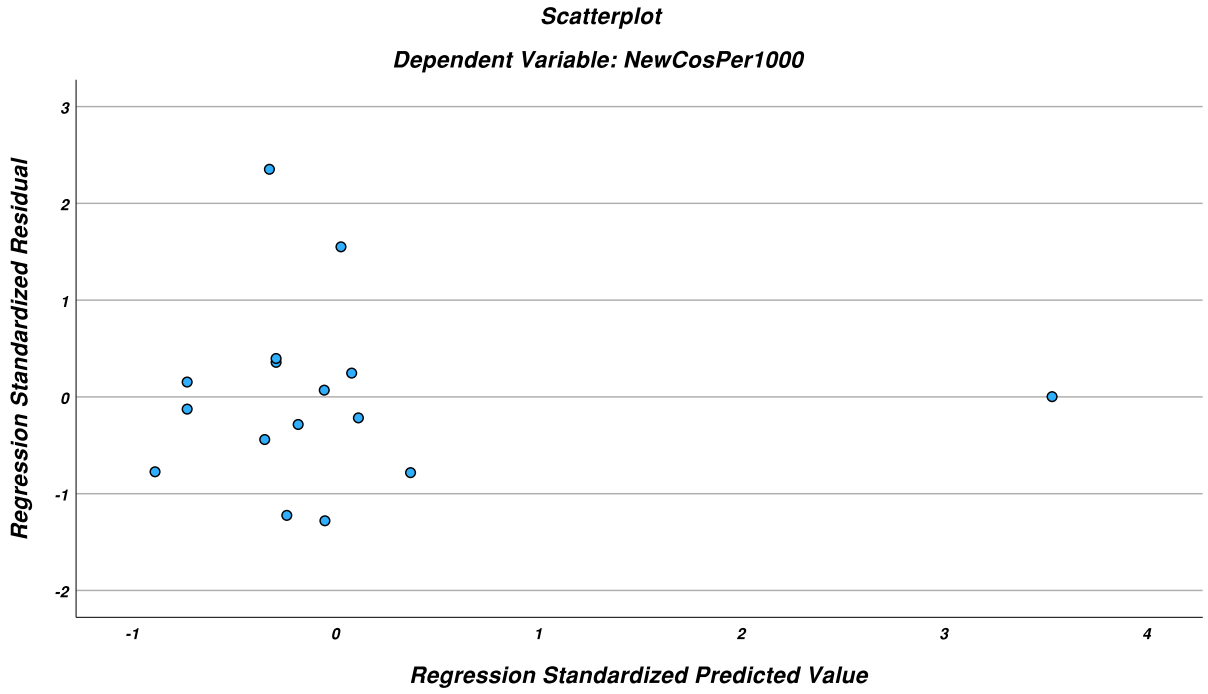
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.89908	8.29683	3.18413	1.446425	16
Residual	-2.223689	4.086190	.000000	1.617109	16
Std. Predicted Value	-.888	3.535	.000	1.000	16
Std. Residual	-1.280	2.352	.000	.931	16

a. Dependent Variable: NewCosPer1000

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: NewCosPer1000
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: NewCosPer1000
Regression Standardized Residual
Regression Standardized Predicted Value
3
2
1
0
-1
-2
-1
0
1
2
3
4

Appendix B: Ethics forms

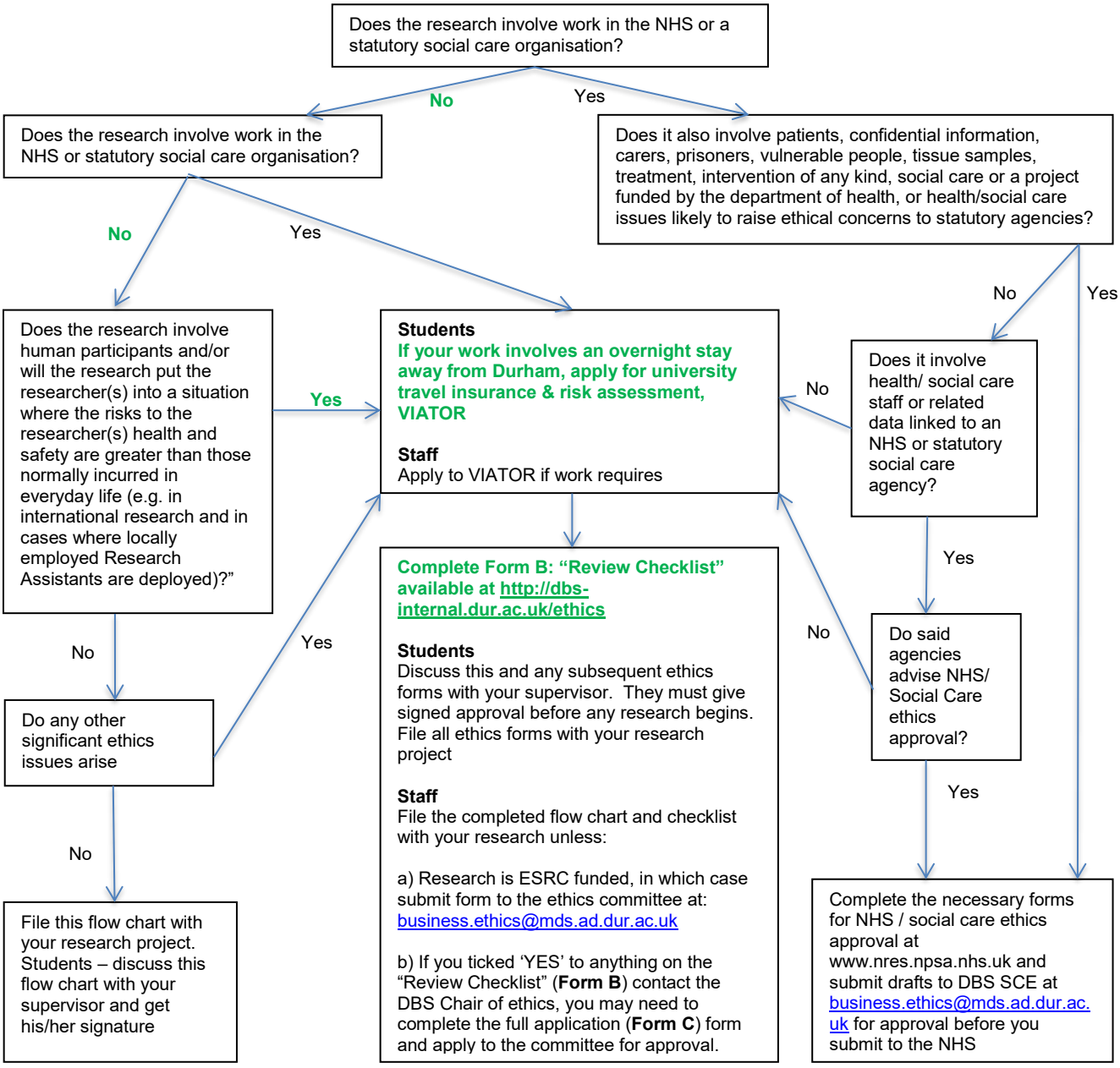
Durham University Business School

BETTER BUSINESS THINKING

ETHICS FORM 'A' – Process flow chart for students & staff

Title of Project: **How do Business Incubators and Accelerators Affect the Legitimation of New Ventures?**

Name of Principal Researcher or Student: **Kieran Purvis**



☐ X

Tick one box only

Signature of Principal Researcher or Supervisor:

ETHICS **FORM B**: REVIEW CHECKLIST

"DUBS SCE" refers to Durham University Business School's Sub-Committee for Ethics throughout.

This checklist should be completed for every research project that involves human participants. It should also be completed for all ESRC funded research, once funding has been obtained. It is used for approval or to identify whether a full application for ethics approval needs to be submitted.

Before completing this form, please refer to the University's "Ensuring Sound Conduct in Research" available at http://dbs-internal.dur.ac.uk/ethics/default.aspx – all researchers should read Sections A, B and F; Principal Investigators should also read Section D. The researcher and, where the researcher is a student, the student and supervisor are responsible for exercising appropriate professional judgement in this review.

This checklist must be completed before potential participants are approached to take part in any research.

Section I: Project Details

1. Project title: **How do Business Incubators and Accelerators Affect the Legitimation of New Ventures?**

2. Start date: 1/10/2017 Expected End date: 1/10/2019

Section II: Applicant Details

3. Name of researcher (applicant)
Or student: Kieran Purvis

4. Status (please delete those which are not applicable)

Postgraduate Research Student

5. Email address
(staff only): N/A

6. Contact address: DH1 3DY

7. Telephone number :

Section III: For Students Only

8. Programme title: PhD in Business Management

9. Mode (delete as appropriate)

Full Time

10. Supervisor's or module leader's name: Prof. Kiran Fernandes

11. Aims and Objectives: Please state the aims/objectives of the project

To understand how business incubators and accelerators intervene in the successful emergence of new ventures through contributing to the legitimation of those ventures.

12. Methodology: Please describe in brief the methodology of the research project

A multiple case study methodology is used in which the unit of analysis is the program, project or period of incubation through which a given business incubator and given new venture participate.

Each case will involve one or more semi-structured interviews with at least one representative of the new venture and one representative of the business incubator.
Secondary data will also be collected in relation to the participating incubators and new

13. Will data be collected from participants who have not consented to take part in the study e.g. images taken from the internet; participants covertly or overtly viewed in social places?: **No; data will only be collected in relation to participants who have given consent.** If yes, please give further details.

*Does the research take place in a public or private space (be it virtual / physical)? Please explain: -

Explain whether the research is overt or covert: -

Explain how you will verify participants' identities: -

†Explain how informed consent will be obtained: -

*Ethical guidelines (BPS, 2005) note that, *unless consent has been sought, observation of public behaviour takes place only where people would reasonably expect to be observed by strangers.*

†It is advised that interactive spaces such as chat rooms and synchronous and asynchronous forums be treated as private spaces requiring declaration of a research interest and consent.

Additional guidance on internet research can be obtained at:
http://www.bps.org.uk/sites/default/files/documents/conducting_research_on_the_internet-guidelines_for_ethical_practice_in_psychological_research_online.pdf

14. Risk assessment: If the research will put the researcher(s) into a situation where risks to the researcher(s)' health and safety are greater than those normally incurred in everyday life, please indicate what the risks are and how they will be mitigated. (Please note that this also includes risks to the researcher(s)' health and safety in cases of international research and in cases where locally employed Research Assistants are deployed).

Research which will take place outside the UK requires specific comment. (Note that research outside the UK is not automatically covered by the University's insurance. See the DUBS intranet site (http://dbs-internal.dur.ac.uk/ethics/default.aspx) for further details).

N/A

For student research the supervisor should tick the following, as appropriate. The study should not begin until all appropriate boxes are ticked:

☒ The topic merits further research

☒ The participant information sheet or leaflet is appropriate (where applicable)

☒ The procedures for recruitment and obtaining informed consent are appropriate (where applicable)

Comments from supervisor:

Section IV: Research Checklist

Research that may need to be reviewed by NHS NRES Committee or an external Ethics Committee (if yes, please give brief details as an annex)	YES	NO
1 Will the study involve recruitment of patients or staff through the NHS or the use of NHS data or premises and / or equipment?[1]	☐	X
2 Does the study involve participants age 16 or over who are unable to give informed consent? (e.g. people with learning disabilities: see Mental Capacity Act (MCA) 2005).	☐	X

Footnotes

[1] Research in the NHS may be classified as "service evaluation" and, if so, does not require NHS research ethics approval. In such cases, prior written confirmation that the research is considered to be service evaluation is required from the appropriate authority, and on receipt of this the "No" box may be ticked and this form used for ethics approval. Advice and assistance is available from **business.ethics@mds.ad.dur.ac.uk**

Please note: - That with regard to 1 and 2 on the previous page, all research that falls under the auspices of MCA must be reviewed by NHS NRES.

Research that may need a full review by Durham University Business School Sub –Committee for Ethics (DBS SCE)

3	Does the study involve other vulnerable groups: children, those with cognitive impairment, or those in unequal relationship e.g. your own students? [2]	☐	X
4	Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited? (e.g. students at school, members of a self-help group, residents of a Nursing home) [3]	☐	X
5	Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g. deception, covert observation of people in non-public places)	☐	X
6	Will the study involve discussion of sensitive topics? (e.g. sexual activity, drug use)	☐	X
7	Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind?	☐	X

Research that may need a full review by Durham University Business School Sub –
Committee for Ethics (DBS SCE) (continued)

8	Will tissue samples (including blood) be obtained from participants?	☐	X
9	Is pain or more than mild discomfort likely to result from the study?	☐	X

Footnotes

[1] Research in the NHS may be classified as "service evaluation" and, if so, does not require NHS research ethics approval. In such cases, prior written confirmation that the research is considered to be service evaluation is required from the appropriate authority, and on receipt of this the "No" box may be ticked and this form used for ethics approval. Advice and assistance is available from **business.ethics@mds.ad.dur.ac.uk**

[2] Vulnerable persons are defined for these purposes as those who are legally incompetent to give informed consent (i.e. those under the age of 16, although it is also good practice to obtain permission from all participants under the age of 18 together with the assent of their parents or guardians), or those with a mental illness or intellectual disability sufficient to prevent them from giving informed consent), or those who are physically incapable of giving informed consent, or in situations where participants may be under some degree of influence (e.g. your own students or those recruited via a gatekeeper - see footnote 3). Where students are perfectly able to choose to be involved and to give informed consent then, so long as there is no impact on assessment, the "No" box may be ticked.

[3] This applies only where the recruitment of participants is via a gatekeeper, thus giving rise to particular ethical issues in relation to willing participation and influence on informed consent decisions particularly for vulnerable individuals. It does *not* relate to situations where contact with individuals is established via a manager but participants are willing and able to give informed consent. In such cases, the answer to this question should be "No."

		YES	NO
10	Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?		x
11	Will the study involve prolonged or repetitive testing?		x
12	Will the research involve administrative or secure data that requires permission from the appropriate authorities before use?		x
13	Does the research involve members of the public in a research capacity (participant research)?		x
14	Will the research involve respondents to the internet or other visual / vocal methods where methods are covert, intrude into privacy without consent, or require observational methods in spaces where people would not reasonably expect to be observed by strangers?[4]		x
15	Will the research involve the sharing of data or confidential information beyond the initial consent given?		x
16	Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants? [5]		x

Section V: What to do next

If you have answered '**No'** to all of the questions:
Undergraduate and Postgraduate taught students should discuss this with their supervisor, obtain his or her signature and submit it with their business project or dissertation.
DBA / MPhil / PhD students should discuss this with their supervisor, obtain his or her signature and submit it as part of the transfer / 9 month review process and with their thesis.
Work that is submitted without the appropriate ethics form may be returned un-assessed.
Members of staff should retain a copy for their records, but may submit the form for approval by DUBS SCE if they require approval from funding bodies such as ESRC. *In such cases, the letter of invitation to participate, Participant Information Sheet, Consent Form and, where appropriate, the access agreement should also be submitted with this form.*
Please note that DBS SCE may request sight of any form for monitoring or audit purposes.

If you have answered '**Yes**' to any of the questions in Section IV, you will need to describe more fully how you plan to deal with the ethical issues raised by your research. This does not mean that you cannot do the research, only that your proposal will need to be approved by the DUBS SCE.

Contact the Chair of the DUBS SCE in the first instance to discuss how to proceed. You may need to submit your plans for addressing the ethical issues raised by your proposal using the ethics approval application form REAF, which should be sent to the committee at **business.ethics@mds.ad.dur.ac.uk**.

(Continued overleaf)

Footnotes

[4] This does not include surveys using the internet providing that the respondent is identifiable only at their own discretion.

[5] In experiments in economics and psychology in particular it is common to pay participants. Provided such payments are within the normal parameters of the discipline, the answer to this question should be "No."

(Form REAF can be obtained from the School Intranet site at **http://dbs-internal.dur.ac.uk/Pages/Default.aspx** or using the student / visitor access:-

http://dbs-internal.dur.ac.uk/ethics

Username: **dubs\ethicsvisitors**
Password: **durham**

If you answered 'yes' to Questions 1 or 2 in Section IV, you will also have to submit an application to the appropriate external health authority ethics committee, but only **after** you have received approval from the DUBS SCE. In such circumstances complete the appropriate **external** paperwork and submit this for review by the DUBS SCE to **business.ethics@mds.ad.dur.ac.uk**.

Please note that whatever answers you have given above, it is your responsibility to follow the University's "Ensuring Sound Conduct in Research" and any relevant academic or professional guidelines in the conduct of your study. **This includes providing appropriate participant information sheets and consent forms, abiding by the Data Protection Act and ensuring confidentiality in the storage and use of data.**

Any significant change in research question, design or conduct over the course of the research project should result in a review of research ethics issues using the "Process Flow Chart for Students and Staff Undertaking Research" and completing a new version of this checklist if necessary.

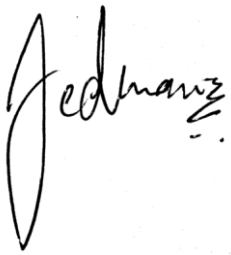
Declaration

Signed

(staff only, students insert anonymous code): ……

Date: …9/6/2018……

Student / Principal Investigator



Signed: ……
……

Date: ……9/6/2018……

Supervisor or module leader (where appropriate)