

A Cross-National Qualitative Study on How Incubation Hubs in Norway and South Africa Enable Customer-Centric Innovation in Startups.

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Abstract

This study explores how incubation hubs promote customer-centric innovation in startups, comparing ecosystems in Norway and South Africa. Despite the global focus on customer-centricity as a key factor in startup success, a significant gap remains in understanding how national contexts influence incubation support for this approach. Using a qualitative, interpretivist framework, the research gathered detailed empirical data through 23 semi-structured interviews with startup founders, incubation managers, and other ecosystem players from both countries. The data was analysed using reflexive thematic analysis.

The findings reveal a fundamental dichotomy in incubation models, conceptualised in Norway versus South Africa. In the stable, well-funded Norwegian ecosystem, hubs act as conductors, providing curated network access and fostering a methodological push for customer validation. Conversely, in the resource-constrained South African context, incubation hubs must actively intervene by providing foundational infrastructure and conducting direct, de-risked market testing to overcome systemic barriers. A key emerging finding is the identification of a survivalist cognitive framework among South African entrepreneurs, which prioritises immediate, small-scale opportunities over long-term, scalable, customer-centric strategies, thereby creating a cycle of precarity that hubs must also address.

The study concludes that the national innovation ecosystem casts a decisive shadow, determining not only the resources available but also the fundamental logic and challenges of incubation support. The research contributes to theory by proposing a novel comparative framework of incubation models and introducing the concept of the survival mindset as a key cultural-cognitive barrier in emerging economies. For practitioners and policymakers, it underscores that practical incubation cannot be a one-size-fits-all import. However, it must be consciously designed to address specific ecosystemic constraints, including the need for patient capital, practitioner-led management, and strategies to overcome deeply ingrained survivalist mindsets.

Keywords : Customer-Centric Innovation, Incubation Hubs, Startup Ecosystems, Cross-National Study, Norway, South Africa, Qualitative Research, Survival mentality.

Plagiarism Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Gugulethu Moyo

Date

List of Tables

Table 1: Comparative Resource Availability in Norway and South Africa

Table 2: Comparative Policy Support in Norway and South Africa

Table 3: Comparative Innovation Culture in Norway and South Africa

Table 4: Interview Themes, Supporting Literature, and Sample Questions

Table 5: Comprehensive Participant Profile

Table 6: The Orchestration-Intervention Dichotomy in Incubation Practices

Table 7: The Ecosystem's Shadow Framework

List of Figures

Figure 1: Comparative Visual Representation of Incubation Models in Norway & South Africa

List of acronyms and abbreviations

CCI - Customer-Centric Innovation

RBV - Resource-Based View

VRIN - Valuable, Rare, Inimitable, Non-substitutable

VRIO - Valuable, Rare, Inimitable, Organised

B2B- Business to Business

Table of Contents

Abstract	ii
Plagiarism Declaration	iii
List of Tables	iv
List of Figures	iv
List of acronyms and abbreviations	iv
Chapter 1: Introduction to the Research Problem.	1
1.1 Introduction and Nature of the Study	1
1.2 Background and rationale	2
1.3 Research Problem	3
1.4 Purpose Statement	4
1.5 Study Objectives	4
1.6 Research Questions	5
1.7 Contribution of the study to the body of knowledge.	5
1.8 Chapter Outline	6
Chapter 2: Literature Review.	8
2.1 Introduction	8
2.2 The Resource-Based View as Theoretical Lens	10
2.3 Operationalising the Resource-Based View through Innovation Practices	12
2.4 Incubation Hubs in Entrepreneurial Ecosystems	14
2.5 Customer-Centric Innovation	16
2.6 Comparative Perspectives from Norway and South Africa on Enabling Customer-Centric Innovation	20
2.6.1 Resource Availability and Its Impact on Customer-Centric Innovation	20
2.6.2 Policy Support and Institutional Frameworks	21
2.7 Identified Gaps in the Literature	23
2.8 Conclusion	24
Chapter 3	26
3.1 Introduction	26
3.2 Rationale for Research Questions	26
3.3 Research Questions	26
3.4 Connection to Theoretical Framework	27
3.5 Conclusion	27

Chapter 4 Research Methodology	29
4.1 Choice of Methodology	29
4.2 Research Methodology and Design	29
4.3 Research Strategy	30
4.4 Time Horizon.....	31
4.5 Population	31
4.6 Unit of Analysis.....	32
4.7 Sampling Method and Size	32
4.8 Measurement Instrument	33
4.9 Data Gathering Process.....	34
4.10 Analysis Approach	35
4.11 Quality Controls.....	36
4.12 Ethical Considerations	37
4.13 Limitations	38
Chapter 5: Presentation of Findings	39
5.1 Introduction.....	39
5.2 Methodological Reflection and Analytical Approach	39
5.3 Participant Demographics	41
5.4 Incubation Mechanisms Promoting Customer-Centric Innovation.....	42
5.4.1 Orchestration for Market Integration	43
5.5 Engagement and Leverage of Incubation Mechanisms by Startups.....	53
5.5.1 Engagement and Leverage of Incubation Mechanisms by Startups.....	53
5.5.2 South Africa: Adaptive Engagement in Resource-Constrained Environments	56
5.6 Challenges in Implementing Customer-Centric Innovation.....	59
5.6.1 Norway: Navigating the Paradoxes of an Advanced Ecosystem	59
5.6.2 South Africa: Overcoming Foundational Constraints.....	61
5.7 Summary of Key Findings (Researcher Interpretation)	65
Chapter 6: Discussion of Results	68
6.1 Introduction.....	68
6.2 Discussion of Research Question 1: Incubation Mechanisms for Customer-Centric Innovation	68
6.2.1 Contextualising Resource-Based View Through Thematic Evidence	69
6.2.2 Extending the Resource-Based View: From Static Resources to Dynamic Creation	73

6.2.3 Lifecycle Alignment and Venture Development Pathways	75
6.3 Discussion of Research Question 2: Startup Engagement with Incubation Mechanisms.....	76
6.3.1 Evolutionary Engagement and Lifecycle-Specific Support in a Stable Ecosystem...	77
6.3.2 Survival Mentality: A Cognitive Adaptation to Ecosystem Precarity	77
6.3.3 Transactional vs. Transformational Engagement Patterns	79
6.4 Discussion of Research Question 3: Challenges in Implementing Customer-Centric Innovation	80
6.4.1 The Sophistication Paradox in Advanced Ecosystems.....	80
6.4.2 Structural Barriers to Market Learning	81
6.4.3 Cultural-Contextual Implementation Challenges.....	82
6.4.4 Foundational Constraints in Emerging Ecosystems.....	83
6.4.5 Market Structure Limitations	85
6.4.6 Support Ecosystem Deficiencies.....	86
6.5 Conclusion	87
Chapter 7: Conclusions and Recommendations.....	89
7.1 Introduction.....	89
7.2 Summary of Research Purpose and Context	89
7.3 Answers to Research Questions.....	90
7.3.1 Research Question 1: Incubation Mechanisms for Customer-Centric Innovation.....	90
7.3.2 Research Question 2: Startup Engagement with Incubation Mechanisms	91
7.3.3 Research Question 3: Challenges in Implementing Customer-Centric Innovation ...	92
7.4 The Ecosystem's Shadow Framework: Extending Resource-Based View Theory.....	92
7.4.1 Context-Dependence of Resource Value.....	92
7.4.2 Entrepreneurial Cognition as a Strategic Resource	93
7.4.3 From Resource Orchestration to Resource Creation.....	93
7.4.4 The Ecosystem's Shadow Framework as Resource-Based View Integration	93
7.4.5 Integrating RBV with Innovation Practices	94
7.5 Practical Implications and Recommendations.....	95
7.5.1 For Incubation Practice	95
7.5.2 For Policymakers and Funders	96
7.5.3 For Entrepreneurs.....	98
7.6 Limitations and Future Research Directions	99
7.7 Conclusion	101

Reference List	103
Appendices	118
APPENDIX A: Consistency Metrix	118
APPENDIX B : Interview Guides	119
APPENDIX C: Ethics clearance letter	121
APPENDIX D: Consent forms	123
APPENDIX E: Sample communications	125
APPENDIX F: Codebooks	126

Chapter 1: Introduction to the Research Problem.

1.1 Introduction and Nature of the Study

Incubation hubs have emerged as essential platforms for entrepreneurial development, offering structured support through mentorship (Máté et al., 2024). These hubs also facilitate access to funding (Braun & Suoranta, 2025). They function as strategic advisors to startups (Kaggwa et al., 2024) and serve as vital connectors to markets (Dhiman & Arora, 2024). Increasingly, incubation hubs are anticipated not only to provide resources but also to cultivate customer-centric innovation (CCI), an approach grounded in customer insights, behaviours, and iterative feedback mechanisms (Tuominen et al., 2023).

Increasingly, incubation hubs are anticipated not only to provide resources but also to cultivate customer-centric innovation (CCI), an approach grounded in customer insights, behaviours, and iterative feedback mechanisms (Stremersch et al, 2025). Although their role in expediting startup growth is broadly recognised, the degree to which incubation hubs empower entrepreneurs to develop and deliver innovations aligned with market demands remains inadequately examined.

This study examines how incubation mechanisms affect the development of customer-focused innovations, based on the lived experiences of entrepreneurs and incubation managers in Norway and South Africa. These two national contexts provide valuable contrasts: Norway is a high-income, innovation-driven economy with strong institutional support (Pettersen et al., 2023), while South Africa is an emerging market shaped by resource limitations, institutional fragmentation, and socio-economic complexity (Mulibana & Tshikovhi, 2024). By analysing these differences, the study aims to discover how incubation hubs can be better designed to support customer-oriented entrepreneurial strategies across diverse ecosystems (Shepherd & Gruber, 2021).

This qualitative study explores the lived experiences of entrepreneurs in incubation hubs in Norway and South Africa, focusing on how these environments support or hinder customer-centric innovation by analysing diverse entrepreneurial journeys across sectors and stages of business development. The research aims to understand how incubation settings influence startups ability to design and deliver solutions that meet evolving consumer expectations.

Adopting a comparative approach, the study explores differences in support systems, entrepreneurial results, and startup engagement with customer insights. These contrasting contexts offer insight for examining how various incubation models shape customer engagement strategies across the different phases of venture development.

1.2 Background and rationale

Startup incubation hubs have become key players in promoting innovation and mitigating risk for early-stage entrepreneurs. Globally, they offer structured support through mentorship, access to funding, strategic guidance, and market connectivity, helping entrepreneurs navigate uncertainty and accelerate venture development (Paoloni & Modaffari, 2022; Stephens & Miller, 2022). Increasingly, customer-centric innovation is expected to go beyond resource provision and actively foster customer insights, behaviours, and feedback into product and service design, thereby driving firm innovativeness and growth (Tuominen et al., 2023; Von Krogh et al., 2024).

However, the extent to which incubators embed customer-centricity into their programmes varies significantly across contexts and remains poorly understood. Institutional and cultural environments play a decisive role in shaping incubation strategies. In Norway, a high-income economy with strong government support for innovation, incubators often adopt design-led and sustainability-focused approaches (Rykkje et al., 2023). In contrast, South African incubators operate within resource-constrained settings, where support mechanisms tend to prioritise necessity-driven entrepreneurship, inclusive development, and localised problem-solving (Schutte & Chauke, 2021; Macca et al., 2025). These contrasting conditions offer a valuable comparative lens for examining how regional dynamics influence the incubation of customer-responsive ventures.

Despite the proliferation of incubators worldwide, much of the existing literature has focused on structural aspects, such as governance frameworks, funding models, and policy instruments, while neglecting the experiential and relational facets of incubation (Donaldson et al., 2025). Limited attention has been given to how entrepreneurs themselves perceive and interact with incubation processes, particularly in relation to customer-centric innovation.

This gap is especially evident in cross-national studies, where comparative insights into how different ecosystems influence entrepreneurial responsiveness remain limited.

Given the increasing scholarly and policy focus on responsible, user-driven innovation (Kurtmollaiev et al., 2022), this study aims to address the identified gap in comparative, micro-level analyses of incubation mechanisms (Shepherd & Gruber, 2021). It does so by exploring how startups in Norway and South Africa experience incubation support in developing consumer-aligned strategies, by highlighting the lived experiences of entrepreneurs and incubation managers (Frechette et al., 2020). The research seeks to generate practical insights to enhance the design of incubation programmes, entrepreneurship policy (Agyemang & Mensah, 2025), and innovation support systems in both developed and emerging market contexts.

1.3 Research Problem

While startup incubation hubs are widely recognised for providing mentorship, funding, and strategic support to early-stage ventures (Agyemang & Mensah, 2025), their effectiveness in enabling customer-centric innovation remains insufficiently understood. Entrepreneurs often struggle to translate customer insights into viable product strategies, even within structured incubation programmes (Tuominen et al., 2023). Although incubators are expected to facilitate such processes, limited research has explored how entrepreneurs experience support for customer-centric innovation within these environments (Bucci & Marks, 2022).

National and economic contexts likely shape the influence of incubation support on customer-centric innovation. In Norway, incubators operate within a stable, innovation-led ecosystem that emphasises sustainability and design thinking (Tavanti, 2023). In contrast, South African incubators navigate more volatile, resource-constrained settings and often prioritise inclusive, necessity-driven entrepreneurship (Schutte & Chauke, 2021). However, comparative research exploring how these contextual differences influence the support entrepreneurs receive in developing customer-focused innovations remains scarce.

This study, therefore, investigates the following research question: How do entrepreneurs in Norway and South Africa experience incubation support in developing customer-centric innovations?

By exploring the lived experiences of incubated entrepreneurs in two contrasting national contexts, this research seeks to generate actionable insights for incubation managers and contribute to a more targeted understanding of how support systems can better facilitate customer-aligned venture development.

1.4 Purpose Statement

The purpose of this study is to explore how strategic guidance provided by incubation hubs in Norway and South Africa influences the development of customer-centric innovations among startups. Building on the identified gap in understanding how entrepreneurs experience incubation support for customer engagement, the research investigates how founders perceive the role of strategic guidance in integrating customer insights into their business models and innovation processes. Examining two contrasting national contexts, Norway's stable, design-led ecosystem and South Africa's resource-constrained, necessity-driven environment, the study aims to uncover how incubation programmes adapt their support to facilitate customer-centricity. It will also identify key challenges entrepreneurs face during the incubation process when applying customer-focused approaches.

Using a qualitative approach, the research will draw on semi-structured interviews with startup founders and incubator staff to generate in-depth, comparative insights into how strategic guidance influences customer engagement practices. The findings will contribute to a more detailed understanding of incubation support mechanisms, with practical implications for incubation managers seeking to enhance customer-oriented venture development across diverse innovation ecosystems.

1.5 Study Objectives

To achieve the aim of this study, the research will pursue the following objectives:

1. To evaluate incubation mechanisms that foster customer-centric innovation in Norway and South Africa, with particular focus on the impact of structured and adaptive incubation strategies on startup success.

2. To investigate how startups engage with and utilise incubation mechanisms in their customer-centric innovation processes, emphasising the challenges they face when applying these strategies within incubation hubs.

Each objective will contribute to a focused analysis of incubation mechanisms, enabling a comparative exploration of structured and adaptive approaches. The study aims to enhance the understanding of how incubation support influences customer-centric innovation in various contexts.

1.6 Research Questions

The following research questions drive this study.

1. What incubation mechanisms promote customer-centric innovation in startups within Norway and South Africa?
2. How do startups engage with and leverage these incubation mechanisms during their customer-centric innovation processes?
3. What challenges do startups encounter when implementing customer-centric innovation strategies within incubation hubs?

1.7 Contribution of the study to the body of knowledge.

This study makes a significant contribution both practically and academically by filling a vital gap in understanding how incubation hubs foster customer-focused innovation across diverse economic settings. It offers practical insights for incubation managers, entrepreneurs, and policymakers aiming to improve startup support systems.

For incubation managers, the findings will inform programme design by identifying strategies that go beyond resource provision to embed customer-centricity more effectively within innovation processes. For entrepreneurs, the study offers guidance on leveraging incubation support to incorporate customer insights into business models and product development. For policymakers, the research provides evidence to support the development of context-sensitive incubation policies that promote sustainable and inclusive entrepreneurship, particularly in resource-constrained environments.

Academically, the study contributes to entrepreneurship and innovation scholarship by examining the underexplored relationship between strategic incubation support and customer-centric innovation. It advances theoretical debates by conceptualising incubation as a relational and experiential process, rather than solely a structural framework. This study adopts a cross-national perspective, comparing Norway's structured incubation approaches with South Africa's adaptive models.

This comparison reveals how institutional and socio-economic contexts fundamentally shape the effectiveness of incubation, ultimately determining whether startups develop the deep customer insight needed to achieve product-market fit. The research also addresses a pressing business need: while customer-centric innovation is widely recognised as essential for startup survival and competitive advantage (Ostrom et al., 2021), many entrepreneurs struggle to incorporate customer insights into their ventures, despite participating in structured incubation programmes (Tuominen et al., 2023). By examining lived experiences within two contrasting ecosystems, the study provides practical guidance for refining incubation models to better align with market demands and evolving consumer expectations.

Theoretically, the study builds upon and extends the innovation-ecosystem and strategic-incubation frameworks (Gawer, 2021), contributing to a more nuanced understanding of how incubation hubs facilitate or hinder the integration of customer feedback. It enriches the literature on user-driven innovation and incubation strategy by foregrounding entrepreneurs' voices and contextualising their experiences within broader institutional settings (Stephens & Miller, 2022). In doing so, the study enhances the practical relevance of incubation programmes. It contributes to an emerging stream of context-sensitive innovation literature, offering insights that are both empirically grounded and theoretically generative.

1.8 Chapter Outline

This chapter introduced the research topic by highlighting the importance of examining how incubation hubs support customer-centric innovation in startups within two contrasting national contexts: Norway and South Africa. It defined the nature and scope of the study, explained the practical and theoretical rationale, presented the research problem, clarified the study's purpose, and outlined the key objectives and guiding question.

The next chapter offers a critical review of the literature, structured to establish the theoretical foundation for this study. It examines the Resource-Based View as the primary theoretical framework and its application to entrepreneurial incubation. The review then considers how this theory is operationalised through innovation practices and analyses the role of incubation hubs within entrepreneurial ecosystems. The central focus is on customer-centric innovation in startups and on a comparative analysis of incubation contexts in Norway and South Africa. The chapter concludes by synthesising this knowledge to identify the key research gaps that this study will address.

Chapter 2: Literature Review.

2.1 Introduction

Entrepreneurial ecosystems have increasingly been conceptualised as dynamic, interconnected networks that stimulate innovation, support venture creation, and contribute to inclusive economic development (Mago & van der Merwe, 2023). These ecosystems are shaped by the interplay of institutional frameworks, cultural norms, policy environments, and support structures that collectively enable entrepreneurial activity (Mago & van der Merwe, 2023). Within this landscape, incubation hubs have emerged as strategic platforms that provide startups with access to critical resources, mentorship, collaborative networks, and market linkages, helping ventures overcome early-stage vulnerabilities and accelerate growth (Lose, 2021).

While the broader impact of incubation hubs on firm survival, job creation, and regional competitiveness has been well documented (Pauwels et al., 2016), their role in fostering customer-centric innovation remains underexplored. Customer-centric innovation refers to the systematic integration of customer feedback, preferences, and experiential insights into product development and service delivery, thereby enhancing responsiveness and product–market fit (Shah et al., 2020). Startups often struggle to embed such approaches due to resource constraints, limited market knowledge, and organisational immaturity (Blank, 2020). Incubation hubs are uniquely positioned to address these challenges through structured interventions such as design thinking workshops, user testing environments, and curated access to early-adopting communities (Vardhan & Mahato, 2022). However, the effectiveness of these mechanisms in shaping innovation outcomes and entrepreneurial experiences remains insufficiently theorised.

This study is grounded in the Resource-Based View (RBV), which posits that sustained competitive advantage arises from the strategic acquisition and deployment of valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). While the Resource-Based View has traditionally been applied to firm-level strategy, its relevance to incubation contexts, particularly in conceptualising customer knowledge, social capital, and experiential learning as strategic resources, has received limited scholarly attention (Nylen & Holmström, 2021).

By extending the Resource-Based View into the domain of startup incubation, this study seeks to illuminate how incubation hubs mobilise both tangible and intangible assets to foster customer-centric innovation.

This chapter undertakes a critical examination of the literature, weaving together five thematic strands that situate the research within contemporary academic discourse while highlighting key gaps that justify further inquiry. It begins by establishing the Resource-Based View (RBV) as the central theoretical lens, offering insights into how this framework informs our understanding of resource mobilisation and strategic advantage within incubation environments (Lose, 2021). Building on this foundation, the chapter examines how the Resource-Based View is operationalised through innovation practices, specifically, how incubation hubs apply methodologies such as design thinking, lean startup, and agile development to cultivate strategic resources aligned with the Resource-Based View principles.

The narrative then shifts to the evolving role of incubation hubs within entrepreneurial ecosystems, unpacking their structural, institutional, and operational dimensions (Sohail et al., 2023). This sets the stage for a deeper investigation into customer-centric innovation in startup contexts, where the literature reveals both the conceptual underpinnings and the practical challenges of implementing user-driven approaches in early-stage ventures. To enrich this analysis, the chapter introduces comparative perspectives from Norway and South Africa, highlighting how differences in resource availability, policy support, and innovation culture shape the incubation landscape across these contrasting national contexts (Schutte & Chauke, 2021).

The chapter concludes by identifying critical gaps in the literature, gaps that not only justify the present study's focus but also inform the formulation of the research questions in Chapter 3. These questions guide the investigation into how incubation hubs foster customer-centric innovation within diverse entrepreneurial ecosystems, setting the stage for a meaningful contribution to both theory and practice.

2.2 The Resource-Based View as Theoretical Lens

The Resource-Based View had become a central theoretical framework in strategic management, providing a perspective on how organisations achieved and sustained competitive advantage through the possession and deployment of unique internal resources. First developed by Barney (1991), the Resource-Based View argued that competitive advantage is derived from resources that are valuable, rare, difficult to imitate, and non-substitutable. This approach marked a significant departure from earlier models of competitive positioning, which emphasised external market conditions by shifting the focus towards firm-specific resource configurations. These included both tangible assets such as infrastructure, funding, and technology, as well as intangible resources such as organisational culture, specialist knowledge, and human capital (Peteraf, 1993).

Within entrepreneurial ecosystems, the Resource-Based View proved especially useful as a lens. New ventures often faced liabilities of newness, including limited legitimacy, unstable organisational routines, and scarce financial resources (Shepherd & Gruber, 2021). Incubation hubs, acting as intermediaries in these ecosystems, played a crucial role in helping startups address such vulnerabilities. They provided access to mentorship, investor networks, business development services, and customer engagement platforms, all of which were critical for navigating institutional complexity and resource scarcity (Gumbo & Moss, 2024).

A key strength of the Resource-Based View was its ability to highlight the strategic importance of customer knowledge. When incorporated into incubation processes through structured feedback systems, user-testing platforms, or co-creation initiatives, customer insight functioned as an intangible yet strategically significant resource. If such insights were difficult to imitate and deeply embedded in startups routines, they could become sources of lasting competitive advantage (Zahra, 2021). This perspective explained how customer-centric innovation was not simply a matter of good marketing practice but rather a resource-based capability. Startups that systematically integrated user feedback into decision-making and product development were more likely to produce solutions aligned with customer needs, build trust-based relationships, and remain competitive in dynamic markets (Kanda et al., 2025).

The Resource-Based View also clarified how fulfilling customer needs could contribute to the sustainability of new ventures. Customer knowledge, once internalised as a resource, enhanced adaptive capacity and resilience. Startups that treated customer insight as a strategic asset were more likely to generate repeat revenue, retain market relevance, and adjust quickly to emerging expectations. This capacity for ongoing adaptation, rooted in effective resource orchestration, supported long-term growth and organisational survival (Dhrubo et al., 2024).

Nonetheless, the Resource-Based View had its limitations. Scholars criticised the framework for being overly inward-looking and neglecting the influence of external structures, such as regulatory frameworks, cultural environments, and institutional conditions (Patnaik et al., 2022; Dhrubo et al., 2024). These critiques were particularly relevant for the study of incubation hubs, since external factors shaped both the availability and mobilisation of resources. Furthermore, the Resource-Based View had rarely been integrated with contemporary innovation approaches, such as lean startup, design thinking, or agile methodologies, which place greater emphasis on rapid experimentation and iterative learning. (Shepherd & Gruber, 2021). This gap raised important questions about how the Resource-Based View could be extended to incorporate more dynamic processes of resource use and innovation (Shepherd & Gruber, 2021).

Resource mobilisation was also highly context-specific. In Norway, incubation hubs operated within structured innovation ecosystems supported by firm public policy, university–industry collaborations, and access to international research networks (Pettersen et al., 2023). These conditions enabled startups to secure grant funding, establish formal partnerships, and adopt design-led, scalable approaches to innovation that align with customer needs (Pettersen et al., 2023). In contrast, South African incubation hubs functioned in resource-constrained environments (Sibiya et al., 2023). Here, ventures often relied on informal networks, relational capital, and grassroots validation strategies to compensate for structural deficits. Peer mentorship, embedded community engagement, and adaptive piloting emerged as key mechanisms that allowed startups to remain responsive to localised customer needs (Sibiya et al., 2023).

These differences underscored the Resource-Based View's principle of heterogeneity, that resources and capabilities were not equally distributed across contexts and that their value derived from how they were configured and applied in particular institutional environments. Path dependence was also evident, as the historical evolution of each entrepreneurial ecosystem shaped the availability of support mechanisms and determined the routes by which resources could be mobilised (Zahra, 2021). Norway's abundance of formalised structures contrasted sharply with South Africa's reliance on adaptive, relational strategies. Nevertheless, both ecosystems demonstrated that effective resource orchestration could foster customer-centric innovation.

In summary, the Resource-Based View provided a strong theoretical foundation for understanding how incubation hubs shaped venture development, particularly through their capacity to transform customer knowledge into a strategic resource. While the framework offered valuable insights, its limitations also highlighted the need for further integration with dynamic models of innovation and greater attention to context-specific factors. These considerations were essential to the present study, which compared incubation hubs in Norway and South Africa to examine how different resource conditions influenced startups' capacity to pursue customer-centric innovation.

2.3 Operationalising the Resource-Based View through Innovation Practices

The Resource-Based View traditionally explained how organisations achieved competitive advantage by acquiring and deploying resources that were valuable, rare, inimitable, and non-substitutable (Barney, 1991). In incubation contexts, this theory clarified how startups accessed strategic assets such as technical expertise, mentorship, and market linkages (Lose, 2021).

However, this static view of resource possession proved insufficient for explaining how early-stage ventures built capabilities in fast-changing, customer-driven environments. Recent literature within the Resource-Based View has therefore shifted toward understanding how resources are not only possessed but also developed and mobilised through innovation practices to respond to market dynamics (Teece, 2023).

This shift held particular relevance for incubation hubs, which did not merely distribute resources but actively shaped how startups developed them. Innovation methodologies, such as design thinking, lean startup, and agile development, have emerged as key mechanisms through which incubation hubs embed customer feedback, experimentation, and learning into organisational routines (Nylen & Holmström, 2021). These routines produced intangible assets that aligned with the Resource-Based View's criteria for strategic resources (Marion et al., 2021). Incubation hubs thus operationalise the Resource-Based View not by offering static inputs, but by enabling dynamic resource formation.

Design thinking fostered user-centred problem solving and iterative prototyping. It embedded routines such as ethnographic research and co-creation, which enhanced adaptability and proved difficult to replicate (Kurtmollaiev et al., 2022). When these routines were institutionalised within incubation hubs, they became strategic capabilities. This supported the argument that design thinking functioned not merely as a creative tool but as a resource-building process aligned with the RBV (Carlgren et al., 2016). Design-led innovation frameworks enabled startups to develop user-centric capabilities that contributed to long-term advantage (Dobrigkeit et al., 2021). These insights reinforced the idea that customer insight could be treated as a strategic resource, a position central to this study.

Lean startup methodology contributed to resource formation by promoting validated learning and iterative development. These practices enabled ventures to reduce uncertainty and respond to market signals (Ghezzi & Cavallo, 2020). Within incubation hubs, lean startup principles were embedded through mentoring and structured feedback loops, which transformed customer insights into learning-based capabilities (Frederiksen & Brem, 2021). These capabilities remained rare and difficult to imitate, particularly when supported by institutional structures. This supported the view that lean startup practices, when embedded in incubation environments, generated strategic resources rather than simply guiding product development (Marion et al., 2021).

Agile development further strengthened this argument by fostering responsiveness, cross-functional collaboration, and continuous improvement. These capabilities aligned with the Resource-Based View's emphasis on resource uniqueness and adaptability (Conforto et al., 2021). Agile practices embedded customer knowledge into iterative cycles, creating routines that were both inimitable and strategically valuable (Reuber & Fischer, 2022).

Agility reflected the formation of dynamic capability, enabling organisations to reconfigure resources in response to change (Teece, 2023). In incubation hubs, agile methodologies were supported through collaborative workspaces and prototyping labs, enabling startups to turn feedback into strategic assets (Denning, 2021). This illustrated how innovation practices operationalised the Resource-Based View in real-world incubation settings.

Empirical studies confirmed that incubation hubs functioned as resource orchestration environments (Clarysse et al., 2023). In South Africa, hubs supported the development of physical, human, and organisational capital essential for startup competitiveness (Sibiya, 2023). The analysis reveals that in European contexts, design-led and collaborative incubation models effectively fostered the development of valuable, rare, and hard-to-imitate resources, a process directly aligned with the core principles of the Resource-Based View (Barney, 1991). This literature suggested that incubation hubs did not simply provide access to resources; they shaped how those resources were created, embedded, and sustained.

This study built on these insights by arguing that innovation practices within incubation hubs were central to understanding how customer-centric capabilities were formed. By treating customer insight as a strategic resource and examining how it was mobilised through design thinking, lean startup, and agile development, this research extended RBV into the domain of customer-driven innovation. This argument was particularly relevant in cross-national contexts, where incubation models varied in structure, policy support, and cultural orientation. The comparative focus on Norway and South Africa enabled a more in-depth analysis of how incubation hubs operationalised Resource-Based View under contrasting conditions, an issue that remained insufficiently examined in the literature.

2.4 Incubation Hubs in Entrepreneurial Ecosystems

Incubation hubs had gradually evolved from being simple providers of office space and administrative support into strategic institutions within entrepreneurial ecosystems, a shift exemplified by the move toward lifecycle-specific support models (Clarysse et al., 2023). They operated as orchestrators of resource mobilisation, capability development, and innovation alignment (Sirmon et al., 2011), bridging startups with wider networks of stakeholders, including funders, policymakers, and customers (Gumbo & Moss, 2024).

Their functions, mentorship, funding facilitation, business development services, and network brokerage were tailored to the shifting needs of startups. They were critical to the development of dynamic capabilities across different stages of venture growth (Klofsten et al., 2024). Importantly, incubation hubs acted as intermediaries, reducing transaction costs, mitigating market-entry risks, and embedding entrepreneurial firms more effectively within their ecosystems (Paoloni & Modaffari, 2022).

In Norway, incubation hubs operated within a highly structured and policy-enabled innovation ecosystem. National strategies supported entrepreneurship through grant funding, research–industry linkages, and international collaborations (Pettersen et al., 2023). Incubators integrated design laboratories, co-creation platforms, and formal market validation frameworks, using advanced methodologies such as ethnographic research and digital analytics to align product development with customer needs (Tuominen et al., 2022). Norwegian startups also benefited from extensive investor networks that facilitated scalable growth and international competitiveness (Pettersen et al., 2023).

In contrast, South African incubation hubs operated under resource-constrained conditions, often characterised by fragmented infrastructure, financial scarcity, and socio-economic disparities (Makhathini & Kiggundu, 2022). In this environment, incubators relied on adaptive strategies, including donor-funded programmes, grassroots experimentation, and community validation processes to support entrepreneurs (Von Krogh et al., 2024). Informal networks and relational capital played an outsized role in substituting for formal systems, allowing startups to generate context-specific insights and build trust-based customer relationships (Reuber & Fischer, 2022). These differences between Norway and South Africa highlighted how contextual embeddedness shaped incubation strategies and how institutional and cultural factors mediated resource mobilisation.

A lifecycle perspective revealed that incubation support was not monolithic, but instead differentiated across three key stages of venture development: pre-seed, early-stage, and growth. Each stage required distinct forms of resource orchestration and different strategies for integrating customer-centric practices. At the pre-seed stage, Norwegian incubators provided structured feasibility studies, academic partnerships, and systematic customer discovery methods.

Startups were encouraged to use design-led processes to frame problems and engage with potential users early in their journeys (Haneberg & Aasen, 2024). In South Africa, however, pre-seed incubation relied heavily on grassroots validation, with entrepreneurs engaging directly with local communities through peer mentorship and small-scale piloting (Bucci & Marks, 2022). This approach, while less formalised, ensured that the solutions being developed were deeply contextually relevant (López-Rivas et al., 2023).

At the early-stage of development, Norwegian hubs facilitated access to design laboratories and formal user-testing environments, enabling ventures to refine minimum viable products through iterative feedback cycles (Foss & Lervåg, 2022). These processes relied on structured analytics and professionalised support systems. In South Africa, startups at the same stage often engaged in informal prototyping and adaptive learning through local networks, prioritising flexibility and cultural fit over rigid methodologies (Máté et al., 2024).

At the growth stage, Norwegian incubators supported ventures with international investor networks, sophisticated analytics tools, and customer relationship management systems that facilitated scaling and global market entry (Lindelöf & Löfsten, 2021). By contrast, South African incubation hubs promoted lean scaling models through regional partnerships, donor collaborations, and socially embedded engagement strategies, aligning entrepreneurial outcomes with broader socio-economic development goals (Donaldson et al., 2025).

Taken together, this lifecycle analysis demonstrated that incubation hubs were not uniform entities but contextually embedded mechanisms. Norwegian incubators epitomised formalised resource orchestration, while South African incubators reflected adaptive, necessity-driven models. Both approaches aligned with the Resource-Based View, which emphasised that strategic value arose not from the mere possession of resources but from their contextual mobilisation, orchestration, and deployment (Zahra, 2021).

2.5 Customer-Centric Innovation

Customer-centric innovation had increasingly been recognised as a strategic imperative for startups, particularly in volatile, uncertain, and resource-constrained environments where responsiveness to user needs determined survival and long-term viability (Shepherd & Gruber, 2021).

Unlike technology-driven or supply-side models of innovation, customer-centric innovation emphasised the integration of user preferences, lived experiences, and feedback into the entire innovation lifecycle, from problem identification through iterative refinement and eventual scaling. By embedding customers as co-creators rather than passive recipients, startups were argued to achieve superior product–market fit, contextual relevance, and adaptive capacity (Tuominen et al., 2022).

Despite its strategic promise, embedding customer-centric innovation posed significant challenges for early-stage ventures. The liabilities of newness, such as fragile organisational structures, limited legitimacy, and constrained financial and human capital, often restricted systematic engagement with customers (Lasrado et al., 2022). Many startups prioritised technological novelty over market validation, resulting in offerings that were misaligned with customer needs and associated with higher failure rates (Klofsten et al., 2024). These shortcomings underscored a broader limitation within entrepreneurial ecosystems. While customer-centricity was increasingly valorised in theory, the institutional mechanisms required to transform it into a sustained organisational capability remained underdeveloped.

Incubation hubs, as previously discussed, played a pivotal role in bridging this gap by embedding structures and processes that enabled startups to integrate customer insights into venture development. These mechanisms included user-testing environments, structured feedback loops, design thinking workshops, and facilitated access to early adopters and market experts (Clarysse et al., 2023). Within the logic of the Resource-Based View, customer insight could be conceptualised as a form of intangible capital, valuable, rare, inimitable, and non-substitutable, that, when cultivated systematically, confers sustained competitive advantage (Stremersch et al., 2025). Incubators thus functioned not only as providers of financial or infrastructural resources but also as mediators, enabling ventures to capture, process, and deploy customer knowledge as a strategic resource.

The operationalisation of customer-centric innovation varied considerably across contexts. The literature indicated that, in Norway, incubation hubs embedded customer insights through formalised, data-driven methodologies (Stremersch et al., 2025).

Structured programmes commonly employed tools such as customer journey mapping, ethnographic research, digital feedback platforms, and advanced customer relationship management systems (Kurtmollaiev et al., 2022). These tools enabled ventures to capture nuanced user perspectives, segment markets, and align offerings with precision. Norwegian incubators, further supported by grant funding and international partnerships, facilitated the systematic integration of feedback into scaling strategies, thereby ensuring that ventures could grow while maintaining alignment with evolving customer expectations (Pettersen et al., 2023).

The literature indicates that South African incubation hubs operate in fragmented, resource-constrained environments where access to advanced tools is limited (Abraham, 2020). In this context, ventures relied on adaptive, community-oriented strategies, such as peer mentoring, grassroots piloting, and informal customer consultations, to generate contextually grounded insights (Abraham, 2020). The literature indicates that while these approaches lacked the scalability of formal analytics systems, their embeddedness within local communities facilitated deep relational engagement and trust-building. This often led to innovations that resonated strongly with specific social contexts (Donaldson et al., 2025). These practices were described as demonstrating the resourcefulness of South African incubators in mobilising intangible resources, such as relational capital and tacit knowledge, as strategic substitutes for material deficits. This interpretation aligned with the Resource-Based View's emphasis on resource heterogeneity and path dependence (Donaldson et al., 2025).

Prior research adopting a lifecycle perspective has illuminated how customer-centric innovation manifests differently across venture stages and national ecosystems. At the pre-seeding stage, Norwegian startups drew on structured feasibility studies and ethnographic research to refine problem definitions and establish early alignment with user needs (Pettersen et al., 2023). South African startups engaged in grassroots validation through peer mentorship and community-based feedback (López-Rivas et al., 2023). During the early-stage development phase, Norwegian incubators offered access to design labs, controlled experimentation platforms, and iterative prototyping informed by formal feedback systems (Macca et al., 2025). In contrast, South African startups relied on informal prototyping and adaptive learning cycles within community contexts (Revest & Szostak, 2025).

At the growth stage, Norwegian hubs facilitated international scaling through sophisticated analytics and investor networks, embedding customer insights into structured expansion models (Braun & Suoranta, 2025). South African hubs, conversely, prioritised lean scaling through regional partnerships and socially embedded engagement strategies that sustained customer trust and ensured developmental alignment (Gumbo & Moos, 2024).

The literature revealed a key tension in how customer-centric innovation was operationalised across incubation context. While customer-centric innovation was universally framed as a pathway to competitive advantage, the means of achieving it diverged sharply across contexts and developmental stages. In Norway, formalised, data-driven processes enabled scalability but risked rigidity and over-reliance on technological mediation (Kurtmollaiev et al., 2022). By contrast, adaptive and socially embedded practices in South Africa enhanced contextual relevance but risked fragmentation and limited transferability (Abrahams, 2020; Donaldson et al., 2025). Despite these differences, both models underscored the centrality of customer knowledge as a strategic resource and highlighted the need for incubation mechanisms that balanced methodological rigour with contextual adaptability (Zhou, 2022; Joshi & Sharma, 2020).

From a critical perspective, the literature demonstrated several limitations. Many scholars emphasised the outcomes of customer-centric innovation (e.g., improved survival rates, product–market fit). However, they paid insufficient attention to the processes by which customer insights were transformed into organisational capabilities (Stremersch et al., 2025). Furthermore, while the Resource-Based View offered a compelling framework for conceptualising customer knowledge as an intangible asset, it was rarely integrated with contemporary innovation methodologies such as lean startup, design thinking, or agile development, which more explicitly addressed the iterative, dynamic nature of customer engagement (Shepherd & Gruber, 2021).

Existing research indicates that customer-centric innovation is not a monolithic process but a contextually embedded and lifecycle-contingent phenomenon. In the Norwegian context, incubators have been shown to institutionalise customer-centric practices through structured, data-driven methodologies (Pettersen et al., 2023; Macca et al., 2025).

In contrast, South African hubs tend to foster customer-centric innovation through relational and adaptive strategies embedded in community networks (Revest & Szostak, 2025; Gumbo & Moos, 2024). Increasingly, incubation hubs are anticipated not only to provide resources but also to cultivate customer-centric innovation. This dynamic capability enabled ventures to sense shifting market needs, seized opportunities, and reconfigured their assets through processes grounded in customer insights, behaviours, and iterative feedback mechanisms (Teece, 2025; Stremersch et al., 2025; Kurtmollaiev et al., 2022).

2.6 Comparative Perspectives from Norway and South Africa on Enabling Customer-Centric Innovation

This section critically examined the role of incubation hubs in facilitating customer-centric innovation (CCI) within startups in Norway and South Africa. By comparing these ecosystems, the study aimed to identify structural, cultural, and institutional factors that enabled or constrained the adoption of customer-centric innovation practices.

2.6.1 Resource Availability and Its Impact on Customer-Centric Innovation

Existing literature highlights that in Norway, the abundance of financial capital (Lepanjärvi et al., 2022), access to skilled human resources, and advanced technological infrastructure provide startups with the necessary conditions to engage in customer-centric innovation. Incubation hubs offer comprehensive support, including funding, mentorship, and access to networks, which facilitates the development of products and services aligned with customer needs (Rykkje et al., 2023).

Conversely, studies on the South African context point to persistent challenges stemming from limited financial resources, skills shortages, and infrastructural disparities (Habiyaemye et al., 2023; Musabayana, 2023). Although initiatives such as the Incubation Hubs have sought to mitigate these constraints (Matthee & Solomon, 2025; Motlhaudi, 2025), the overall resource limitations continue to hinder startups' ability to implement customer-centric innovation effectively (Baloyi & Khanyile, 2022; Bello et al., 2024).

To contextualise the distinct environments in which incubation hubs operated, Table 1 provided a comparative overview of the foundational resources available to startups in Norway and South Africa.

This comparison illustrated the contrasting starting points for entrepreneurial activity, highlighting Norway's resource-abundant ecosystem against South Africa's more constrained yet developing landscape. These divergent resource dimensions fundamentally shaped the challenges and opportunities that incubation hubs in each country faced in fostering customer-centric innovation.

Table 1: Comparative Resource Availability in Norway and South Africa

Resource Dimension	Norway	South Africa
Financial Capital	High availability of venture capital and grants	Limited access to funding, especially for early-stage startups
Human Capital	Skilled workforce with a strong emphasis on STEM education	Skills shortages in critical areas, including technology and design
Technological Infrastructure	Advanced digital infrastructure supporting innovation	Uneven access to technology, particularly in rural areas

Source: Researcher's own

2.6.2 Policy Support and Institutional Frameworks

The literature indicates that Norwegian policies were characterised by a coherent strategy that promoted innovation and entrepreneurship. Government initiatives provided clear guidelines and support mechanisms for startups, fostering an environment conducive to customer-centric innovation (Lepanjärvi, et al, 2022). In contrast, South Africa’s policy landscape was described as fragmented, with varying levels of support across different regions. Although organisations such as the Small Enterprise Development Agency (SEDA) offered assistance, inconsistent policy implementation and bureaucratic hurdles often impeded the effectiveness of these programmes in promoting customer-centric innovation (Mathee & Solomon, 2025).

While the foundational resource base set the stage for entrepreneurial activity, the role of government policy was equally critical in structuring the support ecosystem. The effectiveness of incubation hubs was significantly influenced by the national policy environment in which they were embedded.

Table 2 delineated the contrasting policy landscapes of Norway and South Africa, examining key dimensions of coherence, support mechanisms, and regulatory frameworks that directly impacted the operational capacity and strategic focus of incubation hubs in each country.

Table 2: Comparative Policy Support in Norway and South Africa

Policy Dimension	Norway	South Africa
Policy Coherence	Strong alignment between national and regional policies	Fragmented policies with varying implementation across regions
Support Mechanisms	Well-established programs for startups, including grants and mentorship	Inconsistent support, with some regions lacking adequate programs
Regulatory Environment	Favorable for innovation, with clear regulations and incentives	Complex regulatory environment with bureaucratic challenges

Source: Researcher's own

2.6.3 Innovation Culture and Entrepreneurial Mindset

The literature indicated that Norwegian culture emphasised risk-taking, collaboration, and a customer-centric approach to innovation. This cultural orientation was reflected in the practices of incubation hubs, which encouraged startups to engage deeply with customers to understand their needs and preferences (Rykkje et al, 2023). In South Africa, the innovation culture was shaped by socio-economic factors and historical contexts. Although there was growing recognition of the importance of customer-centric innovation, cultural norms and limited exposure to global best practices posed challenges for startups in adopting such approaches (Rykkje et al, 2023).

The preceding analysis of resources and policy revealed the structural conditions for innovation. However, the literature also suggested that the *cultural* dimension played a crucial role in shaping how entrepreneurs and incubation hubs approached the innovation process itself. As shown in Table 3, comparative studies indicated significant differences in the prevailing innovation cultures between Norway and South Africa, particularly regarding attitudes toward risk, collaboration, and customer engagement, which directly influenced the practice of customer-centric innovation.

Table 3: Comparative Innovation Culture in Norway and South Africa

Cultural Dimension	Norway	South Africa
Risk-Taking Attitude	High, with a focus on experimentation and learning	Moderate, with a preference for proven approaches
Collaboration Practices	Strong emphasis on cross-sector collaboration and partnerships	Emerging, with some initiatives promoting collaboration
Customer Engagement	Integral to the innovation process, with a focus on user-centred design	Developing, with varying levels of customer involvement

Source: Researcher's own

This comparative review of existing literature underscored the critical role of incubation hubs in enabling customer-centric innovation within startups. Studies indicated that a supportive ecosystem, characterised by adequate resources, coherent policies, and a conducive innovation culture, significantly enhanced the capacity of startups to engage in customer-centric practices (Kurtmollaiev et al., 2022). The identified research gaps within this body of literature provided a foundation for the current study, which aimed to explore how incubation hubs in Norway and South Africa specifically facilitate customer-centric innovation in startups.

2.7 Identified Gaps in the Literature

Despite a growing body of research on incubation and customer-centric innovation, several critical gaps persist, warranting further research. Existing studies predominantly emphasise macro-level outcomes, such as firm survival, job creation, and economic growth, while overlooking the micro-level mechanisms through which startups mobilise resources to achieve customer alignment (Gupta, 2020). These limits understanding of how incubation hubs foster customer-centric innovation through strategic learning, iterative feedback, and resource orchestration.

Comparative analyses of incubation practices across resource-rich and resource-constrained environments remain scarce. However, Norway and South Africa present markedly different innovation ecosystems.

Few studies systematically examine how contextual factors shape incubation models and resource deployment strategies to influence outcomes (Rykkje .et al., 2023). This gap impedes the transferability of best practices and the development of context-sensitive incubation frameworks.

The literature tends to underrepresent the lived experiences and voices of entrepreneurs within incubation ecosystems, particularly in low- and middle-income countries (Sibiya et al., 2023). This omission constrains insight into the adaptive strategies, resource improvisation, and customer engagement practices employed by startups navigating complex and uncertain environments (López-Rivas et al., 2023).

There is limited theoretical integration between the resource-based view and contemporary innovation methodologies such as lean startup, design thinking, and agile development within the incubation context (Shepherd & Gruber, 2021). Bridging these frameworks could illuminate how resource heterogeneity and dynamic capabilities underpin customer-centric innovation, offering a more nuanced understanding of incubation support mechanisms. Addressing these gaps will not only enhance theoretical robustness but also generate actionable insights for policymakers, incubator managers, and entrepreneurs seeking to optimise customer-centric innovation across diverse resource conditions.

2.8 Conclusion

This chapter critically reviewed existing literature on entrepreneurial ecosystems, incubation hubs, and customer-centric innovation through the lens of the Resource-Based View. The review demonstrated that while incubators were pivotal in mobilising strategic resources and enabling startups to pursue customer-centric innovation, the mechanisms through which this occurred were not fully understood. The comparative evidence indicated that Norwegian hubs benefited from formalised, resource-abundant systems, while South African hubs relied on adaptive, relational strategies in resource-scarce contexts. Both models underscored the centrality of customer knowledge but reflected distinct pathways to innovation shaped by contextual embeddedness.

However, gaps persisted in the literature. Insufficient attention had been paid to micro-level mechanisms, comparative analysis across ecosystems, and integration of RBV with modern innovation methodologies.

These gaps justified the present study, which aimed to examine how incubation hubs in Norway and South Africa facilitated customer-centric innovation under contrasting resource conditions. By addressing these gaps, the study positioned itself to contribute to theory on resource orchestration, inform incubation policy, and support inclusive entrepreneurial growth.

Chapter 3

3.1 Introduction

Building on Chapter 2's foundation, this chapter outlines key research questions for this qualitative study. As an exploratory, interpretivist study, it does not propose hypotheses but explores how incubation hubs impact customer-focused innovation in startups in Norway and South Africa. These questions address gaps in existing literature and seek insights into how startups use incubation support and manage customer-driven innovation within their ecosystems.

3.2 Rationale for Research Questions

Chapter 2's review identified key trends and gaps. Incubation hubs are known for support like funding, mentorship, and networking (Pettersen et al., 2023; Schutte & Chauke, 2021), but little is understood about how these aid customer-centric innovation. Research mainly examines macro outcomes or structural differences, not how founders address customer needs through incubation systems.

Informed by this gap, the research questions centre on the development of customer-centric innovation practices, viewed through the lens of the resource-based view. This theoretical lens emphasises the role of internal and ecosystem resources in providing startups with strategic advantages, especially in contexts where customer alignment can be a key differentiator (Beamish & Chakravarty, 2021).

3.3 Research Questions

This question explores the resources, mentorship strategies, and support systems offered by incubation hubs that help startups develop customer-focused business models. It directly relates to the resource-based view, which emphasises valuable and rare organisational resources- like expert mentorship and customer insights- that create competitive advantages (Barney, 1991). The notable differences in resource access and structural setups between advanced innovation ecosystems and emerging markets highlight the need for a systematic analysis of incubation methods across various economic environments.

This question shifts the focus from incubation providers to startup founders, exploring how entrepreneurs internalise, utilise, and adapt incubation resources to co-create value with customers. It draws on qualitative literature that emphasises the co-evolution of entrepreneurial action and support environments (Von Krogh et al., 2024). The resource-based view framework reinforces this inquiry by positioning the startup's internal capabilities and ability to mobilise external resources as key determinants of innovation performance.

This final question explores structural, cultural, or institutional barriers that hinder the effective implementation of customer-centric strategies, especially in environments where startup ecosystems are still developing. As Chapter 2 demonstrated, South African startups may face challenges with infrastructure, unstable funding, and resource shortages (Sibiya et al., 2023). In contrast, Norwegian startups may encounter regulatory rigidity or saturation in highly competitive innovation landscapes (Gawer, 2021). By understanding these obstacles, the study helps improve incubation strategies that are responsive to both internal startup requirements and contextual limitations.

3.4 Connection to Theoretical Framework

Each of these research questions is informed by the Resource-Based View, which emphasises the importance of internal capabilities and externally acquired strategic resources in achieving innovation outcomes. In the context of incubation hubs, the resource-based view is particularly relevant, as incubators act as intermediaries, providing startups with access to mentorship, customer insights, and adaptive capabilities (Beamish & Chakravarty, 2021). By analysing how startups access and utilise these resources to create customer-aligned value propositions, the research builds on the Resource-Based View and applies it to real-world experiences of entrepreneurs operating in high-income and emerging markets.

3.5 Conclusion

This chapter presented three research questions designed to guide an exploratory inquiry into the mechanisms, actions, and barriers shaping customer-centric innovation within incubation hubs.

Informed by resource-based view and grounded in current gaps in the literature, these questions reflect the study's intent to generate context-rich, actionable insights into how incubation environments influence startups in Norway and South Africa. The next chapter will outline the methodological approach used to investigate these questions, including data collection strategies, sampling methods, and analytical techniques.

Chapter 4 Research Methodology

4.1 Choice of Methodology

This chapter details the methodology supporting the study. It describes the methodological choices, philosophical foundations, research design, approach, strategy, time frame, sampling, and data collection methods employed. Additionally, it explains the population, unit of analysis, and instruments to ensure data quality, credibility, and trustworthiness. The chapter concludes with the data analysis approach, quality control measures, and a discussion of limitations.

This study employed a qualitative research design to examine how entrepreneurs experienced incubation support in fostering customer-centric innovation. The investigation focused specifically on startups located in incubation hubs in Norway and South Africa. In light of the study's emphasis on lived experience, a qualitative approach was considered appropriate for eliciting nuanced insights and generating rich, narrative data

4.2 Research Methodology and Design

The study adopted a qualitative research methodology that emphasises non-numerical data, such as interviews and textual narratives. Qualitative methods are particularly valuable for exploring complex, context-dependent phenomena and producing rich descriptions of human experiences (Creswell & Poth, 2018). This was appropriate given the focus on understanding how startups engage with incubation mechanisms to foster customer centricity.

An exploratory research design was chosen. Exploratory studies aim to investigate relatively under-researched topics, generate insights, and identify emerging themes (Bamberger, 2022). Given the scarcity of comparative studies on incubation and customer-centric innovation across different national contexts, this design was suitable for addressing the research questions.

The research was anchored in an interpretivist paradigm, which emphasises that social reality is constructed through human interaction and interpretation. Interpretivism enables researchers to explore participants' meanings, perspectives, and lived experiences within their authentic contexts (Silverman, 2020; Lim, 2024).

This was appropriate because innovation practices and incubation processes are deeply embedded in organisational and cultural contexts.

An inductive approach guided the research. Induction allows themes and patterns to emerge from the data rather than testing pre-existing hypotheses (Nowell et al, 2023). This approach was justified given the limited body of work on incubation mechanisms for customer-centric innovation in developing and developed contexts. Inductive reasoning enabled the identification of novel themes relevant to startups' lived realities.

4.3 Research Strategy

The research adopted a mono-method qualitative strategy, collecting data through semi-structured interviews. This single-method approach provided a coherent framework for examining participants' experiences in depth, aligning with both the interpretivist philosophy and the exploratory design of the study (Silverman, 2020). This choice was guided by practical considerations of time and resources, as well as the need for deep, focused exploration (Tomaszewski et al., 2020). The mono-method qualitative design ensured cost- and time-efficiency, while also generating the nuanced insights required to meet the research objectives (Creswell, 1998)

An interview strategy was employed to analyse the experiences of startups in Norway and South Africa, to uncover similarities and differences in how incubators supported customer-centric innovation. A phenomenological approach, which prioritised entrepreneurs' lived experiences, was used to explore how startups engaged with incubation hubs and how they interpreted their interactions (Frechette et al., 2020). Phenomenology facilitated a deeper understanding of subjective realities, enabling the study to capture the essence of entrepreneurial experiences and the mechanisms through which incubation hubs fostered customer-centric innovation (Saunders et al., 2020).

To investigate how incubation hubs in Norway and South Africa influence customer-centric innovation in startups, the study adopted a phenomenological approach supported by a qualitative interview strategy. Phenomenology was selected for its capacity to foreground entrepreneurs' lived experiences, enabling a deep exploration of how they interpret and engage with incubation mechanisms in pursuit of customer-centric innovation (Frechette et al., 2020).

This approach allowed the researcher to capture the essence of participants' subjective realities, revealing how contextual factors, strategic responses, and interpersonal dynamics shaped their innovation trajectories. While narrative elements were present, particularly in participants' story-like reflections, the study remained grounded in phenomenology, using these narratives as vehicles for accessing meaning rather than as a standalone methodological frame (Patterson, 2018). This alignment ensured that the data collection and analysis remained focused, interpretive, and sensitive to the complexity of entrepreneurial experience within diverse incubation environments.

4.4 Time Horizon

The study adopted a cross-sectional time horizon, collecting data from participants at a single point in time during 2025 to capture a snapshot of their experiences within incubation environments in Norway and South Africa. This design was well-suited to the exploratory nature of the research, enabling the investigation of contemporary incubation practices, challenges, and their influence on customer-centric innovation (Matthee & Solomon, 2025). By focusing on current conditions rather than longitudinal change, the cross-sectional approach provided a rapid yet contextually rich overview of how startups were engaging with their respective incubation hubs. It also offered a cost-effective and time-efficient means of generating insights that could inform strategic improvements in incubation design, enhance startup success rates, and support policy development aimed at advancing customer-centric innovation

4.5 Population

The study population consisted of entrepreneurs enrolled in incubation hubs in Norway and South Africa, as well as the managers of these incubators. Entrepreneurs were included because of their direct involvement in incubation programmes and their active role in driving customer-centric innovation within their ventures. Incubator managers formed part of the population due to their responsibility for designing, facilitating, and overseeing incubation processes. This combination of entrepreneurs and incubator managers provided a holistic perspective on how incubation hubs support customer-centric innovation across startups at different stages of development, from ideation through to maturity.

4.6 Unit of Analysis

The unit of analysis for this study was the individual, specifically encompassing startup founders, key team members, and incubation managers operating within hubs in Norway and South Africa. This micro-level focus was informed by the study's phenomenological orientation, which prioritised subjective experiences and personal interpretations of incubation environments and their influence on customer-centric innovation. Individuals were selected for their capacity to offer nuanced insights into the challenges, strategic responses, and decision-making processes involved in adapting to customer expectations.

Prior research underscores the pivotal role of entrepreneurial and managerial actors in shaping innovation strategies and leveraging incubation support mechanisms (Pettersen et al, 2023; Braun & Suoranta, 2025). By capturing these personal narratives, the study generated rich, context-specific data essential for understanding the human dimensions of organisational behaviour and the mechanisms through which incubation hubs foster customer-centric innovation (Lim, 2024)

4.7 Sampling Method and Size

This design employed purposive sampling to identify participants directly relevant to the research focus: startup founders, key team members, and incubation managers actively engaged in incubation hubs in Norway and South Africa. This technique is well-suited to qualitative inquiry, allowing for the deliberate selection of individuals whose lived experiences and strategic roles offer rich, context-specific insights (Werth et al., 2025). Selection criteria included: (a) holding a leadership or decision-making role within a startup or incubator. (b) active involvement in customer engagement strategies, and (c) experience navigating incubation mechanisms.

Snowball sampling was used in parallel to expand access, with initial participants referring others within their networks who met the inclusion criteria (Dragan & Isaic-Maniu, 2022). The principle of data saturation guided the sample size, the point at which no new themes emerged, ensuring analytical depth without unnecessary redundancy (Hennink & Kaiser, 2022).

The final sample size was determined by the principle of data saturation. While saturation was initially anticipated to occur between 12 and 15 interviews, the process revealed that thematic saturation was reached at 6 participants in Norway and 6 in South Africa. To ensure comprehensive data capture and to explore all potential nuances within and across the two ecosystems, the sample was expanded. Ultimately, a final cohort of 23 participants (13 from Norway and 10 from South Africa) was secured, providing sufficient diversity, depth, and thematic richness to robustly meet the study's comparative and exploratory objectives.

4.8 Measurement Instrument

Semi-structured interviews served as the primary data collection instrument, offering a balance between thematic consistency and adaptive depth across participants (Gioia et al., 2013; Welch & Piekkari, 2017). This format was particularly suited to the study's exploratory aims, enabling the researcher to elicit nuanced accounts of startup experiences within incubation hubs, with a focus on customer-centric innovation, strategic scaling, and collaborative mechanisms (Langley & Abdallah, 2011). The interview guide was developed in alignment with the literature review (see Chapter 2) and refined through pilot interviews to ensure conceptual coverage, narrative clarity, and methodological rigour (Gehman et al., 2018)

The guide incorporated open-ended questions designed to encourage reflective responses and allow participants to elaborate on their lived experiences. This flexibility enabled the researcher to probe emergent themes and adapt follow-up questions in real time, thereby enhancing contextual richness and analytical depth (Gioia et al., 2013). The final guide was structured around six core themes, each grounded in contemporary literature and directly linked to the study's research objectives. Table 4 outlines these themes, supporting references, and sample questions used to guide the interviews.

Table 4: Interview Themes, Supporting Literature, and Sample Questions

Interview Theme	Supporting Literature	Sample Interview Questions
Role of incubators in supporting innovation	Pettersen et al. (2023); López-Rivas et al. (2023); Braun & Suoranta (2025)	How has the incubator supported your startup in developing or refining innovative ideas? What resources or programs most influenced your innovation practices?
Customer-centric innovation (CCI) practices	Gupta (2020; (2023); Von Krogh et al. (2024)	How do you ensure your innovation activities are aligned with customer needs? Can you share an example where customer feedback shaped your innovation strategy?
Barriers to implementing CCI	Sibiya et al. (2023); Lasrado et al. (2022); Kurtmollaiev et al. (2022)	What challenges have you encountered in prioritising customer needs during innovation? How do resource constraints affect your ability to innovate around customers?
Incubation strategies for scaling CCI	Mian et al. (2021); Kanda et al. (2025); Donaldson et al. (2025)	What role has the incubator played in scaling customer-driven innovations? How does the incubator facilitate access to markets, networks, or funding for CCI?
Trust and collaboration in the incubation ecosystem	Stam & Van de Ven (2021); Revest & Szostak (2025); Abrahams (2020)	How do trust and collaboration within the incubator influence your innovation practices? In what ways do peer networks support customer-centric strategies?
Future opportunities for incubation and CCI	Macca et al. (2025); Beamish & Chakravarty (2021)	What opportunities do you see for incubators to enhance customer-centric innovation? How do you envision your startup's innovation evolving with continued support?

Source Researcher's Own

4.9 Data Gathering Process

Primary data were gathered through semi-structured interviews with startup founders and incubation hub managers across Norway and South Africa. These interviews took place in two separate phases: first in Norway, then in South Africa. This order facilitated a deeper understanding of the context and comparison of incubation practices across different ecosystems, both geographically and institutionally. Each interview lasted approximately 40–60 minutes and was conducted either face-to-face or via video conferencing, depending on the participant's availability and logistical constraints.

The responsive interviewing model was adopted to ensure conversational depth and adaptability, allowing the researcher to probe emergent themes and clarify participant reflections in real time (Rubin & Rubin, 2012). This approach was particularly suited to the study's phenomenological orientation, which prioritised the exploration of lived experience and subjective meaning.

All interviews were audio-recorded with participants' consent and transcribed to support thorough thematic analysis. Ethical protocols were diligently followed throughout. Participants received detailed information about the study's purpose, procedures, and their rights, and provided informed consent before participating. Anonymity and confidentiality were preserved to protect personal and organisational identities, in line with established qualitative research ethics (Tracy, 2010).

4.10 Analysis Approach

The study employed thematic analysis to systematically interpret qualitative data and generate insights aligned with the research objectives. This method facilitated the identification of recurring patterns and context-specific themes across participant narratives, offering both theoretical depth and practical relevance (Braun & Clarke, 2022).

The data were analysed following the principles of reflexive thematic analysis (Braun & Clarke, 2019). The process was structured using a six-phase approach, progressing from familiarisation to reporting. The resulting themes were then organised into a rigorous data structure, comprising first-order codes, second-order themes, and aggregate dimensions, informed by the Gioia methodology (Gioia et al., 2013).

To enhance credibility, peer debriefing and iterative code reviews were integrated throughout the analysis. Open-ended responses were interrogated with particular attention to statements reflecting resource access, mentoring dynamics, customer engagement practices, adaptive strategies, and institutional constraints. These dimensions were mapped against the study's three core research questions:

- What incubation mechanisms promote customer-centric innovation in startups?
- How do startups engage with and leverage these mechanisms?

- What challenges arise in implementing customer-centric strategies within incubation hubs?

Thematic analysis captured both cross-cutting patterns and contextually embedded nuances, illuminating how startups navigated incubation support structures in Norway and South Africa. By anchoring the findings in the research questions, the analysis yielded insights that are thematically coherent and contribute to a deeper understanding of incubation dynamics and innovation pathways in emerging and advanced ecosystems.

4.11 Quality Controls

To uphold the quality and integrity of the research, multiple methodological safeguards were implemented throughout the study. These measures were designed to enhance credibility, dependability, confirmability, and transferability, core criteria for trustworthiness in qualitative inquiry (Lincoln & Guba, 1985).

Triangulation was employed by integrating both primary and secondary data sources, allowing for a comprehensive understanding of incubation dynamics and validating findings through multiple perspectives (Flick, 2018). Member checking was conducted to ensure accuracy and authenticity; two researchers reviewed interview transcripts and, where feasible, verified with participants to confirm that their perspectives were faithfully represented (Birt et al., 2016).

Peer review further strengthened the study's rigour. Qualitative research specialists and colleagues were invited to evaluate the conceptual framing, data collection procedures, and analytical strategies. Their feedback informed iterative refinements to the research design and interpretive lens, enhancing analytical depth and coherence (Tracy, 2010).

An audit trail was maintained to document key decisions across the research process, including coding procedures, thematic development, and methodological adjustments. This ensured transparency and traceability, supporting the study's dependability and confirmability.

A reflexive journal was also kept to record the researcher's assumptions, positionality, and interpretive reflections, helping to mitigate bias and maintain analytical integrity (Berger, 2015).

Finally, transferability was supported through thick descriptions of the incubation contexts in Norway and South Africa, enabling readers to assess the relevance and applicability of findings to other innovation ecosystems.

4.12 Ethical Considerations

Ethical integrity was foundational to the study, guiding all phases of design, data collection, and analysis. Informed consent was obtained from all participants, with clear communication regarding the study's aims, procedures, and voluntary nature. This aligns with contemporary standards for autonomy and participant protection in qualitative inquiry (Orb et al., 2001).

Confidentiality and anonymity were rigorously maintained through secure data-handling protocols and de-identification procedures. Participants retained the right to withdraw at any stage without consequence, reflecting best practice in safeguarding individual agency and wellbeing (Dahal, 2024). Data security measures were implemented to prevent unauthorised access, in accordance with institutional and international ethical guidelines.

The study design prioritised non-maleficence and beneficence, with careful attention to minimising emotional, social, or reputational risk. Ethical approval was obtained from relevant ethics committees prior to data collection, ensuring compliance with recognised frameworks such as the Declaration of Helsinki and institutional review board protocols (Taquette & Souza, 2022).

Transparency was maintained throughout the research process via open dialogue with participants and clear articulation of methodological choices. Reflexivity was embedded through ongoing ethical mindfulness and situational responsiveness, particularly in navigating power dynamics and researcher-participant relationships (Taquette & Souza, 2022). These combined measures upheld the ethical integrity, credibility, and social responsibility of the study.

4.13 Limitations

Several methodological limitations were acknowledged throughout the research process, each with implications for the scope, interpretive depth, and transferability of findings. Firstly, the use of purposive sampling, while appropriate for identifying information-rich cases, may have introduced sample bias, thereby limiting the generalisability of findings across the broader startup ecosystems in Norway and South Africa. This constraint is consistent with critiques of non-probabilistic sampling in qualitative research, which caution against overextending claims beyond the studied context (Mwita, 2022).

Secondly, the cross-sectional design restricted the study's ability to capture longitudinal dynamics of collaborative capacity and innovation. As noted in recent methodological reviews, qualitative studies often struggle to account for temporal evolution unless explicitly designed for longitudinal inquiry (Kerr, 2020). The reliance on self-reported data introduced potential bias, as participants may have presented overly positive or negative accounts of their experiences. Although triangulation and peer review were employed to mitigate interpretive distortion, subjectivity remains an inherent feature of qualitative inquiry (Atieno, 2021).

Additionally, the study's focus on successful incubators may have inadvertently underrepresented struggling startups or failed ventures. This success bias is a recognised limitation in innovation research, where access to high-performing cases can obscure systemic challenges or marginalised experiences (Kerr, 2020). Time and resource constraints further shaped the data collection process. Limited participant availability due to scheduling pressures or confidentiality concerns reduced the breadth of perspectives captured. Moreover, cultural and linguistic differences across the two national contexts may have influenced interpretation, particularly in cases where English was not the participant's first language. Such cross-cultural complexities are well-documented in comparative qualitative studies and require careful reflexive engagement (Mwita, 2022).

Despite these limitations, mitigation strategies, including triangulation, peer debriefing, and reflexive journaling, were applied to uphold analytical rigour and transparency. These efforts align with best practices in qualitative research and reinforce the study's credibility within its defined scope.

Chapter 5: Presentation of Findings

5.1 Introduction

This chapter presents insights from a cross-national qualitative study exploring how incubation hubs in Norway and South Africa facilitate customer-centric innovation in startups. Drawing on 23 semi-structured interviews with startups' founders, incubation hub managers, and investment leads, the analysis offers multiple perspectives on the incubation process within two contrasting national contexts.

The data were analysed using a reflexive thematic analysis approach (Braun & Clarke, 2019), which enabled the identification of both semantic and latent themes. This method extends beyond surface-level descriptions to interpret the underlying assumptions, logics, and contextual forces that shape incubation practices. The chapter begins with a description of the sample, including justification for participant selection and an explanation of the relevance of the chosen cases. A brief explanation of the sampling criteria, as detailed in Chapter 4, reinforces the suitability of the study's design.

Findings are presented in accordance with the three research questions, organised into themes and sub-themes that emerged from the interviews. Verbatim quotes are used throughout to maintain the authenticity of participants' perspectives, while comparative insights between Norway and South Africa highlight how national innovation ecosystems, particularly funding structures and cultural norms, decisively shape the nature and effectiveness of incubation support.

Rather than merely cataloguing responses, this chapter interprets the deeper patterns and connections that reveal how context fundamentally shapes the incubation journey. Conceptual models, detailed tables, and anonymised narratives are employed to illustrate the pathways and challenges startups encounter in their pursuit of customer-centricity.

5.2 Methodological Reflection and Analytical Approach

The findings in this chapter stem from an iterative, reflexive analytical process that involved in-depth engagement with the qualitative data.

The richness and complexity of the interview material required a more nuanced approach, one where the researcher's interpretations remained in constant dialogue with emerging patterns and contextual insights. The analysis was guided by Braun and Clarke's (2019) reflexive thematic framework, which allowed for the identification of both semantic and latent themes. This method ensured that the findings captured not only what participants said but also the underlying meanings and socio-cultural factors shaping their experiences within the incubation ecosystems of Norway and South Africa.

Coding Strategy

A concept-driven (deductive) coding strategy was utilised. Codes such as "hub as credibility stamp," "infrastructure as barrier," "methodological push," and "survival mindset" emerged organically from the transcripts, whilst remaining sensitive to the study's research questions. These codes were iteratively clustered and refined, revealing that the key differentiator across contexts was not simply the type of support offered, but the underlying logic behind it. A logic deeply embedded within national innovation cultures.

Theme Development

Themes and sub-themes were developed by analysing relationships among codes and aligning them with the three research questions. For example, the theme "Guided Access" in Norway and "Resource Provision" in South Africa represent different responses to a common challenge, market entry, shaped by varying ecosystem constraints. This thematic framework enabled comparative insights whilst maintaining the integrity of each context.

Ensuring Analytical Rigour

To enhance credibility, peer debriefing sessions were held to critically discuss and refine emerging themes. Negative case analysis was actively pursued by identifying data that challenged initial interpretations, ensuring a balanced and robust analysis. Dependability was maintained through a detailed audit trail of analytical decisions, documented in a research journal throughout the process study. This reflexive and rigorous approach ensures that the findings presented are not merely a superficial summary of participants' statements but a meaningful interpretation of the complex realities of incubation across two distinct national settings.

5.3 Participant Demographics

A diverse range of voices informed this study, reflecting the multifaceted nature of incubation ecosystems in Norway and South Africa. The final sample consisted of 23 participants .13 from Norway and 10 from South Africa, selected through purposive sampling and finalised at the point of thematic saturation, at which additional interviews no longer yielded novel insights.

Participants included startup founders, hub managers, and investment leads from sectors like maritime tech, health-tech, fashion, food manufacturing, and digital platforms. Their diversity captures how incubation hubs support customer-focused innovation across sectors and countries. Table 5 details their profiles, including country, role, industry, value proposition, and incubation experience.

Table 5: Comprehensive Participant Profile

Participant	Country	Role	Organisation Type	Core Value Proposition	Incubation Experience
P1	Norway	Co-founder	Event Management	Digital platform for collaborative events	2+ years in generalist tech hub
P2	Norway	Hub Leadership	Specialist Incubator (Aquaculture)	Practical support for early-stage startups	N/A (Provider)
P3	Norway	CEO	Maritime Technology	Hardware solutions for ship efficiency	1.5+ years across two hubs
P4	Norway	CEO	HealthTech	Digital tool for tracking patient outcomes	Two hubs over 5+ years
P5	Norway	Co-founder & CEO	Construction Tech	Sustainable building materials	1 year in generalist hub
P6	Norway	Incubator CEO	Generalist Incubator	Focus on sustainable growth	N/A (Provider)
P7	Norway	Co-founder & CEO	Industrial Safety Software	Software for safety compliance	1.5+ years in city-based hub
P8	Norway	Founder	Marketing /Social Media	Customizable social media solutions	1 year in generalist hub
P9	Norway	Co-founder & CEO	Fashion/Apparel	Arctic-inspired clothing brand	Intermittent over 5+ years
P11	Norway	Accelerator Manager	National Accelerator Program	Pre-incubation program	N/A (Provider)
P12	Norway	CEO & Founder	Vocational Training Software	Software for apprentice progress	Pre-incubation + main incubator
P13	Norway	Co-Founder	Medical Device	Device for respiratory monitoring	2+ years in university hub
P14	South Africa	Incubation Manager	University Digital Hub	Focus on animation, gaming, software	N/A (Provider)

P15	South Africa	Portfolio Manager	Investment Management Firm	Emerging Manager Program	N/A (Provider)
P16	South Africa	Founder & Former CEO	Creative Industries Incubator	Support for creatives	N/A (Provider)
P17	South Africa	Founder & MD	Consumer Goods	African-made alcohol-free mouthwash	5 years across multiple programs
P18	South Africa	Founder	Talent Intelligence Platform	Skills verification for digital talent	Multiple programs since 2017
P19	South Africa	Founder	Health & Wellness Food	Juices, smoothies, healthy catering	8-9 programs over 5+ years
P20	South Africa	Founder	Food Manufacturing	Sauces and condiments for retail	3+ years in manufacturing hub
P21	South Africa	Co-Founder	Children's Books	Diverse children's books	Multiple short-term programs
P22	South Africa	Founder & MD	Asset Management	Global investing platform	Multiple 3-year programs
P23	South Africa	Investment Lead	Corporate Innovation Fund	Patient capital for black-owned ICT	N/A (Provider)

Source: Researcher's Own

5.4 Incubation Mechanisms Promoting Customer-Centric Innovation

This section addresses Research Question 1: *What incubation mechanisms promote customer-centric innovation in startups within Norway and South Africa?*

The analysis reveals a fundamental dichotomy in how incubation hubs operate across the two national contexts. Norwegian hubs function as orchestrators within a well-resourced ecosystem, while South African hubs act as interveners in a resource-constrained environment. This distinction reflects not just different activities but fundamentally different logics of operation, each shaped by the structural realities of its respective innovation ecosystem.

To organise the discussion, the section is structured as follows: Section 5.4.1 investigates the mechanisms observed in Norwegian incubation hubs, focusing on ecosystem coordination, stakeholder integration, and iterative feedback processes that foster customer-oriented innovation. Section 5.4.2 examines the mechanisms identified in South African incubation hubs, emphasising adaptive interventions, resource leveraging, and relational engagement in response to contextual constraints.

Each subsection highlights the key themes emerging from the data, supported by direct participant quotations to illustrate core insights. Themes and mechanisms are highlighted in bold for clarity.

This organisation enables a systematic comparison of the two contexts, demonstrating how different ecosystem conditions influence the mechanisms through which incubation hubs promote customer-oriented innovation.

5.4.1 Orchestration for Market Integration

In Norway's stable, high-functioning ecosystem, incubation hubs foster customer-focused innovation through strategic coordination, employing various mechanisms designed to encourage innovation with a strong emphasis on market validation and strategic growth. Norwegian hubs excel at creating thorough pathways to established markets through a sophisticated system that combines institutional credibility, curated network access, and physically designed environments that promote spontaneous collaboration and trust-building.

Strategic Network Facilitation and Ecosystem Cultivation

At the core of this orchestrator role is the intentional cultivation of networks and the broader ecosystem. This involves a multi-faceted approach: utilising the hub's institutional credibility to establish legitimacy, providing curated access to key industry stakeholders, and creating physical spaces that encourage serendipitous connections. The importance of this institutional credibility was emphasised by P13 (Medical Device Founder, Norway).

"I don't think the hospital would have talked to us if we weren't part of the incubator. The institutional affiliation gave us immediate legitimacy that we couldn't have built ourselves in such a short time. We strategically leveraged their established network to get the specific clinical contacts we needed, which was absolutely crucial for developing our medical device in a real-world healthcare environment."

This sentiment was reinforced by P3 (Maritime Technology Founder, Norway), who highlighted the quality of access provided through hub connections:

"The hub manager had a direct line to the major shipping companies. That introduction carried weight we could never achieve cold-calling. It meant we were having substantive conversations with decision-makers from day one, rather than being filtered out by gatekeepers or stuck in endless email chains with junior staff members."

The physical infrastructure serves as a crucial enabler of these curated networks, with spaces specifically designed to foster what participants termed innovation collisions. P7 (Industrial Safety Software Founder, Norway) described how the environment facilitated these strategic connections:

"The co-working space was intentionally designed to create constant interaction points. The open layout and shared facilities like coffee stations meant we were regularly engaging with other founders and mentors. Some of our most valuable customer insights came from informal conversations in these spaces, where we could spontaneously discuss market validation challenges with peers facing similar obstacles."

Beyond individual introductions, hubs strategically foster broader community integration through both physical clustering and structured networking events. P5 (Construction Tech Founder, Norway) highlighted the value of embedded ecosystems:

"The Proptech cluster is based on this floor. We got access to specialised networks and key personnel in the system simply by being in the same physical space. This proximity turned formal connections into collaborative relationships and gave us insights into industry-specific challenges we wouldn't have discovered otherwise."

The community aspect is actively cultivated through regular, informal events designed to build trust and facilitate serendipitous connections. As P10 (Incubation Manager, Norway) described, the strategy is to lower the barrier for engagement:

"We deliberately create informal settings like our 'Friday Waffle pitch' sessions and 'pancakes on Monday' mornings. The food is just a pretext. The real goal is to create a foundation of trust and familiarity that makes founders, mentors, and investors feel like part of a single community, which dramatically increases the frequency and quality of their interactions."

The effectiveness of this integrated approach was confirmed by P7 (Industrial Safety Software Founder, Norway), who experienced its benefits directly:

"Some of our most valuable technical advice didn't come from a scheduled meeting, but over pancakes on a Monday morning, talking to a founder from a different sector who had solved a similar data architecture problem. The 'Friday Waffle pitch' events were equally crucial, they were a low-stakes environment to practice our pitch and get immediate, candid feedback from a diverse audience before facing real investors."

According to P10 (Incubation Manager, Norway), this combination of formal and informal networking represents a comprehensive system:

"Our network isn't just a contact list, it's a curated ecosystem of trust built over years. We combine targeted introductions with community events because innovation happens in the space between formal meetings. When we make an introduction, both parties understand there's been quality assurance, and when they meet again at a 'Hackerthon,' the relationship deepens naturally."

Structured Methodological Implementation and Mentorship Architecture

This systematic implementation of customer development methodologies represents a cornerstone of the Norwegian orchestration model, transforming customer-centricity from an abstract concept into an operational reality. By providing structured frameworks and insisting on their consistent application, hubs ensure that startups develop evidence-based solutions grounded in market needs rather than technological assumptions.

Norwegian incubation hubs provide tailored mentorship that combines strategic guidance with practical, industry-specific expertise, creating a scaffolded learning environment that evolves with startup maturity. P1 (B2B SaaS Founder, Norway) emphasised the expectation of mentor expertise:

"Mentors are expected to be abreast of what's new, what are the new methods, and what's coming up? What are the trends? What are market trends? This currency of knowledge is non-negotiable because the market evolves rapidly and yesterday's insights can become today's liabilities."

The practical nature of this mentorship was highlighted by P12 (Vocational Training Software Founder, Norway), who described the hands-on approach to investor readiness: ***"They helped us with our investor deck with incredible specificity. They said, 'This is missing. Do this and this and this.' This wasn't theoretical advice but actionable guidance that directly improved our fundraising effectiveness and strategic positioning."***

P2 (Hub Leadership, Aquaculture Incubator, Norway) articulated their coaching philosophy that fosters founder independence:

"We act as sparring coaches, offering questions, reflections, and feedback rather than directives. This approach fosters deep learning and ownership, ultimately building founder capability and independence rather than creating dependency on our guidance."

The critical importance of domain-specific knowledge emerged as a defining feature of Norway's mentorship approach. P13 (Medical Device Founder, Norway) highlighted the transformative impact of sector-specific mentorship:

"Being linked to an incubator connected to a university hospital provided expertise and contacts that generalist support couldn't offer. Our mentors understood the regulatory pathways, clinical trial requirements, and procurement processes specific to medical devices, which accelerated our development by at least twelve months compared to navigating these complexities alone."

Strategic Funding Navigation and Capital Orchestration

Norwegian incubation hubs offer sophisticated guidance through a complex funding landscape, coordinating financial resources from initial grants to private investment. This support system ensures that financial strategy facilitates rather than dictates customer-focused innovation. The fundamental role of non-dilutive public funding was emphasised by P10 (Incubation Manager, Norway), who highlighted its psychological and practical influence.

"The Norwegian state is willing to throw money at you. It creates a kind of safety net that allows founders to focus on building and validating their business without the immediate pressure of profitability. This soft funding is a typical and crucial first step, and we guide startups through the application processes for market research, prototype development, and commercialisation grants."

Beyond guiding access to public funds, hubs employ a strategic, performance-oriented model for allocating their own resources. P6 (Incubator CEO, Norway) explained this selective methodology:

"We don't distribute money equally among companies. Instead, we strategically spend the money where we think it will have the most significant effect on high performers to help them reach the next critical milestone. This selective process not only maximizes impact but also minimizes the administrative burden for both our team and the startups, allowing everyone to stay focused on execution."

A critical function of hubs is guiding the strategic choice of funding trajectory. Founders are encouraged to consciously select between a capital-intensive, high-growth path and a more sustainable, bootstrapped approach. P7 (Industrial Safety Software Founder, Norway) articulated this strategic crossroads:

"The hub pushed us to decide what type of company we wanted to build. Did we want to pursue a 'more stone approach,' be more true to the mission with soft funding, or take the venture capital route, which is a different game entirely? This fundamental choice shapes everything that follows."

This strategic funding guidance is deeply integrated with customer validation objectives. As P11 (Accelerator Manager, Norway) emphasized regarding the transition to market validation:

"The most convincing validation for future investors comes not from grant approvals, but from paying customers. We constantly push startups to move beyond soft funding dependency and secure that first pilot customer payment, because nothing proves you're solving a real problem like someone opening their wallet."

This establishes a virtuous cycle where public funding facilitates initial product development, which then attracts paying pilot customers, thereby de-risking the venture for future investment rounds. The alignment guarantees that financial decisions consistently support the core mission of creating customer-centric solutions rather than pursuing growth for its own sake. This multi-stage approach to capital, from de-risking with soft funding to strategic internal allocation and guiding long-term financial strategies, exemplifies the Norwegian orchestration model.

Hubs act as financial conductors, ensuring startups access the appropriate type of capital at the right time to foster sustainable, customer-focused growth while remaining aligned with their core mission and market validation goals.

5.4.2: Intervention for Market Access (South Africa)

In South Africa's ecosystem, characterised by significant structural gaps and resource constraints, incubation hubs promote customer-centric innovation through direct intervention, using mechanisms designed to establish the fundamental conditions for innovation that are often overlooked in more advanced settings. South African hubs are defined by their function as active providers of crucial resources, ranging from physical infrastructure to certified facilities, without which market entry and product validation would be nearly impossible for early-stage ventures. The vital importance of physical infrastructure as a prerequisite for customer engagement was highlighted by P17 (Consumer Goods Founder, South Africa):

*"Our breakthrough was entirely dependent on the hub's physical lab. We had the formula on paper, but no potential investor or retailer would take us seriously without a tangible product. **The hub had a lab. We could make a first five-liter test batch.** I remember carrying that batch to our first major meeting; it was the proof of concept we needed. **Without that, we had no product to show anyone. You cannot engage with customers or gather meaningful feedback about a product that does not physically exist.** The hub didn't just advise us; it gave us the tools to create."*

This sentiment on overcoming fundamental market entry barriers was powerfully echoed by P20 (Food Manufacturing Founder, South Africa), who highlighted the non-negotiable nature of certified production space:

*"For us, the single most significant intervention was the certified production space. The retail market in South Africa has stringent health and safety standards that are impossible for a startup to meet independently. **The ready-to-use, certified production space was the only way to meet retailer standards.** We didn't have to invest millions in building our own facility from day one. **This wasn't just an advantage; it was the absolute barrier to entry that the hub helped us overcome.** It was the difference between being a legitimate supplier and remaining a home-based operation."*

The need for this direct intervention is amplified by a survivalist reality for many founders, leading to a pattern of strategic 'hub-hopping' to patch together essential resources. P19 (Health & Wellness Food Founder, South Africa) explained this rational adaptation to a fragmented system:

*"You have to be strategic, almost opportunistic, to survive. **I've been part of eight or nine different programs**, not because I lacked focus, but because each one offered a specific, critical resource we couldn't access otherwise. **We joined that specific hub for one reason: access to their commercial kitchen. Without it, we were stuck at a hobbyist level.** Another program offered a small grant, another gave us legal support. **You patch together a runway from these different interventions.**"*

This integrated approach of providing essential resources, from labs and kitchens to navigating a complex support landscape, transforms startups from conceptual ideas into operational entities capable of producing tangible products. The hub's role in building this foundational platform is the vital first step that enables all subsequent customer-centric innovation and market access in the South African context.

Adaptive Mentorship and Entrepreneurial Mindset Development

The mentorship approach in South Africa highlights practical experience and psychological support, recognising the unique pressures entrepreneurs face in resource-limited environments. By emphasising relatable, practitioner-led guidance and a strong focus on resilience, hubs tackle both operational and human capital challenges in venture development. The strong preference for experiential knowledge over theoretical guidance was expressed by P16 (Creative Industries Incubator Founder, South Africa), who outlined a clear philosophy on mentor selection.

*"We have a very specific filter for mentors. **I won't hire a business coach that has never failed at business.** Theoretical knowledge is cheap; what our entrepreneurs need is someone who has navigated the specific chaos of the South African market, who has faced payroll and survived a product recall. **We need mentors who understand the real-world struggles, not just theoretical concepts.***

This relatability is what makes the guidance actionable and trustworthy. A founder is more likely to listen to someone who says, 'I've been there, and here's how I dug myself out,' than to someone quoting from a textbook.

This practical support is complemented by a deep focus on building the entrepreneur's internal resilience and mindset as a foundational success factor. P23 (Investment Lead, South Africa) described their program's core philosophy:

*"Our selection and support process is unique. **We prioritise 'mindset firstly,' emphasising curiosity, resilience and oneness as fundamental traits.** We can teach business skills, but we cannot instil core resilience. **Building the business starts with building the founder's capacity to endure and adapt.** The market here will test you in ways you cannot anticipate, and without that psychological foundation, the venture will collapse no matter how good the idea is."*

The critical importance of this holistic support was confirmed by P18 (Talent Intelligence Founder, South Africa), who noted a common gap in the ecosystem that effective hubs must fill:

*"Many incubators focus on the business plan and the pitch deck, but they ignore the human element. **The mental transformation and professional development of entrepreneurs are areas often underserved by incubators.** The best support we received wasn't a financial model template; it was from a mentor who sat with us after we lost a major client and helped us reframe the setback. **That focus on our resilience was as important as refining our revenue model.**"*

This mentorship architecture represents a critical component of the South African intervention model, providing the human capital development necessary to withstand the specific pressures of the local ecosystem. By combining battle-tested, practical advice with a foundational focus on psychological resilience, hubs build founder capabilities that enable sustainable growth and adaptive problem-solving in a challenging market environment.

Contextualised Methodologies and Complex Funding Navigation

South African hubs must actively adapt global innovation methodologies to local socio-economic realities while guiding startups through a fragmented funding landscape characterised by compliance-driven programmes. This dual focus on contextual relevance and pragmatic resource navigation ensures that ventures develop solutions for the actual market and secure the essential capital to survive. The imperative to develop locally relevant frameworks was clearly articulated by P14 (Incubation Manager, South Africa), who emphasised moving beyond imported models.

*"We cannot be mere distributors of Silicon Valley models. The context is too different. **We need to develop frameworks that are relevant to the South African Market and that can solve for the customer problems in South Africa, not just use whatever is there in the theories.** A customer discovery process here must account for informal economies, spatial inequality, and vastly different digital literacy levels. **Applying a foreign model without adaptation sets our entrepreneurs up for failure.**"*

P16 (Creative Industries Incubator Founder, South Africa) reinforced this view with a practical example of methodological adaptation:

*"We tried applying the Lean Startup directly, but it didn't account for the unique purchasing behaviours and distribution challenges here. The assumption that you can quickly and cheaply test a product with a digital native audience falls flat when your target market primarily uses feature phones and buys from spaza shops. **We had to adapt it significantly, incorporating more on-the-ground, ethnographic research to make it useful for our founders.**"*

The challenge of the funding landscape is defined by navigating a complex terrain of grants and corporate programs that often misalign with long-term startup needs. P17 (Consumer Goods Founder, South Africa) was critical of the prevailing environment:

*"There is a lot of noise in the system. **The promises are big, but the actual support is limited by funding** that comes with strings attached, strings that often don't align with what a growing startup actually needs.*

So much of the available funding was a tick box exercise for the corporate providers, focused on their B-BBEE scorecards rather than on building a sustainable, high-growth business. It creates a dependency on grant-chasing rather than genuine customer development."

Despite these challenges, the transformative potential of well-designed, tangible financial support was acknowledged. P21 (Children's Books Founder, South Africa) shared a positive experience:

*"The most impactful support was surprisingly simple. **We got actual money in the bank and free access to an accounting system for three years. It made a huge difference for us.** The cash flow allowed us to print our first professional run of books without taking on debt, and the accounting software forced us to be financially disciplined from day one. **It was direct, tangible, and long-term enough to actually matter.**"*

P14 (Incubation Manager, South Africa) explained the structural tension that defines this funding navigation:

*"The challenge is that **many of our programs are externally funded and designed around corporate Enterprise Development requirements rather than a strategic incubation vision.** This directly influences the support we can offer; we might have a 12-month program vision, but the funding is for a 6-month 'training' intervention. **This misalignment between funder objectives and startup needs is a constant tension we have to navigate for our founders.**"*

This multi-faceted approach to methodology and funding exemplifies the South African intervention model. Hubs act as crucial interpreters and adapters, ensuring that global best practices are contextualised for local relevance and that startups can navigate a complex funding ecosystem to secure the essential resources for survival and growth, thereby creating a viable pathway for customer-centric innovation against significant structural odds.

This analysis of incubation mechanisms uncovers fundamentally different approaches shaped by ecosystem conditions.

The Norwegian orchestration model facilitates integration into existing systems, while the South African intervention model establishes essential support structures. These distinct approaches naturally lead to examining how startups engage with these different support systems, which forms the focus of Research Question 2 in the following section.

5.5 Engagement and Leverage of Incubation Mechanisms by Startups

This section addresses Research Question 2: How do startups engage with and leverage these incubation mechanisms during their customer-centric innovation processes?

Building on the distinct incubation models identified in Section 5.4, this analysis reveals how startups in Norway and South Africa actively engage with these support systems. The findings demonstrate that startup engagement patterns directly reflect the ecosystem conditions and hub approaches, with Norwegian startups exhibiting strategic, integrated engagement and South African startups demonstrating adaptive, resource-driven engagement.

To structure the discussion, this section proceeds as follows: Section 5.5.1 examines how Norwegian startups leverage the orchestration model through proactive network utilisation and iterative development. Section 5.5.2 explores how South African startups navigate the intervention model through resource optimisation and survival-focused strategies. Each subsection presents key engagement patterns supported by detailed participant quotations, with critical insights highlighted in bold for clarity.

5.5.1 Engagement and Leverage of Incubation Mechanisms by Startups

Norwegian startups demonstrate a proactive and systematic approach to leveraging incubation support, characterised by strategic network utilisation, iterative customer validation, and conscious alignment of resources with long-term vision. Norwegian startups actively cultivate relationships within their incubation ecosystems, treating network access as a strategic asset to be systematically leveraged toward specific customer development goals. P3 (Maritime Technology Founder, Norway) described their deliberate approach to network utilisation:

"We mapped the maritime industry ecosystem to identify not just who to connect with, but when to engage them based on our validation milestones."

Rather than taking every introduction offered, we strategically sequenced our network engagement, first with technical experts to refine our prototype, then with operational managers who understood implementation challenges, and finally with senior decision-makers. This phased approach ensured each conversation was maximally productive for our customer development process."

This was also supported by P13 (Medical Device Founder, Norway) who described their deliberate approach to network utilisation:

"We are consistently going to events, getting as much out of this incubation experience as possible. Unlike some companies who just sit at their desks and do what they want to do with minimal interaction, we treat every networking opportunity as a potential gateway to critical industry contacts. This proactive stance has been essential for building the clinical relationships we need."

The importance of self-directed engagement was emphasised by P7 (Industrial Safety Software Founder, Norway), who detailed their unstructured approach to support:

"Our most valuable mentorship occurred in informal settings rather than scheduled meetings. The 'Friday Waffle pitch' sessions and casual coffee interactions provided low-stakes environments to pressure-test ideas and gain candid feedback. This flexibility allowed us to access relevant insights precisely when facing specific customer validation challenges, rather than waiting for formal review cycles."

Startups also demonstrate strategic foresight in how they initiate relationships. P12 (Vocational Training Software Founder, Norway) explained their methodical onboarding process:

"We were advised to have a clear vision of what we wanted from the incubator period and communicate this early to our mentor. We front-loaded all interactions in the beginning to gain as much knowledge about how they work as quickly as possible. This strategic positioning ensured we extracted maximum value from the relationship from day one."

Iterative Product-Market Validation through Structured Feedback Loops

Norwegian startups employ rigorous, continuous validation processes, using incubation frameworks to test assumptions and refine offerings based on market feedback systematically. P5 (Construction Tech Founder, Norway) exemplified this approach through their hypothesis-driven development:

"We form specific hypotheses, like using recycled glass fiber for construction, create prototypes, and present them to the market for feedback to determine what we can do better. This process led to a significant pivot from prefabricated houses to focused roofing panels after initial market research indicated the former was a 'herculean endeavour' that exceeded our capacity as a startup."

The integration of direct customer feedback into development cycles was highlighted by P13 (Medical Device Founder, Norway):

"We work directly with a hospital under an innovation contract to get real-time feedback during the development of our medical device. This continuous feedback loop allows for immediate adjustments and ensures we're building something that actually addresses clinical needs rather than our assumptions about those needs."

This iterative approach extends to international scaling considerations. P1 (B2B SaaS Founder, Norway) described their strategic questioning process:

"We're now questioning whether we can simply replicate our Norwegian playbook internationally or need to make fundamental adjustments. The hub's network has been crucial for understanding how to adapt our technology to different regulatory and operational environments while maintaining our core value proposition."

Strategic Funding Alignment with Long-term Vision

Norwegian startups consciously align funding strategies with their core mission, viewing capital as a strategic tool rather than just a resource. P7 (Industrial Safety Software Founder, Norway) articulated this strategic decision-making process:

"The hub pushed us to decide what type of company we wanted to build and whether to pursue a 'more stone approach,' staying true to our mission with soft funding, or take the venture capital route, which is a different game entirely due to investors' focus on buying and selling companies. This fundamental choice shapes everything that follows."

The transition from grant funding to market validation was emphasised by P6 (Incubator CEO, Norway), who described their advisory approach:

"We constantly push startups to secure that first pilot customer payment after initial soft funding, to avoid the trap of artificially surviving solely on state funding without generating actual market revenue. The most convincing validation comes from paying customers, not grant approvals."

5.5.2 South Africa: Adaptive Engagement in Resource-Constrained Environments

South African startups demonstrate pragmatic and adaptive engagement strategies, characterised by resource-driven program participation, direct customer iteration, and strategic navigation of funding complexities. Faced with fragmented support systems, South African startups often engage with multiple incubation programs simultaneously, driven by the need to access specific resources. P19 (Health & Wellness Food Founder, South Africa) described their extensive program participation:

"I've been part of 8 or 9 different programs, primarily to access specific resources that each offered rather than for the content, which often proves repetitive. We joined one hub specifically for their commercial kitchen access, without it, we were stuck at a hobbyist level. This strategic hopping between programs is necessary to patch together a complete support system."

This pattern of engagement reflects what P14 (Incubation Manager, South Africa) termed a survivalist mindset:

"Many startups focus on finding the next small client or retail partnership instead of thinking big, driven by immediate survival needs. This mindset, while understandable, can lead to short-term thinking that undermines long-term strategic building as founders constantly search for the next program or small funding opportunity."

Direct Customer Engagement Amidst Systemic Barriers

Despite limited resources, South African startups maintain strong direct connections with customers, using real-world feedback to refine their offerings iteratively. P17 (Consumer Goods Founder, South Africa) highlighted the importance of exhibition feedback:

"We received extensive feedback from exhibitions that directly led to product improvements, such as removing sodium fluoride from our mouthwash and developing new flavours. This direct consumer input was invaluable for creating products that genuinely resonate with local market preferences."

P20 (Food Manufacturing Founder, South Africa) described their observational approach to market learning:

"We closely monitored sales rates of different chilli flavours over time to understand shifting consumer preferences, noting a significant demand shift towards milder options. This direct market observation, combined with customer feedback, led us to adjust our production focus to better align with actual consumer behaviour."

Strategic Utilisation of Provided Infrastructure and Expertise

South African startups maximise value from incubation support by strategically leveraging physical infrastructure and specialised expertise when available. P17 (Consumer Goods Founder, South Africa) emphasised the transformative impact of lab access:

"The hub's lab facilities were crucial for translating our formula from paper into a real product. Being able to produce that first 5-litre test batch gave us something tangible to show retailers and investors, without it, we had no way to demonstrate our value proposition or gather meaningful customer feedback."

The practical value of operational support was highlighted by P21 (Children's Books Founder, South Africa):

"Free access to an accounting system for three years made a huge difference in maintaining financial discipline without immediate cost burden. These seemingly small supports collectively create the stability needed to focus on business development rather than just survival."

Navigating Complex Funding Landscapes through Multiple Strategies

South African startups employ diverse funding strategies, often combining bootstrapping with strategic program participation to navigate limited funding options. P22 (EdTech Founder, South Africa) described their extensive bootstrapping journey:

"We bootstrapped to the hilt, working for four years and three months without a salary due to the extreme difficulty in securing external funding from traditional sources. This self-funding approach, while challenging, forced us to maintain absolute focus on creating customer value from day one."

The strategic use of corporate funding programs was noted by P18 (Talent Intelligence Founder, South Africa):

"We strategically used early grant funding from a corporate innovation program to extend our runway, which then helped demonstrate traction when securing pre-seed investment from a VC-type program. This staged approach to funding helps bridge the gaps in our funding ecosystem."

This analysis of startup engagement patterns reveals how the distinct incubation models in Norway and South Africa shape entrepreneurial behaviour. Norwegian startups leverage structured ecosystems for strategic growth, while South African startups develop adaptive strategies for resource optimization and survival. These engagement patterns naturally lead to examining the challenges startups encounter within these systems, which forms the focus of Research Question 3 in the following section: What challenges do startups encounter when implementing customer-centric innovation strategies within incubation hubs?

5.6 Challenges in Implementing Customer-Centric Innovation

This section addresses Research Question 3: *What challenges do startups encounter when implementing customer-centric innovation strategies within incubation hubs?*

Building on the engagement patterns revealed in Section 5.5, this analysis examines the critical barriers and friction points that startups face when translating incubation support into effective customer-centric innovation practices. While Sections 5.4 and 5.5 detailed the mechanisms available and how startups engage with them, this section reveals the systemic, operational, and contextual hurdles that test entrepreneurial resilience across both ecosystems. The findings demonstrate that even within supportive incubation environments, startups encounter significant challenges that shape, and sometimes compromise their customer-centric innovation journeys.

To structure this investigation, the section is organised as follows: 5.6.1 Norway: Navigating the Paradoxes of an Advanced Ecosystem examines how Norwegian startups confront challenges related to specialisation gaps, complex market structures, and cultural nuances within a sophisticated support system. 5.6.2 South Africa: Overcoming Foundational Constraints investigates the systemic barriers South African startups face, including resource scarcity, market access limitations, and support quality issues within a developing ecosystem.

5.6.1 Norway: Navigating the Paradoxes of an Advanced Ecosystem

Norwegian startups operate within a sophisticated support ecosystem but face distinct challenges stemming from the very evolution of their environment. These include specialisation deficits in complex industries, market access complexities, and cultural factors that impact the pace and effectiveness of customer-centric innovation. Despite comprehensive general support, Norwegian startups in specialised sectors encounter critical knowledge gaps where incubators' general expertise proves insufficient for domain-specific customer validation and regulatory navigation. P13 (Medical Device Founder, Norway) articulated this precise challenge:

"We faced a significant knowledge void in European medical device regulations that our incubator couldn't fill, creating dangerous delays in our customer validation cycles.

While the hub provided excellent general business mentorship, the specific expertise required for clinical testing protocols and regulatory submissions was beyond their scope. This forced us to navigate complex certification pathways alone for months, during which we couldn't gather crucial patient and clinician feedback. The specialisation deficit meant we had to allocate scarce resources to external consultants precisely when we needed to be conducting intensive customer discovery, creating a fundamental tension between compliance and innovation."

P5 (Construction Tech Founder, Norway) experienced similar sector-specific challenges: **"The transition from general startup advice to construction industry specifics revealed a dramatic support gap.** *We needed specialised knowledge about European technical standards and industry-specific networking that general incubators couldn't provide. This forced us to simultaneously navigate two support systems, the general incubator for business fundamentals and specialised clusters for industry knowledge, diverting immense time and energy from customer development to administrative coordination. The disconnect between these systems often left us with conflicting advice about whether to prioritise rapid iteration or compliance-driven development."*

The mature structure of Norwegian industries creates significant barriers to customer engagement, with long sales cycles and deeply rooted corporate processes challenging startups' ability to maintain customer-centric agility. P7 (Industrial Safety Software Founder, Norway) explained the time-related difficulty:

"The 24-month B2B sales cycles created a dangerous misalignment between our cash flow needs and customer validation requirements. *Large corporations' lengthy procurement and due diligence processes meant we had to make critical product decisions with minimal customer feedback. This forced us to either delay development, risking obsolescence, or build features based on assumptions rather than validated needs. The extended timelines also meant that by the time we secured pilot customers, market needs had often evolved, requiring costly re-engineering precisely when we should have been scaling."*

P4 (Clean Technology Founder, Norway) highlighted geographical market limitations: ***"The insufficiency of local demand forced premature international expansion, fundamentally compromising our customer-centric approach. We faced the impossible choice between deepening engagement with a limited local market or spreading resources thin across multiple international contexts. This geographic dispersion prevented the deep customer immersion needed for true innovation, as we juggled different regulatory environments, customer preferences, and market structures simultaneously."***

Norwegian business culture, while fostering trust and collaboration, presents unexpected challenges for the rapid iteration and decisive customer validation required in early-stage ventures. P6 (Incubator CEO, Norway) identified critical cultural tensions: ***"The Norwegian emphasis on consensus-building and relationship depth significantly slows the rapid customer validation essential for startups. Founders need to navigate the cultural expectation of thorough relationship-building while maintaining the agility to pivot based on customer feedback. Some incubators compound this challenge by being insufficiently challenging, we observe founders receiving beautifully packaged but conflicting advice from multiple mentors, creating 'analysis paralysis' precisely when they need decisive customer action."***

P11 (Accelerator Manager, Norway) observed founder mindset challenges exacerbated by cultural norms:

"The collaborative Norwegian culture sometimes prevents the necessary tough conversations about customer reality. We encounter technically brilliant founders building elegant solutions to narrow problems, but cultural norms of harmony can delay crucial feedback about market viability. The incubator's role should be to aggressively challenge assumptions, but we must balance this with cultural sensitivity, sometimes resulting in delayed pivots and missed market opportunities."

5.6.2 South Africa: Overcoming Foundational Constraints

South African startups navigate an environment marked by significant resource limitations and structural hurdles, where issues such as funding misalignment, restricted market access, and quality of support directly affect their ability to innovate with a customer focus.

The funding environment presents a key obstacle, with misaligned incentives, limited capital, and programme restrictions hindering ongoing customer-oriented growth. P17 (Consumer Goods Founder, South Africa) described the corporate funding dilemma:

"The prevalence of 'tick-box exercise' funding creates a dangerous misalignment between startup needs and funder expectations. Corporate B-BBEE requirements often prioritise compliance metrics over genuine business development, forcing us to tailor our customer validation to funder preferences rather than market reality. We found ourselves tracking engagement numbers rather than customer learning, creating a fundamental disconnect between what we measured and what actually drove innovation. The promises of support were substantial, but the actual resources available for genuine customer discovery proved severely limited."

P22 (EdTech Founder, South Africa) highlighted the personal cost of funding scarcity: ***"Bootstrapping for over four years without salary forced extreme risk-aversion in our customer validation approach. When every customer interview, every prototype, every iteration comes directly from personal sacrifice, you become dangerously conservative in your experimentation. This financial reality prevented us from pursuing bold customer insights that required significant resource investment, potentially causing us to miss crucial market opportunities. The constant financial pressure also shortened our strategic horizon, focusing on immediate revenue over long-term customer understanding."***

Deeply embedded market-entry challenges, from concentrated corporate power to informal practices, disrupt startups' ability to implement consistent, customer-centric approaches. P18 (Talent Intelligence Founder, South Africa) explained the B2B market concentration problem: ***"The oligopolistic nature of South African industries creates an innovation paradox, corporations demand innovation but are structurally resistant to startup solutions. We found innovation units overwhelmed with similar pitches, reducing engagement to transactional deck reviews rather than meaningful problem exploration. This forced us to guess at customer needs based on superficial signals rather than deep discovery. The market structure essentially rewards sales persistence over customer understanding, fundamentally undermining true customer-centric innovation."***

P17 (Consumer Goods Founder, South Africa) revealed informal barrier challenges: ***"The 'brown envelope culture' in retail distribution creates ethical and operational dilemmas that directly compromise customer-centric values. When informal payments become prerequisites for market access, it distorts our entire value proposition and forces impossible choices between growth principles and market reality. These unwritten rules are never addressed in incubation programs but fundamentally determine our ability to reach customers, creating a stark divide between theoretical customer-centric models and practical market entry requirements."***

The support ecosystem itself presents significant challenges, with experiential gaps, programmatic limitations, and contextual misunderstandings hindering the effective implementation of customer-centric solutions. P16 (Creative Industries Incubator Founder, South Africa) identified the practitioner experience deficit:

"The theory-practice gap in incubation support creates dangerous disconnects between methodological guidance and market reality. When mentors lack actual business-building experience, their beautifully structured frameworks often collapse upon contact with complex market dynamics. We observe startups receiving theoretical customer development templates that fail to account for South Africa's diverse consumer behaviors and informal economy structures, leaving founders disillusioned and unprepared for actual market engagement."

P19 (Health & Wellness Food Founder, South Africa) described programmatic fragmentation: ***"The haphazard, short-term nature of incubation programs fundamentally undermines sustained customer development. Just as we'd establish customer validation momentum, programs would conclude, forcing constant context-switching between different mentor relationships and methodologies. This fragmentation prevented the deep customer understanding that requires consistent engagement and iterative learning. The programmatic approach also prioritised measurable short-term outcomes over the messy, nonlinear process of genuine customer discovery."***

P14 (Incubation Manager, South Africa) highlighted critical contextual understanding gaps: ***"Many support programs fail to comprehend the profound socio-economic realities shaping entrepreneurial capacity. When founders navigate complex challenges like township logistics, diverse language barriers, and immediate financial pressures, standardized innovation methodologies become irrelevant. We need incubation approaches that acknowledge these contextual constraints while maintaining innovation rigour—a balance most programs struggle to achieve, resulting in either theoretical idealism or pragmatic compromise of customer-centric principles."***

This analysis reveals that implementing customer-centric innovation is fraught with ecosystem-specific challenges that test a startup's resilience and adaptation capacity. Norwegian startups navigate the sophistication paradox, where advanced ecosystem features create unexpected barriers to rapid customer validation. South African startups confront foundational constraints, where systemic gaps in funding, market access, and support quality fundamentally challenge customer-centric principles. These challenges, while distinct in manifestation, both represent significant barriers to transforming incubation support into sustainable market innovation.

The consistent emergence of these implementation challenges across both advanced and developing ecosystems demonstrates that practical customer-centric innovation requires more than sophisticated mechanisms or adaptive engagement; it demands fundamental alignment between support structures, market realities, and entrepreneurial contexts. These findings provide crucial insights for developing more effective, context-sensitive incubation models that can genuinely foster customer-centric innovation across diverse ecosystem conditions.

Having systematically examined the incubation mechanisms, startup engagement patterns, and implementation challenges across both ecosystems, the research now turns to synthesising these findings into broader theoretical and practical insights. The Summary of Key Findings will integrate these multi-layered perspectives to address the overarching research question of how incubation hubs across different national contexts cultivate customer-centric innovation in startups, drawing together the distinct patterns, tensions, and implications revealed throughout this comprehensive analysis.

5.7 Summary of Key Findings (Researcher Interpretation)

This cross-national qualitative study uncovers fundamentally different paradigms for promoting customer-centric innovation within incubation hubs in Norway and South Africa, building on the layered analysis presented in Sections 5.4-5.6. The findings show that incubation mechanisms, startup engagement patterns, and implementation challenges are deeply connected and collectively influenced by the broader ecosystem context.

The Norwegian Paradigm: Systematic Orchestration within a Curated Ecosystem

The Norwegian ecosystem, characterised by abundant resources and stable institutions, supports an orchestration model of incubation (Section 5.4.1). Hubs serve as strategic network facilitators, utilising institutional credibility and structured methods to help startups achieve market integration. Norwegian startups interact with this support through proactive orchestration (Section 5.5.1), displaying advanced resource sequencing, strategic network development, and methodological precision. They act as conductors, systematically harnessing curated resources to reduce risks in their venture development.

However, this advanced ecosystem faces its own unique challenges, which we call the paradoxes of advancement (Section 5.6.1). Startups experience crucial specialisation gaps in complex industries such as med-tech and construction, where generalist incubator support fails to address deep regulatory and technical requirements. Moreover, the very maturity of the market, demonstrated by lengthy B2B sales cycles and a consensus-driven business culture, can hinder the rapid iteration essential for early-stage customer validation. The prevailing approach of sustainable, "stone-by-stone" growth, while supporting higher startup survival rates, can sometimes conflict with the aggressive scaling and pivot strategies often necessary for achieving a global market fit.

The South African Paradigm: Adaptive Navigation within a Constrained Ecosystem

In stark contrast, the South African ecosystem is characterised by resource constraints and structural fragmentation, necessitating an intervention model of incubation (Section 5.4.2). Hubs are compelled to become direct providers of essential resources, from certified lab space to production facilities, actively creating the conditions for innovation that the market fails to supply.

In response, startups demonstrate adaptive navigation (Section 5.5.2), characterised by tactical hub-hopping, methodological improvisation, and the inventive stacking of resources from disparate programmes to build a coherent support system.

The challenges here are both foundational and systemic (Section 5.6.2). The incubation landscape is heavily influenced by programmatic, short-term external funding that is often misaligned with long-term startup development, being seen as a "tick-box exercise." Startups encounter significant market access barriers, including a concentrated B2B sector and informal entry practices, which impede genuine customer discovery. A key gap identified is the "theory-practice" divide in mentorship, where a lack of practical entrepreneurial experience among incubator leaders diminishes the effectiveness of support. This environment fosters a survivalist mindset, underscoring an urgent need for incubation models that promote long-term, empire-building ambitions through holistic and contextually grounded support.

Synthesis and Cross-Cultural Implications

Across both nations, the study highlights that effective customer-centric innovation is not just a matter of the mechanisms provided (Section 5.4), but also results from the dynamic interaction between hub offerings and startup agency (Section 5.5). The implementation challenges (Section 5.6) in both contexts, whether Norway's sophistication gaps or South Africa's foundational constraints, demonstrate that misalignment between the support structure, market realities, and entrepreneurial environment continues to be a significant obstacle.

Ultimately, the Norwegian model provides a masterclass in optimising and integrating startups into a well-functioning system. In contrast, the South African model exemplifies improvisation and resilience, requiring the active construction of the system itself. This divergence confirms that there is no universal blueprint for incubation. The imperative for policymakers and hub leaders is to develop context-sensitive strategies that either leverage systemic strengths, as in Norway, or directly address systemic gaps, as in South Africa, to truly cultivate customer-centric innovation and sustainable venture growth.

The empirical findings presented in this chapter offer a comprehensive understanding of incubation mechanisms, engagement patterns, and implementation challenges across the Norwegian and South African ecosystems. Having established these essential insights, the study now advances to Chapter 6, where these results will be critically analysed and placed within broader theoretical frameworks and practical contexts. Chapter 6 will discuss the implications of these findings, exploring their significance for theory development, incubation practice, and entrepreneurial strategy, while also considering the study's limitations and potential avenues for future research.

Chapter 6: Discussion of Results

6.1 Introduction

This chapter provides a comprehensive analysis and interpretation of the empirical findings presented in Chapter 5. It examines these findings within the framework of the Resource-Based View and the comparative literature on entrepreneurial ecosystems established in Chapter 2. The discussion is carefully organised around the three research questions that guided this study. Going beyond simple description, it offers a critical synthesis of how the findings confirm, contradict, and most importantly, extend existing scholarly understanding. By systematically analysing cross-national data, this chapter demonstrates that the national innovation ecosystem is not merely a background setting but an active force.

It fundamentally shapes the logic of incubation, entrepreneurs' behaviour, and the nature of resources considered strategic. The discussion directly addresses the identified gaps in the literature, specifically the lack of micro-level mechanisms in resource orchestration, the scarcity of comparative analyses of incubation models, and the limited integration of the Resource-Based View with customer-centric innovation practices (Shepherd & Gruber, 2021; Gupta, 2020; Rykkje et al., 2023). Through this process, the chapter lays the foundation for meaningful theoretical contributions and practical implications, ultimately proposing a new integrated framework for understanding incubation within diverse ecosystem contexts, to be elaborated in Chapter 7.

6.2 Discussion of Research Question 1: Incubation Mechanisms for Customer-Centric Innovation

This section explores the specific mechanisms incubation hubs use to promote customer-centric innovation. The analysis in Chapter 5, especially in Sections 5.4.1 and 5.4.2, showed that these mechanisms are not standardised but form two distinct coherent models. These models arose from the data coding process, where the first-order codes from participant interviews were grouped into second-order themes.

The primary theme in addressing this research question is Strategic Network Facilitation in Norway and its equivalent, Foundational Resource Provision in South Africa.

As outlined in Section 5.4.1, the data show that Norwegian hubs consistently add value by coordinating access to established networks and institutions, whereas South African hubs, as described in Section 5.4.2, are forced to supply the foundational infrastructure themselves directly.

The second important theme is structured methodological implementation versus contextualised methodologies. The findings in 5.4.1 demonstrate how Norwegian hubs adopt and improve global innovation frameworks. In contrast, the data in 5.4.2 show how South African hubs must actively tailor these same methodologies to local socio-economic realities.

A final, interconnected theme is strategic Funding Navigation versus managing a complex funding landscape. The Norwegian approach, as outlined in 5.4.1, involves coordinating a multi-layered funding system. At the same time, the South African context, discussed in 5.4.2, is characterised by guiding startups through a fragmented landscape of often misaligned grants.

Therefore, the analysis shows that these thematic clusters are not random variations but represent a fundamental dichotomy rooted in the contrasting resource landscapes of Norway and South Africa. The analysis confirms that incubation hubs do not merely implement standardised support programmes but develop distinct operational logics, namely orchestration versus intervention, which directly reflect their ecosystem resource endowments.

6.2.1 Contextualising Resource-Based View Through Thematic Evidence

The findings reveal a fundamental dichotomy in incubation mechanisms that directly addresses the literature gap concerning contextual embeddedness (Pettersen et al., 2023; Sibiya et al., 2023) and fulfils the need for comparative analysis across ecosystems (Rykkje et al., 2023). This dichotomy is based on the distinct second-order themes that emerged from the data analysis.

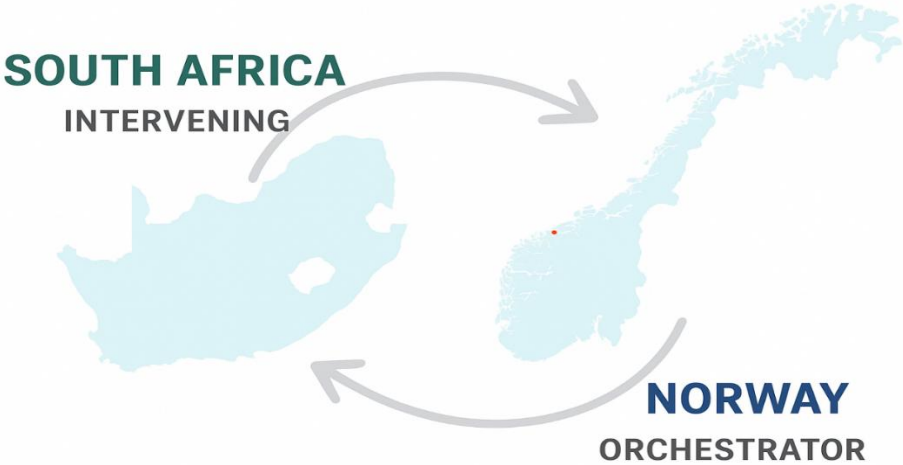
In Norway, the themes of strategic network facilitation and structured methodological implementation reveal that incubation hubs act as resource orchestrators within what the literature describes as a highly structured and policy-enabled innovation ecosystem (Pettersen et al., 2023).

This finding confirms that Norwegian hubs operationalise the Resource-Based View by orchestrating existing resources, leveraging social capital, and utilising methodological knowledge as strategic assets (Zahra, 2021; Lose, 2021).

In contrast, in South Africa, the themes of foundational resource provision and contextualised methodologies demonstrate that incubation hubs serve as resource interveners in resource-constrained environments (Sibiya et al., 2023). This extends the Resource-Based View beyond its traditional focus on leveraging pre-existing resources (Barney, 1991) by illustrating how incubation hubs in constrained ecosystems must actively create strategic resources, a vital adaptation to market failures that has been under-theorised in the incubation literature (López-Rivas et al., 2023).

Figure 1 illustrates the comparative incubation frameworks examined in this study. Norway represents the Orchestration Model, emphasizing structured support and ecosystem coordination, while South Africa reflects the Intervention Model, centered on adaptive resource provision. The figure highlights their contrasting yet complementary approaches to fostering customer-centric innovation

Figure 1 Comparative Visual Representation of Incubation Models in Norway and South Africa



Source: Researchers Own

This distinction powerfully illustrates the Resource-Based View's principle of heterogeneity while addressing critiques of its static nature and neglect of external structures (Shepherd & Gruber, 2021). The strategic resources in Norway are predominantly intangible (social capital, methodological knowledge). Meanwhile, in South Africa, these aspects are often tangible and fundamental (physical infrastructure, adaptive capacity), demonstrating that the very definition of a strategic resource depends on the context.

The Norwegian orchestration model is characterised by its emphasis on leveraging and connecting existing ecosystem resources. This is evidenced by the second-order theme of strategic network facilitation, which includes codes such as 'institutional legitimacy' and 'curated network access,' illustrating how incubation hubs regard social capital as a primary strategic asset (Fernandes & Ferreira, 2022). At the same time, the theme of structured methodological implementation, with codes like 'methodological rigour' and 'systematic customer validation,' demonstrates how process knowledge is utilised as another vital resource, confirming the practical application of structured innovation practices in developed ecosystems (Mian et al., 2016).

This finding affirms the depiction of Norway's structured, resource-rich ecosystem, where formal support structures are well in place (Fernandes & Ferreira, 2022). This approach aligns seamlessly with the Resource-Based View, which argues that valuable, rare, and inimitable intangible resources are essential for competitive advantage (Zahra, 2021). If the ecosystem is likened to a symphony orchestra, Norwegian incubation hubs serve as skilled conductors, expertly coordinating the existing high-quality sections (networks, institutions, methodologies) to produce harmony, rather than supplying the instruments themselves.

Conversely, the South African intervention model requires a more fundamental approach, characterised by the second-order theme of basic resource provision, including codes such as reliance on physical infrastructure and certified facilities as barriers to entry. This aligns with observations about the vital importance of tangible support in constrained environments (Mabunda & Msimango, 2025). The model is further distinguished by contextualised methodologies that adjust global frameworks to local realities, which is a necessary response to the complex socio-economic dynamics that standard models do not address (Sibiya et al., 2023).

This finding significantly broadens the Resource-Based View by showing that in environments of severe scarcity, intermediaries need to shift from resource orchestrators to resource creators, moving beyond the traditional focus on utilising existing assets (Lose, 2021). This challenges a core, often implicit, assumption in the Resource-Based View that strategic resources already exist within the firm's environment, waiting to be acquired and managed (Dhrubo et al., 2024), and instead emphasises the need for what can be described as compensatory resource creation within fragmented ecosystems (Abrahams, 2020).

It illustrates that for incubation hubs in emerging ecosystems, the strategic ability lies not just in utilising existing resources but in developing them from the ground up, a vital response to the call for understanding adaptive strategies in complex environments (Agyemang & Mensah, 2025). This interventionist stance signifies a fundamental adaptation to ecosystem conditions that addresses systemic gaps and institutional voids prevalent in such contexts (Bucci & Marks, 2022). If Norwegian hubs act as conductors of a pre-existing orchestra, South African hubs are master instrument makers and stage builders who must first craft the essential tools and construct the platform for innovation, such as basic infrastructure and market access, before any performance can begin (Schutte & Chauke, 2021). This active role of resource creation, moving beyond the traditional scope of resource orchestration, emphasises a critical capability that has been under-theorised in mainstream incubation literature (Lose, 2021).

This orchestration-intervention framework can be summarised into four key dimensions that emphasise the strategic differences between the models, as outlined in Table 6. The main distinction lies in the incubation hub's primary role: functioning as a resource connector and curator in Norway, compared to a resource creator and provider in South Africa.

This role defines the key resources used in intangible assets, such as social capital and knowledge. In the orchestration model, as opposed to tangible foundations like physical infrastructure and funding in the intervention model. These roles are direct, logical responses to the ecosystem condition, shifting from leveraging a resource-rich, structured environment to compensating for a resource-constrained, fragmented one.

Consequently, their theoretical alignment with the Resource-Based View shifts from the traditional focus on organising existing resources to a broader perspective where the act of resource creation itself becomes the core strategic capability.

The previous thematic analysis uncovers a fundamental dichotomy in how incubation hubs function within their ecosystems. This difference is conceptualised as a distinction between an Orchestration Model in Norway and an Intervention Model in South Africa. As outlined in Table 6, these models vary across key aspects, including the main role of the hub, the type of resources they utilise, the condition of their host ecosystem, and their core theoretical basis, which is the Resource-Based View.

Table 6.: The Orchestration-Intervention Dichotomy in Incubation Practices

Dimension	Norwegian Orchestration Model	South African Intervention Model
Primary Role	Resource connector and curator	Resource creator and provider
Key Resources Leveraged	Social capital, methodological knowledge, and network access	Physical infrastructure, market access, basic funding
Ecosystem Condition	Resource-abundant, structured	Resource-constrained, fragmented
Theoretical Alignment	Traditional RBV (orchestrating existing resources)	Extended RBV (creating new resources)

Source: Researcher’s Own

6.2.2 Extending the Resource-Based View: From Static Resources to Dynamic Creation

The implementation of innovation methodologies further reinforces this contextual adaptation and directly tackles the gap in integrating the Resource-Based View with modern innovation frameworks (Shepherd & Gruber, 2021). The findings show that methodologies themselves act as strategic resources whose value is shaped by their ecosystem fit rather than their intrinsic properties.

In Norway, the theme on structured methodological implementation highlights incubation hubs embedding formal frameworks like Lean Startup as strategic routines, confirming the literature on the transferability and effectiveness of structured innovation practices in developed, resource-rich ecosystems (Mian et al., 2021). This exemplifies a direct realisation of the Resource-Based View, where established methodologies serve as valuable and rare resources that help develop dynamic, customer-centric capabilities (Teece, 2023). The Norwegian approach shows how methodological rigour itself becomes a strategic resource when applied within supportive institutional frameworks (Pettersen et al., 2023), enabling the systematic customer validation processes essential for innovation success (Kurtmollaiev et al., 2022).

Conversely, South Africa's emphasis on contextualised methodologies demonstrates that methodological resources are not inherently strategic. The necessity to adapt or reinvent frameworks suggests that their Resource-Based View value relies entirely on ecosystem fit, strongly supporting critiques of universalist approaches in entrepreneurial support (Shepherd & Gruber, 2021). This insight broadens our understanding of resource value by showing that even well-established innovation methodologies must be significantly adapted to maintain their strategic relevance in resource-limited environments (Agyemang & Mensah, 2025). The data indicate that standardised approaches often falter when confronting complex local realities (Sibiya et al., 2023), underscoring the importance of developing context-specific methodologies that account for diverse consumer behaviours and informal economy structures (Bucci & Marks, 2022).

This analysis significantly advances the Resource-Based View theory by illustrating that the strategic value of innovation methodologies is not fixed, but depends on their contextual application. While Norwegian hubs utilise methodologies as pre-existing strategic assets, South African hubs must develop resources through adaptation, representing a more fundamental expansion of Resource-Based View principles to address contextual differences in resource worth (Dhrubo et al., 2024). This finding supports the broader argument that resource value is context-dependent and emphasises the importance of ecosystem-aware approaches to applying innovation methodologies.

6.2.3 Lifecycle Alignment and Venture Development Pathways

The orchestration–intervention framework further manifests throughout the venture development lifecycle, directly shaping how customer-centric innovation is nurtured at each stage. This analysis fills a significant gap in the literature by exploring how stage-specific support mechanisms influence a venture’s market-facing capabilities (Mian et al., 2016). It also broadens understanding of resource orchestration across developmental phases, demonstrating how incubators and accelerators progressively coordinate tangible and intangible resources to enhance entrepreneurial capacity and innovation outcomes (Fernandes & Ferreira, 2022).

In Norway, the themes of strategic network facilitation and structured methodological implementation enable a phased and strategic orchestration of resources aligned with venture maturity. From pre-seed methodological guidance that instils rigorous customer discovery to growth-stage access to international networks that support scaling and market validation, the ecosystem exemplifies what can be conceptualised within the Resource-Based View as *temporal resource alignment*. This finding echoes insights by Fernandes and Ferreira (2022), who argue that the value of entrepreneurial resources is contingent not only on their inherent qualities but also on their timing and contextual deployment within the venture lifecycle. The Norwegian model excels by ensuring that the right resources are orchestrated at the right stage of development, allowing customer-centricity to evolve into an embedded organisational capability (Zahra, 2021).

Conversely, in South Africa, the ongoing themes of fundamental resource provision and contextualised methodologies expose a fragmented path to customer-centric innovation that demands continuous intervention at every stage. The incubation hub's role shifts towards what might be described as an ecosystem compensatory logic, where it must actively develop the essential prerequisites for customer engagement that are typically assumed in mature ecosystems. This finding broadens the Resource-Based View by demonstrating that in settings of extreme scarcity, the strategic capability transitions from orchestrating resources to actively creating them (Lose, 2021). This involves providing physical laboratory infrastructure for initial product testing at the pre-seed stage, a foundational requirement for gathering customer feedback that is often overlooked in resource-rich contexts, and later establishing artificial market linkages for pilots and distribution during the growth stage.

This finding significantly expands the lifecycle perspective by showing that in severely limited environments, the primary challenge is not merely teaching customer-centric methodologies (Shepherd & Gruber, 2021) but fundamentally creating the basic conditions necessary for direct customer engagement and iterative learning, a reality underacknowledged in mainstream incubation models (Agyemang & Mensah, 2025).

This comparative analysis shows that the effectiveness of customer-centric innovation support depends not just on the quality of methodologies, but also on the timing of resource provision in relation to venture development needs. While Norwegian hubs optimise an existing resource escalator, South African hubs must engage in ongoing resource creation to address systemic gaps, supporting Abrahams' (2020) concept of innovation entanglement in African ecosystems. This difference has significant implications for how we define incubation success metrics and timing expectations across various ecosystem contexts, challenging the universal application of stage-gate models and linear development pathways in entrepreneurial support literature.

6.3 Discussion of Research Question 2: Startup Engagement with Incubation Mechanisms

This section analyses the findings for Research Question 2: *How do startups engage with and leverage these incubation mechanisms during their customer-centric innovation processes?*

The core argument here is that the engagement patterns revealed in Section 5.5 are not neutral behaviours; they are the critical mediating factor that translates ecosystem structures into distinct customer-centric innovation practices. The empirical data demonstrated a stark contrast: Norwegian startups exhibited a strategic, integrated, and proactive approach, while South African startups demonstrated an adaptive, resource-driven, and often reactive posture.

6.3.1 Evolutionary Engagement and Lifecycle-Specific Support in a Stable Ecosystem

The Norwegian case demonstrates a clear evolutionary engagement, characterised by a predictable transition from reliance on foundational support to a sophisticated strategic partnership with the incubation hub. This pattern provides strong confirmation of the established literature on organisational lifecycles and specific support (Frimanslund & Nath, 2022)

It demonstrates a maturation process in which resource needs evolve predictably from tangible assets and basic guidance to more intangible, strategic resources, such as specialised network access and high-level counsel. This pattern reflects the "stone-by-stone" growth approach cited by participants and aligns with observations about Norway's capacity for sustained, long-term investment in innovation (Lepanjärvi et al., 2022). The ecosystem's stability enables a forward-looking, developmental relationship between the startup and the hub, characterised by what might be called "calculated dependency" in early stages, transitioning to "strategic partnership" in later phases.

This evolutionary engagement pattern depicts an idealised scenario often implicitly assumed by the literature but rarely placed within specific ecosystem contexts. The Norwegian example shows that such evolution is achievable only when the broader ecosystem offers stability and resource continuity, which support long-term planning and gradual capability development. This insight broadens our understanding of lifecycle models by indicating that their relevance depends on ecosystem conditions that allow for systematic, phased growth.

6.3.2 Survival Mentality: A Cognitive Adaptation to Ecosystem Precarity

The most notable finding from the South African engagement data is the theme of a survival mentality. This concept directly addresses the literature gap concerning the lived experiences and voices of entrepreneurs in challenging ecosystems (Sibiya et al., 2023) and offers a micro-level, cognitive explanation for the observed patterns of adaptive, resource-driven engagement.

This finding significantly broadens the concept of necessity entrepreneurship (Abraham, 2020) by extending it from a structural classification to include the cognitive framework that develops from operating in persistently uncertain conditions. While necessity entrepreneurship explains the pressure to start a business out of necessity, the survival mindset describes the subsequent mental approach towards time, risk, and opportunity. This marks an important contribution by incorporating entrepreneurial cognition as a core element within the Resource-Based View framework. The Resource-Based View has faced criticism for its overly static and materialistic perspective on resources (Shepherd & Gruber, 2021). The survival mindset concept addresses this by suggesting that the entrepreneur's cognitive framework itself is a vital resource that influences how other resources are utilised.

When this cognitive resource is directed towards survival, it fundamentally alters the startup's approach to customer-centric innovation. This mindset results in a basic reorientation of entrepreneurial priorities: a short-term emphasis on immediate customer transactions replaces long-term visioning; risk aversion for stability takes precedence over calculated risk-taking for market exploration; and immediate use of support resources is prioritised over their strategic, long-term deployment. As a result, the customer-centric innovation process becomes characterised by tactical pivots based on direct feedback rather than structured hypothesis testing, and customer engagement remains transactional rather than developing into deep, relational interactions.

The short-term, opportunistic engagement with hubs is not a failure of incubation design but a rational, cognitive response to an ecosystem that actively punishes long-term planning. This finding helps explain why standardised incubation approaches often fail in resource-constrained environments: they assume a cognitive framework oriented towards strategic growth rather than immediate survival. The survival mentality thus represents both a necessary adaptation to environmental constraints and a significant barrier to implementing the sustained, strategic customer-centric innovation processes essential for long-term venture growth.

6.3.3 Transactional vs. Transformational Engagement Patterns

The data analysis highlights a fundamental difference between transactional patterns in South Africa and transformational engagement patterns in Norway. This dichotomy is not a matter of engagement intensity but represents fundamentally different relational logics shaped by their respective ecosystems, impacting how customer-centric innovation is practised. It also echoes the ecosystem conditions discussed in the literature. This analysis expands on existing research that records varied incubation approaches in developed and emerging economies (Agyemang & Mensah, 2025; Máté et al., 2024).

The South African pattern of transactional engagement, characterised by short-term, resource-specific exchanges aimed at meeting immediate survival needs, is a direct behavioural expression of the survival mentality and the interventionist hub model. This corresponds with literature showing how resource-constrained environments encourage resource-seeking behaviours (Lose, 2021) and compel incubators to offer fragmented, immediate support to fill systemic gaps (Mabunda & Msimango, 2025; Schutte & Chauke, 2021). In this setting, engagement is pragmatic and episodic, centred on accessing particular assets, such as lab space or a grant, reflecting what Abrahams (2020) describes as the 'innovation entanglement' of African ecosystems.

In stark contrast, the Norwegian model of transformational engagement, characterised by long-term, trust-based partnerships focused on developing enduring innovation capabilities, stems from the stability of its ecosystem and the orchestration model of its hubs. This aligns with the strategic network utilisation patterns identified in mature ecosystems (Pettersen et al., 2023) and exemplifies the role of hubs as long-term capability developers (Gawer, 2021). Here, engagement is strategic and ongoing, aimed at gradually enhancing the venture's ability to create markets.

This distinction requires a careful reassessment of incubation success metrics. The findings question the widespread use of independence-based metrics mainly derived from transformational contexts (Mian et al., 2021). In transactional contexts characterised by systemic precarity, success might be better measured by venture survival, stability, and resilience, outcomes that acknowledge the incubation hub's role as an ongoing source of stability (Agyemang & Mensah, 2025; Motlhaudi, 2025).

This represents a significant shift from traditional models and supports continued assistance when independent graduation is unfeasible.

Most critically, these engagement patterns determine the very methodology of customer-centric innovation. Transactional engagement promotes a reactive form of customer centricity, relying on immediate, direct customer feedback for tactical product adjustments. Conversely, transformational engagement supports a proactive, strategic form of customer centricity, founded on structured, iterative validation processes and long-term customer relationship building, which are essential for market leadership. Thus, the ecosystem not only influences the effectiveness of customer-centric innovation but also fundamentally constrains its strategic potential by shaping the core nature of the startup's engagement with both its support hub and its market.

6.4 Discussion of Research Question 3: Challenges in Implementing Customer-Centric Innovation

This section examines the systemic challenges that hinder the effective implementation of customer-centric innovation. It explores how these findings both support and expand the existing literature on entrepreneurial ecosystems and innovation processes. The analysis shows that even within supportive incubation environments, significant ecosystem-level barriers can distort or impede the core activities of customer discovery and validation.

6.4.1 The Sophistication Paradox in Advanced Ecosystems

The Norwegian findings reveal a sophistication paradox where the very advancement of the ecosystem creates unexpected barriers to customer-centric innovation. These findings nuance the existing literature on mature entrepreneurial ecosystems. While scholars like Gawer (2021) emphasise the importance of ecosystem alignment for innovation, our data shows that this alignment can be too broad, leading to specialised gaps that hinder deep, domain-specific customer validation. The identification of critical knowledge voids in European medical device regulations and significant support gaps in construction industry specifics demonstrates how generalist incubation support fails at the frontiers of complex, regulated industries, leaving startups without the specialised expertise needed to navigate the intersection of customer needs and strict compliance requirements.

This finding significantly extends Mian et al.'s (2021) work on technology entrepreneurship by showing how regulatory complexity creates a core tension between the fast, iterative cycles of customer discovery and the slow, compliance-driven timelines of regulatory approval. This conflict forces startups into a delicate balancing act, often requiring them to compromise valuable customer feedback to meet procedural requirements, a key challenge that the lean startup literature does not sufficiently address (Shepherd & Gruber, 2021). This highlights a major limitation of traditional incubation models that assume general business mentorship is adequate across all sectors, exposing a critical blind spot in the support systems of even the most advanced ecosystems.

6.4.2 Structural Barriers to Market Learning

The study highlights significant structural barriers within mature markets that systematically challenge a startup's ability to stay customer-focused and agile. The discovery that 24-month B2B sales cycles pose a serious misalignment closely aligns with Pettersen et al.'s (2023) observations on the corporatisation of Norwegian startups. However, our data further shows how these prolonged corporate procurement procedures actively erode the core feedback loops essential for customer-centric innovation (Gupta, 2020). When startups are caught in lengthy decision-making processes with few potential clients, they are compelled to build and invest based on assumptions and initial specifications rather than on ongoing, validated market learning. This directly opposes the principles of iterative customer development (Blank, 2020; Shepherd & Gruber, 2021).

Similarly, the lack of local demand, which forces premature international expansion, aligns with existing research on small domestic markets (Mago & van der Merwe, 2023) but offers a deeper insight into customer-centricity. This geographic dispersion at an early stage prevents the deep customer immersion necessary to achieve proper product-market fit (Joshi & Sharma, 2004). Startups are forced to spread their limited resources thin across diverse cultural and regulatory contexts, engaging superficially with multiple customer segments rather than developing a deep, nuanced understanding of a single market.

This finding directly challenges the assumption that early internationalisation is an unequivocal strategic benefit, showing that it can, in fact, seriously compromise the depth of customer understanding essential for early-stage validation and sustainable innovation (Kurtmollaiev et al., 2022; Rykkje et al., 2023), particularly when it occurs before establishing a strong customer-centric foundation in the home market (Fernandes & Ferreira, 2022). The analysis shows that these structural barriers, whether temporal misalignment in sales cycles or geographical dispersion, fundamentally alter how customer knowledge is developed and used, creating significant friction in the customer-centric innovation process that even advanced ecosystems find difficult to resolve overcome.

6.4.3 Cultural-Contextual Implementation Challenges

The research reveals how deeply ingrained cultural norms can lead to unexpected conflicts in implementing customer-focused innovation, highlighting challenges that extend beyond resource constraints. This finding extends beyond structural and economic views of ecosystems to underscore the key role of cultural-cognitive patterns in either supporting or hindering entrepreneurial learning and market validation processes.

The recognition of a cultural focus on consensus-building significantly delays rapid customer validation, both confirming and complicating our understanding of innovation in advanced ecosystems. While Rykkje et al. (2023) rightly highlight the importance of contextual comprehension in entrepreneurship, our findings reveal a more complex tension: cultural norms that typically promote trust and collaboration in Norwegian business culture can directly conflict with the rapid iteration and decisive hypothesis testing necessary for effective customer development (Shepherd & Gruber, 2021). This results in what could be called a collaboration-velocity paradox, where the same cultural attributes that strengthen long-term business relationships can also hinder the critical feedback loops essential for early-stage venture validation (Teece, 2023).

This signifies a significant contribution to the literature on implementing entrepreneurial methodologies, as it illustrates that even well-established innovation frameworks require cultural adaptation. The finding challenges the notion of universal methodological principles in entrepreneurial support (Shepherd & Gruber, 2021). It suggests that successful customer development involves not only adapting to market conditions but also to cultural contexts.

This calls for incubation methods that honour cultural traditions while fostering spaces for constructive conflict and swift decision-making, as demanded by customer-centric innovation (Kurtmollaiev et al., 2022).

Furthermore, the observation that, due to cultural norms, technically brilliant founders create elegant solutions for narrow problems extends existing research on founder cognition (Shepherd & Gruber, 2021) by pinpointing specific cultural factors that enhance this tendency. In the Norwegian context, the combination of technical excellence with cultural preferences for harmony and risk minimisation can foster an environment where deep technological development is valued more than broad market exploration (Pettersen et al., 2023). This cultural-cognitive pattern presents a significant obstacle to achieving the market-oriented mindset necessary for customer-centric innovation, indicating that successful incubation in such surroundings must involve interventions that directly address these culturally ingrained cognitive biases (Mian et al., 2021).

These findings collectively demonstrate that successfully implementing customer-centric innovation requires sensitivity to cultural contexts that influence both the pace and direction of entrepreneurial learning. They indicate that ecosystem development must address not only structural and resource gaps but also the cultural and cognitive patterns that affect how entrepreneurs engage with customers, respond to feedback, and make strategic decisions in their innovation processes.

6.4.4 Foundational Constraints in Emerging Ecosystems

The South African findings reveal how fundamental resource constraints create not only operational obstacles but also existential challenges that fundamentally reshape the practice of customer-focused innovation. This analysis goes beyond identifying resource scarcity to show how it actively distorts the entrepreneurial learning processes essential for market validation. The identification of bootstrapping as a forcing mechanism for extreme risk aversion in customer validation approaches offers a crucial micro-level explanation for patterns seen in the entrepreneurship literature (Abraham, 2020).

While Abraham discusses the structural conditions that drive individuals into entrepreneurship, our findings highlight the cognitive and behavioural effects: financial scarcity directly limits experimentation capacity, leading to what might be called 'validation austerity'. This survival mentality illustrates that when every resource spent threatens immediate venture survival, the iterative fail-fast approach at the heart of lean methodology becomes an unaffordable luxury (Shepherd & Gruber, 2021). As a result, startups are pushed towards conservative, incremental validation, systematically favouring known customer segments and minor product modifications over potentially disruptive market opportunities (Blank, 2020).

Furthermore, the data revealing how corporate B-BBEE requirements prioritise compliance metrics over genuine business development provides empirical validation for Mabunda and Msimango's (2025) critiques of support programme limitations, while significantly extending them. Our findings demonstrate that well-intentioned policies can create perverse validation incentives that actively divert entrepreneurial attention from market learning to compliance performance. This presents a fundamental challenge to conventional incubation models that assume alignment between support mechanisms and innovation goals (Agyemang & Mensah, 2025). Instead, these policies can create what Abrahams (2020) might characterise as compliance entanglement, in which the metrics of success become decoupled from genuine customer value creation. This misalignment compels startups to optimise for funder preferences rather than market needs, fundamentally undermining the customer discovery process that lies at the heart of innovation (Gupta, 2020).

Collectively, these constraints create a dual distortion effect on customer-centric innovation: financial scarcity restricts the scope of experimentation, while compliance requirements skew validation priorities. This double-bind presents a much more challenging environment for implementing customer-centric practices than traditional incubation literature recognises, indicating that effective support in such contexts requires not only methodological training but also a fundamental restructuring of incentive systems and resource-provision mechanisms.

6.4.5 Market Structure Limitations

The study shows how South Africa's market structure creates hidden barriers to customer-centric innovation. This analysis extends beyond generic resource constraints to reveal how market concentration and informal institutions actively hinder startups from achieving true customer discovery and validation, directly questioning the universal applicability of standard innovation methods.

The finding that oligopolistic industries create an innovation paradox where corporations demand innovation but are structurally resistant to startup solutions critically extends Bucci and Marks' (2022) work on entrepreneurial learning. It demonstrates that market concentration significantly impacts the quality of engagement between startups and potential corporate customers. In these conditions, the principles of customer-centric innovation, which assume that value is determined through iterative feedback and solution refinement (Gupta, 2020), are systematically undermined. Access to customers becomes dependent on relationship management and navigating complex corporate gatekeeping, rather than on the demonstrated merit of the solution itself. This creates a market environment in which the core assumption of the lean methodology, that customer learning can be systematically acquired through direct engagement (Shepherd & Gruber, 2021), fails to hold, forcing startups to prioritise political navigation over genuine value creation.

Furthermore, identifying informal barriers that create ethical and operational dilemmas significantly expands Schutte and Chauke's (2021) documentation of general ecosystem constraints. While they highlight broad resource limitations, our findings show how informal institutional voids establish a clear divide between theoretical innovation models and market realities. These unwritten rules, often called the shadow curriculum of market entry, fundamentally influence a startup's ability to reach customers, forcing entrepreneurs to choose between growth principles and survival needs. This aligns with Abrahams' (2020) idea of innovation entanglement but clarifies its micro-level effects: it corrupts the customer feedback process itself. When market access relies on informal payments or relationships, the feedback startups receive reflects distribution channel demands rather than end-user needs, systematically distorting the crucial learning process for customer-focused innovation (Kurtmollaiev et al., 2022).

Together, these market structure limitations cause a systematic distortion of customer signals, making genuine customer-centric innovation particularly difficult. The findings suggest that in such environments, incubation support must extend beyond teaching innovation methodologies to also encompass navigating concentrated market structures and building ethical resilience and capabilities, which are largely absent from mainstream incubation models developed in competitive, transparent markets (Agyemang & Mensah, 2025).

6.4.6 Support Ecosystem Deficiencies

The research indicates that shortcomings within the support ecosystem itself pose a primary obstacle to implementing customer-centric innovation. This finding extends beyond the mere availability of resources. It highlights a critical capability gap in the human capital within incubation systems, directly affecting the quality of customer development guidance that startups receive.

The identified theory-practice gap in incubation support closely aligns with Lose's (2021) identification of resource constraints. However, it provides a vital refinement by illustrating how experiential deficits in mentorship directly undermine the effectiveness of customer development. While Lose focuses on material resources, our data show that the most critical resource, practical, contextually grounded expertise, is often absent. This discovery highlights that theoretical frameworks frequently break down when faced with the complex market dynamics and diverse consumer behaviours in real-world environments (Sibiya et al., 2023; Bucci & Marks, 2022). This shortfall creates what could be termed methodological fragility, where startups receive guidance that is theoretically sound but practically irrelevant to their specific market contexts, ultimately eroding their confidence in customer-centric approaches altogether (Shepherd & Gruber, 2021).

Furthermore, identifying programmatic fragmentation that hampers deep customer understanding significantly builds on Agyemang and Mensah's (2025) work on incubation challenges by showing how temporal misalignment in the support delivery system undermines the sustained engagement necessary for meaningful customer discovery.

While previous research has identified general fragmentation, our findings specify its impact on the innovation process: short-term, disconnected programme engagements hinder the development of deep customer relationships and the cumulative learning that true customer-centricity requires (Gupta, 2020). This fragmentation obliges entrepreneurs to repeatedly reset their customer validation efforts with each new programme cycle, preventing them from achieving the long-term engagement needed to understand evolving customer needs (Kurtmollaiev et al., 2022).

These deficiencies in the support ecosystem pose a fundamental challenge to the dissemination of customer-centric innovation practices. They imply that practical incubation requires not only programmatic interventions but also a fundamental re-evaluation of the qualifications and continuity of mentorship. The findings suggest that the growing professionalisation of incubation support may have inadvertently prioritised theoretical knowledge over the practical wisdom gained through market experience (Mian et al., 2021), thereby creating a systemic weakness in the way entrepreneurship is taught and supported.

6.5 Conclusion

This chapter has systematically analysed and synthesised the empirical findings from Chapter 5, demonstrating through rigorous comparative analysis that the national innovation ecosystem acts as an active, constitutive force that fundamentally shapes the logic of incubation, entrepreneurial behaviour, and the implementation of customer-centric innovation. The discussion, organised around the three research questions, reveals several interconnected theoretical insights that directly address the literature gaps identified in Chapter 2.

Firstly, the analysis crystallised the orchestration-intervention dichotomy, showing that incubation hub strategies are a direct, logical response to ecosystem resource conditions. This dichotomy effectively contextualises the Resource-Based View, demonstrating that the very definition of a strategic resource depends on the ecosystem. In Norway, hubs manage intangible assets, such as social capital and methodological knowledge, while in South Africa, they must actively develop tangible, foundational resources. This extends the Resource-Based View beyond its traditional focus on leveraging existing resources to include resource creation as a strategic capability in constrained environments.

Secondly, the examination of startup engagement patterns revealed the crucial role of entrepreneurial cognition. The survival mentality identified in the South African context offers a micro-level, cognitive explanation for observed behavioural patterns, extending the concept of necessity entrepreneurship and introducing an entrepreneurial mindset as a fundamental filter that shapes how all other resources are utilised. The contrast between transactional and transformational engagement further emphasises how ecosystem conditions generate qualitatively different relationships between startups and hubs, with significant implications for how customer-centric innovation is implemented.

Thirdly, the investigation of implementation challenges revealed a range of ecosystem-specific issues. Norwegian startups experience a 'sophistication paradox,' where advanced structures lead to specialised gaps, whilst South African entrepreneurs face 'foundational constraints,' where resource scarcity and market distortions pose fundamental barriers.

Synthesising these insights, this chapter proposes the Ecosystem's Shadow Framework as an integrated model. This framework illustrates how macro-level national factors, ranging from funding structures and market conditions to cultural and cognitive patterns, cast a decisive shadow that influences micro-level incubation practices and entrepreneurial outcomes. This comprehensive analysis demonstrates that the incubation models, engagement patterns, and innovation challenges in Norway and South Africa are not separate phenomena but are interconnected expressions of their underlying ecosystem conditions. This sets the scene for Chapter 7, which will explore the theoretical contributions and practical implications arising from these findings

Chapter 7: Conclusions and Recommendations

7.1 Introduction

This concluding chapter synthesises the key findings, interpretations, and implications of this cross-national study on how incubation hubs promote customer-centric innovation in Norway and South Africa. The research was motivated by the vital role that startups play in economic development and innovation, combined with the high failure rates often due to poor product-market fit (Blank, 2020). While incubation hubs have become important support mechanisms (Lose, 2021), their specific role in fostering customer-centric innovation remains underexplored, primarily through a comparative perspective that considers how ecosystem conditions shape their effectiveness.

This chapter provides clear answers to the research questions that guided this investigation, introduces the study's main theoretical contribution, the Ecosystem's Shadow Framework, offers practical recommendations for key stakeholders, and suggests productive avenues for future research. By integrating findings from different ecosystem contexts, this chapter delivers a comprehensive conclusion to the research journey that began with identifying significant gaps in our understanding of resource orchestration for customer-centric innovation.

7.2 Summary of Research Purpose and Context

This research was conceived to address significant gaps in the literature regarding how incubation hubs operationalise support for customer-centric innovation under different ecosystem conditions. The study is significant because understanding these mechanisms is crucial for enhancing startup survival rates and improving the effectiveness of substantial investments made in entrepreneurial ecosystems globally (Pettersen et al., 2023). The research context of Norway and South Africa provided a robust comparative framework, representing contrasting points on the spectrum of resource availability, institutional support, and innovation culture (Gumbo & Moos, 2024). This comparative approach was significant because it moved beyond universalist assumptions about incubation models to develop a contextually nuanced understanding of how support mechanisms must adapt to different ecosystem conditions.

Prior to this study, the literature had established the importance of customer-centric innovation (Gupta, 2020), the role of incubation hubs in venture development (Agyemang & Mensah, 2025), and the value of the Resource-Based View in understanding competitive advantage (Barney, 1991). However, what remained unknown was how these elements connected in practice, specifically, the micro-level mechanisms through which incubation hubs mobilise resources for customer-centric innovation, how these mechanisms vary across different ecosystem contexts, and how startups engage with these supports amid ecosystem constraints (Shepherd & Gruber, 2021). This study addressed these gaps by examining three central research questions through a qualitative, cross-national research design involving in-depth interviews with hub managers and entrepreneurs in both countries.

7.3 Answers to Research Questions

This research employed a qualitative study design involving 23 semi-structured interviews with hub managers and entrepreneurs across both ecosystems. The methodology enabled rich, contextual understanding of the phenomena under investigation (Creswell, 1998). Data analysis followed established qualitative protocols, utilising thematic analysis to identify patterns and relationships across the datasets (Braun & Clarke, 2019).

The study addressed three central research questions:

1. How do incubation mechanisms for customer-centric innovation differ across ecosystem contexts?
2. How do startups engage with and leverage these incubation mechanisms?
3. What challenges impede the implementation of customer-centric innovation within incubation hubs?

7.3.1 Research Question 1: Incubation Mechanisms for Customer-Centric Innovation

The findings reveal that incubation mechanisms for customer-centric innovation differ fundamentally between Norway and South Africa, illustrating what this study refers to as the orchestration-intervention dichotomy. Norwegian hubs act as resource orchestrators within their resource-abundant ecosystem, mainly managing access to networks, methodological expertise, and existing ecosystem resources (Pettersen et al., 2023).

South African hubs, on the other hand, serve as resource interveners in their resource-limited environment, actively creating and supplying essential resources, such as physical infrastructure, market access, and direct testing opportunities, that are missing from the wider ecosystem (Abrahams, 2020).

This dichotomy significantly extends the Resource-Based View (Barney, 1991), by illustrating that the definition of a strategic resource depends on the context. In Norway, strategic resources are primarily intangible, including social capital, methodological knowledge, and network access. Conversely, in South Africa, strategic resources tend to be more tangible, including basic infrastructure, funding, and market linkages. The practical application of innovation methodologies, such as Lean Startup and design thinking, further highlights this contextual adaptation. Norwegian hubs have successfully adopted standardised approaches (Nylén & Holmström, 2021). In contrast, South African hubs need to adapt these frameworks substantially to local conditions to retain their strategic value (Sibiya et al., 2023).

7.3.2 Research Question 2: Startup Engagement with Incubation Mechanisms

Startup engagement patterns likewise mirror ecosystem conditions, though in fundamentally different ways. Norwegian startups display evolutionary engagement, progressing naturally from reliance on incubation-hub support to strategic partnerships as they grow. This pattern aligns with lifecycle models of incubation support (Frimanslund & Nath, 2022) and reflects the ecosystem's capacity for long-term, stable backing.

In South Africa, engagement is shaped by what this study identifies as the survival mentality, a cognitive adaptation to ecosystem precarity characterised by short-term survival focus, risk aversion, and transactional resource utilisation. This concept extends beyond structural classifications of necessity entrepreneurship (Abraham, 2020) to capture the cognitive framework that emerges from operating in persistently uncertain conditions. The survival mentality represents a significant theoretical contribution, introducing entrepreneurial cognition as a critical resource within the Resource-Based View framework, one that mediates how all other resources are perceived, valued, and leveraged (Shepherd & Gruber, 2021).

7.3.3 Research Question 3: Challenges in Implementing Customer-Centric Innovation

The challenges in implementing customer-centric innovation are predominantly systemic rather than operational. The most significant barriers include what might be called the tyranny of short-termism, created by misaligned funding cycles that prioritise short-term outputs over long-term venture development (Gumbo & Moos , 2024), and the compliance culture, where well-intentioned support mechanisms become focused on administrative requirements rather than on creating sustainable market linkages (Mabunda & Msimango, 2025).

Furthermore, the practitioner-theorist divide highlights a significant capability gap within hubs, where theoretical knowledge often supplants practical entrepreneurial experience, thereby weakening the effectiveness of mentorship (Bucci & Marks, 2022). These issues collectively form what this study refers to as the customer-centricity paradox in constrained environments: startups that most need customer-focused approaches are often least able to adopt them due to cognitive and resource limitations (Kurtmollaiev et al., 2022). This finding broadens our understanding of implementation barriers by revealing that they are not merely operational but also existential in nature.

7.4 The Ecosystem's Shadow Framework: Extending Resource-Based View Theory

This study proposes the Ecosystem's Shadow Framework as its central theoretical contribution. This integrated model explains how macro-level national factors exert a significant influence, directly shaping micro-level incubation practices and entrepreneurial behaviour. By presenting this framework, the study connects the macro-micro divide (Spigel, 2021). It provides an integrated approach to understanding how broad, national contexts affect specific, ground-level practices and challenges. More importantly, this framework marks a notable extension of the Resource-Based View, with several key contributions.

7.4.1 Context-Dependence of Resource Value

The research demonstrates that what constitutes a strategic resource is not universal but is inherently defined by ecosystem conditions, thereby contextualising the VRIO framework (Barney, 1991) within specific national innovation systems.

The findings reveal that while network access and methodological knowledge serve as strategic resources in Norway's resource-rich ecosystem, basic infrastructure and direct market access become key strategic resources in South Africa's limited environment. This contextual understanding challenges the universal application of resource classification, showing that the value component of the VRIO framework is ecosystem-dependent rather than absolute.

7.4.2 Entrepreneurial Cognition as a Strategic Resource

By recognising the survival mentality, the study highlights cognitive factors as a vital aspect of resource orchestration, filling a long-standing gap in the Resource-Based View's primarily materialistic focus (Shepherd & Gruber, 2021). The findings show that entrepreneurial cognition acts as a key resource that mediates how all other resources are recognised, valued, and utilised. In environments with limited resources, the survival mentality becomes an essential filter through which entrepreneurs assess and deploy available resources, shaping their approach to customer-focused innovation and venture development.

7.4.3 From Resource Orchestration to Resource Creation

The research extends the Resource-Based View beyond its traditional focus on resource acquisition and management by including active resource creation as a strategic capability in environments with constraints. While Norwegian hubs excel at managing existing ecosystem resources, South African hubs develop the strategic ability to generate missing foundational resources. This finding addresses the critique of the Resource-Based View's static nature by demonstrating how intermediaries in constrained ecosystems actively create resources rather than merely utilising pre-existing assets, marking significant theoretical progress.

7.4.4 The Ecosystem's Shadow Framework as Resource-Based View Integration

The Ecosystem's Shadow Framework serves as a synthesising model that bridges macro-level ecosystem conditions with micro-level resource practices, providing an integrated understanding of how national innovation systems shape incubation strategies and entrepreneurial outcomes. The framework identifies five interconnected macro-level dimensions that collectively configure the landscape for resource mobilisation, as presented in Table 7 below.

Table 7.: The Ecosystem's Shadow Framework

Macro-Level Ecosystem Factor	Shadow Cast on Micro-Level Practices	Norwegian Manifestation	South African Manifestation
Funding Structures	Defines planning horizons and success metrics	Long-term, milestone-based support	Short-term, output-focused projects
Market Conditions	Shapes customer engagement strategies	Deep, iterative development	Transactional, immediate validation
Institutional Frameworks	Influences support mechanisms and dependencies	Enablement-oriented systems	Compliance-oriented "handouts"
Resource Availability	Determines the hub's strategic role	Resource orchestration	Resource intervention
Cultural-Cognitive Patterns	Shapes entrepreneurial mindset and behaviour	Long-term, "stone-by-stone" growth	Short-term survival mentality

Source: Researcher's own

7.4.5 Integrating RBV with Innovation Practices

The study demonstrates how innovation methodologies function as resource-building routines rather than merely operational tools, addressing the gap in integrating RBV with contemporary innovation approaches (Shepherd & Gruber, 2021). In Norway, structured methodologies serve as valuable resources for building dynamic capabilities, while in South Africa, the adaptive capability to contextualise these methodologies becomes the strategic resource itself. This integrated view provides a more nuanced understanding of how innovation practices translate into competitive advantage across different ecosystem contexts.

The framework's explanatory power lies in its ability to demonstrate how the orchestration-intervention dichotomy, the strategic-survival mentalities, and the transformational-transactional engagement patterns are not random variations but interconnected expressions of these underlying ecosystem conditions. It offers researchers and practitioners a predictive model for understanding how incubation manifests across different contexts and the ways in which changes at the ecosystem level might influence entrepreneurial outcomes.

This research makes significant contributions by filling key gaps in the literature through a detailed, comparative, micro-level analysis of resource mobilisation and orchestration (Shepherd & Gruber, 2021). It advances the field by demonstrating that effective entrepreneurial support requires not only technical solutions but also deep ecosystem intelligence and psychological awareness. The findings strongly affirm that successful incubation cannot rely on universal blueprints; instead, it must be intentionally and strategically customised to fit the specific resources, constraints, and cognitive patterns present in its host ecosystem (Agyemang & Mensah, 2025).

7.5 Practical Implications and Recommendations

7.5.1 For Incubation Practice

The empirical findings demonstrate that practical incubation must be fundamentally reoriented to foster systematic customer-centric innovation. The following context-specific recommendations are designed to equip hubs with the strategies needed to embed customer discovery and validation deep within their startups development processes.

Norwegian incubation hubs must leverage their orchestration capacity to offer startups unparalleled access to relevant customer environments. This goes beyond basic networking to the strategic curation of customer contexts. Instead of generic mentorship, develop specialised programmes for sectors like MedTech and construction. These tracks should offer direct, structured access to hospital procurement teams, construction company R&D departments, and regulatory bodies as early-stage validation partners. This directly addresses the sophistication paradox by providing startups in complex industries with the specific customer and regulatory insights they lack (Pettersen et al., 2023).

Systematically broker relationships between startups and established corporations to act as lead customers. These are not just pilots but deep collaborations where the corporate partner provides continuous feedback, shares real-world data, and co-develops solutions. This transforms the long B2B sales cycle from a barrier into a period of rich, iterative customer development.

South African incubation hubs must intervene to establish the fundamental conditions that promote customer-focused innovation, overcoming both cognitive and resource-related barriers that hinder genuine customer engagement. Incorporate mindset coaching to counter the tendency of the survival mentality towards immediate, feature-driven development. This requires that startups commence with intensive problem-discovery phases, utilising low-fidelity prototypes and direct community engagement to identify customer pain points before committing to full product development (Shepherd & Gruber, 2021).

Since market access remains a key constraint, hubs must actively work to create it. This involves more than just offering lab space; it includes organising curated pop-up shops in target communities, supporting structured retail consignment programmes, and providing grants specifically for customer travel and on-the-ground market research. These efforts ensure that the fundamental resources supplied directly promote customer interaction (Sibiya et al., 2023).

Bridge the theorist-practitioner gap by prioritising mentors who have personally navigated the challenge of attaining product-market fit in constrained environments. Their credibility and practical advice are vital for guiding startups through the complex, non-linear process of authentic customer discovery, rather than just theoretical business model canvases (Bucci & Marks, 2022).

In cross-contextual learning, Norwegian hubs can learn from South Africa's deep, grassroots immersion techniques to prevent creating solutions within an innovation bubble. South African hubs can adapt Norway's rigorous, hypothesis-driven customer development methodologies to introduce structure and discipline into their adaptive validation processes, moving beyond purely transactional feedback.

7.5.2 For Policymakers and Funders

The findings reveal that current policy and funding structures often inadvertently undermine customer-centric innovation. The following recommendations provide a framework for systematically redesigning these structures to foster a deep understanding of customers and market validation.

Policymakers and funders need to directly combat short-termism by designing funding tools that explicitly support the iterative and often lengthy process of customer discovery. This involves creating non-dilutive grants dedicated to activities like user research, prototype testing, and market immersion. These grants should measure success through customer learning and validated insights, rather than just product milestones. Funding models should also link subsequent investment rounds to meeting specific customer-centric metrics- such as evidence of problem-solution fit, an expanding base of reference customers, or customer retention- rather than focusing only on technical development or revenue targets (Gumbo, 2024).

To lower the barriers between startups and honest market feedback, support systems must be fundamentally redesigned to emphasise genuine market linkages over mere compliance. It's essential to allocate a portion of public procurement budgets to pilot projects with startups, providing an initial customer for innovative solutions and offering crucial real-world validation (Mabunda & Msimango, 2025). Additionally, programs should be funded and structured to connect startups with corporate partners around specific customer problems faced by the companies. Success should be judged by the depth of collaborative learning and the subsequent refinement of the startup's value proposition, rather than simply securing a partnership agreement.

Building a genuinely supportive ecosystem requires investing in the human capital that guides startups. Create tax incentives or subsidy programmes for experienced entrepreneurs and industry experts to mentor startups, with a specific focus on their role in challenging customer assumptions and guiding market validation strategies. This directly counters the practitioner-theorist divide (Bucci & Marks, 2022). Support the training and development of incubator managers and support professionals in advanced customer development methodologies, ensuring they are equipped to guide startups through rigorous, evidence-based validation processes rather than theoretical business planning. By implementing these targeted recommendations, policymakers and funders can shift the entire ecosystem's focus from output-oriented support to outcome-driven validation, ensuring that startups are building ventures grounded in deep, continuous customer understanding.

7.5.3 For Entrepreneurs

The findings reveal that successful customer-centric innovation requires entrepreneurs to adopt distinct strategic approaches tailored to the realities of their ecosystem. The following evidence-based recommendations provide a roadmap for founders to navigate these different contexts effectively. Entrepreneurs must develop a deep understanding of how their ecosystem influences customer access and validation processes, and then adapt their discovery methods accordingly.

In resource-abundant ecosystems (e.g., Norway): Leverage the structured networks and methodological support to conduct systematic market validation. Utilise the ecosystem's stability to pursue in-depth, relational customer development with major industry players, while remaining vigilant against the sophistication paradox by continuously testing assumptions beyond your immediate network (Pettersen et al., 2023).

In resource-constrained ecosystems (e.g., South Africa): Develop adaptive validation techniques that operate within ecosystem limitations. Utilise grassroots methods such as community immersion and rapid prototyping to collect customer insights directly, turning constraints into opportunities to build more resilient business models based on immediate market realities (Sibiya et al., 2023).

Entrepreneurs must actively counter the cognitive biases that undermine customer-centric innovation in their specific context. In resource-constrained environments, implement regular validation checkpoints where customer feedback objectively guides strategic decisions, preventing reactionary pivots driven by short-term pressures rather than validated learning (Shepherd & Gruber, 2021). In resource-rich environments, establish assumption stress tests that purposely seek disconfirming evidence and engage with sceptical potential customers outside their comfort zone networks.

The choice of incubation support should be guided by how effectively it promotes genuine customer learning and validation. Prioritise incubation support based on its proven ability to provide relevant customer connections, industry-specific mentorship, and rigorous market-validation methods, rather than relying on generic networking opportunities or theoretical frameworks.

Seek mentors with direct experience in customer discovery and venture building within your specific context, ensuring guidance is grounded in market reality rather than theoretical knowledge (Bucci & Marks, 2022). Actively learn from entrepreneurial approaches in different contexts, whether adopting the methodological rigour common in structured ecosystems or the adaptive validation techniques from constrained environments, to develop stronger customer-focused innovation capabilities.

By implementing these tailored approaches, entrepreneurs can overcome ecosystem-specific barriers to customer understanding and build ventures that create genuine, validated customer value regardless of their operating context

7.6 Limitations and Future Research Directions

This study provides significant theoretical and practical contributions, yet several limitations present opportunities for future scholarly inquiry. The research design, while methodologically rigorous, inherently constrains the generalisability and scope of the findings.

The qualitative, cross-national study design was crucial for developing rich, contextualised understanding of incubation mechanisms and engagement patterns in Norway and South Africa. However, this approach limits statistical generalisability across broader populations of incubation hubs. Future research could overcome this limitation by employing mixed-methods approaches that combine the qualitative depth achieved here with quantitative surveys to test the prevalence and correlation of the orchestration and intervention models across larger, more diverse sample populations.

Furthermore, while this study focused extensively on the perspectives of hubs and startups, including the viewpoints of other ecosystem actors such as investors, policymakers, and corporate partners, it would offer a more comprehensive and multidimensional understanding of resource orchestration processes and ecosystem dynamics.

This research provides a detailed snapshot of incubation mechanisms and startup engagement at a specific point in time. Long-term studies following cohorts of startups as they navigate different incubation models would provide valuable data on how these mechanisms affect venture survival, growth paths, and the continued development of customer-focused skills.

Such studies could particularly explore how the mindset of survival changes as ventures gain stability and whether targeted intervention strategies can speed up this mental shift from a survival focus to a growth focus.

The concept of survival mentality, although emerging as a compelling explanatory model from empirical data, requires further investigation and refinement in other resource-limited settings. Future research should focus on developing and validating psychometric scales to measure this construct, examining its manifestations across diverse and challenging ecosystems, and exploring its relationship with other well-established concepts of entrepreneurial cognition. Likewise, the Ecosystem's Shadow Framework requires testing and refinement through application in various national contexts, particularly in middle-income countries with mixed or transitional ecosystem conditions that may exhibit hybrid models combining elements of both orchestration and intervention.

The identified challenges, particularly the survival mentality, the practitioner-theorist divide, and the tyranny of short-termism, present compelling opportunities for intervention research. Future studies could employ controlled experimental or quasi-experimental designs to test the comparative effectiveness of various support approaches, such as mindset coaching versus traditional business training, or to assess funding models that reduce short-termism while maintaining accountability. Such evidence-based research would provide vital guidance for optimising incubation practices and policy interventions.

Finally, this study has conceptualised ecosystems as relatively stable contexts, but entrepreneurial ecosystems are inherently dynamic. Future research should examine how changes in one ecosystem factor, such as funding structures, policy frameworks, or market conditions, cascade through and influence other elements, ultimately reshaping incubation practices and entrepreneurial outcomes over time. Exploring these dynamic interactions would deepen our understanding of ecosystem evolution and improve the predictive capacity of the Ecosystem's Shadow Framework.

These research directions collectively address the limitations of the current study while building upon its foundational contributions to advance understanding of how incubation hubs can effectively foster customer-centric innovation across diverse ecosystem contexts.

7.7 Conclusion

This research began with a critical analysis of how incubation hubs foster customer-focused innovation within different ecosystem contexts. Through a detailed comparative analysis of Norway and South Africa, the study clearly demonstrates that adequate entrepreneurial support cannot rely on universal models but must be fundamentally rethought through an ecosystem-aware perspective. The investigation highlights that ecosystem conditions actively shape, rather than influence, incubation practices, entrepreneurial behaviour, and innovation outcomes.

The study makes substantial theoretical contributions through several key insights. The orchestration-intervention framework explains how hub strategies are logical adaptations to resource environments. At the same time, the survival mentality concept offers a vital cognitive explanation for entrepreneurial behaviour in constrained contexts, extending understanding beyond structural factors alone. Most importantly, the Ecosystem's Shadow Framework integrates these insights into a coherent model that links macro-level ecosystem conditions with micro-level practices, addressing a fundamental gap in entrepreneurial support literature.

The practical implications are equally significant. The research indicates that successful incubation relies on in-depth ecosystem intelligence and psychological awareness, rather than just technical solutions. The identified systemic challenges, especially the tyranny of short-termism in funding models and the practitioner-theorist divide in mentorship, emphasise that the biggest barriers to customer-centric innovation lie in ecosystem structures rather than individual skills. This calls for a rethink of how we design funding mechanisms, organise incubation programmes, and assess support professionals.

For policymakers, the findings call for a shift from standardised intervention models towards context-sensitive approaches that consider specific ecosystem conditions. For practitioners, they emphasise the importance of developing specialised capabilities aligned with their ecosystem's position within the orchestration-intervention spectrum. For entrepreneurs, cultivating ecosystem intelligence and adaptive mindsets is essential to navigate various innovation contexts effectively.

As entrepreneurial ecosystems continue to develop worldwide, this research provides both a theoretical framework and practical guidance for creating more nuanced and effective approaches to promoting customer-focused innovation. The key takeaway is that understanding how ecosystem conditions influence entrepreneurial opportunities enables more sophisticated support strategies that can adapt to the varied contexts that make up our global innovation environment. Future research building on these insights is likely to deepen our understanding of how to nurture entrepreneurial innovation that genuinely addresses customer needs across different ecosystem conditions.

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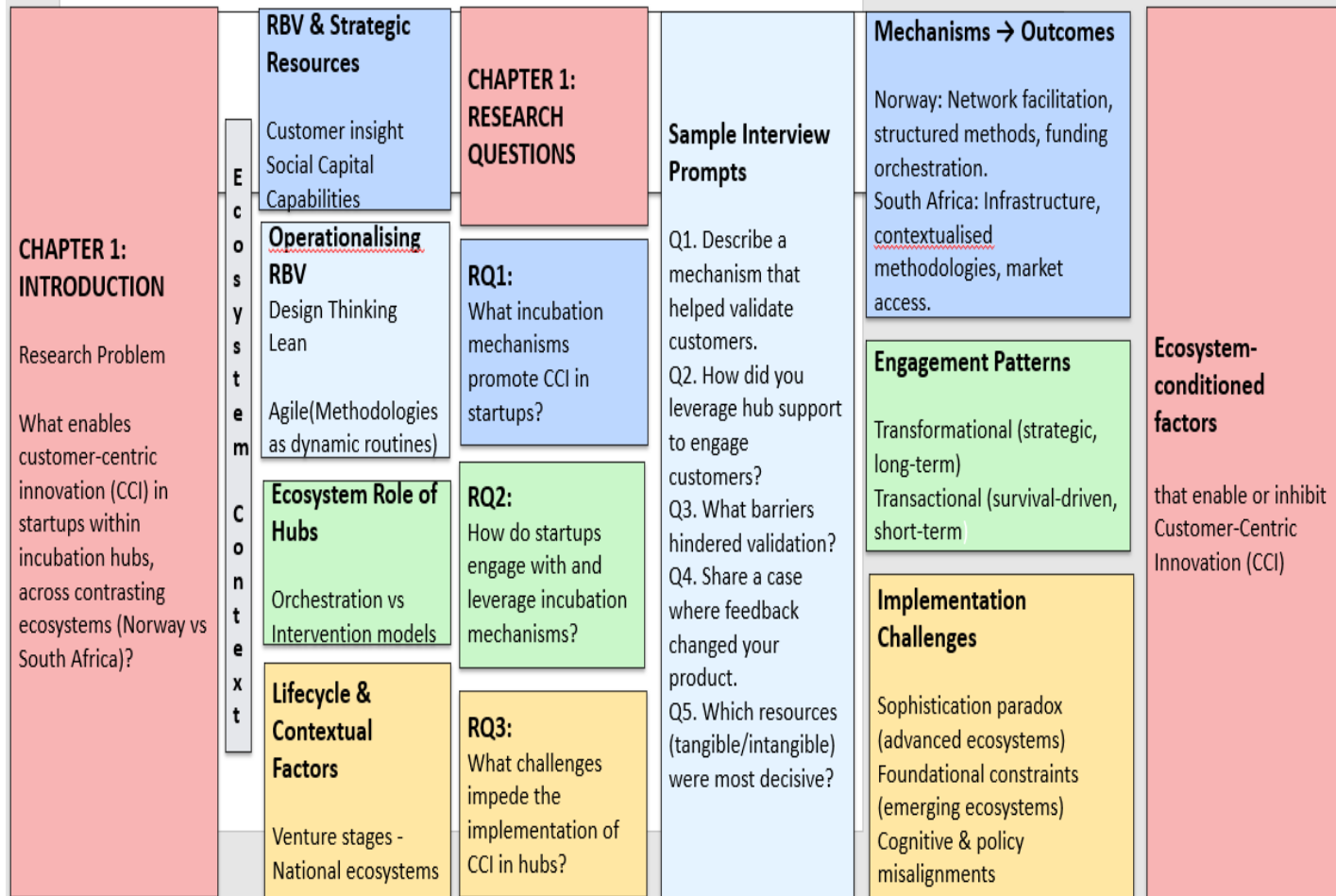
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Appendices

APPENDIX A: Consistency Matrix



APPENDIX B : Interview Guides

Startup

1. Describe how you started this business and what is the core value proposition and how you joined this incubation hub?
2. From your initial idea when you started your business, how has the idea developed? How have you engaged with customers to improve your ideas?
3. What specific resources or support from the incubator have been most beneficial to your startup?
4. Can you share an example of a challenge you faced in aligning your product or service with customer needs? How did the incubator help?
5. How do you gather and incorporate customer feedback into your innovation process?
6. Has the incubation hub implemented detailed frameworks or methodologies, such as customer journey mapping, feedback loops, or design thinking, alongside mentorship programs to strengthen customer engagement?
7. How has the local Norwegian/ South African business culture influenced your approach to business?
8. What barriers have you encountered in developing a customer-focused product or service?
9. Are there any gaps in the incubation support that you believe could be improved?
10. What advice would you give to other startups entering incubation programs in Norway/South Africa?
11. How do you envision the role of incubation hubs evolving in fostering growth startups?
12. Are there any other details you would like to share regarding your experience in the incubation hub?

Incubation Hub Manager / Staff

1. What are the core objectives of your incubation program?
2. How has the incubation hub assisted startups in implementing structured innovation processes, such as design thinking or prototyping frameworks, to create novel products and services?
3. In what ways has the hub guided startups in understanding and addressing the needs of both their current customers and prospective target markets through mentorship or structured strategies?
4. How has the hub equipped startups to proactively identify and solve customer challenges, ensuring their solutions remain relevant and future-focused?
5. What strategies do you use to facilitate market validation for startups?
6. How do you assess the impact of incubation on startup growth and customer centricity?
7. What challenges do incubators face in supporting a startup's customer-centric innovation?
8. What role do mentorship and networking play in your incubation model?
9. How does your incubation program integrate with Norway's / South Africa's broader entrepreneurial ecosystem?
10. Are there any key policy or regulatory factors that influence incubation success in Norway/ South Africa?
11. What are the most common difficulties startups face in engaging with customers?
12. How do you see the future of incubation evolving in response to changing market demands?
13. Are there any other details you would like to share regarding your experience in the incubation hub?

Policy Makers

1. What policies or initiatives are in place to support startup incubation in Norway/ South Africa?
2. How does the government support startups in fostering customer-focused innovation through policies, funding, or other initiatives?
3. In what ways do private sector organizations or partnerships assist startups in developing innovative solutions that prioritize customer needs?
4. What are the key challenges in developing effective incubation ecosystems?
5. How do you measure the success of incubation programs in driving economic growth?
6. How do cultural and contextual factors influence the effectiveness of incubation hubs in Norway/ South Africa?
7. What best practices from Norway's incubation landscape could be adapted to other markets, such as South Africa?
8. What best practices from South Africa's incubation landscape could be adapted to other markets, such as Norway?
9. What recommendations would you make for strengthening incubation support structures in Norway/ South Africa?
10. 10 Is there any other information you would like to share regarding the incubation hubs?

APPENDX C: Ethics clearance letter



30 April 2025

GIBS Ethics Committee

Dear Gugulethu Moyo

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained.

You have been cleared based on the following, as per our application form:

- prior consent, voluntary participation without penalty,
- no physical harm,
- no psychological harm,
- confidential information and only anonymous aggregated reporting storing of data securely

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee Chair

Dr Michele Ruiters

APPENDIX D: Consent forms



Informed Consent Form for Research Participation

Project Title: A Cross-National Qualitative Study on How Incubation Hubs in Norway and South Africa Enable Customer-Centric Innovation in Startups

Purpose of the Study

This study seeks to examine the role of incubation hubs in fostering customer-centric innovation among start-ups in Norway and South Africa. Specifically, it aims to investigate the experiences of startup founders within these incubation environments and assess the leadership practices of incubator managers that influence the innovation process. The findings will contribute to the broader discourse on entrepreneurship and innovation policy within these regions.

Participation Details

Participation in this research entails engagement in a semi-structured interview lasting approximately 45 to 60 minutes. With the participant's consent, the interview will be audio-recorded to ensure accurate data collection. The discussion will focus on the participant's experiences within the incubation hub, approaches to customer engagement, and the innovation strategies employed by their start-up.

Voluntary Participation and Right to Withdraw

Participation in this study is entirely voluntary. Participants reserve the right to withdraw from the study at any point without penalty or negative consequences. Furthermore, they may choose not to respond to specific interview questions if they so wish.

Confidentiality

All collected data will be handled with strict confidentiality. The research team will ensure the secure storage of all interview transcripts and recordings. No personally identifiable information will be included in any reports, publications, or presentations derived from this study. Access to raw data will be restricted to the research team.

Risks and Benefits

There are minimal to no foreseeable risks associated with participation in this study. While no direct personal benefits are guaranteed, participants will contribute to comparative research on innovation policy and entrepreneurship. The findings may inform more effective incubation models and support mechanisms for start-ups in Norway and South Africa.

Consent Declaration

I have read and comprehended the information outlined above. I voluntarily consent to participate in this research study and acknowledge that I may withdraw my participation at any time without any repercussions.

Researcher:

Gugulethu Moyo, MBA Candidate

Gordon Institute of Business Science (GIBS), University of Pretoria

Email: 22030647@mygibs.co.za

Supervisor

Prof. Caren Scheepers

Gordon Institute of Business Science (GIBS), University of Pretoria

Email: scheepersc@gibs.co.za

Co- Supervisor

Prof. Inger Beate Pettersen

The Business School HVL - Western Norway University of Applied Sciences

Email: Inger.Beate.Pettersen@hvl.no

Participant's Name (printed): _____

Signature: _____

Date: _____

Researcher's Name: _____

Signature: _____

Date: _____

APPENDIX E: Sample communications



08.04.2025

Gordon Institute of Business Science
University of Pretoria
26 Melville Road, Illovo, Johannesburg

IIINVITE TO NORWAY: Mrs Gugulethu Moyo

Mrs Moyo, master student at GIBS, University of Pretoria, is hereby invited to collect data in Norway connected to the Utforsk Comparative Research activity, during May 2025.

University of Pretoria cooperates with HVL on the project: UTFORSK: Norwegian – South African partnership for sustainable entrepreneurial internships - SUSTENSHIP (March 2023 – 2026)

The UTFORSK-project includes Comparative research activity for master students and PhD students in Norway and South Africa. Utforsk cover the costs for research/data collection for South African students in Norway for 2 weeks.

Accommodation:

Utforsk will cover travel (flights), diet, internal transport and accommodation costs.

Name: Gugulethu Moyo
Passport Nr: **Passport Number:**
Expiry Date:
Period of stay: 9 – 26. May

Yours sincerely

Project leader Utforsk, Professor Inger Beate Pettersen, The Business School, HVL
Inger.beate.pettersen@hvl.no, +47 90402837, Western Norway University of Applied Sciences,
Campus Bergen, Inndalsveien 28, 5063 Bergen

APPENDIX F: Codebooks

First Order Codes

RQ	Country	Second-Order Theme	First-Order Code	Definition/Notes	Participants	N Participants
RQ1	Norway	Strategic Network Facilitation & Ecosystem Cultivation	Hub as credibility stamp	Institutional affiliation legitimises startups with customers and regulators.	P13, P3,P2,P4, P5	5
RQ1	Norway	Strategic Network Facilitation & Ecosystem Cultivation	Curated introductions to decision-makers	Warm intros to senior buyers streamline early conversations.	P3, P10,P7,P9	4
RQ1	Norway	Strategic Network Facilitation & Ecosystem Cultivation	Serendipitous collisions in designed spaces	Open layouts & rituals ('Friday Waffles', 'Pancakes on Monday') create frequent informal problem-solving moments.	P7, P10, P8,P13	4
RQ1	Norway	Strategic Network Facilitation & Ecosystem Cultivation	Cluster proximity advantage	Being co-located with industry clusters increases embedded access.	P5, P9,P2,P5	4
RQ1	Norway	Structured Methodological Implementation & Mentorship Architecture	Methodological push	Hubs insist on structured customer discovery & validation routines.	P1, P2,P3,P4,P6	5
RQ1	Norway	Structured Methodological Implementation & Mentorship Architecture	Hands-on investor readiness	Actionable deck and fundraising guidance, not theory.	P12,P11	2
RQ1	Norway	Structured Methodological Implementation & Mentorship Architecture	Sparring-coach stance	Questioning & reflection to build founder independence.	P2,P3,P6	3
RQ1	Norway	Structured Methodological Implementation & Mentorship Architecture	Domain-specific mentorship	Sector expertise (e.g., medtech regulatory pathways).	P13,P2,P12	3
RQ1	Norway	Strategic Funding Navigation & Capital Orchestration	Soft-funding runway	Use non-dilutive grants for early de-risking.	P10,P1,P3,P4,P7	5
RQ1	Norway	Strategic Funding Navigation & Capital Orchestration	Selective internal allocation	Performance-based spend on high-performers.	P6	1
RQ1	Norway	Strategic Funding Navigation & Capital Orchestration	Explicit path choice (VC vs 'stone')	Conscious choice of growth logic shapes all downstream moves.	P7, P9,P8	3
RQ1	Norway	Strategic Funding Navigation & Capital Orchestration	Push for first paying pilot	Paying customers as strongest validation for investors.	P11	1
RQ1	South Africa	Foundational Infrastructure & Certified Facilities	Infrastructure as barrier	Labs/clinics/kitchens are prerequisites for legitimacy & feedback.	P17	1

RQ1	South Africa	Foundational Infrastructure & Certified Facilities	Certified production space	Ready-to-use compliant facilities enable retail entry.	P20	1
RQ1	South Africa	Program Stacking / Hub-Hopping	Resource leveraging across programs	Accumulate discrete resources (kitchen, grants, legal) across hubs.	P19	1
RQ1	South Africa	Adaptive Mentorship & Mindset Development	Practitioner mentors (failure-tested)	Experience-first filter; avoid purely theoretical coaches.	P16	1
RQ1	South Africa	Adaptive Mentorship & Mindset Development	Mindset-first support	Curiosity & resilience prioritised; psychological scaffolding.	P23	1
RQ1	South Africa	Adaptive Mentorship & Mindset Development	Human-centred recovery coaching	Mentors help reframe setbacks & continue iteration.	P18	1
RQ1	South Africa	Contextualised Methodologies & Funding Navigation	Adaptive localisation of global methods	Modify Lean/Discovery for informal economies & low digital literacy.	P14, P16	2
RQ1	South Africa	Contextualised Methodologies & Funding Navigation	Tangible long-term support	Cash + tools (e.g., accounting system) with multi-year horizon.	P21	1
RQ1	South Africa	Contextualised Methodologies & Funding Navigation	Investor/Funder perspective	Insights from portfolio/program managers on capital pathways.	P15	1
RQ2	Norway	Strategic Network Utilisation	Sequenced stakeholder engagement	Experts → operators → decision-makers across milestones.	P3	1
RQ2	Norway	Strategic Network Utilisation	High-intensity event participation	Active presence in community events to mine contacts.	P13	1
RQ2	Norway	Iterative Product–Market Validation	Hypothesis-driven prototyping	Prototype/present/pivot cycles from market signals.	P5	1
RQ2	Norway	Iterative Product–Market Validation	Innovation contracts for real-time feedback	Live testing with institutional partners (e.g., hospitals).	P13	1
RQ2	Norway	Iterative Product–Market Validation	Internationalisation fit check	Assess portability of the 'Norway playbook'.	P1	1
RQ2	Norway	Strategic Funding Alignment	Mission-aligned capital strategy	Deliberate VC vs soft-funding choice; avoid dependency.	P7, P6	2
RQ2	South Africa	Resource-Driven Program Participation	Targeted hub entry for specific assets	Join a program primarily for infrastructure access.	P19	1
RQ2	South Africa	Direct Customer Iteration	Exhibition feedback loops	Taste/UX feedback drives product reformulations.	P17	1
RQ2	South Africa	Direct Customer Iteration	Sales-rate observation	Track SKU velocity/shifts to guide production focus.	P20	1
RQ2	South Africa	Strategic Use of Infrastructure & Expertise	First batch via lab/kitchen	Physical proof for retailers/investors.	P17	1
RQ2	South Africa	Strategic Use of Infrastructure & Expertise	Operational tooling support	Long-term accounting system access fosters discipline.	P21	1

RQ2	South Africa	Multi-Pronged Funding Strategies	Deep bootstrapping	Extended no-salary runway to survive funding gaps.	P22	1
RQ2	South Africa	Multi-Pronged Funding Strategies	Staged grant→VC pathway	Use ED/corporate grants to show traction then raise pre-seed.	P18	1
RQ3	Norway	Specialisation Deficits in Complex Industries	Regulatory knowledge gaps	Medical device/technical standards expertise missing in hubs.	P13, P5	2
RQ3	Norway	Market Access Complexity	Extended corporate sales cycles	24-month B2B timelines misalign with validation needs.	P7	1
RQ3	Norway	Market Access Complexity	Limited local demand	Premature internationalisation dilutes deep discovery.	P4	1
RQ3	Norway	Cultural Tensions	Consensus slows iteration / analysis paralysis	Harmony norms delay tough product decisions.	P6, P11	2
RQ3	South Africa	Funding Misalignment & Scarcity	Tick-box incentives (B-BBEE)	Metrics over substance distorts validation priorities.	P17	1
RQ3	South Africa	Funding Misalignment & Scarcity	Risk-averse experimentation	Prolonged bootstrapping shrinks horizon & experiments.	P22	1
RQ3	South Africa	Market Access Barriers	Oligopolistic B2B resistance	Innovation units saturated; shallow engagements.	P18	1
RQ3	South Africa	Market Access Barriers	Informal payment expectations	'Brown-envelope' practices in retail distribution.	P17	1
RQ3	South Africa	Support Ecosystem Gaps	Mentor experience deficit	Templates without lived practice fail in context.	P16	1
RQ3	South Africa	Support Ecosystem Gaps	Program fragmentation	Short interventions disrupt continuous discovery.	P19	1
RQ3	South Africa	Support Ecosystem Gaps	Weak contextualisation	Methods ignore township logistics & language diversity.	P14	1

Second Order Codes

RQ	Country	Second-Order Theme	Constituent First-Order Codes	N First-Order Codes	Participants	N Participants
RQ1	Norway	Strategic Funding Navigation & Capital Orchestration	Explicit path choice (VC vs 'stone'), Push for first paying pilot, Selective internal allocation, Soft-funding runway	4	P10, P11, P6, P7	4
RQ1	Norway	Strategic Network Facilitation & Ecosystem Cultivation	Cluster proximity advantage, Curated introductions to decision-makers, Hub as credibility stamp, Serendipitous collisions in designed spaces	4	P10, P13, P3, P5, P7, P8, P9	7
RQ1	Norway	Structured Methodological Implementation & Mentorship Architecture	Domain-specific mentorship, Hands-on investor readiness, Methodological push, Sparring-coach stance	4	P1, P12, P13, P2	4
RQ1	South Africa	Adaptive Mentorship & Mindset Development	Human-centred recovery coaching, Mindset-first support, Practitioner mentors (failure-tested)	3	P16, P18, P23	3
RQ1	South Africa	Contextualised Methodologies & Funding Navigation	Adaptive localisation of global methods, Investor/Funder perspective, Tangible long-term support	3	P14, P15, P16, P21	4
RQ1	South Africa	Foundational Infrastructure & Certified Facilities	Certified production space, Infrastructure as barrier	2	P17, P20	2
RQ1	South Africa	Program Stacking / Hub-Hopping	Resource leveraging across programs	1	P19	1
RQ2	Norway	Iterative Product–Market Validation	Hypothesis-driven prototyping, Innovation contracts for real-time feedback, Internationalisation fit check	3	P1, P13, P5	3
RQ2	Norway	Strategic Funding Alignment	Mission-aligned capital strategy	1	P6, P7	2
RQ2	Norway	Strategic Network Utilisation	High-intensity event participation, Sequenced stakeholder engagement	2	P13, P3	2
RQ2	South Africa	Direct Customer Iteration	Exhibition feedback loops, Sales-rate observation	2	P17, P20	2
RQ2	South Africa	Multi-Pronged Funding Strategies	Deep bootstrapping, Staged grant→VC pathway	2	P18, P22	2
RQ2	South Africa	Resource-Driven Program Participation	Targeted hub entry for specific assets	1	P19	1
RQ2	South Africa	Strategic Use of Infrastructure & Expertise	First batch via lab/kitchen, Operational tooling support	2	P17, P21	2
RQ3	Norway	Cultural Tensions	Consensus slows iteration / analysis paralysis	1	P11, P6	2
RQ3	Norway	Market Access Complexity	Extended corporate sales cycles, Limited local demand	2	P4, P7	2
RQ3	Norway	Specialisation Deficits in Complex Industries	Regulatory knowledge gaps	1	P13, P5	2
RQ3	South Africa	Funding Misalignment & Scarcity	Risk-averse experimentation, Tick-box incentives (B-BBEE)	2	P17, P22	2
RQ3	South Africa	Market Access Barriers	Informal payment expectations, Oligopolistic B2B resistance	2	P17, P18	2

RQ3	South Africa	Support Ecosystem Gaps	Mentor experience deficit, Program fragmentation, Weak contextualisation	3	P14, P16, P19	3
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RQ1 Norway

Second-Order Theme	First-Order Codes (mechanisms)	Representative Participants	Brief Evidence (paraphrase)
Strategic network facilitation	Hub as credibility stamp; curated introductions; cluster co-location; informal trust rituals	P2, P3, P5, P7, P10, P11, P13	Incubator affiliation opens doors (e.g., hospital); exec intros; on-floor clusters; low-stakes pitch/feedback rituals.
Methodological push & scaffolding	Interview-first; hypothesis→prototype→market; structured sprints; investor-readiness coaching	P1, P2, P6, P10, P11, P12, P13	Direct customer interviews; agile 'focus periods'; deck surgery; domain mentors in medtech.
Capital orchestration	Soft-funding pathway; milestone-based internal allocation; 'pilot revenue > grant'; route choice (soft vs VC)	P6, P7, P10, P11	Grants de-risk early validation; selective spend on high performersecure first paid pilot; explicit funding path.
Space engineered for collisions	Co-working layout; serendipity points; shared supplier/investor presence	P5, P7, P10	Space design triggers cross-company advice and fast problem-solving.

RQ1 South Africa

Second-Order Theme	First-Order Codes (mechanisms)	Representative Participants	Brief Evidence (paraphrase)
Foundational infrastructure provision	Certified labs/kitchens/production; shared equipment; subsidised desks	P17, P19, P20, P21	Facilities unlock retailer standards; enable first tangible batches and legitimize customer talks.
Practitioner-led mentorship & mindset	Mentors with scars; CRO mindset (Curiosity, Resilience, Oneness); psychological support	P14, P16, P18, P23	Preference for battle-tested mentors; deliberate resilience building; hands-on recovery after setbacks.
Contextualised methods	Localised design thinking; lean for informal markets; ethnographic validation	P14, P16, P17	Methods adapted for feature phones, spaza distribution, local purchasing norms.
Pragmatic financial enablement	Stipends/small grants; tool subscriptions; ED/CSR navigation	P14, P17, P18, P21, P23	Cash + systems for capacity; translate compliance-driven programs into usable runway.

RQ2 Norway

Second-Order Theme	First-Order Codes (engagement)	Representative Participants	Brief Evidence (paraphrase)
Sequenced network use	Map ecosystem; time intros to milestones; pursue decision-quality meetings	P3, P13	Phase contacts (tech→ops→exec) to match validation stage; purposeful event use.
Continuous validation loops	Prototype–feedback–iterate; innovation contracts; post-event debriefs	P1, P5, P7, P13	Roofing panel pivot; clinical real-time adjustments; structured debriefs after events.
Front-loaded extraction	Early clarity on asks; dense onboarding; informal JIT mentoring	P12, P7	Front-load mentor time; use informal settings for timely feedback.
Funding aligned to vision	Explicit route choice; convert grants to paid pilots	P6, P7, P10, P11	Treat capital as a tool; avoid grant treadmill; seek willingness-to-pay proof.

RQ2 South Africa

Second-Order Theme	First-Order Codes (engagement)	Representative Participants	Brief Evidence (paraphrase)
Program stacking ('hub-hopping')	Multi-program participation to assemble full stack of needs	P18, P19, P21,P17	Each hub supplies a missing piece (kitchen, grant, legal, tools).
Real-market iteration	Exhibition feedback; sell-through observation; flavour/format pivots	P17, P20	Direct consumer signals drive changes (fluoride removal; milder chilli focus).
Targeted facility leverage	Pilot batches in certified spaces; demo-ready prototypes	P17, P20	Facilities convert concept→proof for buyers/investors.
Mixed funding tactics	Extreme bootstrapping; staged corporate grant→equity	P18, P22,P17,P21	Bootstrapping enforces value focus; grants de-risk VC readiness.

RQ3 Norway

Second-Order Theme	First-Order Codes (challenges)	Representative Participants	Brief Evidence (paraphrase)
Specialisation gaps	Generalist support vs deep regulatory/technical needs	P5, P13,P5,P12	External experts needed; delays split focus between compliance and discovery.
Market structure drag	Long B2B cycles; complex procurement; small domestic demand	P4, P7,P1,P3	Slow feedback and cash-flow mismatch; early internationalisation dilutes immersion.
Culture–execution tension	Consensus norms; multi-mentor 'analysis paralysis'	P6, P11	Ha RQ3 South Africa rmony delays tough calls; conflicting advice slows decisive action.
Funding comfort traps	Soft-funding dependence delays revenue learning	P6, P11	Need push to convert grants to paid pilots.

RQ3 South Africa

Second-Order Theme	First-Order Codes (challenges)	Representative Participants	Brief Evidence (paraphrase)
Misaligned funding logic	Tick-box ED/CSR; short horizons; metric distortion	P14, P17	Compliance goals overshadow genuine learning; stop–start cycles.
Capital scarcity & risk aversion	Prolonged bootstrapping; conservative experimentation	P22,P220,P19	Personal burn pushes incrementalism over bold discovery.
Market access frictions	Oligopolies; gatekeeper overload; informal payments	P17, P18	Structural and ethical barriers block discovery and distribution.
Support quality variance	Theory–practice gap; mentor inexperience; program fragmentation	P16, P19, P14	Frameworks unfit for context; momentum loss between short programs.