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SME growth and entrepreneurial abilities:
A Penrosian approach to the New Zealand seafood industry

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THE UNIVERSITY OF AUCKLAND
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Abstract

Sustainability of fisheries, both at a macro level and at the level of individual businesses, is of huge significance economically and socially to many countries. New Zealand has the world’s sixth largest fisheries exclusive economic zone (EEZ) and 10th largest coastline, yet many of its seafood businesses struggle to create, deliver and capture value. Indeed, many struggle to survive. The industry is characterised by plant closures, job losses, low returns and, according to Stringer et al. (2011), increasingly the offshoring of value-adding processing and the export of related capabilities, to China.

According to Penrose (1959), firms use a combination of external and internal resources to grow, but growth is limited essentially by the capabilities of management, and whether entrepreneurial managers see opportunities for growth arising from other possible uses of resources. This approach has been built on by Teece in recent years (e.g. Teece, 2007; 2009). A Penrose-Teece (P-T) framework derived from these studies informs this research, and encompasses the individual, firm and industry levels of analysis. This framework is applied SMEs in the New Zealand seafood industry, asking: 1) How do seafood SMEs create, deliver and capture value through their activities? 2) What are the key capabilities that distinguish innovative, value adding/capturing businesses from those which are not? 3) How do entrepreneurial management capabilities influence value-adding activities in seafood SMEs?

The findings are empirically derived from seventeen SME cases, each with a spread of value chain activities, drawn from the two main fisheries industry sectors – wild capture and aquaculture. In total 24 primary and 16 follow-up semi-structured interviews were carried out between 2010 and 2012. Interviews were complemented with field notes and on-site observations, and secondary data from websites, news media, magazine articles, documentaries, photographs, company reports and financial accounts. The findings show that the wild capture and aquaculture SME cases essentially followed one of two distinct paths; either a) a production-led path utilising a commodity-oriented complex of capabilities, often resulting in a struggle between diminishing returns and increasing costs; or b), a market-responsive entrepreneurial path, utilising a complex of entrepreneurial management capabilities, resulting in the capturing of high-levels of margin by market shaping and creating entrepreneurs. From these two paths an integrated framework is developed to show how additional value can potentially be created, delivered and captured in the industry sectors; using dynamic capabilities to shape the environment and coevolve with markets. The research thus provides theoretical, empirical and practical contributions.
Dedication

I dedicate this thesis to Natasha, Aidan, Rhianna and Caiden.
Acknowledgements

Life is often a serendipitous journey, which for this research was particularly so. Along the way, I was blessed to meet many exceptional people, without whom this thesis could not have been written. I am indebted to the participants who went out of their way to share an important part of their lives. Their contributions go to the heart of this thesis. Special acknowledgement goes to four participants, who provided on-going feedback during the preparation of this thesis, and especially to one, who went the extra mile. I also recognise the considerable support and assistance from many other people, within the seafood industry and those with knowledge of the industry who together, were very generous in sharing their insights. This was invaluable in helping me understand a complex research context. I am unable to name you, but you know who you are, and I value your support and help greatly. In the end, I hope this thesis will contribute to the re-orientation of growth in the industry, because there is huge potential for the businesses themselves to create, deliver and capture significantly more value from their activities.

Most of all, I owe more than a debt of gratitude to my supervisors Professor Hugh Whittaker and Dr Christina Stringer. Their contributions were essential to the intellectual development of this thesis. Hugh was very generous with his time and expertise, and particularly for his stimulating approach to my work and guidance throughout, until the end. Christina sparked my interest in the industry and her attention to detail and rigour provided that extra critical eye. She dragged a very reluctant writer into the world of academic publishing, which has scarred me for life. Hugh and Christina’s support for my participation in the many conferences, workshops and presentations was invaluable, for which I will be ever grateful. Despite the anxiety my research caused, they gave me the freedom to pursue various avenues. Between them, they have left an indelible mark of the contribution one can make to knowledge and the world we live in. Indeed, it has been a privilege to have them as my supervisors. I am also indebted to Associate Professor Ian Hunter for his thought provoking critiques of my early ideas.

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Chapter 1: Introduction

Sustainability of fisheries, both at the macro level and at the level of individual firms, is of huge significance economically and socially to the world. The well-being of many countries depend on sustainable fisheries, because seafood is a critical source of protein and essential micronutrients to over 1 billion people, and is an important source of trade and export earnings (FAO, 2012; UNEP, 2011). In 2009 seafood provided 16.6 percent of the world’s animal protein for human consumption. It is one of the most traded products globally. In 2010 global trade in wild capture fishery and aquaculture products reached US $217.5 billion (FAO, 2012). Of this over 86 percent was consumed as food. The FAO estimates that 54.8 million people globally were directly employed in the wild capture and aquaculture sectors in 2010, with both sectors supporting the livelihoods of 10-12 percent of the world’s population. However, since the mid-1990s wild capture sector employment has stagnated or declined, while aquaculture sector employment has significantly increased. In fact, wild capture production peaked in the mid-1990s, because the “maximum wild capture fisheries potential from the world’s oceans has probably been reached” (FAO, 2009, p. 7). Studies report that 86.9 percent of the world’s wild capture fishery stocks are either fully exploited or overexploited, or depleted (Delgado, Wada, Rosegrant, Meijer, and Ahmed, 2003; FAO, 2012).

On the back of peaked wild capture production, aquaculture has rapidly expanded, growing at an average annual rate of 8.8 percent during the past three decades (FAO, 2012). It has become the engine of growth, driving seafood production globally. In 1980 aquaculture’s share of total global seafood production was 9 percent and by 2010 this had increased to 47 percent, valued at US $119.40 billion. However, along with an underperforming wild capture sector (Grafton et al., 2008; UNEP, 2011), aquaculture also faces a raft of problems (FAO, 2012). Globally the industry is hampered by poor governance (transparency and accountability), weak fisheries management regimes, conflicts over the use of natural resources, entrenched use of poor practices, failure to recognise the rights of small-scale fishing communities, gender discrimination, and exploitive labour practices. The FAO notes that improved management and efficiencies, coupled with best practices, can improve resource sustainability and economic returns by achieving more with less. The organisation calls for investment in technology and solutions to transform the industry. It stresses that governments and society have an important role to play to ensure the seafood industry responsibly changes for the well-being of all mankind.

New Zealand’s seafood industry, the fifth largest export earner, faces many of the same challenges as other countries (Ministry for Primary Industries, 2013; Ministry of Economic Development, 2011b; Stewart, Walshe, and Moodie, 2006; Stringer, 2010). The use of forced labour has been a feature of the wild capture sector for over two decades (Simmons and Stringer, 2013, 2014; Stringer and Simmons, 2013). In terms of its impact on the New Zealand economy, the wild capture sector underperforms
relative to the world average. Using Leontief’s input-output analysis method, Dyck and Sumaila (2010) estimated that the total global economic impact of wild capture fisheries was 2.8 times the total landed value of wild caught seafood. North America exceeded this average at 3.52, and Oceania followed with 3.27. However, New Zealand’s individual score of 2.58 was significantly below Australia’s at 3.69. Moreover, a government commissioned study found that nearly all wild capture growth metrics were negative, with production down 21 percent in volume terms since 1998 (Ministry of Economic Development, 2011b). Growth metrics for aquaculture were better, at an average annual growth rate of 5 percent from 1995 to 2010, but was significantly below the global average growth rate of 8.8 percent. The report also highlighted that there were no major growth opportunities in the wild capture sector and limited opportunities in aquaculture. Needless to say, in this industry many individual seafood businesses struggle to create, deliver and capture value. Indeed, many struggle to survive.

The seminal work of Penrose (1959) – The Theory of the Growth of the Firm – provides a starting point to examine these important businesses. According to Penrose (1959), firms use a combination of external and internal resources to grow, but growth is limited essentially by the capabilities of management, and whether entrepreneurial managers see opportunities for growth arising from other possible uses of resources. This underscores two key points, namely: firms can (almost) always obtain new resources to grow; and growth is essentially constrained by the abilities of existing management (Marris, 1999). This managerial limitation has been also emphasised by others (e.g. Richardson, 1964; Slater, 1980). Another way of looking at Penrose’s growth theory is to view it as “constrained flexibility in an uncertain world”, where a firm’s knowledge is an “evolutionary discovery process”, and where output is governed by management’s capabilities and an entrepreneur’s vision and image of the world (Foss, 1998, p. 14). Importantly, Penrose’s growth theory provides a comprehensive conceptual lens, rich with implications for the analysis of business growth dynamics (Best, 1999; Pitelis, 2002b).

Penrose’s theory was further built on by Teece (e.g. Teece, 2007, 2009; Teece and Pisano, 1994; Teece, Pisano, and Shuen, 1990, 1997). Although Penrose recognised the important role of entrepreneurs, Teece along with Augier (2009) contend the entrepreneurial elements of management – to sense and seize opportunities, and manage threats, were underdeveloped. Indeed, “in environments exposed to global competition, management must be exceptionally entrepreneurial to succeed” (Teece, 2009, p. 228). Thus, Teece’s dynamic capabilities framework, which seeks to explain the sources of long-run competitive advantage (i.e. Teece, 2007, 2009), is also particularly relevant. The framework integrates fifty years of scholarship and empirical analysis from economics, sociology, behavioural decision theory, business history, and strategic management. Fundamental to it is how entrepreneurial managers sense and seize opportunities before others do, and then continuously adapt the business to ensure sustainable performance. This underpins how businesses create, deliver and capture value, which along with Penrose’s work provides a rich lens to gain insights into the growth of seafood businesses.
Informed by Penrose’s growth theory and Teece’s dynamic capabilities framework, this thesis aims to advance our understanding of entrepreneurial growth in New Zealand’s seafood industry – a key primary industry. However, growth theory is based on industrial organisations and the dynamic capabilities framework is in its infancy. Thus, a further objective of this study is to extend theory rather than test it through empirical investigation. The study draws on industry, business, and CEO-level evidence empirically to gain new insights into the value creating, delivering and capturing mechanisms of New Zealand seafood businesses. The study thus provides theoretical, empirical and practical contributions. The following three questions encapsulate my interest in the sector and have guided the research:

1. How do seafood SMEs create, deliver and capture value through their activities?
2. What are the key capabilities that distinguish innovative, value adding/capturing SMEs from those which are not?
3. How do entrepreneurial management capabilities influence value-adding activities in seafood SMEs?

The remainder of this chapter gives a succinct overview of the research context. The research design is then introduced and the chapter concludes with a brief outline of how the thesis is organised.

1.1 Research context

The production of food is the most important sector of the New Zealand economy. It has been the biggest export earner for more than 100 years and in 2011 accounted for 54 percent of all exports in value terms (Ministry of Economic Development, 2012). However, relative to peers, New Zealand underperforms in adding value, as only 16 percent of food exports are processed into final value-added products (Ministry of Economic Development, 2010). Of the NZ $25.3 billion of food products exported in 2011, seafood accounted for NZ $1.53 billion (Ministry of Economic Development, 2012). As the industry is primarily bulk production-driven, it captures little final market value (Ministry of Economic Development, 2011b). Moreover, despite New Zealand having the world’s sixth largest fisheries exclusive economic zone (EEZ), it ranks only 25th in terms of fisheries exporting nations, with exports amounting to a mere 1.2 percent of the total global fisheries trade (Ministry of Fisheries, 2010). Since 1998 wild capture production has fallen significantly in volume terms and exports have declined in real terms. In fact, “there is little potential for further growth in wild capture production” beyond the fish stock rebuild programmes (Ministry for Primary Industries, 2013, p. 50). In contrast, the aquaculture sector has positive growth metrics, but is concentrated on only three species and reliant on a few key biosecure, flat or declining markets. Overall, “the medium-term outlook for the New Zealand seafood sector is subdued,” with a modest increase in export earnings to 2017 forecast (Ministry of Economic Development, 2011b, p. 49).
Global value chains (GVCs) are critical to the New Zealand seafood industry as 90 percent of production is exported. During the past 15 years the industry has been increasingly impacted by the globalisation of their value chains. Seafood businesses face unprecedented challenges from the increasing influence of large buying firms as well as low-cost Asian producers (Stringer, Simmons, and Rees, 2011b). Large retailers have shaped value chains, resulting in some labour-intensive production activities shifting to low-cost countries, particularly Asian countries (Gereffi, 1994). Distributors also exercise considerable influence, in that “…firms are frequently at the mercy of their distribution channels that use their power to drive down prices… and capture large proportions of the price the end-user pays” (Smale, 2009, p. 25). Put differently, global buyers exert huge power by detailing “what, how, when, where, and by whom the goods they sell are produced” (Sturgeon, 2008, p. 241). Consequently, the industry is characterised by cost cutting, plant closures, job losses, low-levels of profitability, and according to Stringer et al. (2011b), increasingly the offshoring of value added processing and the export of related capabilities, to China.

Exports of unprocessed and semi-processed fish to China have significantly increased in recent years and a corresponding decrease of value added products to formerly key markets has occurred. One of the more striking findings by Stringer et al. (2011b, p. 106) is “ultimately, as exports to China achieve critical mass this will lead to the demise of fish processing in New Zealand.” Not only will this result in further job losses and affect export earnings, but more importantly the wider fisheries industry’s ‘industrial-commons’ will be eroded; this being “the collective R&D, engineering, and manufacturing capabilities that sustain innovation” (Pisano and Shih, 2009, p. 116). In other words, the ability to innovate will also be outsourced (Teece, 2009), which puts the industry on a pathway to becoming little more than a quota trader and commodity supplier.

Hollowing out of the industry not only leaves large firms vulnerable (Chesbrough and Teece, 1996), but limits the ability of related smaller businesses to secure sustainable growth (Penrose, 1959; Teece, 2009). It also results in capabilities needed for proficient manufacturing becoming external to the firm. This is concerning because as Teece (2009) points out, outsourcing can undermine a key strategic management function, to find new value-enhancing combinations within the firm, because this is where the most valuable inimitable assets are. Compounding this is that the industry is hamstrung by a lack of export-related capabilities, including strategic management and international sales capabilities (Ministry of Economic Development, 2012). A government-commissioned study found that New Zealand management were average to middling by global standards across 18 management dimensions. Producers rated significantly lower than the best performing country the U.S.A. and within New Zealand “more businesses were poorly managed than well managed” (Green and Agarwal, 2011, p. 20). Hence, Penrose’s growth theory along with Teece’s dynamic capabilities framework are well suited to provide a comprehensive lens with which to gain insights into the growth of New Zealand seafood businesses.
The work of Penrose and Teece also influenced the development of the Global Value Chain (GVC) governance framework (Sturgeon, 2009), which seeks to explain and predict how value adding segments are linked in the global economy (Gereffi, Humphrey, and Sturgeon, 2005). However, while the GVC framework is relevant and a possible alternative to the P-T framework, it is not suited as the primary framework for the type of analysis envisaged from the research questions. Creating, delivering and capturing value is not simply about input-output structures, geography, governance, institutions and upgrading, rather it is about entrepreneurial sense-making, exploiting opportunities, and managing threats, as well as the routines, processes and capabilities that underpin firm growth, as we shall see. The P-T framework is better suited for this than the GVC framework, as the latter primarily operates at the transaction, value chain node and bilateral governance levels (Ponte and Sturgeon, 2014). Nonetheless, it is important for understanding the industry and its value chains, thus it will be drawn on and referred to throughout this thesis. Therefore, the focus to inform this research is derived from the growth theory and the dynamic capabilities framework, but is cognizant of the GVC framework (see Figure 1-1). Key insights from Penrose’s (1959) growth theory and Teece’s (1997, 2007) dynamic capabilities, it should be noted, are incorporated into the GVC framework (Sturgeon, 2009).

Figure 1-1: Literature focus, cognizant of the GVC framework

Although more than 50 years have passed, Penrose’s growth theory is as relevant today as it was in 1959, because of its theoretical integration, which encompasses internal and external firm analysis, and moves between different levels of analysis (Pitelis, 2009, 2011). However, despite her growth theory remaining relevant and indeed unsurpassed (including by the resource-based view, which draws on her insights), there is scope for updating, in order to incorporate new theoretical developments and empirical findings. As Teece and Augier (2009, p. 131) point out, “Penrose’s work has often been extensively cited while also being mis-characterised. What is needed is careful scholarship, initiated by a
careful reading of her work, especially the Theory of the Growth of the Firm.” Therefore, this study draws on Penrose’s (1959) growth theory coupled with Teece’s (2007, 2009) dynamic capabilities framework. The Penrose-Teece (P-T) framework, derived from studies which encompass the individual, firm and industry levels of analysis, provide the conceptual lens for this research.

Against this backdrop this thesis aims to extend understanding of entrepreneurial growth in the seafood industry, and by doing so, derive new insights for the research lens. It seeks to shed light on the key value creating, delivering and capturing mechanisms of New Zealand seafood businesses, by empirically drawing on industry, business, and CEO-level evidence, to answer the research questions. Although there has been much research of fisheries under the water, scant attention has been paid to socio-economic research. For more than a decade the industry has been calling for research into how competitiveness can be improved (Stringer, 2010; Stringer et al., 2011b; Talley, 1999). Consequently, this research seeks to understand competitiveness, wealth creation, and growth processes in a greatly under researched industry. An improved understanding of these is of particular interest to policy makers, potentially outside as well as inside New Zealand given the global importance of the industry.

1.2 Research design

To address the research questions an ontological paradigm of critical realism associated with Bhaskar (1979, 2008) and Sayer (1992) was adopted. Critical realists argue that “the world exists independently of our knowledge of it” (Sayer, 1992, p. 5). It is differentiated and stratified, with events, objects and structures causing it to change, but can only be imperfectly observed (Bhaskar, 1989, 2008; Sayer, 1992). Often the causal structures and mechanisms are not directly observable, but by combining and analysing the insights of different individuals who experienced the same event they can be learned about (Healy and Perry, 2000; Sayer, 2000). As critical realism involves interpretivist elements, a case study approach is appropriate (Easton, 2010; Sayer, 2000) for developing a nuanced view of reality (Flyvbjerg, 2011). Case studies are particularly suitable where in-depth understanding of organisational processes is required (Eisenhardt, 1989; Stake, 2008). The flexibility of case studies permits in-depth data to be collected, using qualitative or quantitative methods, or a mix of both (Eisenhardt, 1989; Flyvbjerg, 2011; Yin, 2011, 2012). As Penrose (1959, p. 198) explains, methods that do not take into account the complex heterogeneous nature of businesses will “lead to an analysis which conceals more than it reveals.”

A purposive ‘maximum-variation’ selection strategy was adopted to facilitate comparisons (Eisenhardt, 1989) within the two main fisheries sectors – wild capture and aquaculture – and between them, based on value chain engagement. Seventeen small medium sized New Zealand wild capture and aquaculture enterprises (SMEs), as case study businesses are included in this study. These were reduced to twelve, to further maximise variation in value chain activities and only these are formally referred to in the findings.
The remaining five cases are used to inform the research generally. Both industry sectors – wild capture and aquaculture - broadly encompassed two types of SMEs - those active in an extended range of value chain activities, and those, active in a focused range of value chain activities. Selecting polar type cases assists in building theory as this permits patterns to emerge across the subgroups (Eisenhardt, 1989). Different levels of value chain engagement increases the variation of dynamic capabilities, so that both empirical and insights into the Penrose-Teece framework can be similarly maximised.

In total twenty four face-to-face semi-structured primary interviews of between one and four hours each were undertaken. Of these, seventeen were with the case study businesses’ CEOs and seven were with key industry informants, in order to gain additional insights into the dynamics of the seafood industry and for triangulation purposes. Sixteen follow-up interviews of around 60 minutes each were also carried out. Interviews were complemented with field notes and on-site observations, and secondary data from websites, news media, magazine articles, documentaries, photos, company planning reports, annual reports and financial accounts. Different data collection methods were used, for triangulation (Denzin and Lincoln, 2000), and in order to construct an accurate a picture as possible (Bhaskar, 1989; Denzin and Lincoln, 2000; Easterby, Thorpe, and Jackson, 2008; Yin, 2011). Secondary data was obtained to probe deeper into the value creating, delivering and capturing mechanisms in order to gain a full understanding of each business and to support and corroborate interview data. The different data collection methods provides stronger and more robust conclusions (Eisenhardt, 1989; Yin, 2012).

Analysis of the data followed Yin (2009, 2011) and was also informed by Miles and Huberman (1994), Eisenhardt (1989), and Sayer (1992). Within-case analysis was first undertaken. Detailed coded narratives of each case were constructed. From these unique patterns and themes emerged, which generated initial insights. Cross-case analysis followed, and two types of comparisons were made between the cases in order to compare the within-case patterns and themes and uncover new ones. The first was between the cases within each quadrant, which was also a form of triangulation. The second was between the quadrants. This uncovered within-quadrant and between-quadrant similarities and differences. In short, this study used a recursive and iterative process to examine the similarities and differences between the case data to seek explanation, by comparing possible explanations against alternative explanations, interpretations, and the literature in order to uncover the underlying mechanisms. From this, new case narratives, tables, and graphical representations were produced to present the findings in different ways. The methodology, research design, data collection methods, analysis techniques used in this study are further explained and justified in chapter 5.

1.3 Contributions

Analysis of the data led to a number of contributions. First, Teece’s (2007, 2009) dynamic capability
framework applied particularly well to the SME cases, which faced some challenging competitive dynamics. While the framework was principally designed to understand “complex business organisations and contemporary management practices in high-performing enterprises” (Augier and Teece, 2009, p. 418), it is also extendable to seafood businesses in a primary industry. Second, a critical dynamic capability instrumental for creating new markets favourable to highly differentiated products, was identified – dynamic brand-management capabilities. This underpinned the activities of market creating and shaping entrepreneurs. Third, the study highlights the importance of business models, which are critical for determining how value is created, delivered and captured. Fourth, culture is of crucial importance in shaping the propensity to solve customer problems. While Teece (2007, p. 1334) recognises the importance of culture, its “full integration into the framework is left to others.” Fifth, an empirically induced pathway to dynamic capabilities was developed and represented graphically. It is useful as a benchmarking tool to assess the relative positioning of businesses within the seafood industry, and explain how they can develop dynamic capabilities. The pathway shows that by possessing the right mix of capabilities, businesses can reconfigure and recalibrate their activities to improve their competitiveness, leading to better outcomes. Sixth, this thesis deepens understanding of how businesses can undertake more sustainable growth activities, leading to improved socio-economic well-being in an important primary industry, through an original in-depth empirical study.

The socio-economic well-being of fisheries businesses is of huge importance to the world. Many nations depend on these businesses being successful, yet many waste up to 70 percent of their production (Kristbergsson and Arason, 2011). According to my calculations, about 1.67 million tonnes\(^1\) of heads, frames, skin and offal was wasted in New Zealand alone, during the 10 years between 2002 and 2011. This waste is much needed by many countries and of high-value, and could provide revenues for the businesses that waste it, and others. Therefore, this study took on the call from Vermeulen (2007) to provide research that is both rigorous and of relevance to practitioners, because it matters (cf Danermark, Ekstrom, Jakobsen, and Karlsson, 2002; Rynes, 2007; Tushman and O’Reilly III, 2007). This research operated in Pasteur’s quadrant where both rigor and relevance strengthened understanding to resolve a real-world problem (Tushman and O’Reilly III, 2007). Thus, this thesis also proposes a way forward for seafood businesses to transform their activities by de-commoditising their business models and value chains to produce more from the same. By understanding the decisions of the CEOs of the case study businesses, an improved understanding is provided on how seafood businesses can be more successful and contribute more to the nation’s economic growth and well-being. The findings thus have theoretical as well as practical implications for policy and practitioners, and are further discussed at the end of the thesis.

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\(^1\) Compiled and calculated from Ministry of Primary Industries and Statistics New Zealand data.
1.4 Thesis structure

This thesis is organised as described in Table 1-1.

Table 1-1: Structure of the thesis

<table>
<thead>
<tr>
<th>Chapter title</th>
<th>Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Introduction</td>
<td>Provides a succinct overview of the research.</td>
</tr>
<tr>
<td>3 Neo Penrosian Growth – Dynamic Capabilities</td>
<td>Builds on Penrosian growth with Teece’s (2007, 2009) dynamic capabilities framework, which together provide the conceptual lens (Penrose-Teece [P-T] framework) for this study.</td>
</tr>
<tr>
<td>4 Overview of the New Zealand seafood industry</td>
<td>Introduces the New Zealand seafood industry. An empirical gap is identified: how seafood businesses create, deliver and capture value from their activities. The chapter ends by articulating three research questions.</td>
</tr>
<tr>
<td>5 Methodology and research design</td>
<td>Outlines and justifies the research methodology and research design used to answer the research questions informed by the P-T framework. Steps taken to enhance the quality of the research conclude the chapter.</td>
</tr>
<tr>
<td>6 A first look at the cases</td>
<td>Presents an initial and mainly descriptive account of the SME cases, using the interview transcripts and other secondary data. The chapter concludes with a summary of the main similarities and differences between the quadrants – setting the scene for the analysis in the next three chapters.</td>
</tr>
<tr>
<td>7 Creating, delivering and capturing value</td>
<td>Presents analysis of how the SMEs create, deliver and capture value from their activities. The SME cases’ business models, value chains, and markets are examined. A characterisation of each quadrant concludes the chapter.</td>
</tr>
<tr>
<td>8 Organisation, culture, and innovation</td>
<td>Extends the analysis by examining how the SME cases organised themselves. An examination of their business cultures follows and then their innovation activities. Concluding comments highlight the key characteristics of the quadrants.</td>
</tr>
<tr>
<td>9 Entrepreneurial management capabilities</td>
<td>Builds on the previous two chapters by examining entrepreneurial management capabilities and how they influenced value-adding activities. The most important entrepreneurial management capabilities are highlighted and a typology of these is presented at the end of the chapter.</td>
</tr>
<tr>
<td>10 Discussion</td>
<td>Summarises the major findings, by revisiting the research questions, and relates them to the Penrose-Teece (P-T) framework. The chapter ends by presenting an empirically induced ‘pathway to dynamic capabilities’.</td>
</tr>
<tr>
<td>11 Conclusion</td>
<td>Assesses the theoretical contributions and outlines the empirical contributions. Comments on the generalizability of the findings follow, and a possible way forward for the industry is sketched out. The study’s limitations as well as avenues for further research are outlined, and some closing reflections, are offered in conclusion.</td>
</tr>
</tbody>
</table>
Chapter 2: Penrosian Growth

2.1 Introduction

Following on from the preliminary ideas about the research topic in the previous chapter, the aim of this and the next chapter is to develop a conceptual and theoretical lens to inform the research. Edith Penrose’s (1959) widely cited, but not so often read (Augier and Teece, 2007) classic, The Theory of the Growth of the Firm (hereafter, Theory) provides the foundation for the Penrose-Teece (P-T) framework, for this study to draw on to examine small medium enterprise (SME) growth. During an earlier study (i.e. Stringer et al., 2011b), I was struck with how well Penrose’s Theory applies to the seafood industry, as it appears to reflect many of her arguments. I looked at some of the largest seafood companies using Penrose’s (1960) mapping, and one in particular reflected many of Penrose’s (1959) arguments, for example; growth through diversification from strong technological and market bases, and the interstices – opportunities they were unable to pursue. Complementing the Theory is Teece’s (2007, 2009) dynamic capabilities framework. It built on the Theory and integrates a broad range of concepts to understand how firms can sustain a competitive advantage – the ‘Holy Grail’ of strategic management (Helfat and Peteraf, 2009). Consequently, this study draws on these two important comprehensive works, and reviews them and related work in some detail rather than a broader body of theoretical perspectives.

Penrose’s (1959) Theory is a diverse collection of ideas and concepts and is arguably the most comprehensive growth Theory to date (Lockett, Wiklund, and Davidsson, 2007; Penrose and Pitelis, 2002; Pitelis, 2009; Teece, 2009). Indeed, it “is undeniably her masterpiece...whose fundamental message has been insufficiently appreciated” (Foss, 1998, p. 2). It is as relevant today as it was in 1959, and has a distinct advantage over subsequent work, due to the scope of its theoretical integration. It encompasses internal and external firm analysis, and moves between different levels of analysis (Pitelis, 2002b, 2009). As firm growth is heterogeneous and inherently complex, Penrose paid close attention to understanding the complexities of a firm’s internal dynamics and to external factors to understand how firms grow as well as barriers to growth (Best and Garnsey, 1999; Foss, 2002; Kay, 1999). In short, the Theory explains the changing productive opportunities of a firm. Penrose first developed her ideas as an internal growth theory – focusing on the firm’s productive resources and services – with entrepreneurial individuals as the central actors necessary for continuous growth. Then she looked at the influence of external factors and how certain conditions impacted on the growth process.

This chapter outlines Penrose’s (1959) Theory and undertakes a focused review of those parts that are relevant to the research topic. This permits a review in greater detail than a broader approach would have otherwise permitted. But as Marris points out, “Mrs Penrose is not easy to summarise, and we almost certainly fail to do her justice” (Marris, 1961, p. 146). This review will highlight some aspects over
others, but recognises that Penrose’s Theory is a single argument and therefore, must be viewed as an integrated whole. Each part offers valuable insights in their own right, but Penrose’s key contribution lies in her unique synthesis of a wide range of concepts that promote and hinder growth. While scholars have focused on some aspects, other parts (such as the ‘interstices’) remain largely unexplored. The first section of this chapter takes a holistic look at her Theory and then six major elements of it are reviewed, namely: administrative coordination and authoritative communication; productive resources and services; the productive opportunity; the receding managerial limit; history matters; and the interstices. The chapter ends by reflecting on Penrose’s legacy.

2.2  Penrose’s growth theory

Many of the ideas for the Theory originated from Penrose’s early work. Her war and post-war work on Britain’s food industries influenced her thinking on value creating mechanisms and success factors (Denhardt, 1942). Her advice to the Australian government about their food industry was indicative of this: “the key to success lies in obtaining control over supplies at their source and over the channels of distribution” (Denhardt, 1943, p. 3). Other ideas included “the organisation of the food industry and its tendency towards consolidation and collusion” (Pitelis, 2009, p. xii). This shaped her thinking on monopolies, innovation and social welfare. Penrose’s (1951) doctoral thesis ‘The Economics of the International Patent System’, which focused on the creation and transmission of knowledge, was a major source of ideas. Her paper, 'Biological Analogies in the Theory of the Firm' (1952), and the debate with Armen Alchian on the role of motivation and decision making in the ‘black box’ of the firm, also shaped her thinking. Other ideas can be traced to scholars cited in her book. Kenneth Boulding’s work on ‘the image’ was very influential to Penrose’s notion of the ‘productive opportunity’, because it was ‘so apt’ for her purposes. In contrast to many orthodox economists, Penrose drew on related disciplines, including contemporary writers on industrial organisation, such as Chester Barnard, Sargent Florence, and J. K. Galbraith. She was also “greatly influenced by Schumpeter” (Pitelis, 2009, p. xii).

In 1954 Penrose undertook post-doctoral research at the Hercules Powder Company.² This case study was originally intended to be included in The Theory of the Growth of the Firm, because it illustrated “the argument of that study” (Penrose, 1960, p. 1). As Kay (1999, p. 67) comments, “it is clear that the case study itself had an important influence on the development of Penrose’s arguments.” In 1954 Penrose had no particular interest in firm growth, but thought it would be somewhat interesting and saw it as an opportunity to obtain much needed income. Nine months into the project Penrose realised that traditional theories of the firm did not explain their growth. Few economists thought it necessary to question what was occurring inside the firm. Recognising the complexity of firm growth, Penrose sought

² Kay (1999. p.86) stresses that Hercules “represents an important element in the development of Penrose’s theory and it almost certainly influenced the ideas and arguments set out in her book.”
to develop a new growth theory by discovering what went on inside the firm. In her view theoretical economists saw “reality differently from other people and asked different questions about it” (Penrose, 1995, p. x). Thus, Penrose broke from convention and adopted a multi-disciplinary approach using case study methods. This was uncharacteristic of economists at the time and may explain why her Theory was ignored for so long. As Best and Garnsey (1999, p. F195) explain:

For Penrose the world is inherently complex. We need theory to make sense of the world and to act sensibly within it. Her research method involved close observation and detailed documentation of individual firms. But she used observation to distil her conceptual model, not to prove or disprove hypotheses.

Penrose embarked on a process of discovery that focused on “history, purposive behaviour, evolutionary processes, dynamics, disequilibrium, struggle and learning” (Kor and Mahoney, 2000, p. 110). The question Penrose (1995, p. xi) sought to answer was: “whether there was something inherent in the very nature of any firm that both promoted its growth and necessarily limited its rate of growth.” The product was the Theory, which postulates that a firm is a collection of physical and human resources arranged in an organisational structure which to some extent determines the type and quantity of output that these resources produce. Given the same resources, firm growth is dependent on the capabilities of its entrepreneurial managers seeing opportunities for growth arising from other possible uses of its resources. With a good sense of timing they instinctively know what products will catch on and how to extract the highest value. In the pursuit of profit entrepreneurial managers learn and gain knowledge about other types of potential products and services that resources can produce. For “a firm’s productive opportunity is shaped and limited by its ability to use what it already has” (Penrose, 1960, p. 2). As the firm makes the best possible use of its resources, “a truly dynamic interacting process occurs” (Penrose, 1959, p. 5). This process improves efficiency, which produces surplus management resources that can then be used to take advantage of other ‘productive opportunities’. Since this is a continuous process and the opportunity cost of these surplus resources is zero, there is a strong incentive to grow, in spite of the challenge to innovate.

Put differently, growth to a large extent depends on management learning and gaining knowledge about other types of potential uses for their firm’s resources which can be combined to produce those products and services. In this respect, Penrose followed Alfred Marshall who saw knowledge as central to economic growth, because it was the “most powerful engine of production; it enables us to subdue Nature and force her to satisfy our wants” (Marshall, 1920, p. 138). In other words, Penrose saw the firm as a “dynamic body of knowledge in action” (Spender, 1994, p. 355), which was subsequently reflected in Arrow’s (1962) ‘learning by doing’ concept. According to Penrose, the firm possesses two different, but related forms of knowledge – objective and experiential. Objective knowledge is formally taught and transmitted to others, and is thus assessable to all. But, if it is not transmitted to everyone, individuals
will possess different levels of it. Experiential knowledge is also learned, but through personal experience and thus is context-specific. It changes the knowledge acquired and the ability to use knowledge, and as it is inseparable from an individual it cannot be transferred to others, only the results of the experience. This causes the productive opportunity of the firm to change, because it increases knowledge “of the possibilities for action” (p. 52). Penrose recognised the importance of objective knowledge, but was inspired by Boulding’s (1956) work. Thus focal to the Theory is the learning by doing experience of the firm. Ultimately, this contributes to the uniqueness of the opportunity of each firm:

The very processes of operation and of expansion are intimately associated with a process by which knowledge is increased, then...the productive opportunity of a firm will change even in the absence of any change in external circumstances or in fundamental technological knowledge. New opportunities will open up (Penrose, 1959, p. 56).

In 1995 Penrose acknowledged more recent work on the relationship between knowledge and the firm, in particular Loasby's (1991) Equilibrium and Evolution work. Loasby adopted a Penrosian view of the firm to support his argument that the administrative structure of the firm produces equilibrium which is “the consequence of an evolutionary process during which managers learn to operate effectively together within a particular environment” (p. 61). This “kind of temporary evolutionary equilibrium” gives management time to consider applying productive services to perceived productive opportunities (Penrose, 1995, p. xiv). Penrose’s point is that the firm’s present activities are a product of previous learning from working together as a team, which grows managerial services. The “cumulative growth of collective knowledge” (p. xii) is a necessary ingredient for growth.

However, growth is dependent on a firm’s entrepreneurial managers using a combination of external and internal resources, particularly capabilities. And, while growth is a continuous process, the rate of growth is limited by management capabilities: “...the capacities of the existing managerial personnel of the firm necessarily set a limit to the expansion of that firm in any given time period...” (Penrose, 1959, p. 45). In other words, the rate of growth is limited to the rate, at which management gain experience and assimilate knowledge, while firm size is limited by the ability of management to exercise optimal control over the expanding administrative boundaries of the firm. The essential point is that not only is the firm a pool of potentially productive resources, but it is how these resources are developed and used to create new productive products and services that matters, an important point that Foss (1997b; 1998) claims many resource-based theorists miss. One way to think of Penrose’s Theory is to view it as “constrained flexibility in an uncertain world”, where a firm’s knowledge is an “evolutionary discovery process”, and where output is governed by management’s capabilities and an entrepreneur’s vision and image of the world (Foss, 1998, p. 14). Figure 2-1 illustrates this process.
Figure 2-1: The Theory of the Growth of the Firm

Administrative Framework within which a firm’s activities - involving a collection of resources - are optimally planned and coordinated
(The ‘area of authoritative communication’ which should reflect the architecture of the business model)

Top ‘entrepreneurial’ management team including the entrepreneur – the necessary actor for growth.
In search of profitable productive opportunities, for the sake of the firm.

First entrepreneurial decision to grow requires intuition and imagination. Environment is an ‘image’ in the entrepreneur’s mind.

The most important entrepreneurial capabilities
- Entrepreneurial versatility
  - Imagination and vision
- Fund-raising ingenuity
- Entrepreneurial ambition
  - Product-minded
  - Empire-builder
- Entrepreneurial judgment
  - Organisation of information-gathering

A collection of internal and external resources used to ‘best advantage’ to produce a bundle of productive heterogeneous unique services. Services produced are a function of the way in which resources are used.

“As management make the best use of resources a truly dynamic interacting process occurs” (p.5)
As management gain experiential knowledge about other potential goods/services their resources can create, surplus management resources is produced. This provides the motivation to use these surplus resources to take advantage of new opportunities. A continuous process encouraging growth through scale and/or diversification results

The changing nature of the productive opportunity cost, of its resources, encourages diversification through
- R & D
- Market pull
- Technological base
- Competition
- Demand fluctuations
- Vertical Integration
- Acquisitions
- Mergers

But, the maximum rate of growth is proportionate to the availability of managerial services

Constraints on Growth

Increasing uncertainty and risk governed by managerial-research capability

The Managerial Limit
“...the capacities of the existing managerial personnel of the firm necessarily set a limit to the expansion of the firm in any given time period” (p.43)

Product and factor/input markets

The ability to increase managerial services is fundamentally limited by:
- A lack of forward planning capabilities by the existing managerial team
- The speed that new management can be absorbed into the firm i.e. time for managers to gain firm-specific experience and skills

Profitable Growth, with no limit to a firm’s size

Governed by:
- Economic growth
- Large firms – ‘artificial entry barriers’
- Interstice opportunities

Created from: Penrose (1959).
2.3 Key ideas and elements of Penrose’s theory

According to Kor and Mahoney (2000), Penrose’s Theory is comprised of ten fundamental concepts. They present them as they appear in her book see Table 2-1). While other writers emphasise these concepts differently or only focus on certain elements (e.g. Best and Garnsey, 1999; Connell, 2007; Foss, 1998; Foss, Klein, Kor, and Mahoney, 2008), there is broad agreement on their importance. Nonetheless, for this study a review of the Theory and the literature in which it is discussed was undertaken. Six main elements were identified, namely: administrative coordination and authoritative communication; productive resources and services; the productive opportunity; the receding managerial limit; history matters; and the interstices. They are also listed in Table 2-1, alongside the ten key concepts suggested by Kor and Mahoney (2000). While the six elements are generally comparable they lean more towards the disequilibrium features of the Theory (Best and Garnsey, 1999; Foss, 1999; Loasby, 1999). Kor and Mahoney (2000) briefly mention the ‘interstices’, but its importance is not explained, possibly because their focus was on internal growth dynamics. Moreover, the interstices are often an overlooked part of the Theory. Nonetheless, Penrose’s ideas are nuanced and challenging to discuss within a small space (Marris, 1961; Pitelis, 2009). The six elements are elaborated on in what follows.

Table 2-1: Penrose’s key ideas and elements of the growth theory

<table>
<thead>
<tr>
<th></th>
<th>Ten major original ideas of Penrose (Kor and Mahoney, 2000, pp. 114-119)</th>
<th>Six major elements (literature review)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Firms grow in a dynamic process of management interacting with resources</td>
<td>Productive opportunity, History matters</td>
</tr>
<tr>
<td>2</td>
<td>‘Firms are created by people to serve the purposes of people’</td>
<td>Administrative coordination and authoritative communication</td>
</tr>
<tr>
<td>3</td>
<td>‘Services of resources are drivers of firm heterogeneity’</td>
<td>Productive resources and services</td>
</tr>
<tr>
<td>4</td>
<td>Material resources and human resources create the unique subjective productive opportunity of each firm</td>
<td>Productive resources and services, Productive opportunity</td>
</tr>
<tr>
<td>5</td>
<td>‘Firm growth is a function of firm-specific experiences in teams’</td>
<td>Productive resources and services, Productive opportunity</td>
</tr>
<tr>
<td>6</td>
<td>Managerial capability is the binding constraint that limits the growth rate of the firm – the ‘Penrose effect’.</td>
<td>Productive opportunity, Receding managerial limit</td>
</tr>
<tr>
<td>7</td>
<td>‘Excess capacity of productive services of resources are drivers of firm growth’</td>
<td>Productive opportunity, Receding managerial limit</td>
</tr>
<tr>
<td>8</td>
<td>‘Unused productive services of resources can be a source of innovation’</td>
<td>Productive resources and services</td>
</tr>
<tr>
<td>9</td>
<td>Diversification is often based on a firm’s competencies that can lead to a sustainable competitive advantage</td>
<td>Productive resources and services, Productive opportunity, History matters</td>
</tr>
<tr>
<td>10</td>
<td>Experimentation is an important component of the competitive process</td>
<td>Productive opportunity, Interstices in the economy</td>
</tr>
</tbody>
</table>

Created and adapted from: Kor and Mahoney (2000).
2.3.1 Administrative coordination and authoritative communication

Penrose (1959) defined the firm as “a collection of resources bound together in an administrative framework, the boundaries of which are determined by the ‘area of administrative coordination’ and ‘authoritative communication’” (p. xi). Penrose adopted Barnard’s (1938) ‘authoritative communication’ term as it represented informal and formal decision making, both of which can be authoritative. At one extreme, authoritative communication can be detailed instructions passed down through an official hierarchy, or at the other extreme it can be shared among a management group. In short, the size of a firm is limited by the ability of its top management to exercise effective formal or informal control over the expanding administrative boundaries of the firm. Penrose used this definition to account for the extensive and obscured lines of control that are reflective of modern businesses. Importantly, it defines the firm as a strategic decision-making entity, in contrast to traditional economic models. As Penrose notes, the main difference between economic activities within the firm, compared to activities in the market, is that the former are undertaken within an administrative firm while the latter are not. This distinction was additionally highlighted by Kay (1997) who confirms that the firm is an organising structure for decisions, insofar as “what an organisational structure does is put into place capabilities for future decision-making” (p. 53).

In practice the top management team is the highest authority within the administrative framework. However, at times it will be difficult to determine the extent of a firm’s ‘authoritative communication’ due to the dynamic nature of the business environment and the possibility that a firm’s structure may be obscured. For example, if planning, financial decisions and the activities of a small firm are interrelated, and controlled and coordinated by a large firm it also forms part of that large firm even though it may be a separate legal entity. Often small firms are subject to the managerial direction and policies of the top management team of a large firm.

2.3.2 Productive resources and services

According to Penrose (1959) the firm is more than an administrative unit, it is a ‘flesh and blood’ organisation that has a ‘cohesive character’ derived from the authoritative communication of its managers, who are free to organise its productive resources as they see fit. Thus, ‘The Firm as a Collection of Productive Resources’ provides the foundation for the Theory. Importantly, it is not the “resources themselves that are the ‘inputs’ in the production process, but only the services that the resources can render” (p. 25). Penrose avoided using ‘factors of production’ because economics makes no distinction between resources and services. Moreover, the Penrosian approach to resources distinguishes them from much of the resource-based literature. Spender (1994) was particularly critical of the resource-based approach which overlooks how resources are used to generate revenue. He
rejects the notion that competitive advantage comes from the mere possession of rent-potential resources. Rather, Spender supports the Penrosian approach that “the collective knowledge and skills required to coordinate the resources into a viable bundle” (p. 353) are the key to a sustainable competitive advantage. Penrose was also sceptical of the resource-based approach, because it was not the intrinsic properties of the resources themselves that are important, but rather how resources are used to create value. Penrose stressed this point to her students:

That the resource-based literature did not fully explain value-creation (instead focusing on the value appropriation aspect). The problem was, she [Penrose] said that the resource-based literature had not fully pursued her position and had been too concerned with the analytical properties of resources. The literature had, hence, partly neglected her fundamental insight that resources were only a means to an end (Haanas (1997, p. 17) cited in Foss, 1998, p. 8).

Penrose (1959) recognised that the very nature of the resources themselves was important, however, as they can be used in some way to measure a firm’s productive resources to determine a firm’s size. Having placed resources at the centre of her analysis, Penrose made an important distinction between 'productive resources' and the 'productive services' that they produce. Put another way, resources represented an economic input, while the services are the output of the process itself. The dynamic interplay between resources and services are central to the Theory and is inseparable from Penrose’s idea of the 'productive opportunity' – unique to each firm. In short, Penrose linked the concepts of resource utilisation, the services they produce and the productive opportunity. Penrose explains:

The services yielded by resources are a function of the way in which they are used – exactly the same resource when used for different purposes or in different ways and in combination with different types or amounts of other resources provides a different service or set of services. The important distinction between resources and services is not their relative durability; rather it lies in the fact that resources consist of a bundle of potential services and can, for the most part, be defined independently of their use, while services cannot be so defined, the very word service implying a function, an activity...it is largely in this distinction that we find the source of the uniqueness of each firm (p. 25).

2.3.3  Productive opportunity

Penrose's (1959) concept of the 'productive opportunity' of the firm goes to the heart of her growth Theory. It is a challenging concept for economic theorists because it is difficult to measure, being based to some degree on Knightian uncertainty. The concept draws on Schumpeterian entrepreneurship concepts to explain the capacity of firms to see and take advantage of opportunities, and incorporates her critique of arguments that ignored purposive behaviour (e.g. Alchian, 1950; Penrose, 1952, 1971). Penrose also adopted Kenneth Boulding's concept of the ‘image’ but was conscious of the lack of conceptual clarity around entrepreneurship which she referred to as a 'slippery concept'. Thus, she made an important distinction between entrepreneurial services and managerial services, although she recognised that managers can be entrepreneurial, resulting in the firm having entrepreneurial
management. Moreover, Penrose’s argument that growth is limited by the subjective ‘productive opportunity’ is contrary to the objective notions of knowledge that underpin traditional economic theory (Kor and Mahoney, 2000). This positioned her Theory in direct opposition to it, but as Penrose points out an economist may see things very differently from that of the firm and it was the latter’s behaviour she was endeavouring to explain. Inasmuch as:

The productive activities of such a firm are governed by what we shall call its ‘productive opportunity’, which comprises all of the productive possibilities that its ‘entrepreneurs’ see and can take advantage of. A theory of the growth of the firm is essentially an examination of the changing productive opportunity of firms... (Penrose, 1959, pp. 31-32).

Penrose (1959) refers to entrepreneurs in the plural, because she found that firms are mainly created and run by more than one person and often by a group of people. These people work together as an entrepreneurial managerial team providing entrepreneurial services, which include new ideas about locations, products, and technology, crafting growth plans and raising capital. Their main role is to set the ‘vision and tone’, create and maintain policies and procedures, and coordinate activities, including delegating day-to-day decision-making (problem-solving) to junior management. Penrose (p. 8) stresses that “enterprising [entrepreneurial] management is the one identifiable condition without which continued growth is precluded.” The initial decision to grow is an entrepreneurial one because it requires intuition and imagination, and precedes committing resources to opportunities. As Penrose notes, “this is truly the ‘first’ decision, and it is here that the ‘spirit of enterprise’, or a general entrepreneurial bias in favour of ‘growth’ has perhaps its greatest significance” (p. 33). With an innate ability to search out and exploit opportunities, entrepreneurs’ perceptions of productive opportunities are shaped by their experience and knowledge. Thus, entrepreneurial management is the crucial ingredient necessary for continuous growth. Growth does not so much depend on the efficiency of a firm’s operations, but rather on the image that its entrepreneurial management team have of the firm’s opportunities for growth. “Here the imaginative effort, the sense of timing, the instinctive recognition of what will catch on or how to make it catch on become of overwhelming importance” (p. 37).

Of strategic importance to the firm is the quality of its entrepreneurial management which is context-specific and difficult to imitate. The firm’s capabilities are contingent on the entrepreneurial management team, from which the knowledge and skills of individual members are transformed into the integrated knowledge of the firm. According to Penrose (1959) entrepreneurial management are not homogenous or the result of the individual traits. Rather it is purposively shaped and conditioned by the firm, and underpinned by four qualities or capabilities; entrepreneurial versatility, fund raising ingenuity, ambition, and judgment. Entrepreneurial versatility involves imagination and vision. It encompasses entrepreneurial ideas that are intrinsically impractical to others and include the ability to add and

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3 Penrose interchangeably uses enterprise and entrepreneurship.
capture value by significantly altering the range of products or developing new markets in the face of changing demand. As this capability differs between firms, those that are more versatile enjoy greater opportunities for growth compared to less versatile firms.

Fund-raising ingenuity is another crucial entrepreneurial capability which firms must possess if they are to exploit all the available opportunities. In contrast to large firms, many small firms struggle to raise capital to fund their opportunities for growth. Sometimes even the most capable entrepreneurs fail to raise capital. But, Penrose argues that the lack of capital is not, in itself an obstacle if a real opportunity exists. In the face of this perceived constraint many small firms do succeed in raising capital, because of their entrepreneurial fund-raising ability which instils confidence in prospective investors.

Entrepreneurial ambition particularly influences the growth of firms. Penrose distinguishes between two main types of entrepreneurs; product-minded and empire-builders. Product-minded entrepreneurs focus on improving the quality of products and services, managing costs, and developing technology, all of which are combined to better serve customers, develop new products and shape markets. Product-minded entrepreneurs “take pride” in the growth and profitability of their firm by continuously improving and extending its activities (p. 39). Empire-builders, on the other hand, are motivated to create powerful controlling empires and focus on acquisitions or the elimination of competition “by means other than competition in the market” (p. 40). They seek to obtain dominant positions and are typically aggressive, strategically clever, display high levels of initiative, are financially adept, and exercise shrewd judgment, particularly in terms of operating for the least cost.

Lastly, entrepreneurial judgment is more than a question of an individual’s personal ability. It may be derived from dynamic interactions of an entrepreneurial management team, and in turn can be influenced by the makeup and team dynamics of the entrepreneurial management team (Foss et al., 2008, p. 74). Penrose draws on the Austrian tradition that entrepreneurship involves judgemental decision making under uncertainty (e.g. Knight, 1921; von Mises, 1949). She links entrepreneurial judgement “to the organization of information-gathering and consulting facilities within the firm...” (Penrose, 1959, p. 41), which influence risk, uncertainty, and expectations all of which effect firm growth. Judgement is important for how entrepreneurial managers interpret their environment and what they can or cannot achieve. The success of a firm’s growth plans in part relies on sound judgment about potential productive opportunities, particularly where tactical decisions are required.

Although entrepreneurial management is critical for growth, other factors are also important. The external environment is particularly important, inasmuch as the environment does not exist independently of a firm’s activities as it impacts on firm growth. Penrose (1959) was initially interested in the environment as an image in the entrepreneurs mind, because with a wide scope for judgement
they can change their environment. As she points out the environment “is not an objective fact discoverable before the event” (p. 41). Thus, what the firm could and could not do was of critical importance to Penrose. But, in contrast to supporters of her work, Penrose highlighted the limitations of subjectivism. She acknowledged the reality of the environment in which firms operated, but recognised that environmental effects can be mediated by the firm. In her ‘Foreword to the Third Edition’, Penrose offered an important proposition in furtherance of this argument, namely, each firm’s ‘productive opportunity’ was unique and neither the rate nor the level of growth of a firm was determined by external factors. Rather, both are influenced by firm-level activities:

The relevant environment, that is the set of opportunities for investment and growth that its entrepreneur and managers perceive, is different for every firm and depends on its specific collection of human and other resources. The environment is not something ‘out there’, fixed and immutable, but can itself be manipulated by the firm to serve its own purposes (1995, p. xiii).

**Importance of technological and market bases**

According to Penrose (1959) surplus entrepreneurial management resources result in the changing nature of the productive opportunity of the firm, presenting new opportunities for investment, while existing products and services are maintained or grown. These new opportunities may be related to price changes, changing consumer tastes or market conditions, and particularly to the specialised productive services and knowledge within the firm. This can lead to a firm diversifying its activities, which according to Penrose appears to “accompany growth” (p. 104). Diversification can include: “increases in the variety of final products produced, increases in vertical integration, and increases in the number of ‘basic areas’ of production in which a firm operates” (p. 109).

Penrose argues that these ‘basic areas of production’ develop into areas of specialisation as the firm gains knowledge and grows. Often a firm leverages off its areas of specialisation to diversify within an existing area or move into an entirely new but related area, while maintaining a foothold in its core production and market areas. Penrose refers to these areas as ‘technological and market bases’. Technological superiority is particularly important for customer-driven firms which tend to concomitantly leverage off their technological base to develop and produce new products to take advantage of shifts in consumer demand. Central to her ideas on diversification is that demand does not limit the growth of a firm that is willing and able to diversify into new products and markets. The catalyst is existing markets become less profitable or new markets are potentially more profitable. In 1995 Penrose highlighted this by proposing the question of why a firm “endowed with productive resources that can be used in many ways and can be increased by the acquisition of additional resources should be confined by existing demand” (Penrose, 1995, p. viii). The point Penrose was making, was that explanations of a firm’s failure to grow were often mistakenly attributed to demand conditions, when in fact the main cause is a lack of ‘specific types of productive services’. As she emphasises “the really enterprising entrepreneur has not
often, as far as we can see, taken demand as ‘given’ but as something he ought to be able to do something about” (Penrose, 1959, p. 80).

Penrose (1959) emphasises that to enjoy a sustainable competitive advantage firms must concomitantly develop strong technological and market positions. She found that many large firms are characterised by both strong technological and market bases. But, firms must avoid having strong technological capabilities coupled with weak market positions, which is as risky as having a strong market position and weak technological capabilities. Firms may have several technological bases, which may be linked by knowledge or technology. Indeed, technical superiority coupled with a strong market position can provide a firm with the ability to eventually dominate entire industries and markets. But firms with only a single base are particularly vulnerable to changes in supply and/or demand, and from competition. If large, such a firm may attempt to destroy competitors by using anti-competitive practices to dominate the market and thus eliminate competitive threats. Penrose argues that while these firms may grow, this is because of their privileged market position and scale economies, but these do not guarantee success. Much more than economies of scale and scope are needed. Even if a large firm exploits all of its opportunities, the protection it enjoys is not absolute. Rather, in Penrose’s view the best long run strategy is for the firm to possess the capabilities to counter competition by possessing strong technological and market bases “from which it can adapt and extend its operations in an uncertain, changing and competitive world” (p. 137). Penrose (1960) illustrates these arguments in her case study of the Hercules Powder Company.

Penrose (1959) additionally points out that the use of standard technology coupled with strong market positions is *prima facie* evidence of the production of standardised products, which are easily imitated or improved on by others. Ultimately, where technology “is standardised and fairly simple” businesses are unlikely to grow (p. 118). As Penrose explains “the existing resources of such a firm are not favourable for the development of a specialised technological superiority in the use of raw materials, special skills, or processes in substantially different areas of operation” (p. 119). Consequently, innovation is necessary to improve existing products or create new ones, thereby providing an important competitive differentiator. Indeed, to remain ahead of competitors or even to survive, firms must continuously innovate, or in Penrose’s terms, maintain “an active innovation policy” (p. 114). Of great importance to Penrose was how food processing firms engaged in markets. If they supplied standardised products into “impersonal” markets “the identity of the seller is of no importance to the buyers” (p. 117). In contrast, “the identity of the firm emerges as a significant competitive factor” for firms producing innovative branded consumer products (p. 117). Often such a firm must “create new markets for its products” (p. 117). This can lead to these firms forming strong market bases underpinned by enduring customer relationships and their products being preferred over others. Ultimately, such firms learn about the other “technical potentialities of their own resources” (p. 117), which is fundamental for growth.
2.3.4 The receding managerial limit

Penrose (1959) identified three 'classes' of factors that can limit firm growth; managerial ability, product or factor markets, and uncertainty and risk. Managerial ability is an internal constraint, product markets are external, and uncertainty and risk is a mixture of internal attitudes and external conditions. That said, Penrose rules out external growth barriers on two assumptions – there are no effective barriers to obtaining capital and labour or management, and there are profitable opportunities available somewhere in the economy. As Penrose explains:

A firm is not confined to particular products or locations by the supply of resources or the demand for products in the market, and provided that there are profitable opportunities open for the use of further or different resources obtainable in the market, the fundamental limit to the productive opportunity of the firm cannot be found in external supply and demand conditions; we must look within the firm itself (p. 44).

The experience existing managers possess from working together as a team, provides the firm with uniquely valuable services necessary for growth. But, since there are a maximum number of activities, existing managers can undertake at a time there is a limit at which activities can be expanded. Experienced managers cannot simply be hired from outside the firm. As Penrose, emphasises it ‘is impossible’ for a firm to expand efficiently, merely by hiring people to carry out detailed expansion plans. First they must gain experience working as part of the managerial team, to be an effective team member and this takes time. Even if the firm expands before new managers gain the prerequisite experience the efficiency of the firm will suffer, which may lead to it becoming uncompetitive. Marris (1999, p. 51) used the example of troop reinforcements to demonstrate this. Bringing trained people together who have never previously operated together, does not immediately “create an effective military unit...they need time to bed down; they need time to learn each other’s ways.” In short, as existing managers limit the rate at which new managers gain experience, they govern the amount of new managerial resources that can ‘be absorbed’. This creates a fundamental limit to the amount of growth that can be undertaken at any time. As Penrose (1959, pp. 45-46) explains:

The capacities of the existing managerial personnel of the firm necessarily set a limit to the expansion of that firm in any given period of time, for it is self-evident that such management cannot be hired in the marketplace.

Nonetheless, the managerial limit is temporary in nature since it recedes as managers gain experience and knowledge. The increasing know-how of management, coupled with their own dynamic, their knowledge of other resources and of other potential uses for them creates incentives for growth as they search for ways of using the productive services of the resources more profitably. As the firm’s entrepreneurial managers make the best possible use of its resources: “a truly ‘dynamic’ interacting process occurs which encourages continuous growth but limits the rate of growth” (p. 5). This process improves efficiency, which produces surplus management resources that are available to take advantage
of additional ‘productive opportunities’. Since this is a continuous process and the opportunity cost of these surplus resources is zero, there is a strong incentive to grow, despite the challenge to innovate. In short, while receding managerial constraint, limits the rate of growth it does not limit the extent of growth. This ‘receding managerial limit’ subsequently became known as the ‘Penrose curve’ or ‘Penrose effect’, and has been a main focus of efforts to formalise the Theory (e.g. Marris, 1964; Rubin, 1973; Shen, 1970; Slater, 1980; Uzawa, 1969).

2.3.5 History matters

The Penrosian firm is not only a product of know-how that its activities produce, but also of the prior and accumulated knowledge, and experience of its entrepreneurial and managerial resources. Greatly influenced by Schumpeter (Pitelis, 2009), Penrose also recognised that history illustrates the process of ‘industrial mutation’, which continually transforms the “structure from within, incessantly destroying the old one, incessantly creating a new one. This process of “Creative Destruction is the essential fact” (Schumpeter, 1943, p. 83). Thus, fundamental to the growth Theory is that ‘history matters’, because “growth is essentially an evolutionary process and based on the cumulative growth of collective knowledge, in the context of a purposive firm” (Penrose, 1995, p. viii). In 1995 Penrose noted that Loasby’s (1991) work on ‘Equilibrium and Evolution’ was particularly relevant for highlighting the importance of history. Loasby used the Theory to support his argument that equilibrium within the firm’s structure was the result of “an evolutionary process during which managers learn to operate effectively together within a particular environment” (Loasby, 1991, p. 61). This accumulation of knowledge and experience increases the depth and scope of managerial services. Penrose also noted Best’s (1990) argument that entrepreneurs with prior experience and knowledge and big ideas are the ‘engines of creative destruction’ (Schumpeter, 1943, pp. 81-86). Best contrasted Schumpeterian competition with Penrosian knowledge-based growth arguing that the success of Japanese firms could be explained by adopting a Schumpeter-Penrose combination. In other words:

The successful Japanese firm has combined Schumpeter and Penrose, and thereby altered the notion of entrepreneurship from ‘big ideas by individuals’ to a social process of learning within which individual contributions can come from the bottom up, as well as from specialist staff (Best, 1990, p. 138).

The importance of this combination lies in Kay’s (1997, p. 82) argument that “while the gales of Schumpeterian destruction almost invariably have a devastating effect on individual products over time, the same does not necessarily hold as far as the firm itself is concerned.” Schumpeterian innovations may destroy some capabilities, but firms are themselves dynamic and “the internalisation of creative destruction is the corporate equivalent of the elixir of life” (p. 82). In fact, not only is the Penrosian firm shaped by the knowledge and the experience of its managerial team, but growth involves the interplay between past activities and future options (Loasby, 2001, p. 10). However, Penrosian growth differs to
that of many evolutionary theorists inasmuch as while all firms to some degree are path-dependent, the Penrosian firm has the ability to alter or even create new paths.

2.3.6 Interstices in the economy

Interstices (productive opportunities for small firms), a much overlooked concept, are fundamental to small firm growth. They extend the Theory from a firm-level argument to the industry-level and the wider economy. Yet, despite its importance it is either omitted or superficially referred to in accounts of the Theory. Penrose's objective was that her Theory was sufficiently complete to encompass all factors that systematically influenced the growth of firms – large and small. Chapter 10 of Penrose’s book, 'The Position of Large and Small Firms in a Growing Economy' incorporates the growth and constraints on growth of small firms into the framework. Put differently, the conceptualisation of the environment articulated in Penrose’s early chapters is further refined to incorporate the ‘productive opportunity’ of small firms – the interstices. In her rarely-cited section, 'The Continued Existence of Small Firms', Penrose argues that small firms should not grow if there are “impassable barriers existing in the environment” (Penrose, 1959, p. 218). Indeed, she questions why small firms exist, if external barriers are so great.

Yet, it seemed to Penrose that despite major competitive disadvantages many small firms exist, and a number grow to medium-size or even into large firms. Thus, Penrose highlights the limitations of static and cross-sectional approaches adopted by economists, who in focusing on economies and diseconomies of size fail to properly explain the growth of small firms. In essence economists view small firms as not growing or growing very little. Penrose classified their explanations for the existence of small firms into four groups: 1) They undertake activities unsuited to large firms; 2) They are protected by large firms as a public relations exercise for an industry; 3) Entry into an industry is easy and unencumbered; and, 4) In the development of some industries, large firms have not yet driven them out of business. Penrose's central critique was that these four categories did not properly explain the shifting population of small firms, particularly the continuing emergence of new firms, nor the growing number of large firms:

If the existence of small firms could be accounted for by the explanations advanced we should expect a shifting population of small firms and a steady expansion of large firms without any significant increase in the numbers of the latter. In fact, however, we find that as an economy grows the number of firms classed as 'large' also increases, even in an advanced economy. How does this come about if existing older and larger firms have such powerful competitive advantages over newer and smaller firms that the latter are confined to areas where they cannot grow very much? (Penrose, 1959, pp. 221-222).

Originally Penrose ignored the possibility that external factors negatively affected growth and treated the environment as the entrepreneur sees it – an image in his mind. Yet, external influences can include ‘artificial barriers’, unfair competition, and problems accessing sufficient competitively priced capital. Even small firms with high-levels of entrepreneurial management capabilities are not immune from
these. Large firms can particularly constrain the activities of smaller firms. ‘Unfair’ practices cause smaller firms to be vulnerable, because their available opportunities for growth are reduced. This can include control and even denial of essential resources and/or control over pricing. Moreover, the ‘superior competitive power’ of large firms can lead to the creation of ‘protected areas’ to keep new entrants out. Large firms may also use ‘artificial’ barriers to prevent others entry into the industry even if opportunities exist. For example, the regulatory environment can be a significant impediment to growth. It can take up extraordinary amounts of management time and small firms in this situation may be able to do little more than survive. Penrose points out that even if a new firm successfully commences operations in time, it may be taken over, or driven out of business. Large firms do this to protect the status quo or to preserve opportunities for themselves. Importantly, “if such power is great and widespread, it may seriously retard the growth of the economy” (p. 230).

Furthermore, resources may be unavailable or out of reach due to price. “There can be no question that for any particular firm the environment ‘determines’ its opportunities, because there are limitations on what a firm can acquire” (Penrose, 1959, p. 217). To overcome these constraints entrepreneurs need to be exceptionally resourceful. But, entrepreneurs are unlikely to enter areas where profits are low; instead they will be attracted to areas where they can carve out a profitable niche for themselves. They are more likely to be attracted to opportunities that large businesses do not or are unable to exploit, as no firm can take advantage of all possible profitable opportunities for growth. Therefore, Penrose sought to explain the growth of small firms with an assumption that large firms did not automatically enjoy a competitive advantage over small firms. As Penrose explains:

If...the opportunities for expansion in the economy increase at a faster rate than the large firms can take advantage of them and if the large firms cannot prevent the entry of small firms, there will be scope for the continued growth in size and number of favourably endowed small firms, some of whom will themselves enter the ‘large’ category in time (p. 222).

Since there is an intrinsic limitation on the growth of large firms, even under the ‘most favourable’ conditions, their growth creates productive opportunities that they are unable to take advantage of. Penrose called these productive opportunities for small firms ‘the interstices in the economy’. Moreover, large firms cannot prevent the entry of new firms into the ‘interstices’ where entrepreneurs can see and exploit opportunities for growth, particularly where they possess new information and knowledge. But, Penrose notes that large firms may block small firms if they expand beyond their interstice and even the interstices themselves may be attacked by large firms to destroy “the small firm's opportunity, either driving it out of business or purchasing it outright” (Penrose, 1959, p. 223). In short, productive opportunities at the interstices represent opportunities that large firms are unable to take advantage of, but the nature of which depends on the activities of the large firms themselves: “the
nature of the interstices is determined by the kinds of activity in which the larger firms find their most profitable opportunities and in which they specialise, leaving other opportunities open” (p. 223).

### 2.4 Extensions and oversights

Following completion of the Theory, Penrose developed a growing interest in multinational firms and the oil industry (Penrose, 1971). She studied international oil companies “as an extension of the Theory internationally” (Penrose and Pitelis, 1999, p. 6). She found that internationalised firms were a special case of the growth of the firm, because they face different challenges requiring different strategies to those of domestic firms. Nevertheless, her Theory “seems by and large to apply equally well” (Penrose, 1959, p. xv). Reflections about this were outlined in her 1995 Foreword to the Third Edition. Penrose additionally commented on business networks which in her view had been stimulated by globalisation and had further blurred the administrative boundaries of connected firms. She particularly acknowledged Richardson’s (1972) ‘extremely perceptive’ work which extended the Penrosian firm’s internal growth dynamic to cater for inter-firm relationships through networks of cooperating firms. Firms are not simply ‘islands in a sea’ rather they are but part of a ‘dense network’ through which firms collaborate and are inter-related. Stimulated by the renewed interest in her work, Penrose once again thought about theories of the firm, in terms of business and management. She concluded that a new ‘theory of the firm’ in economics may be needed, coupled with different views about market behaviour and the effects of so-called free market competition. She followed up on this with a short article on networks and the growth of the firm in the *International Encyclopaedia of Business and Management* (Penrose, 1996). That article and her ‘Forward’ introduced her idea of a ‘metamorphosis’ of the firm.

Nevertheless, the failure to address collaborative activity across connected firm boundaries is an important limitation in Penrose’s Theory in terms of ‘New Competition’ (Best, 1990, 2001). This oversight is not surprising given that Penrose was working in a scholarly climate that was not conducive to the analysis of collaborations between firms. Penrose did refer to collaborative agreements in the Hercules case study (Penrose, 1960), but did not expand on the impact of this inter-firm collaboration on firm growth. Moreover, Penrose gave no background to Hercules’s alliance, possibly because it was a Penrosian strategic choice. Indeed, Penrose’s ideas on the role of the top management team were drawn from Barnard’s (1938) boundary-setting concept of a sphere of ‘authoritative communication’, and Boulding’s (1956) subjectivist elaboration. While Kay (1999) argues this omission does not appear to be a major issue for The Hercules Powder Company or for other firms when Penrose wrote her Theory, he raises an important question about it: “why did Hercules collaborate with Alabama rather than going it alone through internal expansion or acquisition? What did a joint venture offer that a simple contract did not?” (p. 83). Other extensions include: the origins and early growth of firms
organically and more recently, organic growth and growth through acquisitions differently impact on the future organic growth of the firm (Lockett, Wiklund, Davidsson, and Girma, 2011).

2.5 Reflecting on Penrose’s legacy

In the first review of the Theory, Marris (1961, p. 145) commented that it was “packed with ideas”, ranging from entrepreneurial and managerial capabilities through to the different roles of small and large firms in a growing economy. He further noted that Penrose’s book was “likely to prove one of the most influential of the decade” (p. 144). Yet, it became “one of the most influential books of the second half of the twentieth century bridging economics and management” (Kor and Mahoney, 2000). Penrose’s main achievement was combining her many ideas into a single argument to explain the growth of the firm. Unlike many economists, Penrose acquired relevant experience prior to undertaking her PhD. This may have contributed to her being an intellectual individualist, who was unwilling to accept established theory, particularly where it was in conflict with her own real-world experience and knowledge. The Theory can be viewed as the product of Penrose’s practical experience, open-minded thinking and analytical rigour and relevance.

Penrose’s research at the Hercules Powder Company provided important insights. She was driven by the realisation that established theory did not explain the growth of firms and thus set out to develop a new theory. In fact, theory was needed to make sense of reality (Pitelis, 2009). By separating her own ideas and explanations from those of neo-classical equilibrium theory, Penrose exploited an ‘intellectually productive opportunity’ (Loasby, 1999, p. 40) to develop her own explanation. She departed from traditional methods of analysing firm behaviour to build a self-contained theory, of the growth of firms that would be useful – theoretically and practically. Moreover, using ideas and concepts from different disciplines, Penrose undertook an ambitious project to create an integrated framework for analysing the growth of firms that would be of value to economic policy. In 1995 Penrose herself noted that she set out to discover the inherent factors that promoted growth and limited the rate of growth. It was intended to be a comprehensive theory, of the contribution of the growth of large and small firms to the growth of the economy as a whole (Connell, 2007). This is suggested in her discussion of the interstices and industry concentration, but in the end it was based on industrial organisations, “although it may apply to other types of firms as well” (Penrose, 1995, p. xi).

However, the multi-disciplinarily and multi-level nature of the Theory may have been an obstacle to further application and elaboration. Until the 1980s development of Penrose’s ideas were limited to a small group of economists who focused on one particular concept – the Penrose effect, or the managerial limit (Marris, 1964; Rubin, 1973; Shen, 1970; Slater, 1980; Uzawa, 1969). But, following publication of Teece’s (1982) Towards an Economic Theory of the Multiproduct Firm and Wernerfelt’s
(1984) A Resource-based View of the Firm, Penrose’s Theory gained recognition, particularly after being credited with laying the foundation for the resource-based view (Rugman and Verbeke, 2002). It received attention in the fields of strategy, industry dynamics, organisation theory and evolutionary economics (Foss, 1998; Kor and Mahoney, 2000; Pitelis, 2002a). Increased recognition did not necessarily translate into a better understanding of the Theory, however. Few appeared to have taken the time to absorb its accessible yet complex and tightly interconnected web of ideas (Foss, 1999; Pitelis and Wahl, 1998). Rather it has tended to be 'cherry-picked' and thus it was subject to superficial citation, misrepresentation coupled with selective application of her argument (Augier and Teece, 2007; Teece, 2009). This is highlighted by Richard Nelson (1995, p. ii) in his endorsement to the Third Edition:

The basic propositions Edith Penrose put forward...were provocative and path breaking. However, few then ventured to go down the path she blazed. Time has passed, and over the last decade that path has become crowded with scholars of firm behaviour, some of whom have only the dimmest awareness that the ideas they are working with were first put forward by Penrose.

The most important error appears to have been one of 'omission' by those using the Theory. Penrose herself warned that as her argument deals with familiar concepts in an unfamiliar way, it must be seen as an integrated whole: “the entire study is essentially a single argument no step of which can be omitted without the risk of misunderstanding later conclusions” (Penrose, 1995, p. xxii).

Over the years Penrose gained recognition amongst scholars of her pioneering attempt to look inside the 'black box' of the firm (Foss, 1998; Loasby, 1991; Marris, 1961; Moran and Ghoshal, 1999; Teece, 2009). The rise of 'resource-based' perspectives and 'evolutionary' approaches to economics led to several insightful reflections on Penrose’s contribution. These included a special issue of Contributions to Political Economy (1999), a separate track at the Academy of Management Conference (2000), an edited book based on the special issue of Contributions to Political Economy (Pitelis, 2002a), and the first biannual feature of the Journal of Management Studies (2004), that looked at differing perspectives on Penrose’s work following Rugman and Verbeke’s (2002) review of her contributions. Also, a special issue of the Management International Review (2007) explored and assessed whether Penrose’s ideas can contribute to explaining FDI patterns and MNE growth. Specific critiques of the Theory include: not explaining how locational choices affect firm growth and paying little attention of why firms internalise cross border markets for intermediate products rather than sell through the market (Dunning, 2003); neglects governance issues (Nooteboom, 2006); limited articulation of how firms develop competitive advantage, underplays the role of intangible assets particularly knowledge assets, understates the importance of entrepreneurial management in terms of sensing and seizing opportunities, and managing threats, and does not explore organisational designs (Augier and Teece, 2007); overestimates the ease with which productive opportunities of the firm can be extended by management (Lockett et al., 2007);
and, does not explain how “entrepreneurs perceptions and personal knowledge shape a firm’s subjective productive opportunity set” (Kor, Mahoney, and Michael, 2007, p. 1187).

Nonetheless, theoretical refinement has been hindered by a lack of empirical work, grounded in the Penrosian framework (Kay, 1999; Lockett et al., 2007). Some effort has been made to incorporate Penrosian concepts into research (e.g. Best, 2001; Garnsey, 1998; Kay, 1997; Loasby, 1991, 1999). But, despite the importance of Penrose’s Theory, which has been given seminal status, there have been limited applications of its framework. As Teece and Augier (2009, p. 131) highlight, “what is needed is careful scholarship, initiated by a careful reading of her work, especially the Theory of the Growth of the Firm.” Indeed, the extent that the Theory has been overlooked by successors is surprising (Foss, 1997a; Loasby, 1999; Penrose and Pitelis, 2002). Thus, Penrosian scholars regard Penrose's work as a much under-exploited resource for research (Foss, 1997a; Kor and Mahoney, 2000; Penrose and Pitelis, 1999; Spender, 1994) and there is still much that can be learned using Penrose’s framework (Augier and Teece, 2007; Connell, 2007; Foss, 1998; Teece and Augier, 2009). In particular, Kor et al. (2007) suggest that Penrose’s framework can provide a very useful research lens into entrepreneurial discovery and creation with a focus on decision-making and implementation.

Therefore, although more than 50 years have passed since Penrose wrote her Theory it is as relevant today as it was in 1959, and it has a distinct advantage over much subsequent work. This relates to the scope of its theoretical integration across different levels of analysis – industry, firm and individual-levels (Pitelis, 2002b). However, despite her Theory remaining highly relevant (even by the resource-based view, which draws on her insights), and being extended, there is room for updating and refinement, in order to incorporate theoretical developments and empirical findings. This is reinforced by Augier and Teece (2007) who point out the Theory is complementary to the dynamic capabilities approach:

The Penrosian conceptualization of the firm remains relevant. Her insights remain good starting points for developing a theory of the firm, and for understanding the role of the manager. Her perspective is compatible with the recent emphasis on the importance of routines and processes. Routines and processes can be thought of as providing underutilized capacity that management can leverage for growth (p. 178).

The next chapter builds on Penrose’s Theory to develop the conceptual framework that will guide this research.
Chapter 3: Neo Penrosian Growth – Dynamic Capabilities

3.1 Introduction

This chapter builds on the previous chapter’s discussion on Penrosian growth. Recognising the importance of Penrose’s work, including the entrepreneurial elements of management which were theoretically underdeveloped, Teece has further built on Penrose’s growth theory (Augier and Teece, 2007; Teece et al., 1997). Penrose (1959) does not explain how firms develop competitive advantage and underplays the importance of “managerial action in sensing and seizing emerging opportunities and managing threats” (Augier and Teece, 2007, p. 178). Building on this and the work of (Nelson and Winter, 1982; Teece, 1982; Teece and Pisano, 1994; Teece et al., 1997), Teece, developed the ‘Dynamic Capabilities Framework’ (e.g. Teece, 2007; Teece, 2009). This framework organises dynamic capabilities into three classes – sensing, seizing, and managing threats – and details the nature and microfoundations of these capabilities, which are necessary for sustainable growth and superior profits.

Superior performance requires more than the possession of difficult-to-imitate assets. It requires unique and difficult-to-imitate dynamic capabilities, which continuously create, expand, improve, protect, and keep relevant the firm’s unique asset base (Teece, 2007, 2009). Dynamic capabilities embrace the firm’s ability to shape its environment, develop new products and processes, and design and employ viable business models. Teece (2007, 2009) argues that excellence in these ‘orchestration’ abilities undergirds a firm’s ability to successfully innovate to achieve superior long-run returns. Whilst a firm’s performance is partially determined by the external environment, it is the development and use of dynamic capabilities that ultimately can lead to a sustainable competitive advantage.

However, the domain of dynamic capabilities is broad and multifaceted, with a complexity of theoretical underpinnings. It spans strategy process and content, with multiple levels of analysis from “managerial decision-processes, to organisational routines, to competitive interactions and environment change” (Helfat and Peteraf, 2009, p. 91). Grounded in evolutionary economics (Nelson and Winter, 1982), organisational learning, managerial decision-making, and firm processes are central to dynamic capabilities. Given this complexity, the literature review here focuses on those parts that relate to the research topic. The chapter first discusses organisational routines and then capabilities to provide an understanding of the foundations of dynamic capabilities. A discussion on ‘dynamic capabilities’ follows, which according to Helfat and Peteraf (2009) is an emerging theory still in its infancy and primarily conceptual in nature. The chapter ends with a discussion on Teece’s (2007, 2009) dynamic capabilities framework, which together with Penrose’s (1959) growth Theory provides the conceptual lens (Penrose-Teece (P-T)) for this study.
3.2 Organisational routines

Dynamic capabilities and organisational capabilities consist of routines (Teece, 2007; Zollo and Winter, 2002). Routines include procedures, rules, conventions, strategies, forms and technologies, all of which make up a firm and by which the firm operates (Levitt and March, 1988). They also include the beliefs, frameworks, paradigms, codes, cultures and knowledge that reinforce, elaborate, and contradict formal routines. Routines exist independently of the personnel who execute them and can survive sizeable changes in personnel. Thus, the activities of the firm are grounded in routines (Levitt and March, 1988). They are based on the history of the organisation and develop over time (Cyert and March, 1963; Nelson and Winter, 1982; Teece et al., 1997), and involve the repetitious experience of individuals (Helfat and Peteraf, 2003; Levinthal and March, 1993). From an evolutionary economics perspective, a routine can be defined as a “repetitive pattern of activity” (Nelson and Winter, 1982, p. 97). Or put another way, behaviour that is learned, highly patterned, repetitious, or quasi-repetitious, founded in part in tacit knowledge and the specificity of objectives (Winter, 2003, p. 991). Routines, or patterns of practice and learning are often referred to as processes – the way things are done in the firm (Teece et al., 1997). They are important to a firm’s operations as well defined routines “structure a large part of organisational functioning at any particular time” (Nelson and Winter, 1982, p. 97). They shape behaviour in specific contexts to achieve certain outcomes, but when they are removed from their context routines may become largely meaningless (Becker, 2004). As behaviour is learned, the concept incorporates the role of tacit knowledge, which is developed through experience.

Routines are described in the literature as either cognitive or behavioural regularities. Behavioural routines are “recurrent interaction patterns” (Becker, 2004, p. 645), which occur when a number of individuals interact together as opposed to the actions of a single individual. Dosi, Nelson and Winter (2000, p. 5) further clarify this by “reserving the term skill to the individual level and routines to the organisational level.” Cognitive routines are essentially rules that guide individuals in certain situations. Routines involve a constant stream of decisions, which can be simple or complex. Complex decisions can involve several routines or activities requiring conscious thought, while simple decisions are taken without much thought and may include learned routines that improve with practice e.g. an evacuation procedure in the event of an earthquake. Evacuation will simultaneously involve a system to notify emergency services and to clear offices. Such procedures are often practiced so that if the event actually occurs, responses and decisions will be automatic, coherent and safe. This is the essence of a routine.

While a routine may be created for a specific task, it evolves through incremental adjustment or improvement in response to feedback about outcomes (Levitt and March, 1988). This can be at the individual level or at the level of the firm by a group of individuals. Becker (2004, p. 660) refers to an example of a team, which meets regularly and manually records its meetings through minutes. They
agree to switch from paper-based minutes to digital minutes. Becker suggests that while this appears to be an incremental and possibly minor change in the routine, it is in fact a significant change. In future it will be much easier to find information from the minutes. Thus, a firm’s routines can be a resource and play a critical role in the productive services that resources can produce. Moreover, incremental and context-specific adjustment to a firm’s routines is a key source of resource heterogeneity (Helfat and Peteraf, 2003). Routines also permit a firm to store knowledge and the tacit knowledge stored in routines differentiates it from other forms of knowledge. As Nelson and Winter (1982) point out:

The routinisation of activity in an organisation constitutes the most important form of storage of the organisation’s specific operational knowledge. Basically, we claim that organisations remember by doing... (p. 99).

As routines define activities and behaviours within the firm they are important for stability and control. They “work by enhancing the interactions among participants...” (Becker, 2004, p. 655). Put differently, routines regulate and maintain the level of coordination and standards which are acceptable overall. Barnard (1938, p. 137) refers to a zone of indifference that “resides in each individual within which orders are acceptable without conscious questions of their authority.” Nelson and Winter (1982) echo this and refer to the “truce” that prevails when expected and actual behaviours are aligned. Kogut and Zander (1992, p. 396) concur noting that stable relationships between a firm’s capabilities and social knowledge “generates the characteristics of inertia in a firm’s capabilities.” But, as routines are context and objective specific, changes in the environment can necessitate the need to change a routine or lead to it becoming redundant. As Child (1997, p. 50) notes, relying on an “established set of cognitive routines is an attempt to reduce complexity rather than to absorb and internalise it, and it amounts to the application of routinised past-learning to conditions whose novelty may render such learning redundant.” Even highly skilled and experienced individuals can inhibit change if they do not strive for better outcomes or fail to acknowledge changed circumstances (Leonard-Barton, 1992; Levinthal and March, 1993; Levitt and March, 1988).

3.3 Ordinary capabilities

The capabilities perspective is rooted in evolutionary economics (Nelson and Winter, 1982; Schumpeter, 1934), the resource-based view of the firm (Wernerfelt, 1984) and underpinned by organisational learning (Cyert and March, 1963). All firms have capabilities and “some organizational routines might equally well be called capabilities” (Dosi, Faillo, and Marengo, 2008, p. 1166). According to Winter (2000) a capability is:

A high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type (p. 983).
Dosi, Nelson and Winter (2000) use the example of an airline to demonstrate capabilities. Passengers in the main are subject to a seamless service involving a range of capabilities from check-in, to boarding, the flight itself, disembarkation and when they collect their luggage. But, a deeper look into the airline’s operation reveals a series of routines which work efficiently and effectively together to provide an equipped and functioning aircraft to a specific gate at a specific time, with a trained crew to operate it, baggage services, and fuel and food for the flight. Thus, routines can be viewed as the building blocks of capabilities, even though other building blocks may also be at play (Dosi et al., 2008). Helfat and Peteraf (2003) assert that, for a collection of routines to be considered a capability, they must have reached a certain level of reliability and effectiveness. Differences in the efficiency or effectiveness of a capability can occur between firms, because some versions of a capability may be better than others.

Complementary to Winter’s definition is Helfat and Peteraf’s (2003, p. 999) definition of organisation capabilities; “the ability of an organization to perform a set of coordinated tasks, utilizing organizational resources, for the purpose of achieving a particular end result.” The emphasis on a defined outcome is largely accepted in the literature (e.g. Dosi et al., 2008; Winter, 2003) and the utilisation of organisational resources, central to the definition, suggests that along with resources, capabilities change and evolve over time (Helfat et al., 2007a). According to Dosi et al. (2008, p. 1179) capabilities are not “things”, rather they are “ways of doing.” Additionally, Winter (2003) notes that there are different levels of capabilities. ‘Zero level’ capabilities, also referred to as ‘static capabilities’ (Collis, 1994), permit a firm to produce consistent quality products for a static market. Higher forms of organisational capabilities are required when a firm alters its processes, products, services, or changes its production location. This highlights that not all capabilities are equal and some may, in fact be unsuitable in the face of a changing and dynamic environment. A clear parallel to the learning literature on lower and higher order learning can thus be drawn (e.g. Argyris, 1976; Fiol and Lyles, 1985; Senge, 1990). Moreover, Dosi et al. (2008) point out that as organisational capabilities involve coordination and social interaction they can be heterogeneous due to the different contexts, personnel and history of each firm.

Winter (2003) refers to ‘zero level’ capabilities as ‘ordinary’ capabilities to contrast dynamic capabilities. He equates ordinary capabilities with operational capabilities, which allow firms in the short term to exist, whereas dynamic capabilities extend, modify or create ordinary capabilities. According to Shuen, Feiler, and Teece (2014), ordinary capabilities can be grouped into three categories: administration, operations, and governance. They are embedded in various combinations of (1) skilled personnel, including independent contractors under certain situations; (2) services and equipment; (3) processes and routines, including technical manuals; and (4) the administrative coordination needed to perform a task. They can also be measured against task requirements, such as labour productivity, inventory turns, and time to completion. Therefore they can be benchmarked against industry best practice, particularly operational and management best practices. Operational best practices are those that increase
throughput, quality, and efficiency. Management best practices comprise of practices that “continuously collect and analyze performance information, that set challenging and interlinked short and long-run targets, and that reward high performers and retrain/fire low performers” (Bloom, Eifert, Mahajan, McKenzie, and Roberts, 2013, p. 13). Ordinary capabilities are strong when a firm has achieved best practices underpinned by appropriately skilled personnel using advanced equipment. In short, ordinary capabilities can be thought of as achieving technical efficiency by ‘doing things right’ (Shuen et al., 2014).

Best practices by themselves, however, do not guarantee success, except where the competitive environment is weak, due to for example government-imposed barriers to competition or other institutional or cultural factors. This is because much of the knowledge incorporated in ordinary capabilities can be acquired from consultants or through training (Bloom et al., 2013). Often ordinary capabilities are openly available and, even if they are not, they can be easily imitated and therefore acquired. Knowledge of best practices spreads rapidly as firms obtain benchmarking information, off-the-shelf technology, and undertake training. This results in competitors and even other industries acquiring best practices. Inevitably best practices become the norm and strong ordinary capabilities no longer provide a competitive advantage. Moreover, firms can be trapped by their best practices when they single-mindedly focus on efficiency and lose the capacity to adapt to their competitive environment. This in turn can prevent top management from doing the right things (Shuen et al., 2014).

To understand how capabilities evolve and where the heterogeneity of capabilities comes from, Helfat and Peteraf (2003) developed the capability lifecycle framework. They contend that capabilities are subject to lifecycles similar to product lifecycles; in fact they are “two sides of the same coin” (p. 998). Their framework articulates “general patterns and paths in the evolution of organizational capabilities over time” involving growth, maturity and decline (p. 998). But, in contrast to a product lifecycle a capability may support a number of products and may go through several transformation stages before facing decline. The framework draws on the concepts of resources, routines, learning, leadership, teamwork, path-dependency, and capabilities. The founding stage of a capability requires a competently led organised team with the specific objective of creating a new capability. This involves joint action by able individuals with a shared objective. Individuals contribute their own prior experience and abilities to the team, which are combined with resources from sources other than those of the team. Importantly, “capability development depends on the prior experience that the team brings with it” (p. 1003). Helfat and Peteraf use the example of a whaling expedition to illustrate bringing together skilled individuals as a crew (a team) led by a captain along with other resources (e.g. finance and vessel) to build a harvesting capability to catch whales. The captain (or leader) plays a critical role in melding the individual crew members’ capabilities into an organisational capability.
During the development stage the team develops the capability by searching and learning about potential alternatives, learning-by-doing coupled with experiential knowledge. Pursuing alternatives can include imitating another firm’s capability or developing a new capability. Both require organisational learning, and coupled with learning-by-doing, results in improvements over time. Using the whaling example, the harvesting capability improves as whales are caught, through tacit knowledge and from incremental improvements to the harpoon. Thus, capability development reflects strong path-dependency and:

Improvements in the functioning of a capability derive from a complex set of factors that include learning-by-doing of individual team members and of the team as a whole, deliberate attempts at process improvement and problem-solving, as well as investment over time (Helfat and Peteraf, 2003, p. 1002).

As the capability matures, development slows and may eventually cease. This can occur because of inherent limits to further development, the capability is perceived as best practice, or the team leaders decide against further development. In the maturity stage the capability is firmly embedded in the organisation and capability maintenance replaces development. Like routines, the more a capability is used the better it is maintained. Over time the capability may become tacit in nature. However, not all capabilities reach the maturity stage if their development path is affected. They can be influenced by a variety of factors, which can cause them to branch off and go down one of at least six other potential paths – sequentially or simultaneously. These include; retirement, retrenchment, renewal, replication, redeployment, and recombination. Mature capabilities can also go down the same paths. Returning to whaling, the harvesting capability matured after exhausting all technical possibilities. It was so successful that entire populations of whales were wiped out. Thus, the capability became a victim of its success and was retired. But, it was also redeployed by developing the harpoon into a hand-held spear-gun. This is in line with Helfat and Peteraf’s (2003) argument that the historical evolution of a capability influences its future evolution. Or in the words of Penrose (1959) ‘history matters’.

Helfat and Peteraf (2003) also contend that non-dynamic capabilities can also be changed through the use of dynamic capabilities, but “dynamic capabilities may also follow similar patterns of founding, development, and maturity, and branch off to new directions as well” (p. 1004). Thus, capabilities can broadly be classified as either ‘ordinary’ or ‘dynamic’ (Shuen et al., 2014). In short, dynamic capabilities are higher-level activities that can enable a firm to use its ordinary capabilities to manage its resources to respond to and shape its changing business environment (Teece, 2007, 2009).

3.4 Dynamic capabilities

The dynamic capabilities approach seeks to identify the foundations of long run firm growth and sustainable competitive advantage (Teece, 2007, 2009; Teece and Pisano, 1994; Teece et al., 1997).
Helfat and Peteraf (2009) describe this as the ‘Holy Grail’ of strategic management. According to Teece et al. (1997) dynamic capabilities positively influence a firm’s performance relative to competitors that do not possess such capabilities. Dynamic capabilities were first sketched out in working papers by Teece et al. (1990), and then detailed by Teece and Pisano (1994) and Teece, Pisano and Shuen (1997). With roots in Austrian economics, the approach particularly builds on the theoretical foundations of innovation and competition (Schumpeter, 1934), firm growth (Penrose, 1959), transaction cost economics (Williamson, 1975, 1985), organisational learning (Cyert and March, 1963), strategy (Rumelt, 1984), evolutionary economics with an emphasis on routines and processes (Nelson and Winter, 1982), multiproduct organisation (Teece, 1982), resource-based view (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984) and competitive advantage (Teece and Pisano, 1994). It is consistent with parts of Penrose’s growth theory, inasmuch as:

Penrose appears to be articulating a weak form of what is now referred to as the dynamic capabilities approach...if one can explain the foundations of long run profitability, one is quite some distance down the road to a theory of the growth of the enterprise. This was of course Penrose’s ambition (Augier and Teece, 2007, p. 179).

To maintain a sustainable competitive advantage firms must be ‘dynamic’, which refers to “the capacity to renew competences to achieve congruence with the changing business environment” (Teece et al., 1997, p. 515). This highlights the importance of innovation in response to rapid technological change where market timing is critical and where it is difficult to determine the future nature of competition and markets. Firms must also be endowed with ‘capabilities’, which “emphasizes the key role of strategic management in appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competences to match the requirements of a changing environment” (Teece et al., 1997, p. 515). Thus, taken together dynamic capabilities refers “to the (inimitable) capacity firms have to shape, reshape, configure and reconfigure the firm’s asset base so as to respond to changing technologies and markets” (Augier and Teece, 2007, p. 179). This corresponds with the definition of Helfat et al. (2007a, p. 4), namely; “the capacity of an organisation to purposely create, extend, or modify its resource base.” At the centre of these definitions is the firm’s ability to purposely adapt to its environment by changing its tangible, intangible resources (e.g. capabilities), and human resources through search and selection. They purposely reflect some measure of intent as opposed to luck or the use of automatic routines (Helfat et al., 2007a).

Ambrosini, Bowman, and Collier (2009) suggest that there are three levels of dynamic capabilities, which relate to how managers perceive the dynamism and state of the environment. ‘Incremental’ dynamic capabilities relate to the step-by-step continuous improvement of the firm’s resource base where the environment is relatively stable. ‘Renewing’ dynamic capabilities relate to those that refresh, adapt and supplement the resource base (a more radical change to the resource base) in a significantly dynamic
environment. Renewing dynamic capabilities are required because “resource based advantages in dynamic environments may well be rapidly eroded” (p. S14). These are the dynamic capabilities generally referred to in the literature (e.g. Helfat et al., 2007a; Teece, 2007; Teece and Pisano, 1994; Teece et al., 1997). Lastly, ‘regenerative’ dynamic capabilities are necessary in turbulent environments to improve existing dynamic capabilities, rather than the resource base. If existing dynamic capabilities are unsuitable, then Ambrosini et al. (2009) contend that the firm may fail. In short, these three levels suggest that not all dynamic capabilities are equal, which is in line with a similar assertion by Winter (2003). Thus, Ambrosini et al. (2009) posit that different levels of dynamic capabilities are appropriate depending on the volatility of the environment – stable, or dynamic, or hyper.

Dynamic capabilities in essence are organisational processes (Helfat et al., 2007a) or routines (Zollo and Winter, 2002) that over time become embedded in the firm and are employed to shape and reshape the firm’s resource base by removing unfit resources or recombining old resources in new ways (Sirmon and Hitt, 2009). Thus, dynamic capabilities are path dependent, and shaped by decisions and the assets of the firm (Eisenhardt and Martin, 2000; Zollo and Winter, 2002). Path dependency “not only defines what choices are open to the firm today, but also puts bounds around what its internal repertoire is likely to be in the future” (Teece et al., 1997, p. 515). Firms may imitate other’s capabilities or develop new ones, but in both cases learning is required. Eisenhardt and Martin (2000) and Zollo and Winter (2002) confirm that learning is a source of dynamic capabilities and guides their development. Learning itself is also considered to be a dynamic capability and as such is the “process by which repetition and experimentation enable tasks to be performed better and quicker” (Teece et al., 1997, p. 520). Zollo and Winter (2002, p. 339) combine these two views explaining that “dynamic capabilities are shaped by the co-evolution of learning mechanisms.” Ultimately to qualify as a dynamic capability the capability must be embedded in the firm, be patterned organisational behaviour, change the firm’s resource base, and be repeatable (Helfat et al., 2007a).

### 3.4.1 Organisational learning

Zollo and Winter (2002) argue that organisational learning; an underlying capability is important for the development of dynamic capabilities. More specifically experiential learning, knowledge articulation, and codification of knowledge are central to dynamic capability development. Experiential learning being tacit in nature is to a large extent based on trial and error. As routines are used they gradually improve through trial and error. This results in learning about what works in a given situation and what does not. Moreover, the articulation of tacit knowledge among firm personnel can “help to penetrate the ambiguity” that exists about the performance implications of organisational processes (Zollo and Winter, 2002, p. 342). This is in line with Levinthal and March’s (1993) work on improving learning capabilities of the firm. Knowledge codification involves committing articulated knowledge to paper.
This requires reflection on what occurred and its implications for performance: “by going through that effort, they will most likely emerge with a crisper definition of what works, what doesn’t work, and why” (Zollo and Winter, 2002, p. 342). This process should capture the ‘know-how’ as well as the ‘know-why’ (Kogut and Zander, 1992). Knowing-why is more valuable when the learning relates to infrequent or unique situations. However, Kogut and Zander (1992) suggest that, ironically, codification processes may increase the imitability of the knowledge, which can undermine a firm’s competitive advantage.

Whilst experiential learning is useful, particularly for simple tasks and routines, Levinthal and March (1993) argue that experience is often a poor teacher. Experience can be misinterpreted, as outcomes may not necessarily be related to decisions or to the routines followed. Outcomes can also be influenced by hidden factors, thus erroneous assumptions may be made about the cause of the outcome. They highlight two processes necessary to overcome this problem – organisational exploration and organisational exploitation. Exploration – searching for new knowledge – is essential to ensure that products and services remain relevant. Exploitation – use of existing knowledge – is required to convert knowledge into tangible outputs. The balanced use of these capabilities is required for firm success. Moreover, firms should develop a shared understanding of experiential knowledge by critically reviewing it during the codification process. But, where a large group is involved the potential for erroneous learning is exacerbated by the complexity of factors involved. Maskell and Malmberg (2007) agree that this myopia is common and erroneous deductions, often based on just a few factors, become widely held “because everyone believes that others have made the sufficient validation, and no lethal or instantaneous consequences prove them wrong” (p. 605).

Bender (2008) highlights the importance of learning for innovation, which he argues is not necessarily about R&D, but rather “is always about reconfiguring existing knowledge, components and actors” (p. 31). He proposes two innovation enabling capabilities; transformational capabilities – the “enduring ability of an organisation to transform available general knowledge into plant, firm or task specific knowledge and competence” (p. 28) – and configurational capabilities – “the enduring ability to synthesise novelty by creating new configurations of knowledge, artefacts and actors” (p. 29). There is a correlation between Bender’s transformational capabilities and Levinthal and March’s (1993) exploitation capability. Both propose the utilisation of generally available knowledge to produce a competitive advantage. This is particularly pertinent for low technology firms where the ability to differentiate is primarily based on using existing knowledge to create a competence. Bender’s configurational capability also echoes Levinthal and March’s exploration capability. Both require firms to create knowledge, technology or processes through new combinations and link to individuals with certain knowledge and technology competencies. Bender (2008, p. 39) points out that transformational and configurational capabilities are complementary, and success requires firms to balance the use of both to be innovative. Moreover, Bender’s (2008) transformational capabilities and Levinthal and
March’s (1993) exploitation capabilities relate to Cohen and Levinthal’s (1990) absorptive capacity concept, which deals with a firm’s ability to identify and assimilate knowledge into to its routines, processes and capabilities.

Resource constrained SMEs generally struggle to acquire and integrate knowledge (Jones, Macpherson, and Thorpe, 2010; Jones, Macpherson, Thorpe, and Ghecam, 2007). Indeed, “to accomplish learning and transformation within SMEs there needs to be the time, resources, motivation and capabilities for different constituencies, particularly owner-managers, to reflect on and review existing organisational practices” (Jones et al., 2007, p. 287). The key factor to transition from lower to higher order learning is reflection (Argyris, 1976; Fiol and Lyles, 1985; Levinthal and March, 1993; Wang, 2008). Child (1997) contends that to get the most from prior experience or learning, decisions should only be taken after a period of reflection. Hilliard (2004) found capabilities considerably improved when reflection was used to ‘translate’ experiences. This may explain why “some firms may not possess any capability in a given area” (p. 18). Moreover, entrepreneurs who self-assess their capabilities to address perceived weaknesses are more likely to be successful than those who do not (Snyder, Manz, and Laforge, 1983). Small failures can improve learning, if they are reflected upon, because the pain or losses incurred is sufficient to attract reflection, but insufficient to cause denial (Eisenhardt and Martin, 2000). Importantly, Hilliard (2004) found that firms that adopted strategies to learn and improve were more likely to challenge their own assumptions and thus become more dynamic than firms that did not. One strategy suggested by Jones and Macpherson (2006, p. 170) is the use of external intermediaries as they “helped create the internal mechanisms by which organisational learning took place.”

3.4.2 Absorptive capacity

An important dynamic capability is ‘absorptive capacity’ (Zahra and George, 2002). Cohen and Levinthal (1990) refer to absorptive capacity, as the firm’s ability “to recognise the value of new, external information, assimilate it, and apply it to commercial ends is critical to its innovative capabilities” (p. 128). They further argue that the firm’s ability to leverage external knowledge is primarily “a function of the level of prior related knowledge” (p. 128), which is critical for developing innovative capabilities. This may include basic skills or recent scientific and technological knowledge. Absorptive capacity fits in well with Nelson and Winter’s (1982) evolutionary theory, insofar as the firm’s future development is conditioned by prior knowledge and experience. Cohen and Levinthal (1990) further argue that “learning is cumulative, and learning performance is greatest when the object of learning is related to what is already known” (p. 131). However, recognising the value of new information is somewhat uncertain and requires search, but the path-dependent nature of the process suggests that searches will favour known knowledge. This can lead to inertia, but as Jones and Macpherson (2006) argue individuals are not constrained by previous choices. Additionally, Zahra and George (2002) contend that the acquisition of
knowledge is influenced by conscious effort which in turn influences the intensity, speed and direction of search. Therefore, if a search is superficial vital information can be missed. Search can also be limited by path-dependency rather than benefit from it (Cohen and Levinthal, 1990; Leonard-Barton, 1992; Levinthal and March, 1993). Most importantly, for absorption to begin, the information sought must be of value (Todorova and Durisin, 2007).

The assimilation of information relates to how it is analysed, processed, interpreted and understood (Zahra and George, 2002). This is also required to recognise the value of new information with the firm’s history and development influencing the analysis and interpretation of information. A diversity of learning and experience also facilitates linkages being made between new and existing knowledge (Cohen and Levinthal, 1990). However, Zahra and George (2002) suggest that a ‘transformation’ step involving the internalisation and conversion of new information should be undertaken following assimilation. Todorova and Durisin (2007) agree with the distinction between assimilation and transformation, but view them as two discrete processes rather than as sequential stages. They argue that assimilation occurs when differences between new knowledge and thought processes are minor, and information is easily absorbed and integrated, into processes and routines. In contrast, transformation is needed when there is a substantial difference between the new knowledge and the firm’s processes. The difference in views is not fundamental, however, as Zahra and George (2002) also make a distinction between firm’s recognising new information and converting it to their own use.

Applying new knowledge relates to the use of newly assimilated or transformed knowledge. However, it can take time to identify, analyse, interpret, assimilate, and apply new information. Zahra and George (2002) point out that even if a firm identifies valuable knowledge it may be unable to make use of it immediately. Hence, they distinguish between ‘realised’ and ‘potential’ knowledge if the firm’s use of it is not assured. Todorova and Durisin (2007) criticise this as simplistic re-labelling of the recognition and assimilation (potential absorptive capacity) and application or transformation (realised absorptive capacity) constructs. Nonetheless, distinguishing between potential and realised absorptive capacity can be useful, because it highlights that the process from recognition to application is not necessarily timely. Thus, Zahra and George (2002, p. 191) suggest that an ‘efficiency factor’ describing the ratio of potential to realised absorptive capacity should be incorporated. A high efficiency factor would represent a greater rate of conversion of potential to realised absorptive capacity. However, this could be misleading as not all information is equal.

Overall, as new knowledge is identified, assimilated and applied, it leads to the discovery of additional knowledge and, according to Giuliana and Bell (2005), firms with high-levels of absorptive capacity are more likely to look for new knowledge outside of their industry. As the firm becomes more outward looking, personnel become more positive about its progress. This leads to further opportunities being
identified, which ultimately provides a competitive advantage over firms with lower levels of absorptive capacity (Van Den Bosch, Volberda, and De Boer, 1999). Ultimately, absorptive capacity “depends on deliberate will and individual agency” (Easterby-Smith, Graça, Antonacopoulou, and Ferdinand, 2008, p. 498), and as it increases the firm’s expectations will increasingly be defined in terms of its external opportunities (Easterby-Smith, Lyles, and Peteraf, 2009; Van Den Bosch et al., 1999). On the other hand, a lack of absorptive capacity can be a major weakness if the market changes from being static and predictable to dynamic.

3.4.3 The importance of leadership

Thus far the firm has been used as the object of discussion, but firms are led by a leader, such as an owner-manager or CEO. Rosenbloom (2000) points out that the leader and top management are not only important for developing ordinary capabilities, but crucial for the development of dynamic capabilities. In his study of the transformation of National Cash Register (NCR) he found that the new CEO was able to “actualize latent dynamic capabilities”, which enabled NCR to return to prosperity (p. 1083). Pablo et al. (2007) also found an organisation’s leadership was important. The trust leaders instilled throughout their organisation was crucial for enabling and managing dynamic capabilities. Whilst the organisation possessed dynamic capabilities they were effectively latent, but the promotion of a trusting culture facilitated their enablement. Salvato (2003, p. 103), from his study of dynamic capabilities in two medium sized firms, concurs: “managerial leadership played a direct role in guiding firm evolution.” All three studies found that the top management team significantly influenced the development and emergence of dynamic capabilities. This influence is likely to be amplified in SMEs, because of their smaller scale. In fact, as SMEs, particularly those in New Zealand, are quite small, often the top management team comprises of only two or three individuals led by the entrepreneur. As Jones and Macpherson (2006, p. 170) note, the entrepreneur is the “sole authority within the firm.” Indeed, the centrality and importance of the entrepreneur in decision making is self-evident in small firms.

Like Penrose, Child (1972) contends that senior management’s perception of the environment is important. Child argues that firms can make strategic choices instead of their strategy being determined by technology and the environment. However, their prior ideology is "assumed to colour this evaluation in some degree" (Child, 1972, p. 17). Thus, perceptions influence strategic choices and managerial thinking is “an instrumental and crucial part of dynamic capabilities” (Pandza and Thorpe, 2009, p. S121). To broaden a firm’s thinking, third party intermediaries such as consultants or advisors should be used, as “it could be useful to use resources or dynamic capabilities that are not controlled by the firm” (Schlemmer and Webb, 2008, p. 129). Eisenhardt and Martin (2000, p. 1109) agree that “such experiences enhance innovation by breaking down the thought worlds that arise because people with different experiences not only know different things, but they know those things differently.”
Recognising the importance of the Penrosian ‘image’, Hilliard (2004) also found that tacit perceptions influenced dynamic capabilities, while past experience and learning influenced tacit perceptions. Adner and Helfat (2003), in examining the impact of strategic decisions on corporate performance, found that “corporate strategy does in fact matter” and “corporate managers matter” (p. 1023). Senior managers from different organisations made different decisions in response to the same environmental conditions. Their study supports the assertion that managements’ assessment of the environment differs between firms. As this influences performance, leadership is very important for the direction and performance of the firm (Adner and Helfat, 2003; Child, 1972; Hilliard, 2004).

3.4.4 Dynamic capabilities debates

Research on dynamic capabilities has come from a wide variety of theoretical and scholarly perspectives (Easterby-Smith et al., 2009). This has produced debate, which has largely focused on the nature and the definition of dynamic capabilities in respect to the effects and consequences of dynamic capabilities. Despite the wide usage of the construct, a common definition has been ‘slow to emerge’. This appears to be due to the different research traditions and the use of different lenses. Indeed, “the field has developed under the strong influence of two papers (i.e. Eisenhardt and Martin, (2000), and Teece, Pisano, and Shuen, (1997) that, while complementary in many respects, represent not only differing but contradictory views of dynamic capabilities” (Peteraf, Stefano, and Verona, 2013, p. 1). Peteraf et al. (2013) argue this is not problematic since the framework is still being developed. Indeed, progress has been made with the joint efforts of a group of key scholars, including Teece and Winter (e.g Helfat et al., 2007a). “Working in concert, they have striven to define terms more precisely, to eliminate logical inconsistencies from the framework, and to suggest some yardsticks for measuring the effects of dynamic capabilities” (Easterby-Smith et al., 2009, p. S3).

Commentators note that two important issues influence the debate. It is somewhat unclear what precisely a dynamic capability is and what concrete properties it has (Easterby-Smith et al., 2009). Dynamic capabilities have also been criticised for lacking a coherent theoretical foundation, unclear value-add relative to existing concepts, weak empirical support, and obscured practical implications (Arend and Bromiley, 2009). Arend and Bromiley argue that dynamic capabilities must offer new insights beyond existing concepts. However, Helfat and Peteraf (2009) respond that dynamic capabilities have well-established theoretical foundations grounded in evolutionary economics, Penrose’s (1959) growth theory, the resource-based view (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984) and organisational learning (Zollo and Winter, 2002). In fact, Penrose articulated “a weak form” of dynamic capabilities (Augier and Teece, 2007, p. 179), which Teece subsequently built on. Moreover, Adner and Helfat’s (2003, p. 1012) work synthesised elements of the resource-based view, upper echelons theory and absorptive capacity to explain dynamic managerial capabilities “with which managers build, integrate,
reconfigure organisational resources and competences.” Moreover, Arend and Bromiley (2009) argue that only one percent of studies looked at whether dynamic capabilities had VRIO characteristics (i.e. valuable, rare, inimitable, non-substitutable, and organisational appropriability). Thus, they suggest traditional social science research criteria should be adopted. Helfat and Peteraf (2009) reject this claim arguing that dynamic capabilities is an emerging field in its infancy with the seminal article (i.e. Teece et al., 1997) only published in 1997. They assert that only when the concept is more fully developed will the suggested positivist criteria (e.g. Laudan, 1977) be beneficial.

Arend and Bromiley (2009) also argue that identifying the presence of dynamic capabilities by firm success is tautological and self-fulfilling. Helfat and Peteraf (2009) respond that the existence of a dynamic capability does not guarantee that it is used and even if it is, contributes to a sustained competitive advantage. As dynamic capabilities are the result of purposeful behaviour, the appropriateness of a dynamic capability is likely to reflect managerial objectives and perceptions about their environment. Ambrosini and Bowman (2009, p. 39) contend that “if managers misperceive the situation of the firm, they may trigger inappropriate dynamic capabilities.” Zahra et al. (2006, p. 926) agree and point out that because of the potential for managerial mistakes, dynamic capabilities do “not ensure organisational success.”

The dominance of quantitative studies on firm performance may be compounding the issue of tautology, as they can infer the existence of dynamic capabilities (Ambrosini et al., 2009). Thus, Lockett, Thompson and Morgenstern (2009, p. 25) suggest insightful case studies can be particularly useful, because it is “those resources that are complex, unobservable and difficult to measure that are likely to be of greatest importance.” Helfat et al. (2007a), along with Easterby-Smith, Lyles and Peteraf (2009), echo this call as they recognise the strength of qualitative approaches to provide detailed descriptions of the processes that underpin dynamic capabilities. They also suggest a combination of qualitative and quantitative studies would help develop the field. As outcomes are shaped by processes, “understanding why and how is critical” (Helfat et al., 2007a, p. 38). Overall, Helfat and Peteraf (2009, p. 92) assert “emerging and evolving theories develop slowly, over long periods of time”, thus “the so-called ‘deficiencies’ are the tell-tale signs on early-stage development of an area of inquiry.”

3.5 The dynamic capabilities framework

In the decade following the publication of Teece, Pisano and Shuen’s (1997) seminal paper on dynamic capabilities, an extensive body of literature developed (e.g. Barreto, 2010; Easterby-Smith et al., 2009; Helfat et al., 2007a; Wang and Ahmed, 2007). This was then reorganised and integrated into the ‘foundations of dynamic capabilities and business performance’ framework by Teece (2007) to assist “scholars and practitioners understand the foundations of firm-level competitive advantage and
associated enterprise value” (Shuen et al., 2014, p. 4). In 2009 Teece (2009) followed up with a book that further welded ideas, observations and concepts together to provide deeper insights into the framework, of the factors that influence firms success. The framework is viewed as “the most comprehensive to date” and is becoming very influential (Hodgkinson and Healey, 2011, p. 1501; Pavlou and Sawy, 2011). The objective of the framework is to explain the sources of a firm’s competitive-advantage over time, and guide managers on how to avoid unprofitable competition within an industry. In other words, the framework seeks to shed light on why some firms perform better than others, with dynamic capabilities grouped into three classes:

(1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise’s intangible and tangible assets (Teece, 2007, p. 1319).

These classes are about the firm seeing opportunities, making decisions to exploit those opportunities, and then continuously honing the business to achieve superior long-run earnings. They include hard-to-imitate capabilities necessary to take advantage of shifting customer and technological opportunities. Dynamic capabilities enhance the firm’s capacity to shape their environment, to develop new processes and products, and to develop and apply sustainable business models. Excellence in these capabilities underpins a firm’s ability to create, deliver and capture superior value in the long run. Like Penrose, Teece recognised that while the external environment impacts on the growth and performance of a firm, it is the development and application of dynamic capabilities internally that ultimately influences the firm’s competitive advantage. “Successful enterprises must build and utilize all three classes of capabilities and employ them, often simultaneously” (Teece, 2007, p. 1347). Since it is unlikely that all three classes of dynamic capabilities can be found in a single individual, they must reside with the top management team collectively.

Like Penrose, Teece views entrepreneurial management as critical for the success of a firm. Entrepreneurial managers “shape competition and marketplace outcomes through entrepreneurship, innovation, and semi-continuous asset orchestration and business reconfiguration” (Teece, 2007, p. 1346). Entrepreneurial management is different from, but related to, other managerial activities. Other management activities typically involve efficiently maintaining the day-to-day routine operations of the firm. Entrepreneurial management, on the other hand is about sensing opportunities, seeing and discovering new ways to do things. It is about exploiting opportunities and then reshaping and optimising the firm to always remain ahead of competitors. This involves creatively coordinating the firm’s operations. Teece stresses that both management and entrepreneurial management are necessary for a firm to sustain its performance, but the latter is especially important in the development and deployment of dynamic capabilities. Ultimately, success relies on the development of dynamic capabilities, which is driven by an “intensely entrepreneurial genre of management” that continuously
refine the “evolutionary and entrepreneurial fitness” of businesses (p. 1346). “Entrepreneurial management has little to do with analysing and optimising. It is more about sensing and seizing—figuring out the next big opportunity and how to address it” (p. 1346).

The dynamic capabilities framework was developed to analyse the sources of competitive advantage over time, primarily of high-technology multinational organisations. As Teece argues, the framework is “especially relevant to multinationals” operating in open economies subject to fast technological change where different innovations are combined to meet changing market demands, and with them competing globally for intermediary goods and services, but hindered by the availability of “technological and managerial know-how” (Teece, 2007, p. 1320). Unsurprisingly, studies have focused on examining dynamic capabilities in large firms, rather than SMEs. In their evaluation of thirty-two major conceptual and empirical studies on dynamic capabilities between 1995 and 2005, Wang and Ahmed (2007) found only two related to SMEs. The focus of most was on very large firms, including airlines, biotechnology, telecommunication, technology, and automotive businesses. Similarly, Barreto (2010) examined forty articles published between 1997 and 2008. Nineteen were empirically based, but only three involved SMEs. Overall, these two literature reviews found scant research in respect to SMEs. This is surprising, given that SMEs require dynamic capabilities to obtain legitimacy, enjoy the benefits of their innovations, and importantly just to survive (Zahra et al., 2006).

3.5.1 Sensing and shaping opportunities

We will now summarise some micro-foundation of Teece’s framework, which complement Penrose’s growth theory. Sensing dynamic capabilities represent classes of strategic activities which a firm’s top management team must employ, often simultaneously, to sense new opportunities (Teece, 2007). Put differently, sensing entails “an inherently entrepreneurial set of capabilities that involves exploring technological opportunities, probing markets, and listening to customers, along with scanning the other elements of the business ecosystem” (Teece, 2011b). Teece (2007) argues that firms discover opportunities either from having different access to existing information, or from new information and knowledge creating opportunities. By doing so, he adopts a Kirznerian (1973) or Schumpeterian (1934) approach. Thus to identify and shape opportunities, firms must constantly search and explore across technologies and markets, whether domestic or international (Nelson and Winter, 1982). Primarily this involves investing time and money into research to understand what markets want and the potentialities of technology. Understanding hidden demand, the historical structures of industry and markets, and the reactions of potential suppliers and competitors are also important. Opportunities can emerge from R&D engagement and the research of others. But, when opportunities do emerge, managers need to interpret them by considering the technology to use and which market segments to target.
3.5.1.1 Micro-foundations

Key micro-foundations of sensing opportunities include processes to: “direct internal R&D and select new technologies; tap developments in exogenous science and technology; tap supplier and complementor innovation, and; identify target market segments, changing customer needs, and customer innovation” (Teece, 2007, p. 1326). While the identification of an opportunity can originate from an individual who see things that others do not, this class of capabilities can also be embedded in the processes of the firm, such as R&D, innovative activities and other creative processes. In particular, research processes can be organised to seek out new technical information, scientific developments, customer needs, and competitor activity, while developing new products and processes. Research must embrace potential collaborators, customers, suppliers, and complementors, especially those that are innovatively active. In fact, innovation underscores the importance of maintaining a broad based research capability. Importantly, “if enterprises fail to engage in such activities, they won’t be able to assess market and technological developments and spot opportunities” (p. 1323). Information about potential opportunities must then be analysed by capable individuals from the top management team. Moreover, firms with decentralised structures are more likely to stay abreast of technological and market developments. Hierarchically structured firms, on the other hand, must use processes and procedures to keep management informed about activities at the ‘coalface’.

3.5.2 Seizing opportunities

Following the sensing of a new opportunity, it must be actualised through a new product or service offering or a process, which often requires investment in development and commercialisation. This often involves forging relationships with customers, complementors, suppliers and distributors as “companies that successfully build and orchestrate assets within the ecosystem stand to profit handsomely” (Teece, 2011b, p. 3). The exploitation of opportunities also involves maintaining and improving capabilities and complementary assets and then, when the opportunity is mature, invest in technologies to produce a market acceptable product. However, the firm must decide when, where, and how much to invest, and what business model to employ. Business models are critical as “no amount of good governance and leadership is likely lead to success if the wrong business model is in place” (Teece, 2007, p. 1331).

To seize opportunities firms need to maintain and develop capabilities to “shape the eco-system it occupies, develop new products and processes, and design and implement viable business models...to successfully innovate and capture sufficient value to deliver superior long-term financial performance” (p. 1320). An important class of dynamic capabilities is management’s ability to overrule particular dysfunctional decisions. Moreover, hierarchically structured firms may stifle ‘innovation proclivities’ –
decision making processes tends to be slow, risk adverse and supports the status quo. Preferring certainty over uncertainty, they do not lend themselves to innovation. In fact, “the existence of layer upon layer of standard procedures, established capabilities, complementary assets, and/or administrative routines can exacerbate decision-making biases against innovation” (p. 1327). Overall, the appropriateness of the business model coupled with the structure of the business itself, and the quality of a firm’s top management team, strategy, and unbiased decision making, determine the seizing of opportunities. Without this a firm may well sense an opportunity, but will be unable to seize it.

3.5.2.1 Micro-foundations

The micro-foundations required to seize opportunities encompass processes that involve: “delineating the customer solution and the business model; selecting enterprise boundaries to manage complements and ‘control’ platforms; selecting decision-making protocols, and; building loyalty and commitment” (Teece, 2007, p. 1334). A critical micro-foundation of the framework, which goes much further than Penrose’s growth theory, is the firm’s business model, the “organisational and financial ‘architecture’ of a business” (p. 1330). The business model determines the technologies used to produce the product or service, revenue and cost structures, the assembly of technology, and how value is captured from customers. In short, it determines the value proposition, value chain structure and engagement and market positioning. Choices around how the firm creates, delivers, and captures value all contribute to determining its business model. Having a differentiated and hard-to-copy yet effective and efficient model is important. The chances of success are far higher if firms analyse multiple alternatives, have an in-depth understanding of end-user wants, thoroughly analyse the value chain to understand how to deliver what the customer wants in a cost-effective and timely manner, and adopt a neutral yet objective position to outsourcing choices.

Innovation is not only central for solving customer problems, but also to “create, adjust, hone, and, if necessary, replace business models” (Teece, 2007, p. 1330). Indeed, “to profit from innovation, business pioneers need to excel not only at product innovation but also at business model design, understanding business design options as well as customer needs and technological trajectories” (Teece, 2010, p. 173). But, the business model concept “lacks theoretical grounding in economics or business studies” (p. 175). In part this may be because the complexities around capturing value are assumed away in traditional approaches to competition, where markets are given. While business models are often mentioned, they are rarely analysed and therefore, “are often poorly understood” (p. 192).

Another element important for the business model is the firm’s boundaries. Boundaries need to be carefully selected to capture the full value of innovations. Additionally, the ability of the firm to identify and control bottlenecks throughout the value chain – ‘invention to market’ is important. Often these
bottlenecks relate to poor decision making, but procedures to overcome decision-making biases are rare. In fact, decision making processes often display elements that seem to defy rationality and sometimes are plainly bizarre (Nelson and Winter, 2002). As this can be damaging, overcoming decision biases and errors has important implications for a firm’s competitive advantage. What is required is a “cognitively sophisticated and disciplined approach to decision making” (Teece, 2007, p. 1333). Adopting a culture that encourages ‘honest opinions’ and feedback, as well as input from outsiders, can reduce bias. Organisational structures, incentives and processes that support and reward creative action are particularly important. Decision making at the lower levels of a firm can also overcome isolation errors associated with hierarchically structured firms. Here the role that leadership plays becomes very important for setting objectives, values, expectations and instilling loyalty and commitment throughout the firm. While there is an extensive literature on culture, commitment and leadership, Teece does not fully discuss them. Rather, “their full integration into the framework is left to others” (p. 1334).

3.5.3 Managing threats and continuous transformation of the business

Once opportunities are recognised and have been seized, transforming dynamic capabilities are needed to achieve “semi-continuous asset orchestrations and corporate renewal” (Teece, 2007, p. 1335). Semi-continuous asset orchestration includes processes such as coordination, integrating, learning and reconfiguring which are central to dynamic capabilities (Teece, 2007; Teece et al., 1997) and fundamental to achieving evolutionary fitness (Helfat et al., 2007a). Renewal includes “the process, content, and outcome of refreshment or replacement of attributed factors of an organization that have the potential to substantially affect its long-term prospects” (Agarwal and Helfat, 2009, p. 282). The ability to recombine and reconfigure assets, the firm’s structure, and routines as it grows, is a critical capability. As markets and technologies change, reconfiguration is necessary to maintain evolutionary fitness and to overcome adverse path dependencies. Managers must particularly overcome ‘cognitive limitations and framing biases’. Even successful firms over time develop hierarchies, rules and routines that become dysfunctional and inhibit innovative behaviour. Top down organisational structures can lead to top management becoming isolated from the realities of the marketplace. This can negatively impact on customer and technological responsiveness. Thus, “to sustain dynamic capabilities, decentralization must be favored because it brings top management closer to new technologies, the customer and the market” (p. 1335). Achieving semi-continuous asset orchestration and corporate rejuvenation is an important managerial function, required to develop, maintain, and adjust product offerings, systems, routines, and structures. This is necessary to maximise productive exchange within the firm and remain competitive in the face of the changing environment.
3.5.3.1 Micro-foundations

The micro-foundations required to manage threats and transform include: decentralisation and near decomposability; cospecialization; governance; and knowledge management. Firms must pursue decentralisation if they are to remain flexible and responsive. Delayering, decentralisation of decision making, teamwork, flexible task responsibilities, and performance-based rewards all contribute to responsiveness. But management must remain connected to activities. Teece emphasises that a “collaborative nonhierarchical management style” (p. 1336) is crucial for managing threats and continuous transformation. This also underlies management’s ability to build cospecialised assets, an important dynamic capability. Cospecialisation is a key dimension of strategic fit emphasised in the dynamic capabilities framework. “Cospecialization can be of one asset to another, or of strategy to structure, or of strategy to process” (p. 1337), and is also important for seizing opportunities. And, fit depends on the capacities of management to match and integrate appropriate cospecialised assets.

Premium value can be created through asset combinations, particularly when the asset holder is not aware that the asset value to a third party (the firm) can be improved through a new combination. As intangible assets are critical to the success of the firm, governance and incentive structures to motivate learning are of vital importance. The ability to integrate and combine knowledge and know-how, within and between the firm and external organisations is critical to performance and a key micro-foundation of the framework. This underpins innovation. Foundational to the framework is the development of governance mechanisms to protect know-how and intellectual property from misappropriation and misuse. Firms should also adopt procedures to replace the top management team if they lack sensing, seizing and reconfiguration capabilities. As Teece (2007) points out, the past not only impacts on the present, but also on the future performance of a firm.

3.6 Summary and Penrose-Teece (P-T) framework

One way of understanding the dynamic capabilities framework is to compare dynamic capabilities with ordinary capabilities. As Shuen et al. (2014, p. 10) explain “ordinary capabilities are about doing things right, [while] dynamic capabilities are about doing the right things, at the right time, based on new product (and process) development, unique managerial orchestration processes, a strong and change-oriented organizational culture, and a prescient assessment of the business environment and technological opportunities.” Put differently, ordinary capabilities enable a firm to produce and sell a well-defined (static) range of products and services. They do not assist to determine whether or not in future the range of products and services is appropriate or the most profitable use of resources. Even when production is attuned to what customers want, strong ordinary capabilities may produce a short term competitive advantage, but not in the long run (Teece, 2014). In short, ordinary capabilities result
in technical fitness, while dynamic capabilities result in evolutionary fitness, which has more to do with meeting customer needs, signature processes and innovation. Table 3-1 summarises this point.

**Table 3-1: Ordinary versus Dynamic Capabilities**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Ordinary Capabilities</th>
<th>Dynamic Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical efficiency in business functions</td>
<td>Achieving congruence with customer needs and with technological and business opportunities</td>
<td></td>
</tr>
<tr>
<td>Mode of attainability</td>
<td>Buy or build</td>
<td>Innovate, learn, and build</td>
</tr>
<tr>
<td>Tripartite schema</td>
<td>Operate, administrate, and govern</td>
<td>Sense, seize, and transform</td>
</tr>
<tr>
<td>Key routines</td>
<td>Best practices</td>
<td>Signature processes</td>
</tr>
<tr>
<td>Managerial emphasis</td>
<td>Cost control</td>
<td>Entrepreneurial management, leadership, and culture</td>
</tr>
<tr>
<td>Priority</td>
<td>Doing things right</td>
<td>Doing the right things</td>
</tr>
<tr>
<td>Imitability</td>
<td>Relatively imitable</td>
<td>Inimitable</td>
</tr>
<tr>
<td>Result</td>
<td>Technical fitness and efficiency</td>
<td>Evolutionary fitness, effectiveness, and competitive advantage</td>
</tr>
</tbody>
</table>


Teece’s dynamic capabilities framework is remarkably consistent with many of the core insights in Penrose’s growth theory (Augier and Teece, 2007, 2008). While Penrose recognised the importance of entrepreneurial management, she underplayed how they sense and seize opportunities, and manage threats to develop a competitive advantage. Yet, while the dynamic capabilities framework goes much further and deals with these and other omissions, it is still in its infancy. Thus, drawing from Penrose and Teece, but mostly Teece, a Penrose-Teece (P-T) framework is advanced (see Figure 3-1) to provide the conceptual lens for this study’s empirical investigation. The P-T framework is particularly appropriate given that together Penrose and Teece highlight and explain a range of capabilities – ordinary and dynamic - that are crucial for entrepreneurial business growth. However, the dynamic capabilities framework was not designed to be comprehensive, and as Teece (2009) notes, the framework is not necessarily complete. Even though its theoretical underpinnings are based on an integration of strategic management, industrial economics, organisational sciences and innovation amongst others, however, it provides an umbrella framework that highlights the most important capabilities that managers need.

To conclude: globalisation is shaping firms’ landscapes, because as firms outsource and offshore their activities, ultimately the capabilities that sustain innovation may follow. As Teece argues his framework, is especially suitable for firms that operate in open economies, where innovation, outsourcing, and offshoring are the norm. The New Zealand fisheries industry is an excellent example of this (Pavlovich and Akoorie, 2010; Stringer *et al.*, 2011b). In the following chapter, the research context is outlined.
Figure 3-1: Penrose-Teece (P-T) framework

Dynamic Capabilities

Sensing/Seeing

Seizing/Taking advantage of

Managing Threats/Transforming/Enhancing

Processes to identify target market segments, changing customer needs and customer innovation

Processes to tap supplier and complementor innovation

Processes to direct internal R&D and select new technologies

Analytical systems (and individual capacities) to learn and sense, filter, shape, and calibrate opportunities

Processes to tap developments in exogenous science and technology

Delineating the customer solution and business model
- Selecting the technology and product architecture
- Designing revenue architectures
- Selecting target customers
- Designing mechanisms to capture value

Selecting enterprise boundaries to manage complements and ‘control’ platforms
- Calibrating asset specificity
- Controlling bottleneck assets
- Assessing appropriability
- Recognising, managing, and capturing cospecialisation economies

Decentralisation and near decomposability
- Adopting loosely coupled structures
- Embracing open innovation
- Developing integration and coordination skills

Cospecialisation
- Managing strategic fit so that asset combinations are value enhancing

Continuous alignment and realignment of specific tangible and intangible assets

Enterprise structures, procedures, designs and incentives for seizing opportunities

Building loyalty and commitment
- Demonstrating leadership
- Effectively communicating
- Recognising non-economic factors, values, and cultures

Governance
- Achieving incentive alignment
- Minimising agency issues
- Checking strategic malefeasance
- Blocking rent dissipation

Knowledge management
- Learning
- Knowledge transfer
- Know-how integration
- Achieving know-how and intellectual property protection

As there is a continuous incentive to grow, the process repeats as each opportunity is seen, taken advantage of, and enhanced

Created from: Penrose (1959) and Teece (2009).
Chapter 4: Overview of the New Zealand seafood industry

4.1 Introduction

With its three levels of analysis the Penrose-Teece (P-T) framework, appears to apply particularly well to New Zealand seafood businesses. The framework is appropriate to understand businesses, which operate an open economy subject to fast technological change (Teece, 2007, 2009), a depiction which fits New Zealand seafood businesses. These businesses range from using traditional technology to produce commodity products to using innovation and advanced technology to create final market products (Ministry of Economic Development, 2011b). They are also subject to global competition as 90 percent of production is exported (Ministry for Primary Industries, 2013). Thus, New Zealand seafood businesses operate in competitive international markets. This requires them to continuously adapt and transform themselves, which optimally requires dynamic capabilities (Teece, 2007, 2009).

This chapter first provides a brief history of the New Zealand seafood industry; as will become clear the past is highly relevant to the present. Then the industry landscape is outlined. A discussion on global value chains (GVC) follows and then the New Zealand seafood industry’s GVCs are outlined. This sets the scene through which an empirical research gap is articulated, namely how New Zealand small medium sized seafood businesses – wild capture and aquaculture – create, deliver and capture value from their activities. Three research questions conclude the chapter.

4.2 A brief history

Since the early 1900s the New Zealand seafood industry has grown from an artisan base of many small owner-operated wild capture businesses, harvesting fish within a few kilometres of the shore, to a much larger industry, dominated by a small number of large companies (Haworth, 2008; Haworth, 2010; Johnson and Haworth, 2004). Aquaculture an important part of the industry has during the past four decades developed from a small number of entrepreneurial businesses experimenting with salmon and oysters into a major export earner. These two major sectors – wild capture and aquaculture – make up the New Zealand seafood industry. Both sectors undertake similar value chain activities, but there is a significant difference between them. Wild capture is governed by the Quota Management System (QMS) in accordance with the Fisheries Act 1996, which is administered by the Ministry for Primary Industries, while aquaculture is governed by the Resource Management Act 1991 (RMA), with primary responsibility vested in regional councils and unitary authorities.

4.2.1 Wild capture sector

Prior to the QMS the wild capture sector was characterised by boom and bust exploitation cycles (Gibbs,
Harvesters primarily took what they wanted from the sea, leading to New Zealand’s waters being overfished in the early 1980s. By 1986 the industry was struggling to capture value, and was seen by many to be in a state of deep crisis (Johnson and Haworth, 2004). Problems included; inadequate research, under (and at times over) capitalisation, lack of quality standards, poor product quality, old inefficient vessels, lack of effective marketing capabilities, low export market penetration and under-cutting of prices, resulting in low levels of growth and profitability. In particular, there was a lack of knowledge about how to extract value from less-preferred species in export markets. There were also widely divergent and often self-serving views on the way forward, and the sector was often in conflict with officials. Hence, faced with too many boats chasing too few fish, poor economic performance, and depleted fisheries the government introduced the QMS\textsuperscript{4} in 1986 (Clark, Major, and Mollett, 1988; Pearse, 1991). Fisherman would no longer just buy a vessel and go fishing commercially, rather they had to first obtain quota (Johnson and Haworth, 2004).

The QMS was part of the wide ranging neoliberal reform agenda of the 1984-1990 Labour Government (Clark et al., 1988). A bilateral agreement was reached between the Labour Government and the National opposition party to implement individual transferable quotas (ITQs). They saw ITQs as the best way to solve the industry’s problems (Memon and Kirk, 2010). The objective was to change the behaviour of fisherman, by implementing a competitive market-based system that encouraged the maximum value to be sustainably extracted from fisheries. The QMS was also designed to facilitate industry rationalisation to improve economic efficiency (Gibbs, 2006). ITQs were seen to provide certainty of returns and incentivise quota owners to invest in their businesses, because they would have a stake in the “future productivity of the fishery” (Vivid Economics and Energy Centre and The University of Auckland Business School, 2012, p. 171). Fishermen would no longer see each other as rivals, competing for a share of the fisheries by “secretively withholding information and knowledge from each other” (Pearse and Walters, 1992, p. 175). Instead they would be incentivised to cooperatively and collectively work together in fishing, monitoring and enforcement, and in managing and enhancing fisheries. In short, ITQs provided the vehicle for government “to implement a fishery rationalization programme to address both biological and economic goals” (Boyd and Dewees, 1992, p. 183).

A Canadian based economist, Peter Pearse was “highly influential in the top-to-bottom remaking of the New Zealand fishing industry...using ITQs as the basic management tool” (Pearse, 1996, p. 2). When ITQs were introduced it mirrored Moloney and Pearse’s (1979) quantitative rights economic model. ITQs gave quota owners the right to a share of the total allowable catch (TAC) in a fishery, defined by species and area. Quota rights were issued in perpetuity, were transferable, divisible, combinable, and could be leased. The initial allocations were free of charge and based on historical catches over a qualifying

\textsuperscript{4} See Lock and Leslie (2007) for an extensive explanation and history of the Quota Management System.
period. During its infancy, Pearse (1991) described the ‘quota management experiment’ as a promising innovation to revolutionise fisheries management. This was evident a few years after its implementation, with improvements to catch monitoring, enforcement against outsiders, resource management and productivity (Sharp and Roberts, 1991). Indeed, the QMS was soon being described as the most comprehensive and sophisticated fisheries management system in the world (Pearse and Walters, 1992). However, according to Rees (2005), while the QMS provides certainty and an important competitive advantage, it was debatable whether it had improved firms’ performance. In a corrective to the ‘success rhetoric’ Rees asserts that it is ‘fallacious’ to suggest that the QMS had improved socio-economic performance due to its impact on small independent fisherman, fishing communities, and its long term impact on the industry because of the reduced skill base following rationalisation.

The QMS constrains the harvesting of fish by setting a ‘Total Allowable Catch’ (TAC) at a sustainable level (Wallace and Weeber, 2005). The TAC is shared between commercial, recreational, customary, and science harvesters, but, only commercial harvesters are allocated quota; a share of the ‘Total Allowable Commercial Catch’ (TACC). The TACC sets an annual catch limit for each fish stock in 10 geographical quota management areas (Vivid Economics and Energy Centre and The University of Auckland Business School, 2012). Put differently, the QMS controls the fishing effort by controlling the quantity of fish that can be harvested. Initially 26 fish stocks were covered by the QMS, accounting for 83 percent of the commercial catch (Boyd and Dewees, 1992), and totalled 521,000 tonnes, held by 1,800 quota holders (Boyd and Dewees, 1992; Johnson and Haworth, 2004). By 2012 the QMS covered 636 fish stocks.

Aggregation limits were set at a maximum of 35 percent for each species or a maximum of 20 percent of the total quota in any quota area. This was to prevent individuals from gaining monopolistic holdings (Boyd and Dewees, 1992). However, within a few years of ITQs being introduced, quota ownership was dominated by the 10 largest companies, and by the end of 1995 consolidation of quota was significant (Clark et al., 1988). Since then the concentration of quota ownership has become even greater (Stewart and Callagher, 2011). Yandle and Dewees (2008) found that major consolidation had occurred in the inshore sector, coupled with a corresponding decline in the number of small-scale fishermen. While this significantly improved economic efficiency, it disenfranchised many small operators. It also made it challenging for new operators to enter the sector, which is a potential barrier to entrepreneurship (Haworth, 2008). These criticisms notwithstanding, New Zealand’s QMS is recognised internationally as world leading (Alder et al., 2010; Pearse and Walters, 1992; Worm et al., 2009).

However, when the QMS was introduced Māori did not receive quota and thus sought relief through the High Court. The Court found that the rights of Māori had not been properly considered and consequently the QMS could be in breach of their rights. In fact, Māori fishing rights were guaranteed under the 1840 Treaty of Waitangi and have been recognised in fisheries legislation since 1877 (Batstone
and Sharp, 1999). Thus, the court case led to negotiations between the government and Māori, and in 1989 an interim settlement was reached. It recognised tino rangatiratanga and established the Maori Fisheries Commission to administer Maori fishing rights, assets and advance Maori involvement in fisheries. The settlement also authorised the declaration of taiapure (Bess and Rallapudi, 2007; Lock and Leslie, 2007). In 1992 a final settlement (the Sealord deal) was reached for all Māori commercial fishing claims (Bess, 2001; Johnson and Haworth, 2004). Ten percent of the total quota and a half share of Sealord Products Ltd were transferred to the Māori Fisheries Commission. Additionally, 20 percent of the quota for all new species introduced into the QMS would be allocated to Māori. This led to Maori becoming the largest owners of quota and fisheries assets in New Zealand.

When the QMS was first introduced it was viewed by many as a relatively simple and practical system, but post 1986 some operators saw it as complex and bureaucratic, with high compliance costs (Haworth, 2008). From the beginning quota holders were required to pay a resource rental based on their quota holdings to the government (Lock and Leslie, 2007). Since fishermen were obtaining a benefit from what was a previously a free common resource, a resource rental was deemed appropriate. This permitted the government to recover some of the costs of managing the QMS. Resource rentals were also designed to encourage the fishing of the resource, by the quota holders themselves, and discourage speculation in quota markets by non-fishermen (Boyd and Dewees, 1992). Initially resource rentals were set at low levels but increases were planned to ensure the profit from holding quota would be zero (Lock and Leslie, 2007). However, the resource rental scheme was contentious, and the legality and practicality of the scheme was always in doubt.

In 1994 the government replaced resource rentals with a cost recovery regime to recover management costs through an industry levy (Lock and Leslie, 2007). The regime also aimed to shift services to the private sector to improve administration efficiency and responsiveness. However, this system also became contentious as the government adopted an attributable-cost approach, while the industry took a least-cost approach. According to Wallace and Weeber (2005, p. 16) the cost recovery regime “suffers the flaw of providing a potent mechanism for industry capture of fisheries management and research.” They claim that “industry pressure on scientists has at times been explicit” (p. 14). Hence, they are critical of the QMS, in terms of fish stock management and the marine environment and argue that for the QMS to be effective, it is crucial that “industry pressure is not dominant” (p. 16).

Another major change occurred in 2001 with the shift from a catch balancing system to a deemed value system (Walker and Townsend, 2008). The QMS is based on individual species, but the reality is that

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5 Refers to Māori control over all things Māori – Māori sovereignty.

6 Māori management of an area that has customarily been of special significance to an iwi or hapū as a source of food or for spiritual or cultural reasons (Section 174 of the Fisheries Act 1996).
multiple species are caught together (Lock and Leslie, 2007). Thus, when the QMS was introduced catch balancing mechanisms were established, to allow fisherman to deal with the unintended catch they did not have quota for. Catch balancing was designed to discourage the illegal dumping and non-reporting of fish. Fisherman could return fish to the sea if alive, surrender it to the government, lease or buy in additional quota, use quota from the next fishing year, or exchange quota of one species for another. This was criticised for being complicated and biologically unsound, because it was difficult to control the total TAC for each stock. Hence, in 2001 catch balancing was replaced with the simplified ‘deemed value’ system (Walker and Townsend, 2008). A deemed value is a financial penalty that fisherman must pay when they are unable to cover a catch with quota. Deemed value fees are set for each species at a level that is supposed to discourage overfishing, and encourages the landing of all caught fish.

From 1986 until 2001 over 3,000 fishermen exited the wild capture sector (Stewart et al., 2006). In 2008 Stewart and Walsh (2008) found this exiting trend had continued: “In general, fishers expressed reluctance to exit and some frustration in their inability to expand their operations to enable an acceptable level of profitability” (p. 128). Without new quota, growth was effectively constrained. Fishers also cited compliance costs and the high cost of quota as significant factors influencing their exit. Stewart and Walsh called for more research into the reasons for fishers’ inability to operate profitability. Additionally, the demise of so many small fishers had led to a loss of supporting infrastructure in many coastal areas (Gibbs, 2006). But economic efficiency had increased following quota consolidation (Bess, 2006). By 2011 much of the quota was held by Maori interests, a few large international companies (e.g. Nissui a 50 percent owner of Sealord), a large publicly listed company (Sanford), and several large family owned businesses – Talleys, United, Independent, Solander, Vela, and Amalgamated (Vivid Economics and Energy Centre and The University of Auckland Business School, 2012).

A major challenge facing the wild capture sector is ensuring that activities do not adversely affect the marine environment (Wallace and Weeber, 2005). Since the early 2000s ecological groups have raised concerns about the sustainability of New Zealand fisheries (e.g. Royal Forest and Bird Protection Society), leading to the UK’s Waitrose supermarket chain refusing to stock hoki (FIS, 2009). Other supermarkets in Europe and the USA stopped selling orange roughy and in 2007, the WWF opposed New Zealand’s hoki fishery being recertified (Broad, 2009). They argued that significant quota reductions reflected their concern about the sustainability of hoki, but the industry claimed reductions in hoki quota demonstrated a proactive stance towards a well-managed fishery. Nonetheless, a study found that there was some improvement to New Zealand’s hoki stocks (Worm et al., 2009), but Bremner et al. (2009, p. 508) found clear evidence that “the catches reported by unobserved vessels contain large elements of fiction” in their hoki fishery study. They contend this distorts catch statistics and in extreme cases “result in fisheries collapse.” It was also a threat to the integrity of the QMS (Bremner et al., 2009, p. 511).
4.2.2 Aquaculture sector

New Zealand’s aquaculture activities began in 1910, when the government established the Hakatamea hatchery on the banks of the Hakatamea River in the South Island (Haworth, 2010). It supplied ova to Australia until 1934 and continued to boost local salmon stocks until it closed in 1942. In 1965 mussel farming was trialled in the Hauraki Gulf, followed two years later by other trials in the Marlborough Sounds (Dawber, 2004). The first commercial harvesting of farmed oysters in the Bay of Islands occurred in 1967. From these early beginnings interest in aquaculture took off in the early 1970s, following the enactment of the Marine Farming Act 1971 (Haworth, 2010). The legislation permitted farming of a range of species, including salmon, eels and crayfish. Experimentation with salmon farming started soon after and the first commercial salmon farm was established in 1976 at Golden Bay. Other land-based salmon farms were built and in 1983 the first marine-based salmon farm was established in Big Glory Bay, Stewart Island. This was followed by farms in the Marlborough Sounds. By the 1990s aquaculture had grown to become an important sector. In 1997, 600 farms exported 66,000 tonnes of mussels alone, earning NZ $86 million (Johnson and Haworth, 2004). However, following a ‘land rush’ of mussel farm applications, a moratorium was placed on developments in the late 1990s (Gibbs, 2006). Maori foreshore and seabed claims along with conflicts between commercial harvesters, boaters and land users on one side and aquaculture farmers on the other, led to the moratorium, which halted development during the law reform process (Rennie, White, and Brabyn, 2009).

New reforms were enacted in 2004, but aquaculture projects could only be developed in ‘Aquaculture Management Areas’ (Ministry for the Environment, 2006). In 2005 regional councils took over the consent process in accordance with the RMA. The RMA seeks to ensure the sustainable management of natural and physical resources by regulating the use and development of land, air and water resources, including rivers, lakes, and coastal areas. Aquaculture use must be balanced with other potential uses of the same and surrounding space, including the assessment of any potential impact that an activity may have on an interested party, and any impact on marine fishing and fish stocks. The 2004 reforms acted as a barrier to development, and no new aquaculture projects were undertaken (Haworth, 2010), until aquaculture laws were further reformed in 2011. In 2012 government adopted the aquaculture strategy and a five-year action plan (Ministry of Primary Industries, 2012), which establishes a whole-of-government approach to enable the sector to reach its goal of NZ $1 billion in revenues by 2025.

4.3 Industry landscape

New Zealand’s wild capture fisheries incorporate the Territorial Sea from the coastline out to 12 nautical miles, and the exclusive economic zone (EEZ) from the 12 mile Territorial Sea limit out to 200 nautical miles. This encompasses an area of 6.7 million square kilometres, the sixth largest EEZ in the world
It is as diverse as it is large, yet productivity is seen as modest, because two-thirds of the EEZ is deeper than 1,000 metres, where exploitation opportunities are minimal. Most wild capture harvesting occurs in areas less than 1,000 metres deep. The sector is broadly divided into three main groups: 1) Inshore – inhabited by shallow water species, typically at depths of less than 300 metres; 2) Deep sea – inhabited by species at depths greater than 300 metres, and; 3) Pelagic – comprised of highly migratory species such as tuna. There are some 2,200 individual quota holders, but 80 percent of harvesting is carried out by eight large seafood firms (NZTE, 2009). Most of the 1,580 registered commercial fishing vessels harvest in-shore species (Stewart and Callagher, 2011). The main species for inshore are rock lobster, abalone, scallops, snapper and bluenose; for the deep sea sector they are hoki, orange roughy, ling, southern blue whiting and hake; and for pelagic mackerels, squid, tuna and barracouta (Ministry of Economic Development, 2011b).

New Zealand’s coastline runs to 15,100 kilometres and is the 10th largest of any country, yet “only a tiny fraction” of this is used for aquaculture (Ministry of Economic Development, 2011b, p. 11). Aquaculture can be land-based or marine-based (Ministry of Economic Development, 2011b). Land-based aquaculture comprises a very small part of total aquaculture production and is undertaken in rivers, canals, ponds or in man-made tanks. The production of paua, prawns, eels and salmon are its main activities. Marine-based aquaculture generally occurs in sheltered coastal marine areas such as in the Marlborough Sounds or in bays as in the Bay of Islands. Key activities include the farming of native green lipped mussels, oysters, and salmon. In total 6,260 hectares of water space were used for aquaculture in 2010. Of this 1,000 mussel farms used 5,250 hectares, 250 oyster farms used 900 hectares, and 16 salmon farms used 100 hectares. Mussels drive aquaculture earnings in terms of volume growth, but salmon drives earnings in terms of value growth. From 2005 until 2010 the Kg price for salmon increased almost 50 percent, while mussels declined and oysters prices were flat.

The industry is spread throughout New Zealand, but Nelson accounts for 25 percent of seafood production (NZTE, 2009). In 2010 there were 1,851 seafood businesses: 1,302 were dedicated to wild capture, 290 were dedicated to aquaculture, 97 were mixed sector seafood processors and 162 were seafood wholesalers. In the 10 years to 2010 the number of seafood businesses declined 25 percent, from 2,475 firms in 2000. Most of this decline came from the wild capture sector (555 businesses) and seafood processors (50 businesses). The vast majority of seafood businesses are small or medium sized, but five large businesses (+NZ $100 million turnover) dominate the industry (Ministry of Economic Development, 2014). In 2012 they had a combined turnover of NZ $1.4 billion. Four of these between them owned or controlled over 80 percent of the wild capture quota, and undertook mixed wild capture and aquaculture activities. The other large business solely undertook aquaculture activities.

According to the Ministry of Economic Development (2014) these large businesses were bulk supply
driven and not consumer focused. They had limited knowledge of final markets, lacked market integration and captured little final market value. Acquisitions primarily drove growth. Since 2000 China has increasingly emerged as a key destination for semi-processed fish, where many of the largest businesses have it processed into value added products (Stringer et al., 2011b). These businesses maintain it is not viable to process fish in New Zealand due to increasing production costs, particularly labour costs. Moreover, they find it challenging to sell New Zealand-processed product, because it did not always result in a premium compared to China processed seafood. Stringer et al. (2011b) contend that the offshoring of post-harvest processing had reduced their capabilities, necessary for innovation and for the production and marketing of high value-added products.

In 2012, 90 percent of seafood production was exported, earning NZ $1.5 billion (Ministry for Primary Industries, 2013). China, Australia, the U.S.A., Hong Kong and Japan were the biggest markets. Together they accounted for two-thirds of all seafood export earnings. China was New Zealand’s biggest export destination at NZ $354.4 million accounting for 22.5 percent of total exports earnings. Australia was in second place at 15.2 percent, having been overtaken by China in 2011. In sharp contrast Japan, the top export market in 2000 (25.4 percent), was in 5th place, taking only 8 percent of seafood exports in 2012. Hoki, lobster, and mussels were the top export species by earnings and are forecast to remain the top earners for the foreseeable future. Wild capture fisheries dominated seafood exports in 2012 at NZ $1.22 billion or 81 percent of total export earnings. Of this the inshore sector contributed NZ $574 million, the deep sea sector NZ $408 million, and the pelagic sector NZ $260 million. Aquaculture focuses on only a few species and is considerably smaller than wild capture, but its returns are on average 34 percent higher. Table 4-1 highlights the key demographics of the seafood industry.

**Table 4-1:** Seafood industry key demographics

<table>
<thead>
<tr>
<th></th>
<th>Wild Capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography</td>
<td>Sixth largest Exclusive Economic Zone</td>
<td>10th longest coastline in the world</td>
</tr>
<tr>
<td>Species fished/farmed</td>
<td>130</td>
<td>4</td>
</tr>
<tr>
<td>Key species</td>
<td>Lobster, hoki, squid, abalone</td>
<td>Mussels, salmon, oysters, abalone</td>
</tr>
<tr>
<td>Industry consolidation</td>
<td>6 companies account for 75% of sector</td>
<td>5 companies account for 75% of sector</td>
</tr>
<tr>
<td>Number of export countries</td>
<td>108</td>
<td>75</td>
</tr>
<tr>
<td>Biggest markets</td>
<td>China, Australia, EU, US, Japan</td>
<td>US, EU, Australia, Japan, South East Asia</td>
</tr>
<tr>
<td>Exports</td>
<td>NZ $1,221 million</td>
<td>NZ $279 million</td>
</tr>
<tr>
<td>Export volume</td>
<td>249,000 tonnes</td>
<td>42,000 tonnes</td>
</tr>
<tr>
<td>Average FOB Price ($/kg)</td>
<td>NZ $4.9</td>
<td>NZ $6.6</td>
</tr>
<tr>
<td>Enterprises</td>
<td>1302</td>
<td>290</td>
</tr>
<tr>
<td>Employment</td>
<td>8860 full-time employees</td>
<td></td>
</tr>
</tbody>
</table>

Created from: Ministry of Economic Development (2011b) and Ministry for Primary Industries (2013).
Figure 4-1 shows that since 2001 exports of processed frozen fish fillets have declined by NZ $281.5 million (54.4 percent), while exports of frozen semi-processed fish (whole/head and gutted/ dressed) increased by NZ $143 million (47.1 percent). Exports of live fish were flat while processed fish (dried/salted/ or smoked) declined by 29.7 percent and fresh or chilled fish increased by NZ $35 million (37.4 percent). This highlights the shift from exporting processed product to semi-processed product. Frozen fish were the dominant export formats, but fresh fish command much higher prices. Average export prices for hoki (the most important wild capture fish in value terms), declined from the peak in 2000 of NZ $4.50 per kg to below NZ $3.30 per kg in 2010 (Vivid Economics and Energy Centre and The University of Auckland Business School, 2012). Put differently, as exports of semi-processed hoki to China have increased, the per kg unit price has decreased.

**Figure 4-1:** Finfish exports

The Ministry for Primary Industries (2013) reports that compared to wild capture, aquaculture is comprised of higher value, but lower volume species. The main aquaculture species are mussels, salmon, and oysters. Mussels accounted for 74 percent of total aquaculture export earnings in 2012, salmon 20 percent and oysters 6 percent. The four largest aquaculture markets – the US, European Union, Australia and Japan accounted for almost two-thirds of total export earnings. As Figure 4-2 shows frozen mussels is the dominant format in export value terms. Since 2001 export earnings from frozen mussels increased by NZ $24.5 million, while exports of processed mussels increased only NZ $3.9 million. The highest value mussels – live – decreased by NZ $1 million and fresh or chilled mussels...
declined by NZ $800,000. In short, earnings from low-value frozen mussels significantly increased while earnings from other higher value formats increased little or decreased. In fact, the average nominal price of mussels exported peaked at over NZ $7 per kg in 2001 but by 2010 had fallen to NZ $5 per kg (Vivid Economics and Energy Centre and The University of Auckland Business School, 2012).

**Figure 4-2: Mussel exports**

![Mussel exports 1991 to 2012](image)

Created from: Statistics New Zealand data.

### 4.4 New Zealand’s seafood value chains

The global value chain (GVC) framework (Gereffi *et al.*, 2005) is particularly useful for understanding New Zealand’s seafood value chains and market engagement. The framework incorporates the four key dimensions of Gereffi’s (1994) global commodity chains (GCC) framework: input-output structure, geographic scope, governance, and institutional context. Input–output refers to the structure or series of stages necessary to transform resources and services into a final product. Geographic scope relates to where and how firms locate themselves in different geographical production and distribution networks to access resources. Governance explains how the value chain is controlled through the coordination of activities, and where power is situated within the chain. Institutions refers to “how local, national, and international conditions and policies shape the globalization process at each stage of the chain” (Gereffi, 1995, p. 113), or the institutional context in which value chains are embedded. The GVC framework also incorporates Gereffi’s (1999) upgrading concept; the process of improving the capabilities of a firm, industry or country to enable a shift to more technologically advanced and/or profitable economic niches.
4.4.1 Input-output structure

Since the 1990s a number of factors have impacted on the input-output structure of New Zealand seafood value chains (Stringer et al., 2011b). Increasing production costs have led to considerable consolidation in the aquaculture sector and rationalisation in the wild capture sector. Decreasing wild capture catches have resulted in the disposal of vessels and the closure of processing plants. Quota ownership has also become more concentrated and firms have increasingly used foreign charter vessels to fish for them. Quota holders also have increasingly leased their annual catch entitlements direct to foreign charter vessel operators. Increasing production costs have resulted in tighter margins, which together with the development of efficient processing facilities in Asia has driven the move to offshore processing. Harvesting seafood takes four main routes to markets. Firstly, it can be sold immediately after harvesting. Secondly, it can be sold to distributors, fish markets, or retailers following primary processing, which usually involves chilling, heading, gutting and cleaning. Thirdly, product can be sold after secondary processing, which usually involves processing the harvested seafood into foodservice or consumer ready products (e.g. into fillets or fish fingers). Lastly, semi-processed seafood can be exported to a third country for value added secondary reprocessing (China is the dominate re-processor), following which it is then re-exported to lead buying firms back in New Zealand or in third countries, such as the European Union and USA (FAO, 2009; USDA, 2008). This is illustrated in Figure 4-3.

4.4.2 Geographic scope

From the 1990s large New Zealand seafood businesses have increasingly moved labour-intensive processing offshore particularly to China (Stringer et al., 2011b). This is emphasised in Figure 4-3. Offshoring has raised concerns in many developed countries, especially source countries such as New Zealand. Particular concerns relate to country of origin labelling, traceability and the damage to New Zealand’s processing industry. It also raises the possibility that technology and especially value added margins are also being exported. Whilst outsourcing is often initiated by the seafood businesses themselves, it is primarily driven by large buying firms, looking for more competitive prices. Reducing labour and other costs, as well as extracting price reductions from upstream suppliers has been a key driver of value chain activities (Stringer et al., 2011b). It was not viable to process fish in New Zealand where labour costs were significantly higher. Indeed, the “industry sees itself as primarily a volume-seller of minimally processed ingredients” (Ministry of Economic Development, 2011b, p. 75). Peter Trott, the Australian fisheries program manager for the World Wildlife Fund, which closely monitors New Zealand’s fisheries, refers to New Zealand’s seafood businesses as being “driven by short-term gains at the expense of long-term rewards” (Broad, 2009, p. A1). Hence, as exports of minimally processed finfish to China increased, a corresponding decrease in value added products to formerly key markets had occurred. Stringer et al’s (2011b) study concludes that “ultimately, as exports to China achieve
critical mass this will lead to the demise of fish processing in New Zealand” (p. 106). Thus, the industry may well be on a pathway to becoming little more than a trader.

**Figure 4-3: New Zealand seafood GVCs**

![Diagram of New Zealand seafood GVCs](source: Stringer, Simmons and Rees (2011b)).

### 4.4.3 Governance

Governance focuses on the role of lead firms (buyers and suppliers) in coordinating and organising value chain activities (Gereffi, 2014). Gereffi (1994, p. 97) defines governance as “authority and power relationships that determine how financial, material and human resources are allocated and flow within a chain.” In ‘producer-driven’ chains – characteristic of capital, technology, or skill-intensive industries – final product manufacturers hold the power. In ‘buyer-driven’ chains, final product retailers and marketers exert the most power by using their dominant market positions and branding to shape consumer demand. According to Gereffi *et al.* (2005) lead firms, such as large retailers exercise a high degree of control over value chains even though they do not own production or logistics facilities.
Large retailers are no longer just resellers of products produced by other firms; increasingly they are identifying suppliers, coordinating product development, product standards and branding, and “specify in great detail what, how, when, and by whom the goods they sell are produced” (Sturgeon, 2009, p. 117). Generally they source from suppliers based in low-cost locations and dominate distribution channels, causing profitability to be pulled to the final stages of value chains. As powerful economic drivers of a chain’s development and structure (Bair, 2005), lead firms act as gate-keepers to value chains. Thus, “access to the lead firms which set the parameters for value chain participation is a necessary, if not sufficient, condition for successful participation in global markets” (Bair, 2005, p. 165). In short, they exert power throughout their value chains to shape the distribution of profits and risks. This is highlighted by Gereffi et al. (2005) in their typology of GVC governance types (see Figure 4-4). The typology illustrates five generic ways that firms set up and govern linkages in value chains. Between the classic markets and hierarchies (i.e., vertical integration), are the modular, relational and captive network forms of governance, where the lead firm coordinates suppliers without direct ownership of supplier firms (cf. also Ponte and Sturgeon, 2014).

**Figure 4-4: Five global value chain governance types**

Market value chains refer to straightforward market transactions governed by price where switching costs are low. Modular chains generally involve suppliers producing product to specific customer requirements. Transactions can be complex with information codified and often digitised. Producers generally use generic technology to keep switching costs low, and control value adding capabilities and
hence the value chain. Relational value chains involve complex interactions through close coordination and communication, often creating a mutually dependent relationship between more or less competently equal producers and buyers. They are mostly managed through reputation, family, or ethnic ties. Captive chains involve smaller producers dependent on larger, dominant buyers. Large buyers provide detailed instructions, and exercise high levels of control and monitoring of their chains. Due to specific requirements they can raise high switching costs, leading to producers being captive. Hierarchy chains are largely within vertically integrated firms, with management exerting hierarchical control along the entire chain.

The topology also highlights the coordination of activities across different geographic locations, which greatly influence how economic value is shared among value chain participants. Control and power within a GVC depend on the complexity of transactions, how transactions are codified, and the capabilities of the producer (Frederick and Gereffi, 2009; Gereffi et al., 2005). Understanding how lead firms control their value chains is important as it can facilitate entry into a chain (Frederick and Gereffi, 2009). Moreover, GVCs are constantly evolving, depending on the interactions between producers and buyers. The thin black arrows in Figure 4-4 represent transactions based on price, while the thick block arrows represent flows of information and control, regulated through explicit coordination. Increasingly, modular chains are playing an important role, which is being driven by the cost advantages of outsourcing. Gereffi et al. (2005) recognise there is no best way to organise value chains and vertical integration may be the best approach where a firm wishes to govern and control their value chain. They concur with Penrose (1959) that how and whether firms can capture value also partially depends on their capabilities, especially those that are difficult for competitors to imitate. While high technology GVCs continue to alter the playing field, seafood GVCs are continuing to evolve due to globalisation. In sum, the GVC governance framework seeks to explain and predict how value chain segments are linked in the spatial economy (Gereffi et al., 2005; Sturgeon, 2009), but value creation, delivery and capture is not necessarily constrained by geographically dispersed value chain segments.

New Zealand seafood businesses can primarily be associated with market, modular or captive forms of governance. Some sell their harvest into seafood markets, taking a spot price. Others have the capabilities to value-add to meet buyer requirements, thus the degree of explicit coordination and power asymmetry between these producers and buyers is relatively low as both work with many partners. Alternatively some are captive suppliers as they lack the capabilities to produce final market products and are locked into one or more large buyers. However, (Bess, 2006, p. 375) in his study of large New Zealand seafood businesses noted: “managers expressed the view that vertical integration is critical to their firms’ competitiveness.” They were committed to integrating along their value chains and to developing enduring customer relationships.
4.4.4 Institutions

Institutions can “alter governance arrangements in a recursive fashion” (Oro and Pritchard, 2011, p. 727), as governance does not occur in a ‘spatial vacuum’ (Neilson and Pritchard, 2009). In other words, the “co-production of governance structures and evolving institutional environments” is a key feature of GVCs (p. 232). For instance, New Zealand underwent radical reforms from 1984 to 1999 based on the marketization and self-regulation principles of neoliberalism (Bess, 2012). These reforms had a marked impact on New Zealand seafood GVC governance, through the institutional arrangements for managing fisheries and aquaculture, which as previously discussed, underpinned the introduction of the QMS in 1986 and aquaculture reforms in 2004. The Ministry responsible for fisheries also underwent major change in 1987, to bring a market-based approach to fisheries management. Further restructuring followed in 1990, 1992, and 1994 to bring a ‘business-like’ approach. The focus of these changes was to improve efficiencies for the seafood industry, devolve some fisheries management functions to the industry, and facilitate the industry to take on responsibility for self-regulation. This changed in 1999 when the new government reasserted control over fisheries management. The Ministry was further reorganised in 2000, 2003, and 2007 which separated operational functions from policy development. The overarching goal was “maximising the value New Zealanders obtain through the sustainable use of fisheries resources and protection of the aquatic environment” (Ministry of Fisheries, 2003, p. 3).

In 2008 the government again changed and the Ministry underwent major restructuring beginning in 2009, which Bess (2012, p. 555) describes as “reminiscent of the previous ‘crashing through’ style of the radical reforms, except that it was not about cost savings or downsizing.” Rather it was designed to improve public engagement, and align the Ministry to the government’s goal of increasing the seafood industry’s contribution to the economy. Bess acknowledged that some change was needed because “some things had drifted” (p. 557), but is unconvinced that the most recent restructuring was necessary. It had impacted on morale and productivity, and considerable experience and important institutional knowledge had been lost. He recognised that while much progress had been made developing fisheries plans and reforming aquaculture legislation, only time would tell whether the latest restructuring was successful.

4.4.5 Upgrading

According to Gereffi (2005, p. 171) economic upgrading is the process “by which economic actors – firms and workers – move from low-value to relatively high-value activities in GVCs.” Countries, regions and other economic stakeholders use a range of strategies to maintain or improve their positioning within the global economy (Gereffi, 2014). Labour-intensive firms producing commodity products, such as seafood producers need to ‘climb the value chain’ if they are to capture more value. Humphrey and
Schmitz (2002) identified four types of economic upgrading within GVCs: 1. Upgrading of products; 2. Upgrading of processes to more efficiently transform inputs into outputs through reorganisation and/or the use of superior technology; 3. Functional upgrading by acquiring new functions (or abandoning existing functions) to increase the skill content of activities; and 4. Chain upgrading by moving into new, or related areas. Upgrading differs between countries and industries depending on input-output structures and institutional context. Ultimately, the ability of a firm to upgrade depends on the nature of its relationships with the lead firms that shape upgrading opportunities for other participants (Neilson, 2014).

The New Zealand government has long supported the upgrading of the seafood industry, because of its importance to economic growth. From 2000 to 2011 government funded 364 seafood innovation projects at a total cost of NZ $281.8 million. Of this NZ $120 million went to wild capture projects, NZ $121 million to aquaculture projects, and NZ $41 million to mixed sector projects. The average project was for NZ $774,000. The National Institute of Water and Atmosphere (NIWA) was the largest recipient, receiving NZ $89.8 million for 40 projects, followed by Crawthron Institute, which received NZ $62.8 million for 30 projects. Crawthron’s research focused on enhancing the value of existing or new species (Ministry of Economic Development, 2011b). But, “despite significant investment in scientific research on new species in the 35 years since 1976, no new species have yet to be commercialised” (Ministry of Economic Development, 2011b, p. 106). Moreover, research into farming kingfish and paua (abalone) lost money and did not deliver a return to industry funding partners. Thus, the Ministry of Economic Development (2011b, p. 14) suggests there is “a disconnect between research into new species and the needs of industry.” This may be because of a science-push approach (Ministry of Economic Development, 2011c).

Sankaran and Mouly (2006) contend that research and development in seafood value chains must have a strong focus on moving away from commodity markets by focusing on final product innovation. Yet, innovation has been heavily targeted at understanding resources, harvesting and primary processing. This is illustrated in Figure 4-5, which shows from 2000 to 2011, 97 percent of all government innovation-related funding (NZ $281.8 million) was targeted at the production segments of seafood value chains, while the market segment received only 3 percent. More particularly, research into wild capture resources amounted to NZ $65.7 million. Research into aquaculture farming received the greatest amount of funding at NZ $84.3 million. Primary processing activities received the next highest amount at NZ $74.4 million, while processing of waste into by-products received the least. And, the market segment of the value chain received NZ $8.4 million or NZ $700,000 per annum in terms of market

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7 Released under the Official Information Act: Research funding provided to seafood businesses; (7 October 2012, 31 October 2012, and 22 January 2013).
8 This excludes fisheries stock assessment research.
development projects. This suggests government policy reflects the notion that the industry lacks science capabilities, but possess the necessary market development capabilities. In addition, environmental groups have expressed concern about potential conflicts of interest by the industry asserting they restrict the types of research undertaken, and indirectly censor findings (Lock and Leslie, 2007; Wallace, 1998). Indeed, Rees (2005, p. 251) found that by being involved in the research process “industry is able to constrain the debate as to what constitutes science and what can be researched.” He points out that the industry’s ‘user-pays user-says’ ideology raises questions about the QMS, and particularly the proprietorial rights of the generated knowledge and access to it.

**Figure 4-5: Government innovation funding by value chain segment (2000-2011)**

![Graph showing government innovation funding by value chain segment (2000-2011)](image)

This excludes fisheries stock assessment research.
the approval year, whereas, small firms experienced a 5 to 12.5 percent growth in employment, a 20 percent increase in labour productivity after four years, and a 22.5 percent increase in multi factor productivity after four years. In short:

We only found impacts for small firms and firms that had not undertaken R&D two years prior to receiving their first assistance. We saw no positive additional impacts for large firms and no positive impacts for prior R&D performers. Our results show that R&D funding has a significant positive impact when it is targeted at firms that are building capability; that are small; and that have not previously undertaken R&D (Ministry of Economic Development, 2011a, p. 49).

Many of the reviewed projects highlighted that research organisations were more focused on enhancing research opportunities, than advancing commercial outcomes. Thus, business partners had become frustrated with the funding process and research organisations. As research organisations have different needs and cultures compared to the businesses themselves, the innovation policies had created conflict and mistrust, rather than a collaborative innovative environment for mutual benefit. Overall, the study was critical of innovation policies and many research projects. It determined that the effectiveness of the science-push approach to commercialise innovations was low and not working (Ministry of Economic Development, 2011a).

4.5 Industry outlook

According to the Ministry of Economic Development (2011b), the wild capture sector has a number of strengths, including a pristine marine environment, an international sustainability image, and large modern vessels, particularly deep sea freezer trawlers. However, the sector faces a number of challenges, indicated by negative growth metrics, declining export prices (after inflation), declining or flat harvests that have fallen 21 percent since their peak in 1998, increasing external and operational costs, fluctuations in harvests, and competition from low-cost and high-scale countries. As most businesses are small they have limited access to capital, which hinders their activities. Many have limited knowledge of markets and capture little final market value. Over half of the fish is wasted (e.g. heads, bones, and offal), or it is turned into low-value products, such as fishmeal. But, opportunities exist for better utilisation of the waste (e.g. nutraceuticals and cosmetics), and the Ministry for Primary Industries (2013) is optimistic about the outlook for the sector. The Ministry projects modest increases in export earnings to 2017. This will come from increased prices rather than from increased volume, although modest production increases are expected once fish stocks have rebuilt. After this “there is little potential for further growth in wild capture production” (p. 50). Yet, even though the resource is volume-constrained 45 percent of the quota is not caught (Vivid Economics and Energy Centre and The University of Auckland Business School, 2012), and long term earnings growth is projected from higher value products targeted at markets where consumers are willing to pay more.
In contrast, aquaculture has predictable supply and is underpinned by the production of native green lipped mussels, which are only produced in New Zealand (Ministry of Economic Development, 2011b). The sector also has unique access to some key biosecure markets (e.g. Australia and Japan), and its domestic markets are protected from imports by biosecurity measures. But, it is reliant on only three species, some biosecure and a few flat to declining markets, and hampered by regulatory red tape. Moreover, aquaculture exports are estimated to decline by 7 percent in 2013, due to reduced salmon earnings and a drop in oyster exports. This projected decline follows adverse environmental conditions, low spat rates, La Nina weather, and the 2012 drought. In addition, 80 percent of juvenile oysters were lost from a disease that ravaged many farms, although reduced supply resulted in higher export prices. However, the Ministry of Primary Industries (2013) reports that aquaculture’s earnings are forecast to grow on average by 6 percent annually to 2017. The sector and government are optimistic about the future due to the growing demand for premium quality farmed seafood, due to limited opportunities to increase wild capture production. This is reflected in the sector’s strategy to increase earnings four fold to NZ $1 billion by 2025, which “focuses on the development of new [water] space and extracting more value from existing space and production” (Ministry for Primary Industries, 2013, p. 54). Much of the increased earnings are forecast to come from mussels and salmon.

While some seafood businesses achieve limited increases to revenue, for the largest businesses, acquisitions drive growth. Principally, seafood businesses create value by restructuring to reduce costs and via consolidations (Vivid Economics and Energy Centre and The University of Auckland Business School, 2012). In fact, “in the current global environment constant cost control and improvement – by all stakeholders – is required just to stand still” (Ministry of Economic Development, 2011b, p. 57). However, there are significant opportunities for green growth and considerable scope to add value to existing products for export markets (Vivid Economics and Energy Centre and The University of Auckland Business School, 2012). Moreover, the core of the government’s aquaculture strategy is to reduce compliance barriers to free up water space to increase production. In the long run growth is projected to come from higher value products and from reducing industry’s adverse impact on the environment. Overall, there appears to be no major opportunities for growth in the wild capture sector and limited opportunities in aquaculture. Indeed, the “medium-term outlook for the New Zealand seafood sector is reasonably subdued” (Ministry for Primary Industries, 2013, p. 49).

4.6 Chapter summary

The New Zealand seafood industry is economically important, earning $1.5 billion in foreign exchange in 2011. The industry is recognised for its pristine marine environment, quality aquaculture products, and
world leading QMS system. However, since peaking in 1998 wild capture harvests have fallen 21 percent. This has resulted in the sector suffering negative growth metrics in the face of rising costs. Growth in volume terms is predicted once fish stocks have rebuilt. Earnings are also expected to grow from increases to prices. Similarly growth in aquaculture has also been constrained, by the resource management act and from environmental factors that adversely affected production in recent years. While aquaculture performs better than wild capture, it underperforms relative to the global average growth rate. Following legislative reforms in 2011, however, coupled with government adopting the aquaculture strategy and a five-year action plan, the sector is optimistic of reaching its goal of NZ $1 billion in earnings by 2025. Overall, the outlook for the industry – wild capture and aquaculture – is positive. Although some reports (e.g. Ministry of Economic Development, 2011b) claim there are no major opportunities for growth in the wild capture sector and limited opportunities in aquaculture. Others (e.g. Vivid Economics and Energy Centre and The University of Auckland Business School, 2012) find there are major opportunities for green growth and considerable scope to add value to existing products. Opportunities exist to harvest the 45 percent of the quota that is not caught, and from better utilisation of fisheries waste and bycatch.

The industry is dominated by the production of minimally processed commodity products, thus competition is largely driven by price. During the past two decades buyers squeezed seafood producers for more competitive prices, which led to value added activities shifting offshore to more efficient processors. This reflects an absence of brand building, and it enabled buyers to play New Zealand seafood businesses off against low-cost Asian seafood suppliers. This competition in turn further fuelled the offshoring of processing, resulting in export prices further declining. Consequently in the main the industry does not control its value chains and is captive to its buyers. Some studies suggest that the industry is hampered by a lack of export-related capabilities, including marketing capabilities and lacks knowledge of markets. Indeed, this suggests a failure of management, particularly of the large companies that focus on exports. This in part may explain the fall in the average per kilo unit price for hoki and green lipped mussels since 2001, wild capture’s and aquaculture’s biggest export earners respectively. In short, the literature reveals that many seafood businesses struggle to add, deliver and capture value from their activities. In fact, many struggle to survive.

### 4.7 Research questions

Against this backdrop and informed by the Penrose-Teece (P-T) framework, this thesis aims to advance our understanding of entrepreneurial growth in New Zealand’s seafood industry. Many of Penrose’s ideas for the Theory originated from her work on Britain’s food industry. Teece subsequently built on Penrose’s work and incorporated them into his ‘Dynamic Capabilities Framework’. Like Penrose, Teece recognised that while the external environment impacts on the growth and performance of the firm, it is
the development and application of dynamic capabilities that ultimately influences the firm’s competitive advantage. To understand the seafood industry the GVC framework is introduced in this chapter. To answer the research questions, however, we need to focus on entrepreneurial sense-making, exploitation of opportunities, and the managing of threats and transformation, as well as the capabilities and processes that underpin firm growth. The P-T framework is well suited for this.

The P-T framework highlights three classes of dynamic capabilities – sensing, seizing, and managing threats/transforming – and their micro-foundations necessary for sustainable growth and long run business performance. These capabilities underlie the sensing of opportunities, the decisions to exploit them, and then the continuously honing of the business to achieve superior long-run returns. They enhance the firm’s capacity to shape their environment, develop new processes and products, and employ viable business models. Excellence in these capabilities underpins a firm’s ability to create, deliver and capture superior value. As New Zealand seafood businesses operate in competitive markets globally, this requires them to continuously adapt and transform themselves, which optimally requires dynamic capabilities. But, globalisation is reshaping the business landscape and as firms outsource their processing, and productive activities, inevitably the capabilities that sustain innovation follow, the seafood industry being a good example of this. With its three levels of analysis – industry, business, and individual – the P-T framework is particularly relevant to firms that operate in open economies, where innovation, outsourcing, and offshoring are the norm. The New Zealand seafood is one such industry. Thus, the framework is an appropriate lens to gain new insights into the value creating, delivering and capturing mechanisms of New Zealand seafood businesses.

The extensive literature review found a paucity of studies into the growth and performance of the seafood businesses themselves. Only three studies were identified. One looked into the effectiveness of institutions in supporting small entrepreneurial aquaculture businesses, and the other two looked into the performance and competitiveness, primarily of the large seafood companies. Rees (2005) following an economic geography approach sought to discover whether the QMS led to increased industry performance and competitiveness. He found it was debatable whether the QMS results in firms’ economic growth (Rees, 2005, p. 253). The other study sought to discover whether the QMS or aquaculture legislation was important for firm competitiveness (Bess, 2006). Adopting the resource-based approach, Bess in contrast to Rees found that the firms’ source of competitiveness in export markets was the “security of supply to the fisheries resource provided by the QMS and aquaculture legislation.” But, according to Teece (2007, p. 1319) the resource-based approach is inherently static and a “sustainable advantage requires more than the ownership of difficult-to-replicate assets.” It requires unique and ‘difficult-to-replicate’ dynamic capabilities. In fact, the essential Penrosian point is, not only is the firm a pool of potentially productive resources, but it is how these resources are developed and
used to create new productive products and services that matters – an important point that, Foss (1997b; 1998) stresses, many resource-based scholars miss.

Research is missing into small medium sized seafood businesses, using a capabilities approach at the firm and individual-levels to discover the factors that inhibit and promote growth. Against this background and informed by the P-T framework, an empirical gap exists in terms of how New Zealand small medium sized seafood businesses – wild capture and aquaculture – create, deliver and capture value from their activities. Three research questions are thus formulated to guide this research:

1. How do seafood SMEs create, deliver and capture value through their activities?
2. What are the key capabilities that distinguish innovative, value adding/capturing SMEs from those which are not?
3. How do entrepreneurial management capabilities influence value-adding activities in seafood SMEs?

Furthermore, Penrose’s (1959) growth theory is based on industrial organisations and the Teece’s (2007, 2009) dynamic capabilities framework is in its infancy. Hence a key objective of this study is to close the empirical gap by addressing the research questions empirically, and by doing so, contribute to confirming, elaborating, modifying, or even configuring the P-T framework. In short, this study seeks to close the empirical gap and extend theory. The next chapter describes how the three research questions will be investigated by outlining the research methodology and research strategy, including the methods to be employed.
Chapter 5: Methodology and Research design

5.1 Introduction

The previous chapter discussed the New Zealand seafood industry and global value chains (GVCs). Informed by the Penrose-Teece (P-T) framework, this led to an empirical research gap being identified, in respect to how New Zealand small medium sized seafood businesses (SMEs) – wild capture and aquaculture – create, deliver and capture value from their activities. Three research questions were formulated for investigation, namely: 1) How do seafood SMEs create, deliver and capture value through their activities? 2) What are the key capabilities that distinguish innovative, value adding/capturing businesses from those which are not? And, 3) How do entrepreneurial management capabilities influence value-adding activities in seafood SMEs? The key objective of this study is to close the above gap by addressing the research questions empirically, and by doing so, contribute to confirming, elaborating, and/or modifying the P-T framework. This will also provide practical insights into the value creation, delivering and capturing mechanisms of seafood SMEs in a key New Zealand primary industry. The nature of these research questions has implications for the applicable research methodology and strategy.

This chapter outlines and justifies the research methodology and research design used to answer the research questions, informed by the P-T framework. Penrose’s work exhibits a strong realism stance, and this study too adopts a critical realist perspective. Additionally, given the research questions and P-T framework, I follow Penrose’s (1959) and Helfat et al.’s (2007a) process approach in using multiple case studies, as this will facilitate understanding of the mechanisms that underpin dynamic capabilities. Processes can be used either to maintain the status quo or to bring about change. Organisational and managerial processes that lead to change underpin dynamic capabilities. It is these processes that this study seeks to understand in order to answer the research questions. This will also provide further insights into the development and application of the P-T framework. Throughout the chapter the steps taken to ensure and enhance the quality of the research are outlined.

The chapter begins by explaining and justifying the critical realism research philosophy. It then outlines the research strategy including the research design. This is followed by a discussion of the data collection methods employed. Multiple forms of data were collected, which enabled comparisons to be made within the two main fisheries sectors – wild capture and aquaculture – and between them. The chapter concludes with a discussion of the techniques used to analyse the data at the industry, firm, and individual-levels. The steps taken to enhance the validity and reliability of the research are also outlined and brief comments conclude the chapter.
5.2 Research philosophy

Paradigm positioning is the primary step in determining the research design of a study (Easterby et al., 2008). A paradigm defines a set of beliefs and a view of the world to inform the researcher, thereby providing guiding principles in respect to epistemology, ontology, ethics, and methodology (Denzin and Lincoln, 2000). Penrose’s work displays a strong realist stance (Clark and Blundel, 2007). She focused on discovering the structures and mechanisms that underpin the growth of firms in an uncertain and changing world. Clark and Blundel also argue that a critical realist philosophy provides added legitimacy for identifying structures, casual mechanisms and observed outcomes over time.

The ontological paradigm that underpins this study is the critical realist perspective associated with Bhaskar (1979, 2008) and Sayer (1992). Although; “the world exists independently of our knowledge of it” (Sayer, 1992, p. 5), and is differentiated and stratified with events, mechanisms, and objects including structures causing it to change, it can only be observed imperfectly (Bhaskar, 1989, 2008; Denzin and Lincoln, 2000; Sayer, 1992). This is consistent with Penrose’s methodology as influenced by her mentor Machlup; knowledge about the world is subject to the flawed perceptions of the researcher, uncertain outcomes, and with the interpretation of information and events dependent on the context (Connell, 2007). Penrose (1959) was concerned with discovering structures and mechanisms, particularly those disregarded by mainstream economics in its ‘black box’ treatment of the firm (Clark and Blundel, 2007).

Research is undertaken in order to acquire knowledge of the reality by conceptualising and explaining it (Danermark et al., 2002). This argument draws on the work of Bhaskar (2008) who proposes that reality is arranged into three domains (empirical, actual and real), but not all are observable. Critical realists differentiate themselves from other philosophies by how they believe research should be carried out. In particular, the use of retroduction – the “...mode of inference in which events are explained by postulating (and identifying) mechanisms which are capable of producing them...” (Sayer, 1992, p. 107). Put differently, the logic of retroduction involves moving from a phenomenon or event/outcome to identify and understand the mechanisms or deep processes – used by structured entities, such as organisations – that may have caused it. This retroduction logic is illustrated at Figure 5-1. Drawing on the work of Bhaskar (2008) and Sayer (2000), Morais (2011) depicts three domains of reality – empirical, actual, and real. The empirical domain is where observers make observations. But as events occur in the actual domain independent of observation their existence may be unknown or may be understood by observers differently (Bhaskar, 2008). In the real domain mechanisms exist, which cause events. Mechanisms in turn are influenced by structured objects/entities that exist independently of each other (Bhaskar, 1978). Objects/entities can be organisations containing structures of objects or practices, for example departments and resources, all of which affect one another (Sayer, 1992). In short, the actual and real domains of reality cannot be entirely observed (Danermark et al., 2002).
Figure 5-1: Three domains of reality and the retroduction logic

According to Easton (2010, p. 120) “events or outcomes are what critical realists investigate.” To understand an event or outcome, such as the capturing of value, it is necessary to pay particular attention to the mechanisms or processes that underpin it. Moreover, the absence of an event may require explanation, which also can produce very useful insights. Because, “when we observe a dynamic capability in use, we are observing the underlying process” (Helfat et al., 2007a, p. 31). But, often the causal structures and mechanisms are not observable, thus the challenge is to explain the not directly observable structures and mechanisms (Bhaskar, 1989, 2008; Sayer, 2000). By observing the events that manifest these hidden structures and mechanisms, however they can be learned about.

Given that the actual and real domains of reality can only be partially observed, a more complete understanding of reality can be gained by combining and analysing the knowledge and insights of different individuals who experienced the same event (Healy and Perry, 2000). Healy and Perry point out that even though individual perspectives are not necessarily reflective of reality, they are “a window to reality through which a picture of reality can be triangulated with other perceptions...” (p. 123). Thus objective reality is grasped imperfectly through the different subjective realities of individuals. Understanding the realities of different individuals provides improved understanding of the phenomena under investigation (e.g. creating, delivering, and capture value). But while knowledge is fallible “science offers an opportunity to obtain more or less truthful knowledge of reality” (Danermark et al., 2002, p. 39; Healy and Perry, 2000). Moreover, as observations of reality are mediated by the pre-existing knowledge of researcher(s), observations should be informed by prior research to improve understanding of reality. Fleetwood (2004), reinforces this point – theory and concepts should be used to inform all stages of the research, particularly during the observation stage, because:
There is no theory-neutral observation, description, interpretation, theorisation, explanation, or whatever. There is in other words, no unmediated access to the world: access is always mediated...and if entities do become the focus of human being’s reflection, then we may say they are conceptually mediated (p. 30).

Researchers must therefore, be cognisant of their own limitations, but, they must also consider the limitations of existing theory and concepts, because they may be incomplete or flawed (Healy and Perry, 2000). While Eisenhardt (1989) argues that theory and concepts should be used, she highlights the point that they can bias or even limit research findings:

Investigators should formulate a research problem and possibly specify some potentially important variables, with some reference to extant literature. However, they should avoid thinking about specific relationships between variables and theories as much as possible, especially at the outset of the process (p. 536).

The importance of applying current theoretical concepts and models, and prior research, is also highlighted by Maxwell (2005). He also points out that researchers who use insufficient theory miss the opportunity to exploit all the possibilities of their research, which can lead to important insights being missed. But researchers also need to be critical of theory as it may limit or even mislead research.

5.3 Research strategy

As a critical realism approach involves interpretivist elements that requires qualitative data, a case study approach is appropriate (Easton, 2010; Sayer, 2000), particularly for developing a nuanced view of reality (Flyvbjerg, 2011). In particular, “a critical realist case approach is particularly well suited to relatively clearly bounded, but complex, phenomena such as organisations...” (Easton, 2010, p. 123). Case studies produce “rich, empirical descriptions of particular instances of a phenomenon that are typically based on a variety of data sources” (Eisenhardt and Graebner, 2007, p. 25). Importantly, multiple case studies can produce a better understanding of theoretical constructs “to provide a much more persuasive argument about casual forces” than quantitative approaches (Siggelkow, 2007, p. 24). Multiple cases can potentially expose concealed, often unobservable, contextual mechanisms necessary for explaining how and why a phenomenon occurs (Blundel, 2007). In short, multiple case studies can generate a rich real-world understanding of a phenomenon to produce robust and persuasive explanations, and a strong base to extend theory (Eisenhardt, 1991; Eisenhardt and Graebner, 2007).

As noted in chapter 3, dynamic capabilities provide a business with the capacity “to purposely create, extend, or modify its resource base” (Helfat et al., 2007a, p. 1). This often requires a business to change its managerial and organisational processes, which are used to develop and deploy dynamic capabilities (Teece, 2009). Therefore, to understand dynamic capabilities the underlying managerial and organisational processes and structures should be analysed and understood. However, much of the existing research into dynamic capabilities has involved statistical studies that have focused on what
defines or distinguishes dynamic capabilities from other capabilities, and what effect they have on organisational performance. In the main research have involved the use of large sample archival data and qualitative approaches have not been fully applied (Helfat et al., 2007a). Indeed:

To date, most research on dynamic capabilities has addressed the questions of *what* defines dynamic capabilities, *what* distinguishes them from other types of capabilities, and *what* their effect is on organisational outcomes. Attention to the issue of “how” is only starting to gain momentum (p. 37).

Helfat et al. (2007a) argue that content and process approaches are complementary as they are two parts of the whole picture. Consequently, process-based approaches using “how questions” will assist to build a “more complete picture” of dynamic capabilities (Helfat et al., 2007b, p. 37), leading to a better understanding of how businesses develop, grow, change, weaken and renew (indeed, Penrose’s theory of the growth of a firm is a process theory of growth (Loasby, 1999)). However, “the deep connection between dynamic capabilities and organizational process research has not been adequately appreciated” (Helfat et al., 2007a, p. 36). As dynamic capabilities are still in the early stages of development a case study approach to understand complex, real-world phenomena is particularly useful (Helfat and Peteraf, 2009). Not only are case studies instrumental for learning about a particular phenomenon (Stake, 1995, 2008), but also for testing theory and potentially for generating theory (Gibbert, Ruigrok, and Wicki, 2008; Stake, 2008). Thus, case studies “will increase our depth of understanding of dynamic capabilities” (Helfat et al., 2007a, p. 36). Moreover, little is known about dynamic capabilities in SMEs (cf. section 3.5) and nothing about dynamic capabilities in seafood SMEs (Barreto, 2010; Wang and Ahmed, 2007), hence there is no base to test theories quantitatively against. Therefore, to answer the research questions and advance understanding of the P-T framework, a process-based model is desirable. Specifically, this study adopts a multiple case study approach, which is appropriate when contextual factors significantly influence the phenomena under investigation (Yin, 2009).

The research design has been influenced not only on philosophical and theoretical grounds, but also by methodological factors. Multiple case studies enhance the robustness of the findings through case and data triangulation (Eisenhardt, 1991; Yin, 2009). Important strengths of the case study approach are studying phenomenon in their context and the flexibility of data collection (Easton, 2010; Gibbert et al., 2008). Data can be collected using either qualitative or quantitative methods or using a mix of both (Eisenhardt, 1989; Flyvbjerg, 2011; Yin, 2009). Multiple forms of data can be collected and used, such as interviews, observations, documentary and statistical evidence (Yin, 2012). The methods associated with the case study approach produce in-depth real-world detail from fieldwork of the phenomena under investigation. As Penrose (1959, p. 198) explains, methods that do not take into account the complex heterogeneous nature of entrepreneurial businesses will “lead to an analysis which conceals more than it reveals.” In Penrose’s (1960) case study of the Hercules Powder Company – an integral part of her work
(Kay, 1999) – interviews, observations and archival data were the main forms of data collected (Connell, 2009). Thus, the case study approach and its multiple forms of data collection can provide a holistic view of entrepreneurial businesses, making it possible to produce insightful answers to the research questions and shed further light on the P-T framework.

5.4 Research design and data collection

The objective of this study is to close an empirical gap by addressing the research questions, and by doing so, contribute to confirming, elaborating, and modifying the P-T framework, by drawing on industry, business, and individual-level evidence. The framework is relevant to businesses that operate in open economies that are subject to fast technological change (Teece, 2007, 2009). New Zealand is such an economy. Its seafood businesses range from using traditional technology to produce bulk commodities; to using advanced technology to produce final market products (Ministry of Economic Development, 2011b). As 90 percent of production is exported seafood businesses compete globally in international competitive markets that are constantly changing, requiring businesses to continuously adapt and transform themselves, which optimally requires dynamic capabilities (Teece, 2007, 2009). Dynamic capabilities are about a business changing its managerial and organisational processes (Helfat et al., 2007a), to respond to the changing marketplace (Teece, 2009, 2011a). Thus, the P-T framework is well suited to New Zealand seafood businesses.

The strategy for the selection of cases followed that of Flyvbjerg (2011). Cases can be either randomly or purposively selected. The random selection of cases was not an appropriate strategy for this research, because this is not a study of representative cases in a normally distributed population. Rather, it seeks to uncover variation, and seeks to extend theory rather than to test it (Eisenhardt and Graebner, 2007). Cases with certain characteristics, based on expectations about their information-content can instead maximise insights into a specific problem or phenomenon, particularly if theory and concepts are flawed (Eisenhardt and Graebner, 2007; Flyvbjerg, 2011; Siggelkow, 2007). Thus, to produce in-depth insights a purposive “maximum-variation” selection strategy was used (Flyvbjerg, 2011, p. 307). This involves selecting cases that significantly differed on one dimension, namely the level of value chain engagement. Selecting extremes (e.g. high and low value chain engagement) more easily allows contrasting patterns in the data to be observed (Eisenhardt and Graebner, 2007). Indeed, this “leads to very clear pattern recognition of the central constructs, relationships, and logic of the focal phenomenon” (Eisenhardt and Graebner, 2007, p. 27). This selection strategy was intended to generate insight on the mechanisms that underpin value chain activities, as well as their consequences. Selecting subgroups – wild capture and aquaculture – within the industry was intended to further increase this and thus strengthen the generalizability of the findings (Flyvbjerg, 2011). In sum, choosing cases for their validity appropriateness for answering the research questions was appropriate (Eisenhardt and Graebner, 2007; Flyvbjerg, 2011).
5.4.1 Sampling strategy

The sampling strategy was to select SME cases from the two industry sectors, wild capture and aquaculture. Accordingly, as Table 5-1 illustrates the columns of the quadrants are labelled ‘Wild capture’ and ‘Aquaculture’. Those active in an ‘extended’ range of value chain activities and those active in a ‘focused’ span of value chain activities form the rows. ‘Extended’ refers to multiple value chain activities and ‘focused’ refers to few, value chain activities. Selecting polar type cases assists in building theory as this permits patterns to emerge across the two types (Eisenhardt, 1989). Given that dynamic capabilities were expected to differ by value chain participation as well as by sub-sector, the sampling strategy sought to uncover the maximum variation of dynamic capabilities so that insights into the P-T framework are similarly maximised.

Table 5-1: Sampling strategy

<table>
<thead>
<tr>
<th>Extended Value Chain (engaged in multiple value chain activities)</th>
<th>Wild capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME cases</td>
<td>SME cases</td>
<td></td>
</tr>
<tr>
<td>Focused Value Chain (engaged in few value chain activities)</td>
<td>SME cases</td>
<td>SME cases</td>
</tr>
</tbody>
</table>

An initial list of 113 wild capture and aquaculture SMEs was compiled from publically available industry lists, business directories and the online yellow pages telephone directory. Of these, profiles were prepared for 43 of the most likely cases from material in the public domain, including websites, news media, magazine articles and documentaries. The profiles primarily covered development, value chain activities and products. The CEOs of all 43 businesses were then contacted by telephone. Speaking to the CEOs was valuable as it allowed a more detailed explanation of the study than a letter or email would have otherwise permitted. This gave the CEOs an early opportunity to ask questions about the study and have them answered, which built rapport and enthusiasm for the study. Two offered to travel to Auckland to participate and a number were very keen to immediately meet. Overall, their responses were overwhelmingly positive as they saw the research as a rare opportunity to share their stories.

During these telephone calls the CEOs confirmed their respective company profiles and value chain activities. Of the 43 CEOs spoken to, 39 fitted this study’s definition of an SME\(^\text{10}\) and 34 CEOs agreed to participate in the research. Of these, 17 wild capture and aquaculture SMEs – each with a spread of value chain activities – were selected as case study businesses for this study and their CEOs interviewed. There was no predetermined number of cases, but the aim was to populate each quadrant with either three or four cases. As, Eisenhardt (1989) points out “there is no ideal number of cases, a number

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\(^{10}\) It was decided to follow the Ministry of Economic Development’s (2009) definition of SMEs - those enterprises with 19 or fewer full time employees – so that small businesses would not be compared with large ones.
between 4 and 10 cases usually works well” (p. 545). While the number of cases selected was higher than that suggested by Eisenhardt, it was in line with other studies on the dynamics of entrepreneurial business growth (e.g. Glancey, Greig, and Pettigrew, 1998).

5.4.2 Interviews

It was important to interview the CEOs who, as the leaders of their businesses have considerable involvement and influence over the creation, extension, and modification of their businesses’ resource base (Helfat et al., 2007a). They play a critical role in their business’s strategy through what they do, or do not do. All CEOs of the SME cases participated in semi-structured interviews, which were the primary source of retrospective longitudinal, cross-sectional, and comparative data. Interviews should follow a line of appreciative inquiry, with questions asked in a systematic and unbiased manner (Yin, 2009). Thus, an interview guide (see Appendix 1) was developed based on key concepts from the P-T framework, global value chain literature, and industry studies. The guide ensured a standardised interview format that covered all topics, but gave interviewees flexibility to respond to questions. Having a predetermined list of topics ensures consistency across all participants (Bryman and Bell, 2005). The guide was designed to draw the CEOs into an orderly discussion about their businesses. During the development of the guide, comments and suggestions were sought from three senior researchers. Their feedback was invaluable and incorporated into the final version. In addition, the guide was tested by interviewing two CEOs. Some minor refinements were made as a consequence.

Before the fieldwork, approval from The University of Auckland Human Participants Ethics Committee was obtained (Ref. 2009/409). And, prior to the interviews participants were provided with an information sheet that outlined this study’s objectives and the topics that would be covered during the interview. Consent forms were signed. Participants were informed that interviews would be electronically recorded, but information provided would be treated confidentially, and no identifiable reference would be made to the participant or their business. Therefore, pseudonyms are used in place of real names to protect the identities of the participants and their businesses. This mitigates the risk of the participants and their businesses suffering negative consequences as a result of the publication of their remarks. Pseudonyms for the case businesses are based on the quadrants the SMEs were classified into (see Table 5-2). Individual participant pseudonyms follow their respective business pseudonym.

All interviews were face-to-face and except one, were undertaken at the businesses. This afforded the opportunity to observe the business operations first-hand, engage with staff, and collect documents that were spontaneously offered by interviewees in support of their answers and explanations. The interviews consisted of five parts and questions were open-ended to promote spontaneous insightful discussion. The first part was designed to reinforce rapport with the interviewee by asking them to
broadly talk about themselves, their backgrounds and how they became involved in the business. The second part focused on the business, how opportunities were discovered, collaborative activities, products and customers, and how it adapted to the market. The third part sought to understand how business opportunities were pursued, business models and value chain activities. The fourth was about how the business was managed and the fifth part involved future opportunities and business challenges. The interview ended with interviewees mapping their value chain and highlighting those segments they engaged in. They also explained the most and least, important capabilities used in each segment.

However, interviews did not rigidly follow the interview guide, because many participants covered other areas in answering the open-ended questions. To maintain the conversational flow of the interview participants were not interrupted, rather they were encouraged to continue and expand on their explanations. Flexibility during the interview allowed participants to freely explain their most important events and experiences. Interviewees were nonetheless guided to ensure that all topics and questions were properly covered. As areas were addressed they were ticked off on the guide to ensure nothing was missed. An active listening approach was used to improve communication (Silverman, 2006). This involved verifying understandings and clarifying answers. Key points that warranted further explanation as well as additional questions were noted on the guide throughout each interview. This was important as it ensured emergent themes would be further probed, but clarification and further understanding of these was only sought when it did not interrupt the interview flow. In other words, “this flexibility is controlled opportunism in which researchers take advantage of the uniqueness of a specific case and the emergence of new themes to improve resultant theory” (Eisenhardt, 1989). In fact, this approach produced some unique and unexpected themes, which resulted in a separate piece of research.11

Impressions and observations were also noted in a field journal during the interview and at an appropriate time shared with the interviewee for comment. This “running commentary” – overlap of data collection and analysis – provided a head start in understanding how the cases differed from each other (Eisenhardt, 1989, p. 538). To assist with comparisons between the cases the same interview protocol was used and questions followed the same order. At the end of the interview, overall observations and impressions were shared and participants asked whether there was anything else they wished to add. Many did, and they further shared some interesting insights and information.

Interviewees engaged in retrospective sense-making. Apart from the 17 CEO interviewees of the case study SMEs, further perspectives were sought from seven key industry informants. It was unlikely they would all engage in similar retrospective sense-making (Eisenhardt and Graebner, 2007). They held a wealth of knowledge and experience of the seafood industry as they had been involved in it for between

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11 These themes related to how creative actors used institutions as a resource to benefit their own economic interests. This will be further commented on in the concluding comments of this chapter.
30 to 45 years individually. Their background information was vital for gaining a better understanding of the industry, to inform this research generally. These industry participants also confirmed that the four quadrants were robust. Importantly, they deepened understanding of the investigated phenomena and provided triangulation to enhance validity (Denzin and Lincoln, 2000). In total the 24 interviewees listed in Table 5-2 participated in primary interviews of between one and four hours each, that were carried out between 2010 and 2012. In addition, 16 follow-up interviews were undertaken to seek additional clarification of primary interview data, secondary documents and initial analysis. All interviews were recorded on a digital audio recorder and totalled just over 50 hours of recording time. The audio files were transcribed into text by a professional transcription service following each interview.

Table 5-2: List of interviewees

<table>
<thead>
<tr>
<th>Business Pseudonym</th>
<th>Industry Sector</th>
<th>Title</th>
<th>Number of Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Wild Capture A (EW-A)</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>2 Wild Capture B (EW-B)</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>1</td>
</tr>
<tr>
<td>3 Wild Capture C (EW-C)</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>4 Wild Capture D (FW-D)</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>1</td>
</tr>
<tr>
<td>5 Wild Capture E (FW-E)</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>6 Wild Capture F (FW-F)</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>7 Aquaculture G (EA-G)</td>
<td>Aquaculture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>8 Aquaculture H (EA-H)</td>
<td>Aquaculture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>9 Aquaculture I (EA-I)</td>
<td>Aquaculture</td>
<td>CEO</td>
<td>1</td>
</tr>
<tr>
<td>10 Aquaculture J (FA-J)</td>
<td>Aquaculture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>11 Aquaculture K (FA-K)</td>
<td>Aquaculture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>12 Aquaculture L (FA-L)</td>
<td>Aquaculture</td>
<td>CEO</td>
<td>1</td>
</tr>
<tr>
<td>13 Wild Capture M</td>
<td>Wild Capture</td>
<td>MD</td>
<td>2</td>
</tr>
<tr>
<td>14 Wild Capture N</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>1</td>
</tr>
<tr>
<td>15 Wild Capture O</td>
<td>Wild Capture</td>
<td>MD</td>
<td>1</td>
</tr>
<tr>
<td>16 Aquaculture P</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>17 Aquaculture Q</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>18 Industry Informant R</td>
<td>Wild Capture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>19 Industry Informant S</td>
<td>Aquaculture</td>
<td>GM</td>
<td>1</td>
</tr>
<tr>
<td>20 Industry Informant T</td>
<td>Aquaculture</td>
<td>MD</td>
<td>1</td>
</tr>
<tr>
<td>21 Industry Informant U</td>
<td>Aquaculture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>22 Industry Informant V</td>
<td>Aquaculture</td>
<td>CEO</td>
<td>1</td>
</tr>
<tr>
<td>23 Industry Informant W</td>
<td>Wild Capture and Aquaculture</td>
<td>CEO</td>
<td>2</td>
</tr>
<tr>
<td>24 Industry Informant X</td>
<td>Wild Capture and Aquaculture</td>
<td>GM</td>
<td>3</td>
</tr>
</tbody>
</table>

5.4.3 Secondary data

Different data collection methods should be employed in order to construct an accurate picture as

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Note: EW refers to extended wild capture, FW refers to focused wild capture, EA refers to extended aquaculture, and FA refers to focused aquaculture.
possible (Bhaskar, 1989; Denzin and Lincoln, 2000; Easterby et al., 2008), as this provides stronger and more robust conclusions (Eisenhardt, 1989; Yin, 2012). Interview data was complemented with secondary data from websites, news media, magazine articles, documentaries, photos, company planning reports, annual reports, financial accounts, on-site observations, photographs, and industry reports. This was obtained to probe deeper into the SME businesses in order to gain a full understanding of each business, and to validate interview data. Company reports and financial accounts were particularly useful for comparing and contrasting the SME cases during the analysis.

5.4.4 Populating the quadrants

It was not always easy in practice to determine which ‘Value Chain’ quadrants, SMEs fell into. To populate the quadrants the SME cases were first classified as either wild capture or aquaculture. Several were more fluid than was apparent at first glance. Those SME cases which fitted relatively unambiguously into the extended value chain or focused value chain quadrants were chosen, and ambiguous cases, or cases which were very similar to the other cases, were not included in the full analysis. Originally 34 CEOs of potential case study SMEs agreed to participate in this study and of these 17 were interviewed. These 17 SME cases were reduced to 12, to further highlight differences and only these are directly referred to in the empirical chapters and the quotes of their CEOs used. The remaining five were used to inform this research generally, however, and indirect reference is sometimes made to them. SMEs that engaged in a wide range of value chain activities were placed in the ‘Extended Value Chain’ quadrant; those that engaged in only a few value chain activities were classified in the ‘Focused Value Chain’ quadrant (see Table 5-3). This led to each quadrant being populated by three cases.\(^\text{13}\)

Table 5-3: Classification of SME cases

<table>
<thead>
<tr>
<th>Wild capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extended Value Chain</strong> (engaged in multiple value chain activities)</td>
<td></td>
</tr>
<tr>
<td>Extended wild capture A (EW-A)</td>
<td>Extended aquaculture G (EA-G)</td>
</tr>
<tr>
<td>Extended wild capture B (EW-B)</td>
<td>Extended aquaculture H (EA-H)</td>
</tr>
<tr>
<td>Extended wild capture C (EW-C)</td>
<td>Extended aquaculture I (EA-I)</td>
</tr>
<tr>
<td><strong>Focused Value Chain</strong> (engaged in few value chain activities)</td>
<td></td>
</tr>
<tr>
<td>Focused wild capture D (FW-D)</td>
<td>Focused aquaculture J (FA-J)</td>
</tr>
<tr>
<td>Focused wild capture E (FW-E)</td>
<td>Focused aquaculture K (FA-K)</td>
</tr>
<tr>
<td>Focused wild capture F (FW-F)</td>
<td>Focused aquaculture L (FA-L)</td>
</tr>
</tbody>
</table>

The lack of context-dependent knowledge and the inexperience of a new researcher can be a methodological concern. Flyvbjerg (2011) suggests it is important for new researchers to gain knowledge and experience of the studied reality before embarking on their research. A deeper understanding of the context can enhance research quality by assisting with understanding the underlying meanings of what is

\(^{13}\) This is not a representative sample of the industry. Extended value chain cases were not easy to find, and are over-represented.
being observed. Flyvbjerg notes: “the highest levels in the learning process, that is, virtuosity and true expertise, are reached only via a person’s own experiences as practitioner of the relevant skills” (p. 303).

Several months before I commenced this study I worked as a researcher on a Ministry of Fisheries\textsuperscript{14} project (i.e. Stringer, 2010). It aimed: 1) to understand the reasons why the largest New Zealand seafood companies were increasingly offshoring the processing of fish; 2) to investigate how involved New Zealand seafood companies were in off-shore value-added processing; and, 3) who was capturing the offshore value-added benefits. That 18 month study provided important knowledge and first-hand understanding of the research context. Apart from the secondary data, industry participants shared deep insights into the industry, which helped to inform this research. That project was crucial for establishing industry rapport and influenced the research design of this study. I was struck with how well Penrose’s growth theory applies to the seafood industry. It appears to reflect her arguments about the nature of competition and markets in industries, and the interstices. I looked at some of the largest seafood companies using Penrose’s (1960) mapping and one in particular reflected many of Penrose’s (1959) arguments in terms of growth through diversification from strong technological and market bases.

This research also draws on my executive management experience, 18 years of which was in China. Prior to that I spent several years as a criminal investigator and the interviewing skills, chain of evidence techniques, and experience gained were invaluable for this research. I am sensitive to inconsistencies and conflicting accounts, especially if statements are doubtful. Corroborating interview data with secondary information was an important skill as was maintaining an open mind. This know-how along with my early research interest in the industry provided a solid understanding of the research context.

5.5 Data analysis

According to Maxwell (2005) theory is indispensable in the research process (cf also Fleetwood, 2004; Sayer, 1992). Thus, a conceptual lens – P-T framework - to understand phenomena was used, because as Eisenhardt (1989) explains, this can assist with formulating research questions and identify some potentially important variables. But, one “should avoid thinking about specific relationships between variables and theories as much as possible” (p. 536), because this may bias or even limit findings. Theory is useful as a guide on what to focus on and what not to focus on and thus enhances insights into phenomena, but observations can deviate from the theory, even though data collection and interpretation is guided it (Bhaskar, 1989). Thus, while theory should inform the research, it should not dominate the interpretation of the data. As Weick (1995) notes novice theorists need to be attentive, yet critical of theory. Indeed, empirical data can challenge the theoretical concepts that were used to

\textsuperscript{14} The Ministry of Fisheries was renamed to the Ministry of Primary Industries in late 2012.
generate the data (Eisenhardt, 1989, 1991). Thus, an informed yet cautious approach was taken when existing theory was compared to the empirically derived observations.

Analysis of the data broadly followed the advice of Yin (2009, 2011), informed by Miles and Huberman (1994), Eisenhardt (1989), and Sayer (1992) in terms of retroduction. Yin's (2011) 'Five-Phased Cycle' consists of compiling, disassembling, reassembling (and arraying), interpreting, and concluding. Compiling involves organising the primary and secondary data into a database. The second phase entails disassembling the data into more manageable parts, which may be labelled or coded. Reassembling consists of reorganising the disassembled parts into themed groups. Interpreting involved using the reassembled-themed data to create a new narrative, tables, and graphical representations. The final phase concludes the analysis by drawing on the interpreting phase to generate conclusions for the study. As Figure 5-2 illustrates, the analysis process is not linear, rather it is recursive and iterative. It involves going back and forth between the phases in order to search for a deeper meanings to insights. In short, analysis involves making “constant comparisons”, being alert to “negative instances” developing and considering “rival explanations”, and constantly “posing questions” about the data (Yin, 2011, p. 177).

Or as Langley (1999) sees it, following Weick (1989), theory building should proceed through a combination of induction, deduction and interpretation, and according to Sayer (1992) retroduction.

**Figure 5-2: Five phases of analysis and their interactions**

![Diagram of five phases of analysis](source: Yin (2011, p. 178).)

I did not use analysis assisted software, such as NVivo. Many of the documents and files, particularly the documentaries and photographs, could not be imported into NVivo as they were not text readable and not of the same type or evenly distributed among the case study businesses. As they were important to the analysis, they had to be analysed manually. Instead word, excel and MindManager, of which I am an advanced user, were used. The analysis procedures are outlined in Table 5-4.
Identifying contrary instances in the coding so that they could be
examined, tables, and

Table 5-4: Data analysis procedures

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1 Compile data into database | • Computerised filing system created using folders to organise and facilitate data analysis.  
• Five types of data: updated case profiles, interview transcript(s), field journal and interview guide containing interview notes, secondary documents and records, key industry informant interviews, and industry reports.  
• Digital analysis diary created to note impressions and thoughts, during the analysis and comments from the interview field notes assimilated into it. |
| 2 Disassemble data       | • Data disassembled into smaller parts to obtain preliminary insights within each case.  
• In line with Miles and Huberman (1994), data systematically coded on a case by case basis, then organised and assimilated into a new word document file according to key concepts. Irrelevant data excluded and original coded files kept intact for referral purposes. Codes reflected nature of the data e.g. primary interview or secondary data. Similar concepts given the same code and grouped together.  
• Two types of codes used; codes derived from the interview guide topics – based on concepts from the literature – prefixed with ‘T–’. And, additional created codes for empirically derived concepts – prefixed with ‘E–’ (cf Maxwell, 2005).  
• Interview recordings referred to during coding, to contextualise the transcripts, and ensure meaning from subtle remarks properly considered. Initial coding identified relationships between some codes and from these categories derived. |
| 3 Reassemble data        | • Data reassembled based on the four quadrants. This enabled deeper understanding of codes and categories, and comparisons within each quadrant and between the quadrants. Codes and categories continually rearranged to search for patterns and themes. Discussing emergent conceptual and empirical themes with supervisor was a critical part of the process.  
• Mindmaps used because they permit “simultaneous representation of a large number of dimensions, and they can easily be used to show precedence, parallel processes” (Langley, 1999, p. 700). Using Mindmaps, data organised into themes, which assisted understanding of the relationships between them and the CEOs stories. Mindmaps also used to visualise and compare the different value chain structures, value chain topologies developed.  
• Themes related back to the literature and research questions. Constant comparisons made to identify similarities and differences between the cases and the quadrants.  
• Close attention paid to identifying contrary instances in the coding so that they could be corrected and alternative explanations considered before conclusions drawn. |
| 4 Interpret data         | • Conceptual and empirical themes identified in the reassembly process used to interpret the data and draw conclusions.  
• Quadrants used to compare and contrast. Reassembled data of a case was compared and contrasted with the other two cases in its quadrant, to understand similarities and differences. This was repeated for all four quadrants.  
• Common themes searched for to generate within-quadrant and between-quadrant findings. To produce the theme structure, a recursive and iterative process (moving back and forth between interpretations of the observed themes and the data itself) used. Case narratives, tables, and graphical representations of the findings were produced from this. |
| 5 Concluding             | • Different “interpretations of the data are necessary to ensure that the ‘best’ current interpretation is made” (Easton, 2010, p. 122).  
• Concluding involved retroduction analysis – looking through the data to discover plausible causal relationships. A recursive and iterative process that examined similarities and differences between the cases. Compared possible explanations against alternative ones, interpretations, and literature along with reflection to uncover the underlying mechanisms. |

Adapted from: Yin (2011).
5.6 Validity and Reliability of the research

A key objective of this research is to answer the research questions, which are of particular relevance to policy and practitioners. However, as Scandura and Williams (2000) point out, ‘without rigour, relevance in management research cannot be claimed’ (p. 1263). Researchers must demonstrate that the data and interpretations drawn from it, are beyond the researchers’ own imagination and are logically assembled and articulate (Ghauri, 2004). Hence, Gibbert, Ruigrok, and Wicki (2008) suggest a framework for internal validity, construct validity, external validity, and reliability of case study research. The framework draws on Yin (2009) and Eisenhardt (1989) for best practice strategies that researchers should follow to meet each of the four validity and reliability criterion. The framework is appropriate for this research and has been adapted to describe how the four validity and criteria apply, which is summarised in Table 5-4.

Throughout a number of strategies were adopted to enhance the quality and credibility of this research. These strategies as well as procedures were reviewed during the research (for example, following the uncovering of some unique themes, additional secondary data was obtained from the interviewees to strengthen triangulation). A common law enforcement procedure involves investigators using interview transcripts and notes to prepare statements, which are then checked, amended, confirmed and signed by informants. A broadly similar procedure was used in this research – sharing and validating impressions, observations and interpretations with the CEO interviewees themselves. At the conclusion of each interview impressions and observations were shared, which led to interviewees volunteering additional insights by way of clarification. The secondary interviews were particularly valuable as they permitted more detailed analysis to be shared. Some interpretations were challenged, which resulted in errors of fact being corrected. After this further opportunities arose to share interpretations and conclusions from the data with at least one CEO from each of the four quadrants. This “is the most crucial technique for establishing credibility” (Lincoln and Guba, 1985, p. 314). The CEO interviewees confirmed that the interpretations and conclusions were realistic and accurate, including the empirically derived themes and frameworks, used in the empirical chapters. They particularly confirmed that the themes and frameworks made sense and the overall findings and explanations were realistic and appropriate.
**Table 5-5: Validity and Reliability of the research**

<table>
<thead>
<tr>
<th>Internal validity</th>
<th>Construct validity</th>
<th>External validity</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Cook and Campbell, 1979)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Data triangulation**
  - 17 CEOs of the case study businesses interviewed. 7 key industry informants also interviewed. In total 24 primary and 16 follow-up interviews carried out.
  - On-site visits to the businesses, permitting direct observation of business operations, engagement with staff, and contextual note taking.
  - Secondary data collected – websites, news media, magazine articles, documentaries, planning reports, annual reports, accounts, photographs and industry reports.

- **Chain of evidence**
  - Interview protocol derived from the P-T framework. Peer reviewed and tested with two CEOs before use.
  - CEOs of the case study businesses provided on-site access to data. Public domain data also collected.
  - Field journal used during selection, interviews, and post interview.
  - After each interview observations shared. More detailed feedback provided during secondary interviews. Quotes used from the transcripts of audio recordings verified with interviewees.

- **Cross-case analysis**
  - Cross-cases analysis of 12 different case study businesses. 5 additional case studies used to inform findings.
  - A purposive “maximum-variation” selection strategy used. Sampling strategy sought to uncover the maximum variation of dynamic capabilities so that insights into the P-T framework were similarly maximised, with value chain activity type hypothesised to be indicative of management capabilities.
  - Cases selected from the two industry sectors – wild capture and aquaculture. Both sectors broadly encompass two types of SMEs – those engaged in a wide range of value chain activities classified in the ‘Extended Value Chain’ quadrant. Those engaged in only a few value chain activities classified in the ‘Focused Value Chain’ quadrant.

- **Case study transparency**
  - Through a detailed report in this chapter of how the research was conducted.
  - Instead of using NVivo created case study database to hold digitised copies of all consent forms, interview protocols including case profiles, field notes, transcripts, secondary documents, other research notes, narratives and all analysis documents, as well as interview recordings, photos, and documentaries.

Adapted from: Gibbert, Ruigrok, and Wicki (2008).
5.7 Concluding comments

The fieldwork was very interesting and insightful, which to a large degree was influenced by the enthusiasm of interviewees themselves. All were keen to tell their stories. So eager were some that one travelled to Auckland to participate in the research, while others made the journey to follow up on their primary interview. Several continued to engage throughout the analysis as they were very interested in the findings. Overall, they saw the research as a rare opportunity to contribute to their industry, which they were deeply passionate about. I asked them why they were so keen, and one CEO encapsulated many of the responses: “totally frustrated! But I want to grow and improve. Research could only be beneficial – no one ever interested in us before” (Interviewee FW-E). However, the fieldwork was not without its challenges. Early on some unique themes emerged. Put differently, “what seem[ed] to be a good phenomenon [was] in reality a bad phenomenon” (Davis, 1971, p. 318). As these themes did not directly answer the research questions, they were investigated separately – along with my supervisors – in parallel to this research. Due to the significance of the themes and their implications, dual interviewers were used to increase validity and enhance personal safety and security.  

In total an additional 144 primary interviews and a considerable number of secondary interviews were carried out with a wide range of key industry informants and foreign fishing crew working on New Zealand foreign charter fishing vessels. This is further commented on in the closing thoughts section of this thesis.

To conclude: the analysis case narratives and a range of different tables and graphical representations were produced to present the findings in the following empirical chapters. The next chapter presents a first look at the case study businesses, which is followed by three empirical chapters.

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15 This was a wise precaution as attempts were made by industry third parties to intimidate researchers, identify participants, and obtain research data (see http://www.stuff.co.nz/national/5402951/Fishing-probe-turns-ugly).

16 These findings were presented to the Department of the Prime Minister and Cabinet in June 2011 and the following month a Ministerial Inquiry was announced. The issues of concern included human trafficking, mistreatment and underpayment of crew, vessel safety standards and breaches of fisheries and environmental laws. Our public seminar followed on 11 August 2011, and a working paper was published on 15 September 2011 (see http://docs.business.auckland.ac.nz/Doc/11-01-Not-in-New-Zealand-waters-surely-NZAI-Working-Paper-Sept-2011.pdf (Stringer, Simmons, and Coulston, 2011a)). In 2013 the findings were published (see Stringer, Simmons, Whittaker, and Coulston, 2013).
Chapter 6: A first look at the cases

6.1 Introduction

This chapter presents an initial and mainly descriptive account of the small medium-sized enterprise (SME) cases, using the interview transcripts and other secondary data, collected using the research methods detailed in the previous chapter. It outlines the development of the SMEs and their strategies, in order to set the scene for the analysis in the following three chapters. As previously detailed, analysis covers three levels: industry, business and the individual level (the CEOs leading the businesses). The chapter begins with a sketch of the extended wild capture quadrant and the types of businesses within it and then a representative case is succinctly presented. At the end of the case the differences and similarities to the other two cases in the quadrant are sketched. The other three quadrants are similarly presented and after each industry sector, comments about the sector are made. The chapter concludes with a summary highlighting the main similarities and differences between the quadrants.

As described in the previous chapter the SME cases were drawn from the two main industry activity sectors – wild capture fisheries and aquaculture. Both sectors broadly encompassed two types of SMEs, those active in an ‘extended’ range of value chain activities and those active in a ‘focused’ span of value chain activities. ‘Extended’ refers to multiple value chain activities and ‘focused’ refers to few value chain activities. In fact, even during the fieldwork it was not always easy in practice to distinguish which quadrants businesses fell into. Some were more fluid than appeared at first glance. The cases were initially classified as either wild capture or aquaculture. The extremes were identified and selected. Those closer to one pole engaged in all value chain segments, those of the other pole engaged in very few activities, with the remaining SMEs falling somewhere between these two poles. Ultimately, those cases which fitted relatively unambiguously into the extended value chain or focused value chain category were chosen, and ambiguous cases, or cases which were very similar to the other cases, were not included in the full analysis. Indirect reference is made to these, however, and to the views generally of the other industry participants who were interviewed. From the 17 SMEs, 12 were selected, with each quadrant populated by three cases. However, as will become clear in this and the next three chapters, SMEs in the ‘extended value chain’ quadrant were more market-oriented, while those in the ‘focused value chain’ quadrant were more production-oriented. Thus, the ‘extended value chain’ quadrants are

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17 This is not a representative sample of the industry. Extended value chain cases were not easy to find, and are over-represented.

18 It should be noted that production-oriented SMEs were not market oriented, but market-oriented SMEs were not only engaged in markets, but they were also very engaged in production. Their starting point, however, was markets.
relabelled ‘Market-oriented’ and the ‘focused value chain’ quadrants are relabelled ‘Production-oriented’ (see Table 6-1).

Table 6-1: Classification of SME cases

<table>
<thead>
<tr>
<th>Wild capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market-oriented</strong> <em>(engaged in multiple value chain activities)</em></td>
<td><strong>Production-oriented</strong> <em>(engaged in few value chain activities)</em></td>
</tr>
<tr>
<td>Extended wild capture A (EW-A)</td>
<td>Focused wild capture D (FW-D)</td>
</tr>
<tr>
<td>Extended wild capture B (EW-B)</td>
<td>Focused wild capture E (FW-E)</td>
</tr>
<tr>
<td>Extended wild capture C (EW-C)</td>
<td>Focused wild capture F (FW-F)</td>
</tr>
<tr>
<td></td>
<td>Extended aquaculture G (EA-G)</td>
</tr>
<tr>
<td></td>
<td>Extended aquaculture H (EA-H)</td>
</tr>
<tr>
<td></td>
<td>Extended aquaculture I (EA-I)</td>
</tr>
<tr>
<td></td>
<td>Focused aquaculture J (FA-J)</td>
</tr>
<tr>
<td></td>
<td>Focused aquaculture K (FA-K)</td>
</tr>
<tr>
<td></td>
<td>Focused aquaculture L (FA-L)</td>
</tr>
</tbody>
</table>

6.2 Market-oriented wild capture quadrant

The market-oriented wild capture quadrant is occupied by SMEs that engaged in multiple value chain activities or segments. They may have owned quota, but may not have harvested it. Instead, they contracted out the harvesting, or if they did not own quota they bought raw material from small deep sea, pelagic, or inshore fishers. These businesses concentrated on processing fishery raw material into high-value high-quality products, which they then marketed to customers. Product was sometimes sold from their premises directly to domestic consumers, but they focused on exporting as potentially higher returns could be achieved from overseas. They closely engaged with their foodservice customers to understand what they wanted and how to deliver this. Businesses in this quadrant were owned by unrelated shareholders, some with and some without an industry background. Family members sometimes invested and worked in the businesses. Some personnel had industry experience, while others did not. The quadrant contains older established businesses and a younger business, but no new entrants. While the SMEs were successful, they were hampered by a lack of raw material. Despite this they were very focused on growth. EW-A is a good example.

6.2.1 Market-oriented wild capture: Case EW-A

Business development

EW-A was established in the 1990s. It primarily processed and marketed a range of wild caught fishery final products direct to consumers and to the foodservice sector. Its main products came from the inshore and pelagic fisheries. Unlike many wild capture businesses EW-A did not own its own fishing

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19 The quadrant labels have been changed to avoid misunderstanding that ‘focused’ can mean specialist at any part of the value chain, and ‘extended’ can mean specialist at every part of long value chains. SMEs in the focused quadrants concentrated their activities at the production end without exception, and had relatively long value chains. Extended quadrant SMEs undertook activities throughout their value chains, but in fact their value chains were not extended rather they were quite short.
vessels; instead it bought fish that had been caught using the long line method, from small owner-operators. EW-A’s CEO found that the long line method was the best way to preserve the quality of fish, as opposed to trawling, which often damaged fish. The catalyst for the business came after years of frustration with low wharf prices, and watching many businesses ‘systematically destroy value’. In his view, the industry had become ‘obsessed with cost cutting’ and focused on who could catch the most for the least cost, instead of concentrating on improving quality. Realising that returns could not be increased by catching more, because fish stocks were fully fished, the CEO decided he wanted no part of what he saw as a ‘race to the bottom’. Out of necessity he decided there had to be a better way.

I was just appalled at the economic returns coming in...clearly there were less fish and the idea was that we needed to get a lot more for them, so it became a question of maximising the value of every fish that we caught. We didn’t know how to do it and nobody had the slightest interest in doing it (EW-A).

As luck would have it, some overseas seafood buyers came to New Zealand looking to obtain a supply of fish. Curious about overseas markets and sensing the possibility to supply fish at higher prices the CEO met with them. After seeing that many of the landed fish had dull and even cloudy eyes – they should have been clear and bright – the overseas buyers shared their knowledge about how to maximise the value of fish. Careful handling was required to enhance appearance and flavour. This involved killing the fish with a spike to the brain immediately it was caught and then placing it into an ice-slurry. The fish would also keep much longer, and fisherman could receive as much as an additional 10 percent for their fish. However, many fishermen ignored the advice and only spiked the fish after landing at the wharf. This deception was unsustainable, because the CEO learnt from the buyers that they used three key indicators to determine if fish had been correctly handled, namely if the fish had clear full eyes, firm flesh and a good vibrant colour.

The buyer said if you kill it with a spike in its brain, we’ll give you another 10 cents a kg. No-one had any idea what that meant so the fishermen would just go fishing normally and when they were unloading the fish out of the ice-box they would put a hole in its head. I had never seen anything so ridiculous in all my life (EW-A).

This spurred him on a journey to further understand how buyers valued fish, and where else value could be appropriated. He went to Japan, and was particularly keen to find out how their supply chains and fish markets operated. But primarily he wanted to find buyers who would pay more for top quality fish. In Japan he made contact with the buyers who came to New Zealand, and with their assistance visited fish importers as well as the public market in Tokyo. He met with fish market buyers and their distributors, and visited seafood processing companies and a number of restaurants which were their customers. Above all he was impressed with the way in which fish were handled and the efficiency at which it travelled through the supply chain. The thing that left an indelible impression on him was the

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20 As noted previously participants are referenced by their business pseudonym.
attention buyers gave to obtaining the right quality product for their restaurant customers. Unless the fish was exactly what their customer wanted they would not buy it, even if it was cheap.

I had my eyes torn open by the fish markets and the fish handling and the knowledge. It was just like a dry sponge hitting the bath and I came back from Japan knowing exactly what they wanted and what I needed to do (EW-A).

Not only did he know what he wanted to do, but he had developed a good relationship with buyers and their customers, who could help to grow the business. This gave his business a distinct advantage over other processing companies, because he knew exactly where his seafood was going and how it would get there. Despite the huge learning curve, the first direct shipment commenced shortly afterwards, although initially he had to use another processing company to prepare and pack the fish. Compounding his lack of commercial experience, he had to rely on others, because he had no capital, and no processing and packaging plant. However, Japan was a huge success, with returns doubling within months and quadrupling within a few years. Following this success the business looked to Europe for opportunities, and after attending a European food fair, became one of the first New Zealand companies to supply fresh fish into Europe. It was this that led to the current business.

We were essentially fishermen who had been pushed into this position by necessity, by the inability of anybody else to do it, to go into the market, find the market specifications, meet it and deliver it in such a way that the sweetest spot in the value chain remained right here at the port...that led to the current business (EW-A).

**Strategy**

Having successfully learnt about export markets, EW-A adopted a strategy to capture high returns by working closely with retailers to understand exactly what they and their consumers wanted and then delivering it. As they wanted seafood as fresh as possible, this prompted EW-A to look at building a processing plant near a wharf. It would enable the creation and capturing of additional value. To make the plant economically viable they needed a partner who could supply sufficient quantities of fish. One potential partner did not understand how the plant could increase returns for their fish and viewed the project as very risky. In addition, as many fishermen obtained quota from large fisheries companies and relied on them for fishing provisions and access to infrastructure, EW-A was unable to secure a sufficient and steady supply of fish. In effect, the Quota Management System (QMS) posed a major challenge to the new venture, because the quota had already been allocated:

The quota management system has removed all competition at the wharf. Fishermen are captive, they’re quota captured. It has killed competition ever since. When you look at it, what’s changed in the last 26 years? (EW-A).

The CEO was nonetheless determined to find a way to produce final market products, processed as close by as possible to where the fish was landed. He subsequently found an independent fisherman willing to
supply and looked at another joint venture to process a large volume of fish for an upmarket European restaurant chain. It was crucial that the correct handling techniques were used to maximise quality and shelf life as this would secure high prices. However, often fishermen and processors did not understand this. The CEO personally selected the fish samples and took them to the new partner’s factory for processing. But, he quickly found it was yet another struggle for quality.

Some experiences so horrified me they still haunt me, I still can’t get beyond it. One example, I hand-picked the best fish from the catch and took them to the processor...The guy cutting my fish had no idea about avoiding contamination to minimise bacteria, cross contamination between gut and flesh and just general cleanliness and organisation of the cutting board to get the best you can in a practical sense...The manager asked me what I thought. I said I couldn’t offer any practical advice on how to improve it apart from detonating the entire place. There was not one redeemable worthwhile function occurring in those walls, not one. Anyway [name withheld] came back and were over the moon, they had never seen and tasted anything as good as my 48hr old fresh chilled fish...but I said I couldn’t do anything with that processor (EW-A).

The company subsequently solved the processing problem by building its own factory. An absolute commitment to producing the best quality products underpinned the plant’s operation. From catching through to final delivery EW-A enhanced quality by using processes that maximised product value. Products were exported under their own brand, which became well regarded by customers and eventually became recognised as a premium-quality brand. The CEO was of the opinion that the industry likewise needed to radically change so that the best possible use was made of the resource. He considered that much more value could be captured from it, but this could only happen if the resource was harvested, processed, and presented in such a way that it was instantly recognisable as a premium product. He believed only by doing this could the industry move away from being a low-value producer and move up the value chain.

The only control that we have over price is our ability to hit the best of some variables. So we control price by the size of fish, day of week, by season, and quality. We have the premium brand by far. Of all the New Zealand suppliers our fish is never unsold, so we never go through this business of selling it for less than cost (EW-A).

Comments about EW-B and EW-C

EW-B and EW-C had also become disillusioned with producing low-value products. After selling off their vessels they joined with industry outsiders and established new land-based businesses to produce and market higher-value final products. They chose to contract out harvesting, but closely monitored it. Their business strategies – to obtain higher returns by understanding what consumers wanted – were similar to EW-A’s. But, EW-B turned low-value marine by-catch into a high-value niche consumer product, while EW-C processed high-value species into a range of up-market consumer products. EW-B also contracted out its processing, but closely monitored it through all stages of production. All three SMEs worked closely with their foodservice customers to improve their products and packaging. They
used this engagement with their foodservice buyers to interact with consumers, which had led to new products. Like EW-A, they valued interacting with the consumers of their products and saw this as the most important part of their business.

*Travelling to meet with customers is absolutely paramount...if you don’t get on an aeroplane and go over there and talk to people who are eating your food you’re an idiot* (EW-C).

### 6.3 Production-oriented wild capture quadrant

The production-oriented wild capture quadrant is occupied by SMEs that engaged in only a few value chain activities. They focused their activities on harvesting inshore and pelagic fish, although some targeted small amounts of deep sea species. They operated inshore fishing vessels to fish their own and/or leased quota, but contracted harvesting out. They undertook limited processing, but not final market processing. Usually they sold their catch to large fisheries companies or intermediaries, but also through a fish market. If the SME was licenced as an official fish receiver, its catch might be sold direct to local seafood shops. They also relied on the large fisheries companies for additional quota, provisions, access to infrastructure including ice, bait, discount fuel, logistics and wharf space. In other words, the SMEs relied on large fisheries companies for access to quota, infrastructure, and supplies, and these large companies were also their most important customers. A characteristic of the SMEs was that they often changed buyers and suppliers, because they responded quickly to shifts in price and cost. Thus, they did not make long-term commitments, and instead adopted a flexible approach to their business. SMEs in this quadrant were well established second generation family owned and managed businesses – there were no new entrants. They consider themselves to be successful, despite the challenges posed by their business models. Case FW-D is a good example of the SMEs in this quadrant.

#### 6.3.1 Production-oriented wild capture: Case FW-D

*Business development*

FW-D is a second generation family fishing business. It harvested finfish which were sold to intermediaries after limited processing. Since its founding the business has struggled to survive, going through relentless short cycles of growth, stagnation, and decline. Nonetheless, it has grown into a successful business. It was established over three decades ago, although the CEO’s involvement in the industry dates back several decades. Initially the business started as a distribution company that focused on exporting. It then expanded into processing, fishing and finally quota ownership. Over time the company expanded its quota holdings and processing capacity to cope with the increased catches. It sold some of its products to local distributors, but most was sold to overseas distributors. Some years ago the company contracted out its fishing and focused on processing for itself as well for other fishing
companies. It produced traditional seafood products, which included headed and gutted, and filleted, but frozen whole fish was its main product.

*A lot of our business is actually processing fish as whole fish because in our view the type of fish that we’ve got lends itself to this. We get a better return by selling it whole, skin on, scales on, head on, guts in, everything. That gives us a better return than actually processing it into a skinless, boneless fillet (FW-D).*

FW-D’s top management team was overseen by a board of directors, including independent directors. The CEO felt it was important to have outside directors, especially for governance, setting the direction of the business, and for independent advice. This did not prevent mistakes being made, however. The company bought a fishing vessel and spent a considerable amount of money overhauling it, but after putting it into operation, it turned out to be unprofitable. Consequently, the business became financially stressed and the CEO was forced to make some hard decisions. The CEO puts the vessel disaster down to the nature of the business and the uncertainty of fishing. On more than one occasion the directors had suggested he exit the business, but the CEO was optimistic about its potential.

*More than once the independent directors said if I took my money out, exited the business and just put my money in the bank I’d be better off. But, I think there’s still opportunities (FW-D).*

**Strategy**

Restructuring followed, which saw the company sell off some of its assets to reduce debt. The CEO looked to turn the business into a virtual marketing company as this would significantly reduce costs. All fishing and processing was to be contracted out and the company would focus only on marketing. That option became unattractive following the 2011-2012 Ministerial Inquiry and the government’s announcement requiring all foreign charter fishing vessels to be reflagged to New Zealand from 2016. He also considered a foreign joint venture, but with the decline of local infrastructure he did not see that working. Infrastructure had been undermined by increasing costs and a lack of investment. Thus, FW-D was left with only one option, to contract out its fishing to small independent fishermen on the proviso they caught all species – high-value and low-value. While the fishermen agreed, in reality they only caught the high-value species and not the low-value fish, such as barracuda and other less preferred fish. The latter were important for their processing plant, however and provided an important source of revenue. Consequently, the fisherman’s selectiveness had a negative impact on the company.

*They only went and caught the most expensive fish and all the other fish that’s important for our type of operation they just refused to catch. We’re not getting it caught, we’re not getting the turnover and therefore you’re not generating the profit we should have from that quota (FW-D).*

All things considered the CEO decided to continue processing in New Zealand, as this would provide an important advantage over those that processed overseas using a ‘twice frozen’ process. Processing

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21 2011-2012, Ministerial Inquiry into the use and operation of Foreign Charter Vessels.
systems were improved to efficiently turn high-value species into quality frozen products. Fish were only ‘once frozen’ with product washed in an antioxidant and then individually packaged whole to present better. They preferred to sell the whole fish, however; if they gille, gutted and processed according to what some overseas customers wanted they would have earned marginally more revenue, but the cost was greater than the additional revenue. Costs and margin pressure were major on-going issues for the business. After paying quota, vessel, processing, and labour costs as well as commissions, it was very challenging to make a good return.

If you want to catch snapper you’ve got to pay $5-5.25 per kg to lease quota. Add to that ice, bait, fuel, wages it’s horrendous and if you’re selling it in the fish market it goes for about $6.50. Then you pay the fish market a 10 percent commission off that, so there’s nothing left (FW-D).

The price of quota was a particular challenge to FW-D’s activities. As the company could not always afford the high price of quota for preferred species, they decided to buy quota for less preferred species, as it was readily available and low priced, and they could potentially grow the value. They also looked for new fishery stocks, but this had not been without its challenges. When a new fishery was developed, any increase or allocation of new quota was often first offered to existing quota holders and not necessarily to those that developed the fishery. By chance FW-D did find a new fishery, and after informing the then Ministry of Fisheries, quota was only offered to existing holders. Following a judicial review of the Ministry’s decision, however, the CEO received quota and started to fish the fishery.

We found [name withheld], no-one had ever caught it. It never existed and that caused a problem for the Ministry. Suddenly there’s this company that has all the catch history. We went to court to preserve our rights, because they were going to allocate quota to everybody else and we weren’t going to get a slice of anything (FW-D).

The large fisheries companies were in a preferred position to take up quota increases, because of their already substantial holdings. Financially, they are also in strong position to acquire quota for new species introduced into the QMS. Smaller operators often approached them to lease quota to cover their catches, particularly for by-catch and when they caught more than their entitlement. But FW-D had often been refused quota from the large companies and consequently was forced them to pay high deemed value\textsuperscript{22} rates. The CEO was of the opinion that this was anti-competitive, with some large players using their dominant quota ownership to control the industry. For example, one large quota owner was approached for quota of a particular species that was not being fished, but FW-D’s offer to lease the quota was refused.

\textsuperscript{22} Fishermen must pay deemed value fees when their catch is not covered by quota. Deemed value fees are set to discourage overfishing, but encourage the landing and reporting of catches not covered by quota. These fees can be up to three times the port prices. Many interviewees confessed that rather than land catches that are subject to punitive deemed value penalties, fish were instead illegally dumped.
The big boys are sitting there waiting to drive everybody out of the business, pick up the pieces where they control it, and then there’s only two or three people left in the industry and then they go ballistic on everything. You could run a business from what [name withheld] actually leaves in the water (FW-D).

The CEO was pursuing an opportunity to differently harvest one species that was not being caught. There was insufficient capacity to catch the species, which left a significant quantity uncaught. The limiting factor was the regulations which specified how it was to be harvested. The CEO approached the quota owners to gain their support to lobby government for a change in harvesting method, but one large quota owner had not supported it. The only way forward was to demonstrate that a different method worked and then lobby government for a change to the regulations. The CEO was determined to see the project through in spite of the odds against him.

This project is in year three. No one wanted to put any capital up so we used our boat, we spent $400,000 converting the boat to go from a trawler to purse seiner and from one shareholder we borrowed nets. I can’t give up and just have to keep going (FW-D).

Comments about FW-E and FW-F

FW-E and FW-F were also second generation marine-based businesses and quota owners. FW-E primarily caught pelagic species, which was sold on its behalf by large fisheries companies. It had also operated, for a short time, an export processing factory, producing final market products in order to capture more value. However, the plant was closed following ‘compliance issues’ and a lack of capital. FW-F operated similarly to FW-D. It focused on harvesting inshore mixed species and also sold most of its semi-processed catch to large fisheries companies. A small part of its catch was sold through a fish market or to a local fish shop. Both SMEs had faced many of the same challenges as FW-D and also struggled in the face of static catches, rising costs and stagnant wharf prices. Both had also been refused quota to cover their catches by large quota owners. Their CEOs were of the view that many small operators like themselves were financially stressed, but officials were blind to it. They had tried unsuccessfully to involve younger members of their families in their businesses. Once they retired their businesses would in all likelihood close, unless the operating environment radically improved. Like FW-D, they saw huge potential for the industry, but unlike FW-D they faced the prospect of not being part of realising that potential. Overall it appeared that, along with FW-D, they did not have a clear business strategy. Rather, they reacted to their environment over which they had little if any control.

The issue with the industry now is it’s collapsing at the primary production end. Policy makers are not in touch with the realities of the economics at the coalface (FW-E).

6.4 Comments on the wild capture sector

The wild capture sector was dominated by a few large companies, whose activities spanned the inshore, pelagic and deep sea sectors. Together they owned or controlled much of the quota. For production-
oriented SMEs these large companies were their most important customers and they also relied on them for quota, provisions and market access. Additionally, these large companies operated and controlled much of the infrastructure, including wharf space and the cool chain. Hence the activities of all SMEs were directly influenced by them. A key theme that emerged from the case interviews (market-oriented and production-oriented) was the dominance of the large companies and anti-competitive behaviours of a few – particularly one - which had a strong influence on how the SMEs reacted and behaved.

*If you don’t have all of your own quota, you are at the mercy of the large companies. Smaller companies are swamped by the monopolistic culture of the larger companies (FW-E).*

This factor coupled with an allegedly inflexible, bureaucratic and closed QMS, and out-of-touch officials were described by the CEOs as interconnected, and as constraining and holding the industry back. In their view the QMS was a significant barrier that prevented new people with fresh ideas from coming into the industry. Quota could not be easily purchased and without it one could not easily enter the industry. The CEOs were highly critical of fisheries officials, who in their view did not understand the industry, and particularly the unique challenges small businesses faced. Little investment was flowing into the sector and small operators were being side-lined in favour of the large companies. Production-oriented CEOs emphasised that the large companies were unfairly shifting cost onto them and keeping port prices unreasonably low, despite rising retail prices. This had driven others out of business. All worried about the decline in infrastructure, the poor state of their old vessels which they could not afford to maintain, the difficulty in attracting staff due to low wages, and a lack of new blood coming into the sector. They described their lot as a ‘vicious battle’ against rising costs and diminishing returns.

*Total mess, dog eat dog, with inshore on a hiding to nothing. It’s about who can catch for the least cost, a race to the bottom, because better I catch it than someone else. It needs to be dragged into the 21st Century (EW-A).*

Those in the market-oriented quadrant were attempting to do things differently. They deliberately engaged in fringe land-based activities to minimise the influence of the large companies, but they struggled to obtain the raw material they needed for their products. As Table 6-2 highlights there were notable differences in the business development and strategies of market-oriented and production-oriented SMEs, respectively. Market-oriented CEOs formed their business out of necessity to exploit a market opportunity and to move away from being cost-driven. Their strategy was to capture high returns by closely engaging with customers and delivering what they wanted. In contrast, SMEs in the production-oriented quadrant were intergenerational businesses with more implicit strategies of responding to their environment over which they had little control, by maximising production and minimising costs.
Table 6-2: Wild capture business development and strategy

<table>
<thead>
<tr>
<th>Wild capture business development and strategy</th>
<th>Business Development</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-oriented SMEs</td>
<td>Land-based. Business formed to exploit a market opportunity and break away from being cost-driven.</td>
<td>To capture high returns by working closely with retailers to understand exactly what they and their consumers wanted, and then to deliver it.</td>
</tr>
<tr>
<td>Production-oriented SMEs</td>
<td>Marine-based. Continuation of family fisheries business.</td>
<td>To effectively respond to the environment by maximising production and minimising costs.</td>
</tr>
</tbody>
</table>

6.5 **Market-oriented aquaculture quadrant**

The market-oriented aquaculture quadrant was occupied by SMEs engaged in multiple value chain activities. Their activities included farming, harvesting, processing, marketing, and ultimately, supply and possibly the running of restaurants and retail shops. They focused on turning raw material into final market niche products that discerning consumers wanted. Product was primarily sold to foodservice establishments, domestically and internationally, and at the farm-gate. A characteristic of these SMEs was that they were always on the lookout for new products and market opportunities. Understanding what consumers wanted drove their activities and meeting those demands underpinned the capturing of value. Put another way, market-oriented aquaculture SMEs were involved in a wide range of value chain segments, from farming and harvesting through to cooking their products for the consumers themselves. The quadrant contained older, established businesses, as well as a recent entrant. The SMEs were owned by unrelated individuals who came together from outside the industry to exploit a market opportunity, but family members of some founders also had a stake in the businesses. These businesses were governed and managed by people with little prior industry experience. The businesses were successful, but they lacked scale and expansion was challenging due to the high-levels of capital required. Consequently, constrained by capital, they were far from reaching their full potential, despite being growth oriented. Case EA-G is a good example of this.

6.5.1 **Market-oriented aquaculture: Case EA-G**

**Business development**

Founded in the 1990s, EA-G farmed premium grade fish that was primarily sold to the foodservice sector, after it was processed into a final market product. Its early years were characterised by a lack of capital, steep learning curve, experimental problem solving, learning from mistakes and a lack of marketing capabilities. Not long after the business was established its farm was destroyed by a flood. It managed
to rebuild and relocate to a better area that had better water, and improved access for farm-gate sales. It became a tourist attraction, and farm gate sales became a major source of revenue. The business then expanded its domestic sales and started to export. By the late 1990s it struggled to keep up with demand. Excess demand continued for some years and a defining point came in the late 2000s. The company’s marketing manager visited an exclusive Middle Eastern hotel, where he met the Executive Chef, who inspected a thawed seafood sample and then tasted it. The chef was convinced it had arrived fresh, but when told it had been transported frozen he was very surprised. He had tasted nothing like it.

_He couldn’t tell the difference between fresh and frozen. The product sold itself because you just put it in people’s mouths and the people who know the difference, know how good it is_ (EA-G).

The hotel ordered a large quantity and sought regular monthly shipments, but at that time monthly production amounted to less than half of the order. The company was also turning away other orders. Fortunately the company had consent to increase the size of its farm. It needed to take advantage of this unused capacity, but expansion required a significant investment and the capital was not available. This was the catalyst for the sale of the business to new owners who saw the hotel order as the start of something big. The new CEO described himself as seeing big opportunities in small places, which was why he and others bought the company. The middle of the Global Financial Crisis was the worst time to raise capital from banks. Instead the CEO turned to friends, family and ‘other fools’ who between them funded the expansion of the business. The CEO in his former role as a market development specialist was often frustrated when business owners shelved recommendations on how to grow their businesses because they were unable to implement them. Despite knowing almost nothing about aquaculture, the CEO saw the potential and was determined to follow his own advice. Many people he consulted were sceptical because they saw it as ‘a bad industry’, but he did not because he did not know any better.

With expansion underway he also looked at other sites to further add to production.

_It’s such a common story in New Zealand—we’d see all these great ideas and ask, ‘what’s stopping you?’ Capital and courage? Well, that’s easy to fix. I can raise the capital and I have the courage_ (EA-G).

**Strategy**

The CEO took a very different approach to the business from established industry practices. His strategy was to capture high-margins by engaging directly with key influencers and buyers, and convince them of the exclusivity of the product, which was of the highest quality, money could buy. This engagement would also provide him with informed market views to further improve the product and help develop new ones. To this end he embarked on improving the business’s marketing capabilities and particularly the market acceptability of the product. A top Japan–trained chef – ‘the missing link’ – was headhunted. Initially the chef, a 25 year veteran, rejected the idea, but after tasting the product he changed his mind. His involvement brought unique capabilities, fresh ideas and credibility to the business, which was
needed to market to top chefs. This was successful and the business adopted a similar approach to hiring other personnel. They avoided people with industry experience, because they did not want people constrained with preconceived ideas about what they should, or should not do. The CEO particularly chose not to employ industry experienced sales reps, because in his opinion they only knew how to sell low-cost commodities by the container. Nor did he see the need for industry reinforcement and was opposed to doing things the ‘traditional’ industry way. The CEO was determined to learn from scratch, and if mistakes were made they were his alone, but he would learn from them. This became a key policy, as he did not want deep-seated bad practices coming into the business from the industry.

*I deliberately made sure our sales and marketing force had no industry experience...one of the key things is we haven’t got any entrenched views and any bad habits from the industry* (EA-G).

However, EA-G did turn to other primary industries for knowledge and advice, in particular the pip-fruit industry which they considered did an excellent job of packaging and presenting product. They adopted the apple sector’s approach to packaging. Instead of completely filling up the carton, a maximum of five units were packed into each carton to eliminate damage during transportation. Products were packaged standing up to prevent crushing and bruising. In addition, a protective branded bin liner, embossed with the product’s logo in gold was used. After the products were enclosed with the bin liner, it was carefully stuck down with an individual branded label to further demonstrate that the product had been treated with great care and attention. This enhanced the delivering of value. The crucial element for the packaging and presentation system was the brand, which the business promoted as the ‘industry standard’. This packaging system led to customers extolling the virtues of the product. They told their own patrons that the product was of the highest quality money could buy.

*We package our fish and present it as if we care for it...when a chef unwraps the poly bin, it is wrapped like a Japanese present. We value our fish all the way from the farm through to the end consumer’s table* (EA-G).

Even with a quality packaged product the business faced a number of barriers it had to overcome to be truly successful. Five key barriers stood in their way: the small size of the product that on average was a quarter of the size of competitor’s product; perceptions that freshwater product had less colour and taste compared to marine-raised product; perceptions about the lower quality of frozen product compared to fresh; perceptions that New Zealand was not a producer of premium farmed seafood; and the company’s lack of industry experience. EA-G was also concerned about maintaining the quality of the product throughout the value chain from farm to the customer. They also had to find a way to mitigate the seasonal nature of the business. However, on the positive side they had five important advantages; the farm, its location, the water, environmental conditions and the product. The cold highly oxygen-saturated water gave the product some unique characteristics. It had very firm flesh and there was almost no degradation when frozen and thawed correctly. As the CEO had found in the Middle East,
it was indistinguishable from fresh chilled product. It also had less marbling, lower fat and less-odour when cooked. This made it particularly suitable for Japanese cuisine, such as sushi or sashimi. Also, when smoked the firm flesh gave it a better appearance compared to competitor’s products.

*It’s one thing to have a great product, yet another to sell it...we decided that all the things that were negative about this product would be part of its success and we wanted to leapfrog the mainstream and go straight to the top (EA-G).*

Ultimately, EA-G’s product became a very popular premium product due to its texture and taste, which was put down to the pristine environment, high altitude, and cold fast flowing alpine water. These factors contributed to the product being likened to wild product. While some product was sold at the farm gate, most was destined for high end foodservice clients. The business supplied a number of top Californian restaurants, including the French Laundry, twice named the world’s best restaurant. In Japan, the product enjoyed the honour of being served in the Imperial Palace. From small beginnings the business had gained a reputation of being a top producer and thus unsurprisingly had presold its production – two years in advance. The business was undertaking significant expansion, which when complete, would increase production 14-fold within five years. However, despite the ambitious growth agenda, capital constraints continued to hinder development.

**Comments about EA-H and EA-I**

EA-H and EA-I were also founded in the 1990s. They were well-established businesses and while successful they also struggled to expand due to the high cost of development and limited capital. Family members were also investors, who along with unrelated investors undertook specific roles within these businesses. Like EA-G they undertook land-based operations and were also isolated from the wider industry. Their strategy was also focused on capturing high margins by emphasising the high quality and uniqueness of their products. Engagement and feedback from buyers and consumers underpinned this. EA-H however, complemented its own production with carefully selected raw material from a marine-based producer, which it processed into a range of final consumer products, including ready-to-eat products. BA-I was most similar to EA-G insofar as it also farmed, harvested, processed, and marketed finished products, but there was a distinct difference. Its entire production was sold through its own restaurant, delicatessen, and souvenir shop. The company cooked its produce into a wide variety of products and produced a range of related souvenirs. Tourists, particularly international tourists, were important customers. Both CEOs case saw huge possibilities for their businesses, but along with EA-G were of the view that officials grossly underestimated the potential of land-based businesses.

*Primarily growth is restricted by ignorance and historical perceptions that marine-based is the best path because of its low capital cost entry point. Land-based is a tiny part of the existing aquaculture production, but holds the greatest potential for strategic growth (EA-I).*
6.6 Production-oriented aquaculture quadrant

The production-oriented aquaculture quadrant is occupied by SMEs that engaged in few activities – principally shellfish farming, harvesting, primary processing and occasional marketing. Products when mature were essentially market ready once harvested and cleaned. They were mostly sold in large quantities to large intermediary buyers, but some of the production was sold to retailers or at the farm-gate. These businesses focused on scale production, which required very high-levels of investment, and compared to wild capture businesses, were labour intensive with high operating overheads. Aquaculture farming can be risky due to environmental factors, which in the main was beyond the control of the businesses. For example, since 2010 a herpes virus devastated many oyster farms, resulting in a production decrease of over 50 percent. In sum, the businesses in this quadrant undertook farming and harvesting, and possibly some basic primary processing, but not final market processing. They were well established, first generation family-owned businesses, but may have had unrelated investors. The founders originally moved from the wild capture sector to start these businesses. There were no new entrants. Despite the high investment costs these businesses were successful. Moreover, as government was committed to supporting the sector’s growth, the future outlook was very positive. Case FA-J is representative of the SME cases within this quadrant.

6.6.1 Production-oriented aquaculture: Case FA-J

Business development

FA-J was formed in the 1980s. It farmed shellfish, which after harvesting was sold primarily to intermediary buyers. The founder and CEO was originally a commercial fisherman, who moved into aquaculture looking for better returns. When the government issued aquaculture licences for marine-based farming he applied without knowing much about the business. He saw it as just a business – a means to an end – although he knew there was a large demand for shellfish in Auckland. He was given an area to experiment with and started with one line to grow shellfish on. He manually harvested the crop, which was lifted by hand into a dinghy and taken to shore where it was graded, cleaned and bagged into sugar sacks. It was then loaded onto a truck for transport to Auckland where it was sold to retailers. Being a labour intensive operation, it was hard work and a steep learning curve, full of uncertainty. The CEO had little knowledge about shellfish and had not previously sold to retailers. The first sales went smoothly, however, and the founder could see the potential of the business.

*We didn’t know a hell of a lot about it really, but we felt if we got started the majority of the product would be sold locally and the biggest market is Auckland so that gave us the opportunity to start (FA-J).*
The farm grew rapidly and production peaked after a few years. With family money additional farms were bought and production gradually increased until the early 2000s, when it once again peaked. In the early years all production was easily taken by a few large retailers. Consequently, the CEO did not give much thought to marketing or market development. After becoming more confident he ventured out and sold some product to a processor, and through a produce market. Then he bought a small factory and undertook final market processing by opening the shellfish, marinating and cooking it. This product was then sold from the factory, but it was a small operation and did not attract much custom, and some years later the factory was sold. By then the bulk of FA-J’s produce was sold in its raw state to a large processor, who in turn sold the product frozen overseas. The CEO did not see the need to export and had not given any thought to developing export markets. In the 1990s FA-J commenced supplying live shellfish to its processor, who resold it to the U.S. The volume initially was very good, but soon stagnated and had not increased since. The CEO was curious about why demand had levelled off, and asked a processor who he had a good relationship with, but did not get a clear answer.

They were going into the States, LA and through to New York, and that was six ton a week, and that hasn’t changed to this day. It hasn’t changed one percent. We have no idea why, it’s never increased. It started off with a bang, there was suddenly a six ton market and then that was it (FA-J).

The biggest challenge to developing and maintaining the business had been complying with the Resource Management Act (RMA). The CEO remarked that compliance was costly, complex, bureaucratic, and full of uncertainty and frustration, particularly when it came to applying for new consents and renewing farm permits. There was no guarantee that a permit would be renewed and even if it was, the permit period was relatively short. The CEO was of the view that there should be a straightforward right of renewal providing all terms and conditions of the previous permit had been met. This would provide greater certainty for the business and facilitate investment decisions.

I’m just getting a permit renewed, it goes to 2025 and we have no guarantee that we will get it renewed again and so we’ve been saying to the government for years how can you ask us to develop and plan and at the end of the day it can be taken away (FA-J).

The RMA had also opened up the sector to ‘speculators’ who had ‘locked up water space’, which was hindering development. Speculators bought up water space and then either sat on it waiting for the price to increase, or developed it themselves and then sold it off for an inflated price. They were attempting to sell off water space for around $150,000 a hectare and as farms were in 10 hectare blocks, $1.5million was required just to access the water. And, even if one had the water space the high cost of developing a farm was beyond the means of many. The cost of the 20 long lines for one farm alone was about $500,000, and to that at least one harvesting barge at a cost of around $2 million must be added. In addition, there were the consent and compliance costs, and the cost of reaching agreement with any
potentially affected wild capture quota holders who could effectively frustrate a proposed farm. Such an agreement could include compensation.

*Speculators sit in the background watching and waiting to ride other developments, simply to make a killing. It’s not about creating something (FA-J).*

**Strategy**

Nonetheless, the CEO was optimistic about the future, because of growing demand for quality aquaculture products and government’s commitment to supporting the sector. Also, his processing buyer had told him that there was a shortage of supply and he was unable to fill all orders. But the CEO was faced with a dilemma. On the one hand, expanding the farm would take time and was very costly. On the other hand he did not want to reward speculators. Additionally, he had become uneasy with the processor, who had employed a new manager, who had taken a different approach to their relationship, which had become strained. Information about processing, transport costs and markets was no longer shared. The CEO thought that this would make the business vulnerable, and he did not want to be captive to the processor.

*We used to get on really well with our processor. He would open up and give us a fairly good indication of what it cost to process a kilo of product, but now it’s closed. It’s all secret now (FA-J).*

This resulted in FA-J’s management formulating a new business strategy, which was crucial for their future. They were of the view that at some point there would an oversupply of product as new farms came on stream, and this could lead to a reduction in prices. They based their strategy on the efficient production and processing of quality products for export through scale production. To achieve this they decided to first build their own processing plant. It would process their harvest, as well as the harvest of others. Additionally, management had become uneasy about the single largest company in the sector and were worried about how vulnerable they were. But once the new factory was commissioned, they would look at increasing the farm and together with the new plant; this would place the business on a more secure footing. Ultimately, they were looking to acquire marketing capabilities and develop their own markets. Together these steps would counter their vulnerability.

*We’ve not comfortable about the future and it’s not something that’s a new feeling…it’s been going on for years. We can see we’re going to get shafted at this end...our processor is saying ‘no, no nonsense, we would never do that to you!’ We need to vertically integrate – grow and process and then sell – we don’t want to be just growers because we’re too vulnerable (FA-J).*

Large companies in particular influenced the price FA-J received for its products. They had lost a major customer after a large company undercut their price. While quality was important, price was the deciding factor, as FA-J found to its detriment. At one stage they received up to $1,300 a tonne for one type of shellfish and thought they were making good money, because prices were about $1,000 a tonne when they first started the business. However, since the business started farm-gate prices had declined
overall for one type of shellfish, and increased slightly for another. The CEO attributed the decline in prices to undercutting by the large companies in export markets, which impacted on domestic prices. And, while the farm-gate price had declined during the past 30 years, the export price had increased.

*Why prices haven’t gone up, it’s all reflective on the export market and the infighting between the big companies for market share* (FA-J).

Despite the challenges FA-J was a successful business. The CEO was confident about the future, and ultimately hoped that the sector could unify under a common umbrella for mutual benefit. Whilst the sector had an industry organisation, the CEO was of the view that as it was dominated by the large companies, it did not necessarily reflect the interests of small businesses.

*Comments about FA-K and FA-L*

FA-K and FA-L undertook similar activities to FA-J. Both were also well-established first generation family businesses, which farmed and harvested shellfish. They also primarily sold their products to intermediary buyers. FA-L’s activities were most similar to those of FA-J, but FA-K had its own processing plant and undertook some marketing activities. Like FA-J they had faced similar challenges, particularly in respect to expanding their businesses. Both had become frustrated with the RMA, rising costs and stagnant or declining farm-gate prices. Their CEOs were aware of the power of the largest companies and their influence on price. Both had also lost customers through the undercutting of prices. At one stage prices went so low that both businesses were on the verge of closing, but finally prices increased slightly. Overall, their strategies were similar to FA-J’s in that they sought to maximise production and efficiently produce quality products. Ultimately, they also wanted to scale up their businesses and undertake more advanced processing to overcome their vulnerability. FA-K wanted to grow on its own, but FA-L saw the best opportunities coming from collaborative activities. Both CEOs saw huge potential for the sector, but unlike FA-J they did not see it occurring anytime soon.

*We knew the big companies were out there to get rid of all the small ones. That was the plan. That was the strategy of [name withheld], to get rid of the smaller players and they’d have the whole thing to themselves* (FA-L).

6.7 Comments on aquaculture sector

Two key themes emerged from the case interviews. The first was the tension between marine-based aquaculture businesses and the wild capture sector. As wild capture quota holders had an interest in all marine water space, they could frustrate a marine-based venture if an 'Undue Adverse Effect' (UAE)23 was suspected, unless an agreement was reached. In negotiating such an agreement quota holders could make ‘unreasonable’ demands. Interviewees were of the opinion that quota holders or companies

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23 If a UAE is suspected a test is undertaken to determine whether a marine-based aquaculture activity restricts access to or displaces fishing.
that controlled sizeable quantities of quota could block a venture and then use their RMA application information to lodge their own application for the same water space. In other words the objector could subsequently become the applicant, at the expense of the original applicant.

*The process is skewed so far in favour of incumbent quota holders who have stitched up the use of all the marine space. They can veto any new activity if it reduces their marine space. It’s a complete nightmare if they veto. You can’t fight that; they will bankrupt you before the legal process has run its course (FA-J).*

A second major theme was the dominance of the single largest company and the undercutting of prices by the large companies, which influenced how SME cases reacted and behaved. SMEs in the production-oriented quadrant complained about the deterioration of farm-gate prices, which for one species in nominal terms, had gone below prices 30 years before. This had made investment uncertain and risky, and made it difficult for these SMEs to attract skilled staff, because they could only offer low wages. These businesses battled rising costs, pricing pressures and on-going tensions between themselves and the large companies. These issues, coupled with an onerous RMA and a lack of understanding by officials of the realities they faced, were described by the CEOs as interconnected, and together held the sector back. The RMA made expansion very challenging due to the cost and complexity of compliance. While government had undertaken reforms, there was anxiety about how in practice they would work.

*We all talk, but hate each other. New Zealand could produce enough seafood for the world, but the potential gets killed because of the bureaucracy and the big companies (EA-H).*

SMEs in the market-oriented quadrant, on the other hand, undertook land-based activities to mitigate the influence of quota holders and the large marine-based companies. This resulted in marked differences in the business development and strategies of the SME cases (see Table 6-3). All SMEs in the market-oriented quadrant formed their businesses to exploit market opportunities. Their strategy was to capture high-margin by closely engaging with their buyers and emphasise the high quality and exclusivity of their seafood products. They undertook land-based activities to produce final market products and primarily targeted consumer markets. In contrast, SMEs in the production-oriented quadrant were family businesses and their founders had originally moved from the wild capture sector seeking better returns. Their strategy was to compete through scale production and efficiently produce quality products, which they mostly sold to intermediary buyers.
### Table 6-3: Aquaculture business development and strategy

<table>
<thead>
<tr>
<th>Aquaculture business development and strategy</th>
<th>Business Development</th>
<th>Strategy</th>
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<tbody>
<tr>
<td>Business Development</td>
<td>Strategy</td>
<td></td>
</tr>
<tr>
<td>Market-oriented SMEs</td>
<td>Land-based. Business formed to exploit market opportunities.</td>
<td>To capture high-margin by engaging with key buyers to emphasise the high quality and exclusivity of products.</td>
</tr>
<tr>
<td>Production-oriented SMEs</td>
<td>Marine-based. Moved from wild capture into aquaculture seeking better returns.</td>
<td>To maximise production through scale and efficiently produce quality products.</td>
</tr>
</tbody>
</table>

### 6.8 Concluding comments

This chapter has provided a mainly descriptive account of the four quadrants, the types of businesses found within them and a representative case from each quadrant. Comments were also made about each activity group – wild capture fisheries and aquaculture. Two distinct groups of businesses were identified in each of the industry activity groups; those that engaged in multiple value chain activities (market-oriented SMEs), and those that engaged in few value chain activities (production-oriented SMEs). This chapter found that there were differences within the quadrants and differences between them. Table 6-4 provides a summary of the four quadrants and highlights the main similarities and differences.

Across the wild capture and aquaculture quadrants the SME cases developed their businesses differently, but followed two broad business strategies. Market-oriented wild capture and aquaculture SMEs undertook land-based activities that focused on the production of a limited range of final market products for foodservice buyers and consumers. They responded to market opportunities with process, product and service upgrading to produce improved or new products and services and concentrated on maximising margin as opposed to scale. Overall, SMEs in the market-oriented quadrants responded to their environment, and more importantly to markets, by establishing niche businesses on the fringes of the wider industry, which did not directly compete with the large companies. In contrast, production-oriented SMEs undertook marine-based activities that focused on the efficient production of bulk intermediary products. They produced a narrow range of products for intermediary buyers with prices influenced by large dominant companies. They tended to direct their activities at process upgrading to improve the scale of their production and generally did not undertake activities that were outside their main value chain segments. Production-oriented SMEs were particularly cost focused and driven to make other efficiency improvements. Overall, they maintained small niches within the wider seafood industry by reacting to their challenging environment.
This first look at the cases suggests limited within-quadrant variation and significant across-quadrant variation. In particular, the value chain activities and markets of SMEs in the production-oriented quadrants were very similar. SMEs within the market-oriented quadrants also undertook similar value chain activities, but targeted different markets. Between the market-oriented and production-oriented quadrants there were some large and systematic differences in terms of their value chain activities and markets. The case interviews also highlighted differences in their business models, which will be examined in the next chapter.

One final observation seems appropriate, however. Entrepreneurial CEOs appear to have deliberately created or selected market-oriented businesses and sought diversification, whereas production-oriented CEOs were largely a product of their history – pre-1986 QMS. They were more or less resigned that this was their lot. Those that were entrepreneurial had left to pursue opportunities elsewhere. Hence, the different quadrants appear to attract or retain different people – entrepreneurial individuals to market-oriented businesses and non-entrepreneurial individuals to production-oriented businesses. This may explain the limited variation within quadrants, particularly within the production-oriented quadrants. Moreover, the seafood industry has a unique, challenging production dynamic. Environmental conditions have a significant impact on harvesting, and seafood is delicate and highly perishable. From the instant it is harvested, value rapidly decays. Of critical importance to fisheries value chains is value-preserving activities, rather than value-adding per se. Land-based producers do not face this dynamic. The forces of nature are different, and it is unlikely they would follow a cost minimisation commodity strategy that in almost every respect is very similar across all businesses. Limited variation seems to be a characteristic of the industry. It is dominated by a few very large businesses that to a large extent control the activities of smaller businesses, with the exception of some land-based businesses.

\footnote{Quota management system}
<table>
<thead>
<tr>
<th>Wild capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background</strong></td>
<td>Older established SMEs and one recent entrant. Generally owned by unrelated individuals and may have family investors.</td>
</tr>
<tr>
<td><strong>Business development</strong></td>
<td>Land-based activities. Formed to exploit market opportunities.</td>
</tr>
<tr>
<td><strong>Competitive environment</strong></td>
<td>Constrained by QMS. Isolated from wider marine-based industry. Few if any domestic competitors.</td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
<td>To capture high-margin by engaging with key foodservice buyers to emphasise the high quality and exclusivity of products.</td>
</tr>
<tr>
<td><strong>Main activities</strong></td>
<td>Focused on turning raw material into premium-value final market products for foodservice customers.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Production-oriented SMEs</th>
<th>Wild capture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background</strong></td>
<td>Second generation family businesses, no young or new entrants.</td>
</tr>
<tr>
<td><strong>Business development</strong></td>
<td>Marine-based activities. Continuation from previous generation</td>
</tr>
<tr>
<td><strong>Competitive environment</strong></td>
<td>Constrained by QMS. Dominated by large companies and anti-competitive behaviours of a few influenced SME’s activities – high costs, low wharf prices.</td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
<td>To effectively respond to the environment by maximising production and minimising costs.</td>
</tr>
<tr>
<td><strong>Main activities</strong></td>
<td>Harvested inshore or pelagic fisheries and undertook limited processing. Primarily sold whole fish to intermediary buyers.</td>
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<thead>
<tr>
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<th>Aquaculture</th>
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</tr>
<tr>
<td><strong>Competitive environment</strong></td>
<td>Constrained by QMS. Operated at the fringes of the wild capture sector to minimise the influence of the large dominant companies. Few direct domestic competitors.</td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
<td>To capture high returns by engaging with foodservice buyers to understand exactly what they and their customers wanted, and then to deliver it.</td>
</tr>
<tr>
<td><strong>Main activities</strong></td>
<td>Focused on turning fisheries raw material into high-value final market products for foodservice sector.</td>
</tr>
</tbody>
</table>
Chapter 7: Creating, delivering, and capturing value

7.1 Introduction

The previous chapter outlined the four quadrants, the types of SMEs within them, and provided a largely descriptive summary of a representative case from each of the quadrants. This chapter presents analysis of how the SMEs created, delivered and captured value from their activities. The analysis is derived empirically from the case interviews and secondary data, and applies to all 12 cases in the four quadrants. As mentioned in the previous chapter, five cases were not primarily formally included, but they inform the findings. Informed by the Penrose-Teece framework and literature seven strong themes emerged from the case interview and secondary data, which interviewees related to in describing their businesses and those of their competitors and the industry. These themes were used to compare the similarities and differences of the SMEs in the four quadrants. They are: business models, value chains, markets, organisation structures, culture, innovation and entrepreneurial management capabilities. Figure 7-1 presents a framework highlighting the main relationships conceptualised from the themes.

Figure 7-1: Key themes from case interview and secondary data

The framework guides the presentation of the analysis in this and the next two chapters. The starting point is business models, which underpinned the creation, delivering and capturing of value. Importantly, they defined value chain activities and market engagement and in turn shaped the organisation structures and cultures, which in turn significantly influenced innovation activities. Ultimately these were shaped and influenced by the CEOs themselves and their top management teams, as we shall see. This chapter begins by examining the SME cases’ business models, then their value chains, and finally their markets. This chapter also looks at the interactions between the CEOs, their
businesses, and how they are influenced by their environment. The chapter concludes with an overview of the similarities and differences between the wild capture and aquaculture quadrants in terms of how the SME cases created, delivered, and captured value.

7.2 Business models

7.2.1 Wild capture quadrants

*Market-oriented wild capture business models*

The business model of two market-oriented wild capture SMEs was based on the supply of low quantities of high quality, high-value marine-based final products to upmarket restaurants and hotels, and speciality stores. The other SME’s business model was similar, but it aimed to supply medium quantities of product to similar customers, as this would permit it to capture scale and margin. It was very important to all CEOs to employ business models that were different to those of mainstream seafood businesses – the supply of volume commodity products. Their model centred on developing and producing different products, so that they did not compete directly with mainstream businesses. All SMEs created value by producing high quality final consumer products. High quality product, coupled with the benefits of it coming from sustainable resources, was central to their respective value propositions. Marketing and distribution activities targeted customers who valued these qualities, which in turn justified the higher production costs to consumers. Although price sensitive, customers were prepared to pay more for high quality products from sustainable resources. Marketing and branding activities were key elements of the model and involved engaging directly with customers and consumers.

*We have to target high-value products and customers. We cannot compete using the low-value model and that’s what most are doing. Large quantities are dumped on the market and we can’t compete with that. We have to be different (EW-C).*

Closely interacting with customers and consumers was important to all CEOs. They looked at their business through the eyes of their customers and consumers, and had a clear understanding of what their customers wanted and valued, and how that value could be captured – sometimes by supplying entirely new products. This engagement also resulted in the SMEs quickly detecting shifts in consumer sentiment. One CEO stressed ‘what is popular today may not be very popular tomorrow’. For example, consumers had increasingly become concerned about fisheries sustainability and the environmental impact of certain harvesting practices. This had led to changes in consumer demand for some species. Thus, all CEOs were alert to changing trends. All SMEs had improved their value capturing by supplying species that had been caught using selective harvesting methods that enhanced resource sustainability, and the quality of the raw material. Put differently, they were sensitive to sustainability concerns, which
went hand in hand with the sustainability of their businesses. This had allowed them to capture high-levels of value from much lesser quantities of product relative to the mainstream businesses.

*I represent the lunatic fringe that says that the niche marketing of high-value products is the only way for New Zealand to go, as far as creating value is concerned. Most of our fish should be left in the water; they serve a far greater function in the water than they do out. There’s more value in maintaining the eco-system at high levels of sustainable productivity than making a few cents a kilogram by indiscriminately killing it off (EW-A).*

**Production-oriented wild capture business models**

The business model of all production-oriented wild capture SMEs was based on the supply of medium to high quantities of unprocessed or semi-processed marine-based fisheries products, primarily to intermediary commodity buyers. Two SMEs sold their products to processing, distribution, or marketing companies, but one of these also sold small quantities to a local fish shop. The other SME, which harvested pelagic species, used processing companies to sell the catch on its behalf through a fish market. All CEOs viewed their products as commodities, which were commonly undifferentiated from those of their competitors. While they were protected by the Quota Management System (QMS) from open competition, they competed on the availability of species, quality and price.

*We are not really subject to real competitive pressures at all. As we have a very secure supply base, which is protected by the QMS, it all comes down to the cost of getting the product and then a matter of selling it to the large companies. That’s the business (FW-E).*

Little if any value was created post-harvest, and as wharf prices had overall decreased during the past two decades, the business model was cost-driven. The key driver to capturing value was controlling catching costs, such as ice, bait, labour, wharf, maintenance and fishing gear. The value proposition involved a combination of minimising costs, coupled with the maximisation of catches and the utilisation of harvesting methods to efficiently target particular species, and to get the most from catches quality-wise. Where the SMEs had created new value it had primarily been driven from the acquisition of additional quota, discovery of new fishery biomasses or from buying other businesses.

*Returns to the vessels declined by about 50 percent during the past 20 years. To maintain cash flow we must catch more. But, every time we caught more we got less, so we have to catch more again to survive on less per kg. Few if any are investing in new vessels, no one carrying out proper maintenance, just wearing out old gear and old people on this model. Further up the line is where the money is and many are asking what can they do, and where is the end to this. The end is when we quit (FW-E).*

Rising costs were clearly a threat to this business model. One SME attempted to control and counter the effects of rising costs by contracting out its harvesting to independent fishers. But contractors also struggled with rising costs and only focused on targeting high-valued species, as low-valued species did not provide a good return. Thus this SME lost a small and important part of its revenue. This created an additional dilemma because quota costs continued to be incurred, even when species were not caught.
We moved to the model where we had the product contract caught. They went and caught the most expensive fish and all the other fish that’s important for our operation, the by-catch, and the cheap barracudas that helps round out our operation and where we can extract some value, not huge value, but some value, well, they just refused to catch it (FW-D).

All businesses created value from their primary processing. However, the nature of wild catching meant that value creation and delivery was a very uncertain activity and they had not always delivered what their customers wanted. Moreover, while they received some feedback about their products from customers, they had no influence on the final capturing of value. Indeed, their customers captured a much greater share of the final product value. Even though sustainability of fisheries and eco-labelling had become important issues for consumers, they had no effect on this model.

The only value added that we can do on the boat is pretty much the same for any other fish in the ocean. It’s about getting it into the ice slurry to drag the temperature down. We can’t increase the oil content, can’t increase the fat content, and can’t increase the size. If it comes up dead, then it’s almost worthless, but quickly cooling off the fish, that’s where it’s at. Doesn’t matter whether it’s tuna, snapper, or terakihi, we have to drag the temperature down as fast as possible for a longer shelf life. It’s the difference between getting a cheque or paying money (FW-F).

7.2.2 Aquaculture quadrants

Market-oriented aquaculture business models

The business model used by all market-oriented aquaculture SMEs was predicated on what consumers valued and how that value could be created and captured, at the right revenue level for an appropriate cost. Focal to the model was land-based operations. Two based their model on the supply of low to medium quantities of premium quality, premium value products to upmarket speciality shops, exclusive hotels, and boutique restaurants. The other SME had a similar model, but customers were consumers themselves. All SMEs also undertook farm-gate sales. Their value propositions were based on producing the highest quality branded consumer products from a natural but renewable resource. This justified the high production cost to consumers and their marketing activities specifically targeted customers who valued these qualities. Their customers, particularly those in overseas markets, were prepared to pay a premium for a regular supply of high quality products that had been sustainability grown in New Zealand’s pristine environment. Branding and marketing underpinned this. Another distinctive feature was the cooking of product to demonstrate how it should be prepared and presented to consumers. All SMEs worked closely with customers, not only to improve their products, but more importantly to develop new ones.

Our model is to sell it to good solid customers wanting premium grade, supplied at this time in this month, and in a way they value. We set the price at what a good solid customer is willing to pay to get a guaranteed supply of premium product (EA-I).
Interacting with customers and consumers gave all CEOs knowledge about what consumers’ wanted, and what they actually valued, and how that value could be delivered and captured. Value creation for them started at the farm and enhanced throughout their value chains until the product reached the consumer. At the core of their business model was maximising the capturing of value by demonstrating that products had been handled and treated with ‘great care and attention’. Packaging and presentation were crucial. One CEO explained this had resulted in top end consumers being convinced of the value that had been delivered to them, and hence paid a premium for it. Central to their value proposition was the high quality of product combined with a story about their renewable resource. As all SMEs were involved in the preparation and cooking of their products they not only delivered what their customers wanted, but also influenced their tastes and preferences with new products. Thus the business model was market-responsive, which was important for the capturing of premium value.

*Our philosophy which drives us is, to have someone else value something, we must first value it. Taking care and attention we package our fish and present it to them as if we cared for it. We value it and therefore they can value it. We valued our fish all the way from the farm all the way through to the end consumer’s table (EA-G).*

**Production-oriented aquaculture business models**

The business model for all production-oriented aquaculture SMEs was based on the supply of bulk quantities of quality unprocessed or semi-processed marine-farmed products, primarily to intermediary buyers. All SMEs primarily sold their products to large domestic processors, distributors or marketing companies. Two also sold small quantities of product to local seafood shops and one sold large quantities directly to supermarkets. Their value propositions were based on a consistent supply of quality products from a natural and renewable resource. Central to the model was the focus on farming and harvesting activities, although they undertook some primary processing, such as grading and cleaning. Almost no value was created post-harvest, however, because apart from cleaning the product it was essentially a finished product. All CEOs viewed their products as commodities, which were undifferentiated from those of their competitors. Primarily they competed on product availability, size, quality and price. Farm-gate prices were under constant pressure, and their customers captured a greater share of the final product value. They received some feedback from customers, but not from final customers and they had no influence on final market prices. While sustainability of seafood was of concern to consumers, they had not directly benefited from sustainability or eco-labelling initiatives.

*Most aquaculture businesses concentrate on rocks with gills – mussels and oysters. Can it live on plankton that I don’t have to grow, can I hang it in the tide for a period of time and have it feed, shit, and clean itself and then can I come back and sell it at some stage. That’s the sophistication of the aquaculture model (FA-K).*

Central to the business model was the combination of maximising production, efficient harvesting practices and minimising costs. The nature of marine-based farming meant that it was an uncertain
activity due to environmental factors. Even though they concentrated on maintaining and improving productivity, it was subject to the environment. Farm-gate prices had been largely stagnant or had declined over the life of these businesses, thus controlling costs was of critical importance. Two SMEs had countered the effects of stagnant prices and rising costs by increasing the size of their farms to increase scale. But, this had required significant capital, which one CEO had viewed as too risky. In an attempt to create and capture more value, two CEOs were looking at developing consumer packaging for their products, but bulk supplies would remain the backbone of their businesses. Nonetheless, as the business model was based on the efficient production of standardised products, it was cost-driven.

*We succeed by managing costs, not by managing markets or products. Now that we have invested in this model we grow through acquisitions, but as soon as commodity prices go against us, we’re in the shit again and then there is a bit of an upswing and everything goes our way again (FA-J).*

### 7.2.3 Comments on business models

Within each quadrant the business models were broadly the same, however there were differences in terms of the customers. Core customers were the same, but some SMEs also had other customers with different channels to market. Across the quadrants, production-oriented wild capture and aquaculture SMEs employed one type of business model, while those in the market-oriented quadrants employed a distinctly different model. Market-oriented SMEs business model was market-driven and based on capturing high levels of margin by supplying a high-value or premium-value final solution to top end consumers. Land-based activities underpinned the model. In contrast, production-oriented SMEs used a production-led business model based on supplying a partial solution – undifferentiated commodities – to intermediate buyers for the least cost. Rising costs were a clear threat to this model, thus cost control was of critical importance. Marine-based activities underpinned this model. In short, two business models that created, delivered and captured value very differently – one through margin and the other through scale and cost. Table 7-1 outlines these similarities and differences.
Table 7-1: Characteristics of the business models

<table>
<thead>
<tr>
<th>Characteristics of the business models</th>
<th>Wild Capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market-oriented SMEs</strong></td>
<td>- Supply of low to medium quantities of high-quality, high-value branded products to upmarket hotels, restaurants and retailers.</td>
<td>- Supply of low to medium quantities of premium-value branded products to upmarket hotels, restaurants and retailers.</td>
</tr>
<tr>
<td></td>
<td>- Underpinned by land-based activities.</td>
<td>- Underpinned by land-based activities.</td>
</tr>
<tr>
<td></td>
<td>- Value is producing high quality branded products from sustainable resources.</td>
<td>- Value is producing the highest quality products from a natural, but renewable resource.</td>
</tr>
<tr>
<td><strong>Production-oriented SMEs</strong></td>
<td>- Supply of medium to high quantities of unprocessed or semi-processed products to intermediary commodity buyers.</td>
<td>- Supply of bulk quantities of unprocessed or semi-processed products to intermediary commodity buyers.</td>
</tr>
<tr>
<td></td>
<td>- Underpinned by marine-based activities.</td>
<td>- Underpinned by marine-based activities.</td>
</tr>
<tr>
<td></td>
<td>- Value is in minimising costs, maximising catches and utilising harvesting methods to efficiently target particular species.</td>
<td>- Value is in minimising costs and maximising production.</td>
</tr>
<tr>
<td></td>
<td>- Production-led cost driven business models.</td>
<td>- Production-led cost driven business models.</td>
</tr>
</tbody>
</table>

7.3 Value chains

7.3.1 Wild capture quadrants

*Market-oriented wild capture value chains*

All market-oriented wild capture SMEs were engaged in a wide spread of value chain activities, but had short value chains. One owned quota, but did not harvest it. Instead, it contracted out the harvesting. The other two SMEs bought in raw material direct from deep sea, pelagic, or inshore harvesters. All businesses focused on processing the raw material into final market products that they distributed themselves. All undertook marketing activities, which involved working closely with speciality retailers, and upmarket restaurants and hotels. The two that had domestic customers supplied them direct, but for overseas customers all used an importer to undertake in-country logistics on their behalf. Even though all sold their products directly to foreign foodservice buyers, when faced with a new customer in a new country they used a distributor. This was typically a short term arrangement, and only until such time as they were able to operate in the market themselves, however. All CEOs emphasised that undertaking distribution and marketing activities themselves was important, because it ensured they received feedback from final customers. This provided a crucial feedback loop, which drove improvement to product, processes, and packaging. Consequently, the most important activities for these SMEs were the production of final market products and selling directly into final markets where value capturing was greatest.
In New Zealand we go straight into the supermarkets and abroad it specifically goes from us to our importers then to the supermarkets and restaurants. Our importer sends it out immediately to our customers. We just do it all from here (EW-C).

A major problem for the two SMEs that did not own quota or carry out harvesting was obtaining supply of quality raw material. This was linked to quota being unavailable. In addition, while some harvesters put considerable effort into maintaining the quality of their catch, others had not. If not properly handled, fish quickly deteriorated, resulting in inferior quality and loss of value. All CEOs were of the view that some harvesters paid scant attention to maintaining quality to maximise the value of their catch. They saw huge variations, which they put down to harvesters not understanding what delivering and capturing value actually meant.

It seems there’s something intrinsically wrong with selling fish in such a way that there are big variations in the value, depending on the condition of the fish. They’re making no attempt to control the catching, killing, and storage of it (EW-A).

Of fundamental importance to all three CEOs was that they governed all segments of their value chains, including supply if they could. Transparency was very important to understand where value could be added and which activities captured the greatest value. Two CEOs concurred that value capturing was greatest at the market end of their value chains. Thus, it was important to them to be connected and exposed to final consumers. This provided them with valuable information. They shared this information with some harvesters and in some instances it had paid dividends, as a few had suggested better ways of doing things for mutual benefit. However, in spite of this they did not have as much control over harvesting activities as they would have liked.

Fishermen need to be exposed to the market. Generally the people in the middle are not able to see all the opportunities and don’t get particularly passionate about value opportunities. Fishermen sort of always are and when they see a product possibility they just know whether that is something which is physically possible, maybe economically sensible. They’re just the best gauges of it (EW-A).

Production-oriented wild capture value chains

Production-oriented wild capture SMEs were engaged in only a very few value chain activities, primarily at the production end of their value chains. All operated small inshore fishing vessels to fish their own and/or leased quota, but one also used contract harvesters. They concentrated on harvesting and undertook some primary processing, which were their most important activities. Their harvesting activities principally involved fishing inshore and pelagic fisheries, although one SME also targeted small amounts of deep sea species. All three SMEs sold the bulk of their catches to intermediaries, who either undertook additional processing or did no processing, before on-selling the product. One undertook limited marketing operations, but this only involved dealing with their distributors.
We’re at the start. We catch it, kill it, chill it and we supply it to the processor or wholesaler. That’s it (FW-E).

All SMEs created value by concentrating on harvesting and storage techniques that maintained the value of the fish. But, while they either sold the fish unprocessed, or undertook limited processing to enhance value, they did not undertake final market processing. All CEOs were of the opinion that they only supplied traditional commodities, although those that supplied seafood shops with whole fish considered their product was already a final market processed product. Rather, they created and captured value by harvesting and supplying products as efficiently as possible. However, a view shared by all CEOs was that the sector consisted of old boats and old equipment with little if any investment flowing into the sector so that they could add, deliver, and capture additional value.

It’s about what return is available for the least amount of cost and effort by the easiest possible track. Generally, there’s no investment in value-adding (FW-F).

These businesses exercised little or no governance over their value chains, and could only see the next segment next to them. Even that was sometimes obscured, and segments beyond were completely obscured. In fact, even within their own segments information about value creating and capturing opportunities was closely held by those in the know. Two CEOs alleged that often this information, including market information, was withheld by their buyers and even by their own representatives. Information was only ‘passed down’ to them when it suited others. They also complained that despite requests, they had not received auction paperwork following the sale of their fish. Rather, they received ‘a cheque or an invoice’ with little if any supporting documentation. It was a case of ‘need to know’ and smaller operators such as themselves were deemed not to need to know. Overall, their value chains were not transparent, and were controlled by quota owners and/or buyers. This limited their ability to create, deliver, and capture additional value.

We know roughly for our tuna it’s $3.50 for packaging and handling. We know roughly that it’s $5 per kilogram for air freight. Then there’s the trucking costs and the agent’s fees at the other end. It’s huge but we never get to see the paperwork. We’ve asked for it but never get to see it…not a lot of transparency. Zero from the company we fished for, absolutely zero. They say nothing and guys have left because there’s no transparency. No market information allowed to come back to the fisherman… complete secrecy and lies (FW-F).

7.3.2 Aquaculture quadrants

Market-oriented aquaculture value chains

All market-oriented aquaculture SMEs were engaged in a wide spread of value chain segments and had short value chains. Farming, harvesting, final product processing and marketing were their main activities. One SME contracted out its harvesting activities, while the other two did not. Two followed an inter-sectorial upgrading approach using their farms to undertake tourism activities and one of these
operated a restaurant and delicatessen. All businesses concentrated on processing raw material into final market products, sold either at the farm gate, or direct to upmarket foodservice establishments – domestically and/or internationally. When entering a new international market two SMEs temporarily used a distributor until they had established themselves in the market. Branding and marketing were viewed by all CEOs as their most important activities, as this linked their farms to final customers and their consumers. Compared with marine-based producers of commodity products, all took the reverse approach to product development and production. They closely engaged with foodservice customers and consumers to discover the attributes of the ‘perfect’ product. Armed with a precise and detailed picture of this product, they set about producing it. It started with each value chain segment understanding exactly what consumers’ wanted on their plates and how it could be delivered. This ensured the final product exceeded or at the very least met expectations.

_You’ve got to have an absolute knowledge about what the end product will look and taste like, and be presented like. Unless you know whether it’s going to be world class or not, there’s no possible way of producing it. For us, we had an absolute understanding of what the end product needed to look like, taste like, and be packaged like, and how a top end chef would want to receive it. It’s about the goods walking the walk (EA-G)._

Governance of the whole value chain was particularly important, because it ensured that the full value from the farm was appropriately delivered to final customers. These SMEs exerted hierarchical control throughout their transparent value chains, which ensured that information freely flowed between all segments. Not only was it important for information to be passed from all segments to consumers, but the reverse was equally important. Information from customers provided feedback, enhanced understanding and showed where additional value could be added, and which activities could capture the most value. One CEO explained that the demand for sustainably produced seafood was a key driver of value chain transparency. Customers were increasingly looking to businesses with farm to plate ‘chain of custody’ systems. Consequently, two SMEs had enhanced their value chains with traceability systems. This had strengthened the connection between their customers and consumers, and their farms.

_We need to document our chain because our customers are demanding to see that we are sustainable. The thing about us being an open company is being completely open, especially to our customers. If they don’t believe our sustainability claims then we invite them to come and visit us to see for themselves (EA-G)._

**Production-oriented aquaculture value chains**

By contrast, all production-oriented aquaculture SMEs engaged in only a few value chain activities, at the beginning of their value chains. They focused on farming, harvesting and some primary processing that essentially involved cleaning and grading, but not final market processing. All CEOs saw that while they produced commodity products, their products were a finished product. All SMEs sold the bulk of their production to intermediaries who undertook further processing before reselling it. The one SME that
sold part of its production to a domestic supermarket, however, also undertook limited marketing activities. The other two had not carried out any marketing activities. All created value by farming and harvesting as efficiently as possible to produce a quality product.

There’s only one process for us, it’s to grow the mussels so they’re in the best condition. We’ve got to grow a certain size of the right density, that sort of thing. So it comes down to the way we farm them and the way we harvest them – that’s the end of it for us (FA-L).

All SMEs relied on their intermediary customers for marketing and market access. They were dependent on them for market information, particularly in respect to pricing trends. This resulted in them being captive to their customers, even though they produced what was essentially a final market-ready product. All CEOs recognised they were vulnerable, however, and one was looking to integrate his business forward along the value chain, by building his own processing plant to produce final consumer packaged products. This would facilitate process and product upgrading to deliver and capture much higher levels of value.

We’ve not comfortable about the future and it’s not something that’s a new feeling...it’s been going on for years. We can see we’re going to get shafted at this end. There’s going to be an oversupply and the price will come down. Our processor is saying ‘no, no nonsense’. We would never do that to you. They will only buy it at the best price they can, so we will become very vulnerable. We need to vertically integrate, grow and process, and then sell. We don’t want to be just growers because we’re too vulnerable (FA-J).

The SMEs only governed the segments they were active in and did not control their value chains beyond this. Consequently, their value chains were not visible, and the CEOs were unaware of who the final customers were for their products. Two were of the view that their products passed through many processors and distributors, particularly when their products were exported. Limited governance made it difficult for them to obtain final market information. When they had sought information their buyers had refused, or had been reluctant to share it. All SMEs were captive suppliers in value chains that were not transparent. This inhibited their ability to create, deliver, and capture additional value.

All we can sense is what the next guy says. We cannot sense anything above that guy and the large firms have been very poor at making the customer visible, very poor at being a mirror for what exists in the market, very poor at saying what consumers’ want – a broken relationship between farmers and consumers. It’s just not good and does not work (FA-K).

7.3.3 Comments on value chains

Within the quadrants value chain activities were broadly similar, but there were differences. One market-oriented wild capture SME owned quota, in contrast to the other two SMEs in its quadrant. One production-oriented wild capture SME undertook some marketing, but the other two did not. One market-oriented aquaculture SME sold all if its products through its own retail establishments, while the other two primarily sold to foodservice outlets. One production-oriented aquaculture SME undertook
some marketing activities, but its two counterparts did not. Overall, however, the value chains of production-oriented SMEs in both quadrants were characteristically similar. The value chains of market-oriented SMEs in both quadrants were also similar.

However, as listed in Table 7-2 there were marked differences between the market-oriented and production-oriented quadrants. The value chains of SMEs in the market-oriented quadrants were short and straightforward, even though they engaged in a wide spread of activities, but generally they did not own quota or undertake harvesting activities, which was contracted out. The most important activities for them were producing final market products from raw material in conjunction with branding and marketing activities. This included working closely with speciality retailers, upmarket restaurants and hotels. Their value creation and delivery activities were driven by final market feedback and their activities were focused at the market end of their chains. Indeed, a feature of market-oriented SMEs was that they used the hierarchical form of governance, consistent with Gereffi et al’s (2005) GVC governance framework. This facilitated two way transparent communications throughout their chains, which created a mutually beneficial relationship between them and their customers. This feedback loop drove product development to further add deliver, and capture value. Ultimately, their value chain activities were driven by the desire to innovatively solve customer problems, which along with a hierarchical governance approach gave them control to coordinate and organise all value chain activities.

Table 7-2: Value chains

<table>
<thead>
<tr>
<th>Market-oriented SMEs</th>
<th>Wild Capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Wide spread of activities – short value chains.</td>
<td>• Wide spread of activities – short value chains.</td>
</tr>
<tr>
<td></td>
<td>• Involved in primary processing, final market processing, and distribution/marketing.</td>
<td>• Involved in all value chain segments from farming to consumer markets. This may include running upmarket restaurants and speciality retail outlets.</td>
</tr>
<tr>
<td></td>
<td>• Does not control quota ownership and harvesting segments. Controls from primary processing to distribution/marketing.</td>
<td>• Controls all value chain segments from farming to consumer markets.</td>
</tr>
<tr>
<td></td>
<td>• Quota and harvesting segments somewhat obscured. Visible from primary processing to consumer markets.</td>
<td>• All segments entirely visible.</td>
</tr>
<tr>
<td></td>
<td>• Value chain governance type - hierarchical.</td>
<td>• Value chain governance type - hierarchical.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Production-oriented SMEs</th>
<th>Wild Capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Engaged in few activities.</td>
<td>• Engaged in few activities.</td>
</tr>
<tr>
<td></td>
<td>• Involved in quota ownership, harvesting, primary processing, and some marketing.</td>
<td>• Involved in marine farming, harvesting, primary processing, and undertook some marketing.</td>
</tr>
<tr>
<td></td>
<td>• Controls harvesting and primary processing segments.</td>
<td>• Controls farming, harvesting and primary processing.</td>
</tr>
<tr>
<td></td>
<td>• Value chain beyond own activities not visible and does not control.</td>
<td>• Value chain beyond own activities not visible and does not control.</td>
</tr>
<tr>
<td></td>
<td>• Value chain governance type – captive (to quota owners and buyers).</td>
<td>• Value chain governance type – captive (to buyers).</td>
</tr>
</tbody>
</table>
In contrast, SMEs in the production-oriented quadrants took the reverse approach. Their activities were directed at the production end of their value chains. They concentrated on quota ownership/farming, fishing/harvesting and primary processing. All sold the bulk of their production to large intermediaries, who re-sold it, sometimes after additional value was added. Ultimately the product passed through several hands before reaching final markets. They did not exercise any governance over their value chains, which were not transparent beyond the segments they were engaged in, and thus were captive suppliers, also consistent with the GVC governance framework. As Table 7-3 shows production-oriented wild capture SMEs were captive to quota owners as well as their customers, while production-oriented aquaculture SMEs were captive to their buyers. SMEs in both quadrants did not control their distribution/marketing segments, and faced high switching costs if they attempted to undertake those activities themselves. Their buyers exerted high levels of control, which led to their vulnerability. This hampered their ability to create, deliver, and capture value.

**Table 7-3**: Control of value chain activities

<table>
<thead>
<tr>
<th>Control of value chain activities</th>
<th>Quota owner/farming</th>
<th>Fishing/harvesting</th>
<th>Primary processing</th>
<th>Final product processing</th>
<th>Distribution/marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market-oriented SMEs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wild Capture</td>
<td>No</td>
<td>Some</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Some</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Some</td>
<td>Some</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Production-oriented SMEs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wild Capture</td>
<td>Some</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Some</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Some</td>
</tr>
</tbody>
</table>

7.4 Markets

7.4.1 Wild capture quadrants

**Market-oriented wild capture markets**

Market-oriented wild capture SMEs produced final market products for domestic and international consumer markets. One produced fresh product that was packaged in small consumer size portions for upmarket restaurants and hotels in Europe and Asia. Another produced a dried product that was individually packaged and sold into speciality stores in Asia, but small quantities were also sold

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25 Shellfish and whole fish are naturally final market-ready products, thus final product processing refers to the product undergoing significant transformation e.g. cooking or smoking and packaging into consumer portions.
domestically into specialty shops. The third SME produced fresh, frozen and ready to eat products, also packaged in consumer portions for speciality supermarkets, upmarket hotels and restaurants, principally in Europe and Asia. Small quantities were also sold to domestic restaurants and through their shop, as well as over the internet to domestic consumers. All CEOs commented that in contrast to domestic demand, international demand was very strong. At times it was many times what they were able to supply. Hence, products moved quickly and two SMEs had particularly struggled to keep up with the demand. A key strategy and an important part of all their marketing activities was to directly engage with consumers by working closely with customers to understand their wants. This enabled them to respond quickly to changing consumer preferences and tastes. Two CEOs had spent much time in their markets talking to customers, visiting chefs in their restaurants and particularly talking to their patrons. The objective was to discover what customers and consumers liked and did not like. This feedback had taught them to deliver what the customers actually valued, and how that value could be captured. It had also led to new market opportunities and in turn to the creation of new market niches.

*Once you’re exporting the horizon out there is unlimited. I’ve only got 11 different recipes, but there’s no limit to how many we could sell. The demand was that great that we needed a factory 10 times the size. It was pretty mind boggling (EW-C).*

The critical constraint on supply for all SMEs was obtaining sufficient quantities of the right quality raw material. With limited supply they did not compete on volume or price. Rather, they competed by selling high-quality products that came from a scare but sustainable resource. Increased environmental awareness had caused some consumers to shift their purchasing to suppliers that adopted environmental friendly practices. Thus, one SME had adopted eco-labelling certification, as it provided a competitive edge over non-certified products. The other two had not because their CEOs were of the view that the raft of eco-labels had caused confusion for consumers. But, all CEOs viewed country of origin labelling as critical, because New Zealand’s reputation had helped them carve out their own market niches. Hence, their produce was clearly labelled as produce of New Zealand.

*All products should have ‘product of New Zealand’ stamped all over it. It shouldn’t be hidden, it should all be upfront for everybody to see. It makes a huge difference. In China they’ll buy a product of New Zealand ahead of their own stuff. You try sending something that looks like it’s from China and they don’t want it. I sent some away the other day and the customer came back saying, thank you very much, but please don’t send me any more – they’re too much like our Chinese ones (EW-B).*

All SMEs priced their products at the top end of consumer markets, with reference to wholesale margins. They incorporated qualities that consumers valued, and were prepared to pay for. They particularly emphasised the high quality of their products, processed to discerning consumer tastes. This justified higher processing and distribution costs, and consequently the setting of prices well above the industry average. Their CEOs were keenly aware of a variety of other factors that influenced demand and price.
They planned their production around such factors, particularly periods of high demand as this resulted in premiums being captured, such as special holidays, cultural festivals, and weather. Thus, having up to date market knowledge was very important to all CEOs.

At the start we basically set the price and then just raised the price very slightly each year. Each time we got a new customer we moved the price up a little bit more. At that time we had no idea of the market price, so we sent somebody covertly into the shops and got them to browse to find out what it was being retailed for. We found the retailer was making about 100 percent profit, which we felt was too high so we raised our price (EW-B).

Production-oriented wild capture markets

In contrast, production-oriented wild capture SMEs produced unprocessed or semi-processed products in standardised formats, principally for domestic and international commodity markets. One SME sold the bulk of its semi-processed products frozen to USA-based distributors. The remainder was sold to a domestic marketing company. Another sold most its products fresh to a domestic processing company. A small part was also auctioned through a domestic wholesale fish market, or sold to a domestic fish shop. The third SME either sold fresh to a domestic processing company or through a Japanese wholesale fish market. One SME undertook limited marketing activities, but this was targeted at distributors. All SMEs were disconnected from consumer markets and relied on their buyers for market knowledge. Their buyers shared almost no information, however, particularly information about markets. Two CEOs commented that this was frustrating because they were sure there were opportunities they were not being told about. All CEOs had little understanding of consumer wants and needs and were of the view that a lack of market knowledge was holding the industry back.

Any market knowledge that they have which is actually zero plus one is never disclosed to us. We are to do as we are told and to be paid as little as they can get away with, and that is determined by the so called competition on the wharf, not by the markets (FW-F).

All SMEs principally competed on price, although quality and supply were important. Two SMEs were low-volume suppliers and struggled to compete against the large seafood companies. Even with higher volumes the other SME also found it challenging. Whilst its products were in demand, this did not always translate into higher prices. In fact, if the price was unsatisfactory, the SMEs had few options due to the limited number of buyers available to them. This had caused one to attempt to produce consumer products and undertake its own marketing activities, but this was unsuccessful. Another SME had looked to the industry for marketing support, but to no avail. All CEOs had collaborated with others at one time or another to collectively market their products. However, they were unsuccessful.

Industry bodies don’t represent the smaller players and don’t meet the industry’s market needs, as they’re not engaged in consumer markets. So we got some free money, hired someone to do a report, got someone to talk to a few restaurants and wholesalers, but it went nowhere (FW-E).

All SMEs sold to buyers that they had built relationships with, but even with good relationships they had
little negotiating leverage. The prices of many products had either stagnated or declined during the past decade, and they were pressured to accept lower prices. Some buyers paid more than others, but not by much. Consequently, no SMEs had influence over prices and took what they could get from whoever offered the highest. One SME however, focused on improving quality through careful harvesting and handling and was able to obtain above average pricing. Holidays and weather also had a positive influence on price, in domestic markets, but higher prices were short lived.

*We are only producing low-value commodities and take what we can get. The price is whatever we can sell it for essentially, and buyers always say give me cheaper, give me cheaper. But, the only way it can give cheaper is by increasing recoveries by putting in the additive and doing what I call a second grade product (FW-D).*

### 7.4.2 Aquaculture quadrants

#### Market-oriented aquaculture markets

Market-oriented aquaculture SMEs produced premium quality final products primarily for top end domestic and international consumer markets. One’s products were packaged in foodservice sized portions and primarily sold frozen to exclusive restaurants and hotels in Japan, Middle East and the USA. Some product was also sold fresh and frozen to upmarket hotels and restaurants in New Zealand. The second SME sold its products chilled and in ready to eat formats to speciality retailers in Australia and New Zealand. Both of these SMEs also sold directly to consumers at the farm-gate. The third SME sold its entire production fresh or cooked through its own restaurant, delicatessen and souvenir shop.

Generally all businesses struggled to keep up with the demand. The critical constraint was the lack of raw material, but this was used to reinforce the exclusive nature of their products. A key strategy of two businesses was to employ chefs who worked closely with customers and consumers. All SMEs showed customers how their products should be prepared, cooked and served. This provided an important connection and feedback loop, which drove product development, identification of new market opportunities, and enabled them to quickly respond to consumer demands. All CEOs were of the view that it was very important to spend time in their markets. Knowing exactly what their customers and consumers wanted and solving their problems was in their view the key to capturing premium value.

*Our industry has to realize that yes we are in the seafood business, but we are actually in the protein business and depending which part of the market they’re in people want surety of what they are putting in their mouths. The lower you go down the market, the cheaper the product and the less concerned people are, but the wealthy do worry. We have the ability to put food into the top end of the market, but if you can’t deliver what people want we will be marginalized to taking whatever we can get (EA-I).*

All SMEs competed by selling premium quality products to a discerning clientele at a high price point. One CEO stressed it was more important who they did not supply than who they did supply. Unlike mainstream producers who generally targeted volume buyers, these SMEs targeted niche markets with
low volumes. Branding was a crucial element of their strategy, not only to differentiate their products, but to enhance perceptions of quality through the use of specialised packaging. One SME promoted its brand as the industry standard for premium products. This resulted in consumers accepting that their products were of the highest quality money could buy. Moreover, certified sustainable practices and eco-labelling was important to all CEOs, because consumers were becoming increasingly concerned about the environment. This concern had not only shaped their activities, but along with their branding had in turn led to the creation of market niches. Thus combing an eco-story about their products with taste, peace of mind and prestige was important. The CEOs were of the view that markets were becoming further segmented based on eco-certification or lack thereof. In their view this trend was very important and something all New Zealand producers needed to pay close attention to.

*If New Zealand does not move to the top tier very shortly, we will be stuck to the discount bargain bin, it’s changing that fast. Chief sustainability officers now wield more power than chief financial officers, because they know their customers and know what they want. Many large chains are now scrambling to find certified sustainable product because the public have changed so fast about eco-sustainability (EA-G).*

All SMEs commanded premium prices because of the perceived quality and exclusivity of their products. Their pricing strategy also involved incorporating unique feature into their products, including ‘taste to hook consumers’. One CEO stressed they were ‘like drug dealers’; they got their customers hooked and once they were addicted they could charge a premium. Through this approach two SMEs were able to shift the market by setting their own price, which for one meant setting the price above all others. Overall, by creating and delivering premium value all SMEs were able to capture premiums.

*We obtain the highest prices in the world. You can’t be the best unless you have the highest price. What we did was we took the highest price in the world and we went just above it (EA-G).*

**Production-oriented aquaculture markets**

All three production-oriented SMEs produced unprocessed or semi-processed standardised products principally for supply to commodity markets. Products were primarily sold in bulk quantities fresh to domestic processors, distributors or marketing companies. Following repackaging and possibly additional processing these buyers subsequently resold the product – domestically and internationally. Two SMEs also sold small quantities to local seafood shops and one of these also sold into supermarkets. Despite this however, they all were, in fact, disconnected from consumer markets. They relied on their buyers for market information and access. While their buyers had market knowledge they shared very little information and when it came to consumer markets none was shared. One CEO had given little thought to market development, as products were standardised and markets were well established.

*I didn’t have many ideas of going abroad and developing markets or anything like that. It is just a business (FA-K).*
The other CEOs were interested in developing their own packaging, exporting and capturing a greater consumer market share domestically, but they were wary of the influence of the large companies. All SMEs competed on price, although quality and size had some influence. While their products were in demand and fast moving, this did not result in higher prices. And even though they believed prices should be higher they had few alternatives due to the limited number of large buyers. Two CEOs were looking to move further up the value chain by joining with other small producers to collectively produce higher value products, and all were of the opinion that their sector could only prosper through unity and some type of collective approach to marketing. But, it would be very challenging due to capital constraints, a lack of marketing and market knowledge, and the dominance of the largest player.

A Zespri type thing would be the only thing that would see the industry take-off. But I believe we’re still going to have issues in the marketplace because of the large player. They have such a stranglehold, if they say the price is US $2 a pound that’s it. That’s the price. We produce a quality product, you’d think we would get more but we don’t (FA-J).

Even though product quality and size were important, the SMEs were ultimately subject to commodity market prices. Domestic prices followed export prices. All sold to the buyer that offered the highest price, which was strongly influenced by the largest producer. They had little if any negotiating leverage and despite having a good relationship with their buyers they were unable to capture higher prices. Consequently, all were price takers. Generally during the past decade prices had overall declined in real terms, but one product had increased slightly. For example, in the early years one SME received $1,300 a tonne for one type of product, whereas prices had started at $1,000 a tonne. But, prices were now below the $1,300 price reached over two decades ago. The CEOs attributed the price decline to the undercutting by large companies in export markets.

Why prices haven’t gone up – it’s all reflective of the export market and the infighting between the big companies for market share (FA-L).

7.4.3 Comments on markets

There were similarities and differences within each of the four quadrants. Within the market-oriented wild capture quadrant all SMEs supplied high-value products to different top end consumer markets, primarily in Asia and Europe. One SME supplied fresh seafood, another frozen seafood, and the third a dried specialty product specifically for high net worth Asian consumers. For all, export markets were their markets of choice. Production-oriented wild capture SMEs supplied very similar products principally into commodity markets. One sold frozen products to distributors in the USA, while the other two sold fresh products to domestic commodity buyers. Within the market-oriented aquaculture quadrant, two SMEs targeted overseas premium consumer markets. The third sold its entire production fresh or cooked through its own domestic restaurant, and shops. Production-oriented quadrant SMEs all sold into the domestic commodity market, but two also sold small quantities to retailers.
Between the market-oriented wild capture and aquaculture quadrants, market characteristics were similar, although aquaculture SMEs were engaged in more overseas markets – Japan, Middle East and the USA. Eco-labeling was very important to them, but country of origin labeling was critical to market-oriented wild capture SMEs. The market characteristics of the two production-oriented quadrants were similar, but wild capture sold into domestic as well as Japanese and American commodity markets, while aquaculture sold entirely into local commodity markets. Table 7-4 outlines the major characteristics.

Table 7-4: Markets

<table>
<thead>
<tr>
<th>Markets</th>
<th>Wild Capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-oriented SMEs</td>
<td>• Targeted top end consumer markets primarily in Asia and Europe.</td>
<td>• Targeted premium consumer markets in Australian, Japanese, Middle East, NZ and USA.</td>
</tr>
<tr>
<td></td>
<td>• Engaged in final markets to understand consumer wants and needs.</td>
<td>• Closely connected to and engaged in consumer markets to understand consumer wants and problems.</td>
</tr>
<tr>
<td></td>
<td>• Country of Origin labelling was critical.</td>
<td>• Eco-story and labelling were very important.</td>
</tr>
<tr>
<td></td>
<td>• Shaped and created market niches.</td>
<td>• Shaped and created market niches.</td>
</tr>
<tr>
<td></td>
<td>• Set prices – high-value prices.</td>
<td>• Set prices – premium prices.</td>
</tr>
<tr>
<td>Production-oriented SMEs</td>
<td>• Supplied NZ, Japanese and USA commodity markets.</td>
<td>• Primarily supplied NZ commodity markets.</td>
</tr>
<tr>
<td></td>
<td>• Disconnected from &amp; not engaged in markets.</td>
<td>•Disconnected from &amp; not engaged in markets.</td>
</tr>
<tr>
<td></td>
<td>• Buyers withheld market information.</td>
<td>• Buyers withheld market information.</td>
</tr>
<tr>
<td></td>
<td>• Lacked marketing capabilities.</td>
<td>• Lacked marketing capabilities.</td>
</tr>
<tr>
<td></td>
<td>• Price taker.</td>
<td>• Price taker.</td>
</tr>
</tbody>
</table>

Overall, the SMEs sold into two very different markets. Market-oriented SMEs targeted top end consumer markets. For all but one SME, export markets were the most important. In contrast, production-oriented SMEs supplied commodity markets through intermediary buyers. Their most important markets were domestic. They actually gave little thought to markets and did not carry out market development activities, as they relied on their buyers for market access and knowledge. Thus they were captive price takers to their buyers and disconnected from markets. Being involved in markets, particularly consumer markets, was alien to them, because they lacked marketing capabilities and knowledge of markets. Consequently, they had little choice but to sell their products to commodity buyers. Delivering and capturing value was about supplying standardised products in volume. In contrast, market-oriented businesses took the reverse approach. With marketing capabilities they closely engaged in their consumer markets – high-value and premium. They spent time in them to understand trends and consumer problems. They prided themselves on delivering exactly what their customers wanted and valued. For them the top end of the market was where real value was captured. They did not see the point of participating in commodity markets, only to capture a small part of the value. They got as close as possible to final consumers to understand what they valued and how that
value could be captured. Then they supplied it underpinned by an eco-story about their products, coupled with taste, peace of mind and prestige. Consequently, their markets shaped them and they also shaped and created new niche markets with new products. This enabled them to set their own prices.

7.5 Concluding comments

The SME cases took two contrasting approaches to create, deliver, and capture value (see Table 7-5). Market-oriented CEOs were driven to innovatively solve consumer problems to capture high-levels of value. They employed a market-responsive business model driven by consumer wants to provide high quality solutions. Land-based operations underpinned this model with value creation activities driven by market feedback and hierarchical governance. All produced branded final products that they targeted at the top end of consumer markets. They were involved in all value chain segments, but paid close attention to the market end. It was important to the CEOs that they governed transparent value chains, thus exposing opportunities, which they actively searched for. This enabled them to be closely connected to and engaged in their markets. In short, market-oriented SMEs provided a high-value or premium value total solution to final consumers and captured high-levels of margin from the prices they set.

On the other hand, production-oriented CEOs employed a production-led cost-driven business model. They created value by minimising costs and maximising production. They restricted their activities to the production end of their value chains and primarily produced undifferentiated products for commodity markets. Marine-based activities underpinned the model and rising costs were a clear threat to it. They had little or no control over their value chains, which were not transparent and therefore obscured opportunities. They lacked capabilities to directly engage in markets, particularly consumer markets. They undertook little or no marketing or market development activities and sold their products to a small number of commodity buyers, who shared little if any market information. This resulted in them being disconnected from final markets and being captive price takers. They were very vulnerable to rising costs and flat or declining prices, which inhibited their ability to create, deliver and capture value. In short, they competed through efficiency and scale, and offered a partial undifferentiated solution to commodity buyers from whom they took what they could get for their products.
Table 7-5: Creating, delivering, and capturing value

Market-oriented

Aquaculture

Market-responsive business models driven by consumer wants and problems

Value is providing a consistent supply of the highest quality products from a renewable resource

Production of low-medium volume premium-value branded consumer products for upmarket retailers, hotels and restaurants

Farming, harvesting, final processing, and marketing operations and possibly, involved in running restaurants and speciality retail outlets (Land-based activities)

Wild capture

Market-responsive business models driven by consumer wants and problems

Value is providing high-quality products that originate from a sustainable resource

Production of low-medium volume high-value branded consumer products for upmarket hotels, restaurants and retail shops

Fisheries value chain

Quota owner/farmer

Fishing/harvesting

Primary processing

Final market processing

Marketing/distribution

Quota owner, harvesting, primary processing, and limited marketing (Marine-based activities)

Primary processing, final market processing, and marketing (Land-based activities)

Production-led cost-driven business models

Value is minimising costs, maximising catches and utilising harvesting methods to efficiently target particular species

Production of medium-high volume low-value, unprocessed or semi-processed products, to processors, distributors or marketing companies

Production-oriented

Wild capture

Farming, harvesting, primary processing, and some marketing (Marine-based activities)

Aquaculture

Production-led cost-driven business models

Value is minimising costs and maximising production

Production of high volume low-value unprocessed or semi processed standardised products to processors, distributors or marketing companies

Premium consumer markets

Sets price - engaged in Premium consumer markets

High-value consumer markets

Sets price – engaged in Commodity markets

Lacks marketing capabilities and market information

Price taker – disconnected from markets

Sets price - engaged in Premium consumer markets

Sets price – engaged in Commodity markets

Lacks marketing capabilities and market information

Price taker – disconnected from markets
Chapter 8: Organisation, culture, and innovation

8.1 Introduction

The previous chapter examined business models, value chains, and the markets of the SME cases. This chapter extends that analysis by looking at organisation, culture and innovation. We look inside the businesses themselves, focusing on the interactions between the CEOs and their businesses, and how they were influenced by their environment, noting that some of employees might not agree with the portrayal since information for this chapter principally came from the CEOs. The chapter begins by examining how the SME cases were organised, because large and systematic differences were observed. An examination of business cultures follows, as different organisation structures influenced the respective cultures in different ways. Both in turn influenced innovation, which is examined next. The chapter concludes with an overview of the similarities and differences of the SMEs, and how organisation, culture and innovation impacted on the creation, delivering, and capturing of value.

8.2 How the SMEs were organised

8.2.1 Wild capture quadrants

*Market-oriented wild capture SMEs*

Market-oriented wild capture SMEs had relatively flat flexible organisational structures and low levels of bureaucracy. One had a three layer structure made up of the top management team, middle management, and the day-to-day operations personal. The other two had no middle management layer. All had independent directors or advisors, who were an important part of the top management teams. All had a number of differently skilled people who were informally grouped. These broadly covered administration, operations, and marketing. Management worked within and across all of these groups. The organisation structures were fluid and conducive of employees learning and working together as one team to collectively and creatively solve problems, and innovate. There was a high degree of coordination and while many of the processes and practices were complex, there were typically few formalised procedures or rules. Two CEOs commented that it was important that personnel were not constrained by rigid rules and procedures to ensure they had the discretion and freedom to innovate. Two of the SMEs had a business plan, but this flowed from their banking arrangements. A distinguishing characteristic of these SMEs was that they were very flexible and very responsive to their markets. All CEOs saw that this was vital for the discovering of opportunities and effectively exploiting them.

*We have people with brains and initiative, good solid practical problem solving skills with business nous, responding with agility to each opportunity. Each challenge is an opportunity, each*
opportunity optimised. Have to be agile for early seeing of opportunities and use innovative strategies for execution (EW-A).

Geographically all the SMEs were located in a single location, which made coordination and control of their activities straightforward. Moreover, as their organisation structures were not complex this facilitated open communication and problem solving. All SMEs took an informal approach to decision making that often involved around-table discussions. Decisions were generally made rapidly, particularly where it involved customer driven problem solving or the development of new processes and products. While the CEOs had the final word, decisions were generally only taken after key personnel had been consulted and given an opportunity to contribute. All valued the input from their personnel because of the depth of their individual knowledge, which often surpassed their own knowledge. Thus, two CEOs encouraged their personnel to challenge their ideas and decisions. Sometimes it was only through this that the correct decision was made.

We sit round the table to iron the issues out. They’re handling the product and if they say they can do something easier or get a better result you’ve got to listen to them. If I don’t approve I come up with a valid reason why and they’ll look at it and say yeah but we’ll still do it this way. My door is always open, if they’ve got a problem and they think something should be done, they come and talk (EW-C).

**Production-oriented wild capture SMEs**

Production-oriented wild capture SMEs were characterised by two different organisational structures, depending on business size. The structure of the small businesses was simple and very flat with few formalised processes and procedures. A feature of this structure was that business operations were very flexible, but as the CEOs held all information, control and decision making was centralised with them. They were very hands-on and oversaw all day-to-day activities, including problem solving. They made decisions quickly, sometimes with the assistance of external professional advisors who they relied on for objective advice. They seldom sought advice from their personnel, who had little discretion and were required to follow established procedures, to ensure product consistency. Personnel specialised in their jobs and seldom undertook unrelated tasks. The CEOs of the two SMEs that had this structure did not want their businesses to diversify or grow too large as they feared losing control. Being directly involved in all aspects of the business and personally maintaining external relationships was important to them.

I try and keep it small; I don’t want to go too big and lose the personal touch and control. If I get too big it’ll just implode eventually. Before I tried to do the right thing and then got screwed so now just want to run it as my niche (FW-E).

The second type of structure used by the larger SME was more bureaucratic in nature and had a hierarchical structure that used formalised processes and procedures. It had four layers to its structure including an executive management layer made up of advisors and independent directors. They worked

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26 This SME had less than 19 full time employees.
closely with the CEO to set the direction of the business. Decisions were then passed down to top management for implementation. Employees were functionally grouped and reported to middle management through their supervisors. These groups were administration, fishing/harvesting, processing, and marketing. There was little coordination between the groups, rather their activities were controlled and coordinated by the CEO. While the business itself was located at one site, its fishing/harvesting operations were undertaken at different locations. At times the CEO found it challenging to monitor and coordinate the fishing/harvesting activities, nevertheless, day-to-day activities across the business were routine in nature and governed by rules and procedures that had been designed to ensure the consistent production of standardised commodity products. This resulted in employees being highly skilled and specialised at their respective tasks. Moreover, as decisions followed a chain of command, ultimately authority and decision making rested with the CEO. He was closely involved in all aspects of the business – except fishing/harvesting – and often consulted with his management team, but he seldom sought the views of other employees. Overall, the structure was designed for efficiency rather than flexibility. The CEO was somewhat resistant to change what was considered to be an already highly efficient structure.

*Most of what we do is routine, but sometimes I have staff meetings. They come in and I scope out what they need to do (FW-D).*

### 8.2.2 Aquaculture quadrants

**Market-oriented aquaculture SMEs**

Market-oriented aquaculture SMEs had flat flexible organisational structures. They had very low levels of bureaucracy and an absence of a hierarchy. These businesses had two layers in their structure made up of the top management team and the day-to-day operations team, although the line between these layers was blurred as management worked closely alongside their personnel, as just another member of the team. While managers had titles that reflected their areas of responsibility they worked within and across all areas of the business. Two SMEs had independent directors and advisors who, along with managers, and key operations personnel, made up their top management teams. The other SME’s top management team comprised of personnel drawn from within the business. All SMEs broadly grouped their personal into administration, operations, and marketing, although they functioned as a single team. At the core of each business was a group of qualified individuals, supported by skilled support personnel. All key personnel had expertise critical to their responsibilities; hence their respective CEOs gave them a high of degree of autonomy and discretion to carry out their daily tasks. But activities were closely coordinated, as personnel worked together, and while many processes and practices were complex, formalised procedures were few. All CEOs encouraged their personnel to learn and to be flexible and
responsive, particularly to what customers wanted. This underpinned their ability to quickly and effectively respond to the day-to-day challenges and problem solve innovatively.

So we’re quick to react, very nimble and we’ve got a tight team. We have open discussions and if we’ve got a problem we try and solve it immediately. We’re quite good at compensating for the other person’s weaknesses. So it’s complementary as opposed to hierarchical where one person holds all the knowledge and the power and the others just follow, but the buck stops here (EA-I).

As all SMEs operated from single locations, it made communication, coordination of activities and problem solving very straightforward. Moreover, their flat organisation structures facilitated informal and rapid decision making. While the CEOs ultimately had the final say, most decisions were only taken after all key personnel had contributed. The CEOs valued open and honest feedback as they recognised they did not have all the answers. In fact, in the main decision making rested with the operating core and hence these SMEs undertook decision making by consensus. This was important to the CEOs as it ensured that all possibilities had been properly considered and that the best possible outcome was achieved. Thus, the organisation structures of market-oriented aquaculture SMEs had low levels of complexity and personnel contributed to all important decisions.

I value diverse honest critique, but there’s one rule that nobody should make a decision that can affect the business in isolation, not even me. But there are things that I look at and say, is this only my decision, if I think it’s not going to impact on the business I say yeah I can do that (EA-G).

Production-oriented aquaculture SMEs

The production-oriented aquaculture SMEs, by contrast had hierarchical organisation structures, and the larger one was especially bureaucratic. With chain of command decision making, all had formal processes and procedures to optimise production of their products. All had a three layer structure made up of the top management team, middle management, and the day-to-day operations. All had a board of directors and one had an independent director. The other two had external professional advisors. Employees worked in distinct functional groups and reported to middle management. These groups were administration, operations and sales. There was little coordination between them; instead the CEOs closely coordinated all activities. Day-to-day activities were largely routine in nature and governed by standardised rules and regulations to maximise the consistency of their commodity products. This led to personnel becoming highly skilled at their jobs, although they had little discretion to deviate from established practices. Overall, the CEOs designed their structures to be as efficient as possible. Whilst they always looked for improvements, they did not plan to change what they saw was an already highly efficient structure. This was reinforced by the performance of their personnel who had become very efficient at their respective tasks.

I guess I micro-manage, not as much as I used to. I have a lot of enthusiasm, everything is sort of set up and running now, but we still have staff problems. That’s never ending. So the final decision
I have to, it’s my business but if they come up with an idea that’s great (FA-I).

All SMEs were spread over two or three locations, depending on the size of the business. Farms were in one or more locations, while processing in another and administration in yet another location. This was challenging in terms of coordinating activities and communication, but the CEOs had adopted a very hands-on approach to their businesses. This included top down decision making. Sometimes they would seek the advice of their personnel, but in the main the CEOs made decisions without consulting them. When they had sought advice it was from other directors or advisors. While they welcomed suggestions, the CEOs did not always look to their personnel for them as they did not have the in-depth business knowledge that they had. Overall, the CEOs maintained a tight control over their businesses and because of the types of products they produced, personnel were not permitted to deviate from proven long-standing practices. If they did deviate it could negatively affect their financial performance.

I have 12 on the water here with a manager running that. There’s eight over there and then the factory up here that’s got another five. Then there’s the other place. So I have to be in several places at once, but it works (FA-L).27

8.2.3 Comments on how the SMEs were organised

The SMEs employed three different organisation structures. SMEs in both market-oriented quadrants had adopted flat flexible structures. The CEOs together with their personnel drove the flexibility and the flatness of their structures. They were not hierarchical or bureaucratic. The CEOs worked closely with their personnel, who had high levels of discretion to meet customer wants. While their activities were complex, these SMEs had few formalised procedures, but their activities were closely coordinated. This underpinned their ability to innovatively solve problems, particularly non-routine ones. Put another way, their organisational structures were a single team structure that fostered an open and collective approach to the company’s businesses. This flat structure also facilitated participative or consensus decision making, as the CEOs recognised that different informed perspectives were important. They valued open and honest discussions involving all relevant personnel to find the best possible solution. Overall, their SMEs’ structures were designed to facilitate learning, collaborative problem solving and thus a hallmark of their structures was flexibility, which enabled personnel to act with agility.

In contrast, SMEs in the production-oriented quadrants used either simple top down or hierarchical organisation structures. In both structures authority and decision making was centralised with the CEO. While they welcomed input, the CEOs seldom involved their personnel in decision making. The simple flat structure was employed by the smaller wild capture SMEs. Their CEOs were very hands-on and directly oversaw all activities. The larger wild capture and aquaculture SMEs used hierarchal structures

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27 This SME employed a number of seasonal part-time workers, which are included in these figures.
that had two or three layers and separate departments. They used top down, chain of command decision making. Processes and procedures were formalised as this ensured that production and consistency of products was optimised. Activities were routine in nature and personnel were required to follow established rules, procedures and regulations. They had little scope for discretion or initiative. This structure was designed for efficiency rather than flexibility; hence the CEOs were not in favour of changing what they considered to be an already highly efficient structure. Overall, there were distinct differences in the structures used by market-oriented SMEs compared to those in the production-oriented quadrants. These are highlighted in Table 8-1.

Table 8-1: How the SMEs were organised

<table>
<thead>
<tr>
<th></th>
<th>Wild Capture</th>
<th>Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-oriented SMEs</td>
<td>• Flat, flexible organisation structures.</td>
<td>• Flat, flexible organisation structures.</td>
</tr>
<tr>
<td></td>
<td>• Few formalised rules and procedures, but activities coordinated.</td>
<td>• Few formalised rules and procedures, but activities coordinated.</td>
</tr>
<tr>
<td></td>
<td>• Personnel had high degree of autonomy.</td>
<td>• Personnel had high degree of autonomy.</td>
</tr>
<tr>
<td></td>
<td>• Consultative approach to decision making.</td>
<td>• Consensus approach to decision making.</td>
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<tr>
<td></td>
<td>• Designed for agile collaborative problem solving and facilitated learning.</td>
<td>• Designed for agile collaborative problem solving and facilitated learning.</td>
</tr>
<tr>
<td>Production-oriented SMEs</td>
<td>• Simple top down or hierarchal bureaucratic organisation structures.</td>
<td>• Hierarchal organisation structures.</td>
</tr>
<tr>
<td></td>
<td>• Activities largely routine and formalised.</td>
<td>• Activities largely routine and formalised.</td>
</tr>
<tr>
<td></td>
<td>• Personnel had little discretion.</td>
<td>• Personnel had little discretion.</td>
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<tr>
<td></td>
<td>• Top down chain of command decision making.</td>
<td>• Top down chain of command decision making.</td>
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<tr>
<td></td>
<td>• Designed for efficiency rather than flexibility.</td>
<td>• Designed for efficiency rather than flexibility.</td>
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8.3 Business cultures

8.3.1 Wild capture quadrants

Market-oriented wild capture SMEs

The cultures of market-oriented wild capture SMEs were principally shaped by the non-industry experience of the CEOs and backgrounds of their employees. Their CEOs had originally entered the industry at a young age with high school being their highest level of formal education. But they also developed non-industry work and business experience. Most of their employees came from diverse non-industry backgrounds and key personnel were tertiary qualified. All SMEs exhibited entrepreneurial cultures that promoted the continuous improvement of processes and products, and the development of new ones. Management used participative, inclusive approaches to running their businesses. It was important to them to have a shared vision coupled with clear but challenging goals. Employees were encouraged to self-develop and manage themselves, but work together as a team. This teamwork
coupled with flat organisation structures facilitated open communication, which flowed throughout the businesses. Employees were also individually treated with high levels of trust and independence, which enabled them to pursue initiatives. They were encouraged to ‘think outside the square’, to come up better ways of doing the same – innovative solutions to problems. All CEOs felt that their respective entrepreneurial cultures were to a large degree driven by their incentive based remuneration systems, which rewarded employees in different ways, including sharing in the profits. This encouraged risk taking, but within defined limits. One CEO commented that it had been hard work building the culture, but it underpinned their success and defined the nature of his business. In short, nurturing entrepreneurial cultures was very important to all CEOs.

| You get this desire and passion to stay at the lead of your game by the culture in your company. It’s absolutely important to have a shared vision and for us to be transparent, flat structured and open and that’s not just talk. It’s not just a nice annual report that’s delivered. It’s so much more than that. It’s very difficult to have this culture than it is to talk about it. It’s very difficult to do and requires an awful amount of trust and faith in people, in humankind. That’s the key, having this entrepreneurial culture that goes right through everything (EW-A). |

The culture of these SMEs was at odds with the dominant industry culture, which was described by all CEOs as being risk avoiding, distrustful, controlling and anti-competitive. Consequently, they found it very difficult to collaborate with others in the industry. They found it challenging to get agreement and disagreements were not uncommon. At times this had led to conflict, because of highly divergent and entrenched views by prospective partners. The CEOs found it particularly difficult to understand why some businesses considered that the undermining of other businesses was the best competitive strategy. Many companies had refused to collaborate even though the opportunities were mutually beneficial. This had heightened their frustration as they saw that the industry needed further development. All CEOs stressed that some large companies exhibited high levels of anti-competitive behaviour – designed to prevent others from progressing, in case they became a future threat. Consequently, the market-oriented wild capture SMEs operated in isolation to the wider industry. They focused on niche products in fringe areas to stay under the radar of the large industry companies.

| The industry makes Bin Laden look like a Sunday bowler – they’re extremists! It’s screaming out for development, but selfish mentality. Don’t sell something to someone now, because they might make money out of it, become stronger, and might become competition. It’s easier to cost yourself money now than having to squash someone in the future. They might become a threat and that can’t be allowed to happen (EW-B). |

**Production-oriented wild capture SMEs**

Production-oriented CEOs had also worked in the seafood industry from a very young age. After leaving high school they had taken on full time positions in their respective family businesses. Like their employees they had very little non-industry work or business experience. Thus, their business cultures were principally influenced by the industry. All exhibited slow-to-change commodity cultures, although
one case had signs of an entrepreneurial culture. This was limited to developing a single product, however, and eventually it was unsuccessful. With simple or hierarchical structures and a top down chain of command, personnel were discouraged from following their own initiatives, although the ‘door was always open’ to employees. Generally, employees followed established rules and procedures, and undertook largely routine tasks, due to the standardised nature of the products that were produced. Consequently, employees had little discretion and were not encouraged to take risks, although they were encouraged to suggest ways of reducing costs and improving efficiencies. Promotion was rare, and when available had been mostly taken by family members. Employees did not closely coordinate their activities, but they had been trained to produce standardised products as a group, efficiently. Hence, for many employees it was viewed as just a job that had unimaginative remuneration and did not reward performance.

*I keep decisions to a very limited team, ultimately myself but including the financial controller and my marketing manager. We tell everyone downstairs what to do (FW-D).*

All CEOs were worried about the predatory behaviour of the large companies, which at times had constrained their activities. Two CEOs said this had limited their ability to expand. For example, one SME entered into a collaborative arrangement with a larger company, but soon found they did not achieve the throughput or the efficiencies agreed to. By then they had become locked into a position that they could not change. In the end they were marginalised and learned that their partner’s real intent had been to take them over from within. Low returns were also of concern to all CEOs, who said that rivalry in the industry had not been about open competition; rather it had been about the large companies controlling and dominating smaller businesses to keep them poor, and keep newcomers out. The CEOs had found it very difficult to acquire the additional quota they needed to cover by-catch, because much of it was controlled by the large companies. As a consequence they had at times paid punitive deemed value levies. All commented that only the large companies were doing well as they held the power and often dictated to the smaller companies, and furthermore that their growth at times had been inhibited by some large companies who had been anti-competitive to them.

*All through history some dominant companies have swamped smaller companies with their monopolistic culture to control the industry. They have controlled the pace of change and its lack of progression. They either progress or stop others from progressing. Either way they stay in front with that strategy (FW-E).*

In short, the slow-to-change commodity cultures of the SMEs were heavily influenced by the wider industry and by the nature of the products they produced. Their personnel were not encouraged to try to do things differently unless it reduced cost.
8.3.2 Aquaculture quadrants

**Market-oriented aquaculture SMEs**

All market-oriented aquaculture SMEs exhibited entrepreneurial cultures. Their cultures were influenced by the diverse backgrounds of their CEOs. All were tertiary qualified and all came from outside the fisheries industry. They had broad non-industry management and marketing experience, coupled with start-up experience. Their top management teams and personnel also came from outside the industry. With flat organisational structures and open communication, personnel appeared to be accorded high levels of trust and independence. All CEOs took an inclusive approach to managing their businesses and encouraged employees to undertake their own initiatives to improve processes and products. They particularly encouraged personnel to come up with innovative ideas to customer and consumer problems. This was reinforced by their incentive based remuneration systems. Consequently, their cultures were tolerant of risk taking and lent themselves to innovation. They recognised that their cultures had been critically important for the success of their businesses. They were particularly selective when employing new people to make sure they fitted into their entrepreneurial culture. When someone was employed, they ensured they had the resources and the necessary responsibilities to be an effective member of the team.

*You can’t have the entrepreneur driving the vision of the company also running a high growth business on his own. They’re completely incompatible. There’s a dynamic tension there and also there’s a mind-set. I can’t do strategy and run the logistics at the same time. So others have to do the day to day stuff. My role as a CEO is to lead the company forward and to ensure that the big building blocks are put in place by having good people on the ground running the business. As we bring new people in, I ensure that we future proof them by giving them the tools and responsibility they need to be effective (EA-G).*

The cultures of market-oriented aquaculture SMEs were different from the mainstream industry culture. They did not pose a problem or create unnecessary tension, however, because being land-based they had no interest in the marine environment and had little or no contact with marine-based businesses. Moreover, they operated very differently to their marine-based counterparts and thus their activities did not create conflicts. Indeed, market-oriented aquaculture SMEs had little in common with marine-based businesses. They had very different production methods, produced different products and used very different channels to market. They employed people from outside the industry and did not become involved in industry organisations. The CEOs did not see the need to join such organisations as their business objectives were different to those of marine-based businesses. Two SMEs had sought accreditation to non-industry run organisations, however, as that was important for the development of their respective brands.
You don’t have to be part of an industry group to go and get your idea to take off. Sometimes it’s better you’re not. You go out by yourself and pursue your ideas and dreams and you get anyone who will listen to back you (EA-I).

**Production-oriented aquaculture SMEs**

The CEOs of production-oriented aquaculture SMEs first worked in their family wild capture seafood businesses after leaving high school. During the course of their careers they developed deep industry-specific knowledge and some non-industry work and business experience. Thus, the industry had a significant influence on their business cultures. They all exhibited a slow-to-change commodity culture, although they had entrepreneurial leanings. This involved a potential move away from producing bulk commodity products, to producing packaged consumer products. All employed top-down decision making. Whilst decisions could be quickly made, the CEOs were not tolerant of risk and very cautious of change. They adopted a very hands-on approach to running their businesses. Their personnel followed established procedures for the production of bulk commodity products. Organised into work-related teams, employees undertook mostly routine tasks and were given little discretion and independence. They were not encouraged to deviate from established processes or take risks. However, they were encouraged to share ideas about how production could be improved and how cost savings could be made. Promotions were rare, and when available had been taken by family members or outsiders. Remuneration systems were hourly wage based and did not reward initiative.

*I talk with them about lots of things but I’ve got to be about for the day to day running. I constantly have to keep on top of them; sometimes they have no idea* (FA-K).

All CEOs expressed their concern about the dominance of the large processing companies. All had found it impossible to compete against the single largest aquaculture player. Concerned about the low returns and the high cost of expansion, two CEOs had at one time or another sought to work with others to capture the benefits of scale, scope and differentiation. But, a major obstacle was overcoming the industry mind-set that producing bulk commodities was the ‘best way of doing business’. They found this mentality frustrating as they believed that together much more could be achieved. But when they explored collaborations, they had faced negativity about their ideas. Potential partners were sceptical that doing things differently would lead to better returns. They thought it was too risky and probably a money losing idea. Some potential partners were comfortable with their existing products and had good relationships with their commodity buyers, and thus did not see the need for change. Others took a more confrontational approach and undermined their ideas. Consequently, all CEOs now kept ideas to themselves and only confided in people they trusted. Even though they had identified opportunities they were unable to pursue them, because of a mind-set that bulk commodities were best.

*At senior levels if you share your ideas you run into the tall poppy syndrome – people just wanting to see you fail. They’ll shoot down your ideas if you talk about them and what you’re trying to*
achieve. People are so secretive about what they do that everyone suspects there’s a gunman on the knoll, so you have to keep things to yourself (FA-I).

8.3.3 Comments on the cultures of the SME cases

The environment, organisation and the backgrounds of the CEOs and their personnel significantly influenced business cultures. Underpinning the cultures were some distinctive values and norms, which influenced value chain activities, market engagement and how they interacted with other businesses. Within each of the four quadrants the cultures were broadly similar, but as Table 8-2 shows there were some striking differences between market-oriented SMEs compared to those in the production-oriented quadrants. Market-oriented SMEs did not conform to industry cultures as they had been principally influenced by a variety of non-industry cultures. They exhibited entrepreneurial cultures. Management appeared to be supportive of open communication, accorded personnel with high-levels of trust and independence, and self-development. Personnel were encouraged to problem solve by collaborating within and with others external to the businesses. Important values were diversity, independence and innovation, and central to their business norms was for personnel to show initiative and act entrepreneurially. Thus these SMEs were accepting of risk, and were open to innovative ideas and behaviours. This was fundamental for finding high-value solutions to what customers wanted.

In contrast, the cultures of production-oriented SMEs were intertwined with the wider industry’s culture. As many of the founders, managers, and employees of production-oriented SMEs had grown up in the industry, they were primarily influenced by the industry’s culture from a very young age. The CEOs had been particularly influenced by their predecessor, a senior family member. At the heart of production-oriented SME values was the focus on cost reduction, and central to their business norms was the carrying out of tasks routinely and efficiently. Their personnel were given little independence and discouraged from pursuing initiatives. They were required to follow proven rules and standards, and the established ways of the businesses – ‘this is how you do it, nothing else’. All CEOs had a low tolerance for risk. In fact, they were skeptical of outsiders with new ideas, resistant to innovative ideas and behaviours, and did not welcome change. They preferred to concentrate on the production end of the value chain, where they focused on improving efficiencies as this resulted in less uncertainty for them. Overall, SMEs in the production-oriented quadrants avoided risk and had slow-to-change commodity cultures, while market-oriented SMEs were risk tolerant and had entrepreneurial cultures.
8.4 Innovation engagement

8.4.1 Wild capture quadrants

**Market-oriented wild capture SMEs**

Market-oriented wild capture SMEs promoted innovation to continuously upgrade their processes, products and services, as well as develop new ones. All used advanced technology and undertook R&D. Central to this was the employment of talented and knowledgeable personnel, whom they complemented with expertise external to their businesses. It was important to all CEOs to bring in highly skilled people as this had given them fresh ideas on how to solve customer problems. As personnel enjoyed a share of the profits it motivated them to be sensitive to opportunities, and come up with innovative ways to exploit them. Thus, the CEOs recognised the importance and value of organisational learning, and knowledge – internal and external – for generating new ideas and products. They not only used their own knowledge, but collaborated with others including universities and other businesses. This had given them knowledge and know-how about different ways to problem solve. However, this had not been without its challenges. One CEO, keen to improve the quality of his products, tried to set up an advanced processing centre near the sea, so that raw material could be immediately processed upon landing. He was unable to bring this to fruition because potential industry partners were unconvinced as to its merits. They could not comprehend the value of the innovations he was proposing.
Innovation, which is doing things better, not necessarily with new things, but adding value in the process is our strength. People try but they don’t have the understanding or knowledge so they just see a part of it and think they could guess the rest. You see them flounder along so I’m very much aware of the value of knowledge, whether it be technical or market (EW-C).

All SMEs had collaborated with crown research institutes (CRIs) at one time or another. Their main objectives had been to gain expert knowledge, access cutting edge technology to solve customer driven problems, and also to upgrade their own capabilities. However, all found the application process onerous and frustrating. They were critical that they had to hire consultants to complete their application forms. One CEO was very critical that he had been refused funding because of the small size of his business, especially since he felt that it was small entrepreneurial businesses, such as his, that actually came up with the best innovations. All CEOs complained that the science-push approach was not aligned to what consumers’ wanted. It appeared to be driven by ‘scientific pet projects’ rather than the realities of business. It seemed to the CEOs that innovation funding was poorly targeted policy and focused too much on finding winning inventions; it should be more aligned to their needs and not those of scientists. Little funding had been available to them and to get any, they were required to craft their applications to fit in with the official view of how their businesses operated. To them this was illogical.

This guy in his little science bubble is trying to get grant money. So he writes a proposal that by its very nature is probably unachievable, because otherwise you won’t get any money. Then he’s got to convince someone from industry to go along with it and match it. When these two guys meet up, they haven’t a shit show in hell, they’ll likely destroy each other. The poor research guy’s good idea will get screwed up and his partner will quickly lose faith in the whole thing, probably risk get the sack for wasting the company’s money and the whole thing will get a very bad name. The mission should be find out what end-users want and then have a crack at making it (EW-A).

Production-oriented wild capture SMEs

All production-oriented SMEs concentrated on improving the efficiencies of their catching and harvesting. One had undertaken some R&D, but in the main they had relied on old technology and their own knowledge to ad-hoc problem solve. No CEOs had undertaken major upgrades to their plant and equipment, processing systems or products since they entered their business. One CEO had attempted to develop a new consumer product, but was unsuccessful, and another had looked at a different method of harvesting. Both believed they had been undermined by others in the industry, but recognised they lacked the capabilities needed to properly exploit their opportunities. All CEOs believed it was government’s responsibility to undertake R&D, because as industry returns were so low they could not afford to do it themselves. They believed that their commodity levies should cover R&D and innovation. Two CEOs emphasised that as they only supplied unprocessed or semi-processed product to large processing companies there was no incentive to add value to their products. In fact, they complained that they barely made enough money to survive and what money they did make had to be spent on maintaining their aging plant and equipment. They had no money to modernise or ‘spend on
R&D’. All CEOs expressed bitterness that little had changed in the past 40 years. Contrary to the original intention of the quota management system it had not brought certainty or led to people investing in the industry. From their point of view the quota system had provided them with the image that they were world-leading, but the reality was very different.

There are no incentives to modernise to get the best from the raw material, no pressure to update and use newer technology. The industry claims we’re at the top of our game, use modern harvesting equipment producing top quality products and make an important economic contribution to NZ, but the truth is we’re very inefficient and old fashioned. Much of what we do belongs in the 60s-70s (FW-F).

All CEOs were very concerned with succession and the lack of new blood with new ideas coming into the industry. All had tried to get their children involved in their businesses, with little success. The children of two had no interest in succeeding them. The other was interested, but he was unsure how long it would last. They saw succession as a major challenge facing the industry, because new ideas and better ways of doing things were needed. Additionally, if they could not pass on their skills and knowledge, it would be a loss to the industry. One CEO thought that few if any in the industry believed in or understood value-adding, because it was seen as adding cost for a questionable return. The other two commented if someone had a good idea they would listen, but were unlikely to invest in it, because they did not have the capital and doubted that higher returns could be achieved. Two CEOs were of the view that as little had been done to develop the industry; entrepreneurs should be given access to the raw material. This would help develop the industry, and potentially provide new customers and better prices to them. Unless that happened the industry would be doomed to remain producing commodities.

Generally the industry itself doesn’t believe in innovation and value-adding. They won’t use their own money. They say: either you guys are dreaming with your fancy products and niche markets, or if you are not dreaming, well you might be right, bring it to me and I’ll look at it. But to put money on the table to invest in innovation and market development, hell they wouldn’t do that (FW-E).

8.4.2 Aquaculture quadrants

Market-oriented aquaculture SMEs

Central to market-oriented aquaculture SMEs was customer-problem-driven innovation. All undertook R&D and used advanced technology, which underpinned the creation, delivering and capturing of value. One was developing cutting-edge technology. All CEOs promoted innovation as the way to create and capture premium-value as well as to control their value chains through the development of just-in-time and traceability innovations. They concentrated on discovering new and better ways of doing this because once seafood was harvested it naturally degraded and lost value. Thus they saw that organisational learning and innovation was vital for controlling and ultimately eliminating this loss of value. Hence, all CEOs targeted highly skilled and knowledgeable people and motivated personnel to
innovate with performance pay. One CEO emphasised this had been important for improving their capabilities. Two CEOs had also worked with universities to tap into their research capabilities, improve their own knowledge and problem solve. One SME had gained considerable benefit from this collaboration and subsequently funded long term research. In short, these SMEs did not innovate on a project by project or problem by problem basis, rather innovation underpinned every aspects of their respective businesses.

It’s about bringing in innovation, and necessity is the mother of invention, and if you don’t have a necessity to change you never will. For us it was necessity that drove us. The necessity for us was taking 5 star fish out of the water but by the time we processed it and sent it to the customer it was 2 star and losing value. We would lose value all the way along the chain, not add value, so we needed to turn that model around (EA-G).

All CEOs worked closely with customers to understand their wants and solve their problems. They collaborated with other active innovators, particularly with government research institutes. However, they were all very critical of government innovation funding policies. The small size of their businesses had resulted in applications being declined. Undaunted, one CEO managed to raise funds privately. His innovation was so successful that he went on and won a number of innovation awards, including being a finalist for a national award. His was the only primary industry business among the high tech finalists and ‘we did it with a raw natural product’. Since then this SME had funded R&D from its revenues. The CEO was of the opinion that government funding models were unfairly targeted at large companies, because small SMEs like his lacked the capabilities to innovate and might not use the funding wisely. It seemed to him that government had thrown money away, funding companies that did not innovate, yet his award winning innovation had been refused funding. All CEOs felt strongly that it was small businesses like theirs that drove real innovation and not the large companies. It seemed to them that funding should be better split between large and small companies. However, they saw a trap with the industry funding model. They did not want to develop innovative technology and then have to share it with freeloaders before they could capture a return. There were those that would refuse to contribute, rather they would sit back and wait for the intellectual property to come to them.

We spend about 7 percent of our annual revenue on R&D. I challenge you to find any New Zealand company spending 7 percent on R&D. If they are making a 5 percent margin, there’s no way they can they spend anything on R&D. Real innovation is not being driven out of the large dinosaurs; it often happens in back sheds by small players, because by their nature they cannot compete with big players so have to find a smarter way to do it. If you look at innovation around the world, it’s actually the small players close to their customers with more necessity and more desire to change who are able to bring on new innovations faster, quicker and leapfrog the dinosaurs (EA-G).

Production-oriented aquaculture SMEs

Production-oriented aquaculture CEOs were active innovators when they first developed their farms, but as their farms matured innovation was no longer a priority, although they problem solved when
production issues emerged. Producing standardised commodity products, they used proven processes and technology. Their focus was on maximising production and operating efficiently and they considered that making non-industry standard changes to their production methods could be risky. One CEO had given no thought to innovating at the market end of their value chain, but two had. They had looked at developing final market products, but preferred to supply in bulk. By default many of the innovations at the production end of their value chains flowed to the SMEs from the CRIs. These largely related to incremental upgrades of production processes to improve efficiencies. All CEOs highly valued the work of the CRIs and cooperated with them. They had learnt from the scientists, which had resulted in improved yields. Thus, they were very supportive of innovation at the industry level, but it was not something they would necessarily do alone or encourage their personnel to do. The price they received for their products did not provide an incentive to fund innovation and their returns were insufficient to sustain any measurable R&D. Two CEOs were considering developing a processing plant to give them more control over pricing, but they would use industry-standard technology.

All innovation is outsourced, there is zero innovation inside the firms. Why is that? It’s the culture, it’s not about innovation it’s about not taking risks, it’s about this is my desk and that is yours. I come to work and earn my salary and go home at five and that’s all I have to do. Not paid to take risks (FA-L).

However, all CEOs commented about the need for research to understand existing markets and find new ones, because at times the oversupply of product had forced prices down to a very low-level. They could not do it themselves as they were capital constrained and did not have the skills to effectively carry it out. They were critical that funding for market development often went to larger companies as little of that knowledge had trickled down to them. If market development was industry inclusive and the knowledge shared with everyone, particularly the small businesses, it could act as a catalyst to further advance the industry. However, two CEOs were of the opinion that the support of the large companies would be needed. Without it anything they tried was likely to fail. They hoped that as the government was intent on opening up the aquaculture sector, new players with fresh ideas would eventually enter the industry. This would help to overcome the dominance of the large companies and possibly lead to other opportunities being revealed.

We’d love to be something like Zespri; that would be perfect for us, but I don’t think there’s enough players, individuals, private enterprise in the game now. It’s driven by the big guys (FA-J).

8.4.3 Comments on innovation engagement

While there were differences within the quadrants the most striking differences were between market-oriented SMEs compared to those in the production-oriented quadrants (see Table 8-3).
SMEs in the market-oriented wild capture quadrant used innovation to solve customer problems, to upgrade processes, products and services, and develop new ones. Customer problems – known or perceived – drove the innovativeness of market-oriented aquaculture SMEs. Innovation to them was more than solving customer problems. It was an enduring part of their individual businesses. Of all the cases these SMEs were the most innovative, possibly because of the additional challenges faced by their land-based activities. Market-oriented SMEs in both quadrants used advanced technologies. They sought out knowledgeable people, engaged in organisational learning, R&D, and formed alliances and linkages with universities and CRIs to gain knowledge, upgrade their capabilities and collaborate on innovation. All drew on talented people with different ideas and knowledge – internally and externally – to innovatively solve customer and old industry problems. In short, with a deep understanding of customer wants they embraced innovation, which went to the heart of these SMEs. It underpinned how they created, delivered and captured value.

In contrast, production-oriented wild capture SMEs undertook ad-hoc problem solving, and were not open to innovative ideas or behaviours, particularly where investment in R&D was required. Their focus was on producing standardised commodity products efficiently. They appeared to be sceptical and biased against innovation. They trusted their ‘tried and tested’ processes and traditional technology. They were supportive of government innovation, however. In fact, they were of the opinion that it was government’s responsibility to undertake innovation. Innovation for production-oriented aquaculture SMEs was essentially outsourced to CRIs, who independently took the lead on production-led R&D. The
SMEs received the benefits of such innovations by default. When they first developed their farms all SMEs carried out R&D, but when they matured they stopped and instead relied on their proven processes and technology, and their own knowledge. They support research institutes undertaking R&D, however, as they were continually looking for ways to improve production yields and efficiencies.

8.5 Concluding comments

The organisation structures and cultures significantly influenced how SMEs innovated. But, ultimately all of these were shaped and influenced by the CEOs themselves, and hence the SME cases took on some distinctive characteristics. SMEs in the production-oriented quadrants were characterised by top down organisation structures optimised for efficiency rather than flexibility. Decision making was centralised in the CEOs, to ensure control and the minimisation of risk through the close coordination of activities, which were highly standardised and routine in nature. The SMEs exhibited slow-to-change cost-driven commodity cultures, with an anti-innovation bias. Personnel were not encouraged to innovate. Some SMEs had undertaken ad-hoc collaborations to problem solve, but risk reduction and scale had driven this. The cultures were created, nurtured and sustained by successive past commodity producers, including predecessors of the CEOs. These had influenced the CEOs from a very young age, and with competing business agendas it had led to some dysfunctional behaviours. Consequently, innovation was either viewed with scepticism or was not a priority – commodity products came first and markets followed. All production-oriented CEOs relied on their own capabilities and trusted in their ‘tried and tested’ efficient standardised processes, which in their view could be little improved. They had given little thought to upgrading their products and services. Even if they were presented with an innovation, they may have been unable to take advantage of it. However, they were very supportive of government-led innovation to upgrade their processes to improve efficiencies. In short, their structures, cultures innovation orientations had changed little from when the SMEs were first formed. They were locked into a commodity mind-set that fostered entrenched views that traditional approaches were best.

SMEs in the market-oriented quadrants posed a polar contrast. The non-industry work and business backgrounds of CEOs particularly influenced how they organised their businesses, their cultures and their disposition to innovation. These SMEs had flat flexible structures designed for collaborative problem solving and conducive to learning. They were low in formalisation and control was decentralised. Their CEOs invested in talented and skilled personnel, who in the main coordinated activities between themselves, and in turn they drove the business’s flexibility. Open communication fostered trusting entrepreneurial cultures that embraced innovation, and was fundamental to finding and exploiting market and product opportunities. The CEOs continuously reinforced their cultures, and being risk tolerant, they invested in organisational learning, R&D, and collaborated with universities and CRI to solve customer problems. This permitted them to acquire and develop in-house, a range of new
capabilities that further enhanced process, product and service innovation. In fact, customer problems drove their innovation activities – markets came first and product followed. They aligned learning and innovation activities to what markets wanted, which led to the creation of differentiated products. For most of these businesses innovation was more important than the financial returns alone. In short, market-oriented SMEs could be characterised as single dynamically integrated units that fostered a market-driven innovative approach to doing business itself.

Put another way, market-oriented CEOs had previously been exposed to or embraced organisation designs and cultures that lent themselves to entrepreneurship. They distinguished themselves by using their capabilities to not only do things right but also to do the right things. While production-oriented CEOs through legacy embraced organisation designs and cultures with centralised control and decision making. Their businesses were characterised by routine and standardised activities and thus were resistant to innovation. Production-oriented wild capture SMEs relied on their operational capabilities to make a living, but production-oriented aquaculture SMEs used theirs to also strive for operational best practices. In short, market-oriented SMEs embraced capability upgrading and innovation, while those in production-oriented SMEs did not. Ultimately, the backgrounds and capabilities of management influenced their organisation design, culture and innovation orientations.
Chapter 9: Entrepreneurial management capabilities

9.1 Introduction

The previous chapter looked at how the SMEs were organised, their cultures, and innovation engagement. These were ultimately all influenced by the CEOs themselves. This chapter builds on this observation by examining entrepreneurial management capabilities and how such capabilities influence the value-added activities of the SME cases. It begins by comparing the backgrounds of the CEOs, their experiences and the opportunity that brought them to the seafood industry. Then the chapter progresses to look at their reasons for creating/pursuing their businesses as well as their personal business objectives. This is followed by an examination of the top management teams and their people. Analysis involves looking at the dynamic interplay between these elements, as well as comparing the similarities and differences within and between the four quadrants. In the examination of entrepreneurial management capabilities, we will look at how the CEOs interacted, with their environment and how they were influenced by it. Additionally, the most important entrepreneurial management capabilities that directly influenced value-adding activities are highlighted. The chapter concludes with a summary of the differences and similarities between the four quadrants.

9.2 CEO backgrounds and experience

9.2.1 Wild capture quadrants

Market-oriented wild capture CEO backgrounds

The highest level of education for market-oriented wild capture CEOs was high school. All three entered the wild capture sector at a very young age, with most following in the footsteps of an older family member to work in their respective family fishing business. At various times they also undertook a variety of non-industry jobs, which gave them broad practical non-industry experience, including managerial skills. They also built up high levels of fisheries industry-specific knowledge and work experience. And, as they became involved in running the businesses they further gained managerial experience and skills, and knowledge of their commodity markets. This permitted them to build up industry-specific networks and a number of enduring relationships, which were critical for accessing quota and raw material. Eventually with the retirement of older family members, one took over running of the business, while two ventured out and started their own fishing businesses. Two also diversified and bought or setup other primary industry businesses to complement their marine-based activities. Along the way all CEOs entered into a variety of partnerships and collaborations with other small operators to improve efficiencies and gain access to additional fish species. Mostly these did not last, primarily because while the CEOs wanted to grow their businesses, their partners did not. Their partners
were worried that a larger operation would become too unwieldy and the additional risks could not be justified. Hence, the CEOs became increasingly frustrated by the continual struggle to acquire additional quota and raw material needed to grow their businesses. It was not that it was unavailable; rather it was very difficult to get, because most of it was already locked up by the large companies.

*There has to be a way for entrepreneurs to access the raw material. If they cannot do that, then the industry is doomed to the commodity sector and there will be little or no value adding* (EW-A).

**Opportunity recognition**

Ultimately, their activities brought them into contact with foreign buyers, which sparked their interest in the possibilities of exporting to overseas markets. Two visited seafood markets in Japan and Europe, while one used the services of New Zealand Trade and Enterprise, as well as the internet in search of information about overseas products, processing methods and markets. They soon discovered that much higher levels of value could be captured by producing high-value branded consumer products as opposed to only increasing throughput and improving efficiencies. In spite of this, all CEOs encountered much scepticism about prospects for different higher-value products, and processing methods and packaging. A major barrier to the development and expansion of their respective businesses, according to one CEO, was that it was ‘inconceivable to many in the industry that someone overseas would eat or use something we did not’.

*We want to buy these things and guys say to us look mate we’re going to save you the trouble of losing a lot of money, if we sell them to you you’re only going to lose your money, so we’re just going to forget about it. We’re going to help you by not giving them to you* (EW-B).

Nevertheless, they persevered. Two CEOs saw the opportunity to take existing low-value raw material and turn it into premium consumer branded products. The other saw the opportunity to take a marine waste product and process it into a valuable product, highly prized by high net worth consumers in Asian markets. All determined that their respective opportunities were significant and thus raised the capital for their new ventures by selling off their existing fishing businesses and teaming up with outsiders to start new businesses. One took out a loan while two utilised surplus funds from their non-industry businesses and brought in other investors.

**Production-oriented wild capture CEO backgrounds**

The highest level of education for production-oriented wild capture CEOs was also high school. Following in the footsteps of a family member, they also became involved in their respective family fishing businesses at a very young age. They also grew up in the business, which was a very important part of their everyday life. All of these businesses primarily concentrated on catching inshore or pelagic fish, which they sold unprocessed or semi-unprocessed to large fishing companies or through their local fish market. The ocean was the backbone of their businesses, which they viewed in much the same way
as a farmer views his farm. In contrast to their market-oriented counterparts none of the CEOs had worked in other industries. They solely relied on their deep fisheries-specific experiential knowledge, which gave them an inherent ability to know where, when and how to fish. All CEOs closely engaged with customers and competitors. They often collaborated with other fishing businesses, which was important for sharing resources and accessing additional quota. Eventually all took over running their respective family business and entered into a series of partnerships with other businesses to obtain additional quota, better pricing, and to improve efficiencies. But, due to disagreements over price transparency these partnerships did not last.

I was in gumboots, five years old and down in the fish markets and then I finished school. I just sort of joined the company because I always wanted to be involved in the family business. I enjoyed the people, I enjoyed the experiences, and still do apart from the interaction with the Ministry of Fisheries. I did everything from packing, cleaning, truck driving to selling fish at the market (FW-D).

Opportunity recognition

All CEOs were very knowledgeable about the industry and one had a very successful business. However, they were all adversely affected by poor catches, unwanted by-catch, reduced demand and particularly the low prices they received for their catch. Prices were very volatile due to changes in fishery biomass, changing demand and the weather. The CEOs responded by changing when they harvested, or targeting different species, or changing their method of fishing. Moreover, they all developed their own harvesting system and specialised in the species they harvested. On the other hand when demand increased the CEOs increased their harvesting capacity, which led to improved efficiencies. In the main, they developed and grew their businesses by taking advantage of unexploited fishery resource opportunities. Over time their fisheries-specific knowledge and experience provided them with the ability to successfully discover and exploit new species or new biomasses of existing species, before their presence and location became widely known. This first mover advantage in terms of exploiting a new fishery resource gave them an important lead over others, but typically not for very long.

We got to a stage after I had done a lot of research, that the only way we could cost effectively grow the business was not to compete on trying to buy every last kilo of quota, but to go out and see if we can find some under-developed fishery that we can then utilise to increase the value of our business (FW-D).

Two CEOs did not wish to radically change the direction of their business, but one did. The two CEOs were interested in exploiting new product opportunities, but they did not have the resources. They needed capital, and lacked processing and market knowledge and thus viewed the opportunities as not worth the risk. The other CEO had accrued extensive knowledge of a particular species and saw an opportunity to process it differently into a high-value consumer product. Initially the new product found high levels of market acceptance domestically and internationally and returns were very high. However,
the CEO was unaware of his food safety compliance obligations and by the time he had resolved the issues, the business encountered cash flow problems and was forced to close.

9.2.2 Aquaculture quadrants

Market-oriented aquaculture CEO backgrounds

All market-oriented aquaculture CEOs were tertiary qualified and one majored in marketing. All came from non-fishery industry backgrounds and acquired broad work and managerial experience, primarily in medium-size businesses across a range of industries. Two had also worked as managers in large businesses. Their experience covered the manufacturing and service sectors and included involvement in supply chains, value chains and ultimately in consumer markets. Notably, all CEOs had been involved in the development of consumer brands. One had gained significant international experience as a product branding executive and the other CEOs had gained considerable experience in the production of high-value consumer food products. This not only gave them a broad knowledge of markets, but provided them with a good understanding of niche segments, and consumer wants and problems. Their industry backgrounds also enabled them to build up a diverse range of business networks and relationships, which coupled with their work experience, was crucial when they formed their first business. These first businesses were the result of the CEOs identifying consumer markets opportunities after they decided to move out of paid employment due to increasing job dissatisfaction. These first businesses were subsequently sold, and they all started other new ventures as they moved onto bigger opportunities. Two still retain a small interest in these businesses. One CEO referred to himself as a serial entrepreneur, moving from market opportunity to market opportunity, while the other two saw themselves as wanting to develop a strong business and be their own boss. Having built up a broad range of skills and business experience, all were confident about what worked and did not work.

One of the problems with a lot of New Zealand businesses is they don’t have the capability of implementing their ideas. They just can’t do it so I started taking equity in some projects. The first one out the door was a star and my business partner said ‘what’s next’. I said there’s only one thing I want to do and that’s aquaculture, because I’d looked at it and thought they were producing very little of its real potential. This was a time when aquaculture couldn’t move forward because there was a moratorium on everything. I didn’t have to do aquaculture, but I thought it only needed capital, courage, a vision, branding and marketing (EA-G).

Opportunity recognition

Market-oriented aquaculture CEOs considered that their business skills and previous work experience were crucial when they looked to the aquaculture sector for their next opportunity. In particular, their branding experience and knowledge of consumer markets was central to their discovery of opportunities that led to their current businesses. Alert to profitable market opportunities, they found gaps in consumer markets for premium quality renewable seafood. Specifically, they identified the market need
for premium branded aquaculture products. One CEO undertook a management buyout of a land-based business and transformed an average product into a highly prized premium product. Another undertook an acquisition of another land-based business and moved it into retail and eventually into tourism and the food service sector. The other CEO founded a new start-up to turn an aquaculture waste product into a premium consumer product.

Their [the previous owners] key weakness was the lack of market knowledge and they didn’t have the ability to add value to the product by branding it. The biggest thing I noticed was their shortcomings and inability to do things themselves and one of those areas that they were short on was brand development and marketing. So I came in and exited the business partners and restructured it (EA-I).

All CEOs saw big opportunities in land-based aquaculture and despite the high investment costs, they were shielded from many of the problems that marine-based businesses faced, such as the influence of the marine quota holders. Moreover, they found that their local councils were very supportive of their respective expansion and job creation plans.

Production-oriented aquaculture CEO backgrounds

The highest level of education for production-oriented aquaculture CEOs was high school. Their fishing industry careers started at a very young age, in the wild capture sector. They either followed in the footsteps of a family member to work in the family wild capture business or started their own fisheries business after working for some years. One CEO took time out from the family business to undertake an overseas working holiday. This gave him service industry experience in a number of different countries. After he returned to New Zealand he started his own wild capture business. The other CEOs started their business by buying a boat and going fishing. All businesses focused on inshore fish for sale unprocessed to large fishing, or processing companies, or for sale through a fish market. They built up high levels of fisheries industry-specific knowledge and experience, which included managerial experience and knowledge about their markets. This allowed them to build up a range of business relationships, which were crucial for in the long run for accessing quota. Eventually, these CEOs also collaborated with other companies in an effort to improve efficiencies, access better infrastructure and receive higher prices, but these collaborations did not last, primarily because of disagreements over price transparency. Over time, all CEOs experienced some good years and many not so good years. Increasingly they became disheartened with the wild capture sector because of rising costs, declining returns and too many fishermen chasing too few fish. Consequently, they started looking for better opportunities elsewhere.

I was originally a commercial fisherman on and off since I left school at the age of 16. But, I didn’t want to keep following the tradition of the New Zealand scheme of fish trading, basically just flick it as quickly as you can and just receive whatever someone is willing to pay (FA-L).
Opportunity recognition

When the government offered aquaculture licences, all CEOs were motivated to move away from the wild capture sector after recognising they could make better returns by farming shellfish. They also determined that there was an under-supply of shellfish in the Auckland market. The opportunity had been made available by the government and they only needed to exploit it. Their wild capture experience enabled them to understand the risks as well as the potential rewards. It also provided them with knowledge about supply chains, route to market, and industry networks they could leverage off. To exploit the opportunity they sold off their wild capture assets and formed new start-ups. All developed successful businesses, which they grew by increasing the size of their farms, coupled with productivity improvements. Two also branched out into other aquaculture species. Importantly, the opportunity gave them a first mover advantage, which in hindsight proved to be fortunate given the levels of capital later needed to set up a similar operation. Moreover, the businesses were all formed before the enactment of the 1991 Resource Management Act, which made it very challenging for new entrants to enter the sector. Despite these advantages, the CEOs nevertheless found the businesses very challenging due to increasing costs and diminishing returns. All remarked that returns were lower than when they started, consequently all were looking to integrate forward along their value chain.

The government were issuing licences [aquaculture farming] up here and we applied, and that gave us the opportunity to start. Although they’d gone broke in the South Island we knew we could get started and sell our products, because the biggest market was Auckland and we would be handy to it (FA-J).

Overall production-oriented aquaculture CEOs pursued an opportunity made available by government that was closely linked to their prior knowledge and experience in the fishery industry. While they found aquaculture farming challenging, they concentrated on improving returns by expanding their farms and improving productivity.

9.2.3 Comments on CEO backgrounds and experience

Market-oriented wild capture CEOs chose to move from the production-oriented wild capture quadrant to form new businesses, after searching for and discovering high-value seafood opportunities in overseas consumer markets. Having become disillusioned with producing low-value products they were motivated and sensitive to value-enhancing opportunities. Their deep industry-specific knowledge coupled with their non-industry job experience provided them with the ability to comprehend other higher-value branded products from the same raw material.28 Armed with this background they decided to set-up a new venture to exploit the opportunity initiated by overseas buyers. However, the major challenge for all CEOs was securing the raw material. Their enduring industry relationships were crucial

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28 These CEOs followed Fiet’s (2007) prescriptive model of entrepreneurial search and discovery which focuses on constrained systematic search to maximise search results. Also see Fiet and Patel (2008).
for overcoming this obstacle. In contrast, production-oriented wild capture CEOs also had deep industry-specific knowledge and experience, but they had little if any non-industry job or business experience. Having acquired their business through family succession, they pursued opportunities closely linked to their knowledge of the fishery resource. They chose to produce low-value commodity products and saw that their opportunities were in discovering new species and biomasses. They were not motivated to grow their businesses beyond their ability to harvest the resource. Typically, they were hands on CEOs, and reluctant to move away from what they knew. Two had attempted to move into higher value products, but were hamstrung by their lack of knowledge.

Market-oriented aquaculture CEOs came from outside the industry after they identified a market gap for branded premium seafood products. They deliberately sought out land-based aquaculture opportunities and were driven to exploit them. With broad managerial and business experience their most important activity after entering the sector was to create new brands. They saw this as instrumental for capturing value. In fact, all CEOs held the view that their brands resulted in demand outstripping what they could supply – more than a year in one case. In contrast, production-oriented aquaculture CEOs seeking higher returns all moved from the wild capture sector to pursue a marine-based aquaculture opportunity effectively created by government. Their industry-specific knowledge and experience was important for exploiting the opportunity, and all developed successful businesses. They had been somewhat shielded from high levels of competition following the introduction of the Resource Management Act in 1991. They saw future opportunities coming from discovering new ways to improve the productivity of their farms, coupled with more efficient harvesting methods.

In summary, Table 9-1 shows a number of similarities and differences in the CEO backgrounds and experience, and the opportunities. Notably the backgrounds and experience of production-oriented wild capture and aquaculture CEOs were somewhat similar. And, while market-oriented wild capture CEOs had much in common with their production-oriented counterparts, they had non-industry work, business and start-up experience, whereas market-oriented aquaculture CEOs had little if any industry-specific knowledge and experience, but had high levels of non-industry work, business and start-up experience. Tertiary qualified, they had experience in the development of branded consumer products. Overall, their backgrounds and experience were important for influencing the types of opportunities they pursued. Like Whittaker et al. (2009) this study also found backgrounds including education, abilities and prior experience were critical to the types of opportunities pursued.

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29 Prior knowledge of markets influenced the types of opportunities these CEOs discovered and pursued. See for example Shane (2000).

30 Shane and Khurana (2003) found that prior career experiences strongly influenced the types of business ventures founded.
9.3 Business creation and objectives

9.3.1 Wild capture quadrants

**Market-oriented wild capture CEOs – personal reasons for creating/pursuing the business**

Market-oriented wild capture CEOs had become increasingly disillusioned with poor returns, and determined that there had to be a better way. Frustrated with the low-value of their commodity products and faced with ever-diminishing returns, they recognised the only way forward was to either exit the industry or produce higher-value products. Moreover, it was a continual battle acquiring additional quota, because most of it was already locked up by the large fishing companies. Consequently, the CEOs were driven to break the grip that these companies had over their activities. Initially they were unsure of how they would do it or even the pathway, but over time their knowledge, experience and networks steered them towards fringe areas that the large companies did not dominate. Their overriding objective was to achieve better returns while operating under the radar of the large wild capture companies. After searching for and identifying opportunities in consumer markets all CEOs exited their existing businesses and set up new ones to produce the products. One CEO did not think as a consequence he would be taken seriously, because of the small size of his new company; he thought...
he would be seen as ‘just a really lone nutter’. The other CEOs had access to unique raw material, which could be turned into premium value finished products. In short, they shared the same objective – to move away from producing low-value commodity products to high-value branded consumer products. Not only had this provided them with a stronger future, but they also considered it worthwhile because it also resulted in better utilisation of fishery resources.

My aim was to stay in the fishing industry, but I had to find something that was new, something that was different and something that was not dependent on others for market access. I knew the money was to be made in selling it direct, not so much in catching it (EW-A).

Personal business objectives

Ultimately, the CEOs aimed to show that high-levels of value could be captured in the wild capture sector by doing things differently. One CEO said he would like to see many small-to-medium sized ‘high-margin entrepreneurial businesses’ working in common. This was in contrast to many within the industry who considered large businesses were better because of scale, coupled with a ‘mind-set of better I catch it than you’. He did not share these views, because while the harvesting methods used by large vessels were efficient they were indiscriminate and were not the best or the only way to exploit fisheries resources. Two CEOs commented that some land-based aquaculture businesses provided a good picture of what can be possible for marine-based businesses. One stressed that his objective was to build a strong business around by-catch and return as much as possible to the fishermen. But this was unsustainable because ironically many fishermen found it unbelievable that by-catch was worth more than their targeted species. Consequently, the CEO was forced to reduce his buy prices.

We aimed to return as much profit as we can to the fishermen and as the demand for our products increased we raised the price. As we raised the price we got less and less product from the fishermen, because it was just becoming completely unbelievable to them that anybody could pay $150/kg for something they threw away. To them it had to be a joke, so we cut our price by over half and the volume went right back up. It was good for us because it meant that we had a greater profit margin, but it was astounding and it’s indicative of the participants in the industry. It’s very painful trying to help them (EW-B).

Overall, market-oriented wild capture CEOs aimed to create a worthwhile business that was synonymous with high quality products and the responsible utilisation of fishery resources.

Production-oriented wild capture CEOs – personal reasons for creating/pursuing the business

Production-oriented wild capture CEOs followed in the footsteps of a family member and eventually acquired the business through succession. It was something they were naturally drawn to from a very young age. All aimed to build upon the foundation of their predecessor to grow the business financially stronger. However, they found the businesses went through periods of strong growth followed by decline. Despite struggling with diminishing returns the CEOs persevered with their businesses, because there were few alternatives and ‘that was what they did’. Two had taken time out from the business to
undertake other jobs, but they were drawn back. All CEOs stressed that fishing was in their blood and
few people understood what they did and why they did it. Often they worked in harsh conditions, out of
sight of land and separated from families for long periods of time for little or no return. But, they
explained ‘out there’ at sea it is another world, full of diversity and rich in life. All CEOs characterised
their persistence as a love for the sea. Nevertheless, they all saw the day when the inshore sector in
particular, will collapse. They aimed to be around when it does as they are confident that new
opportunities will emerge. Ultimately, they see a strong future for the industry, but not before it goes
through a major crisis. This would lead to much better and returns which would permit them to get on
with developing other potential fisheries.

Right now we’re getting screwed to death. We are held to ransom and no value comes back to the
fishermen because the big companies don’t have to pay it back. They have got us where they want
us and that’s why the majority of the fishermen got out and those that have stayed in are in it for
the long haul, because one day it will change and come back. And we’ll be here (FW-F).

**Personal business objectives**

The CEOs did not aim to grow their businesses to a size that they felt they were unable to control it.
Their aspirations were modest and orientated towards the financial aspects of the business. They had
two major personal business objectives. The first was to reverse the trend of diminishing returns by
looking for under-developed fisheries and species that they could secure low-priced quota for. This may
also involve utilising new harvesting methods to target more valuable species in areas that could not be
harvested using standard methods. Second, they wanted to build strong, financially viable businesses
that could either be passed onto their children or sold when they decide to retire. This was important
for their family’s well-being and future generations.

I don’t come to work for the money. It’s for the family. Everything has been a battle with some hard
times, but if I can grow this business and sort of increase the value, that’s reasonable (FW-D).

Overall, production-oriented wild capture CEOs had a strong focus on financial objectives and aimed to
increase the value of their business for the next generation.

**9.3.2 Aquaculture quadrants**

**Market-oriented aquaculture CEOs – personal reasons for creating/pursuing the business**

After discovering consumer market opportunities, market-oriented aquaculture CEOs recognised that
land-based aquaculture held significant potential for development. One CEO saw the opportunity as
providing a complementary revenue stream to his other business, while the other CEOs wanted to do
something worthwhile, because others had been unwilling or unable to take full advantage of the
available opportunities. All CEOs were very excited about their vision for growth, rather than the
financial rewards that their opportunity would bring. All had a big picture view and with a background in
branding they were highly motivated to create new branded products. Creating a brand would enable them to develop their own markets. One CEO had the vision of creating the highest priced market in the world and while the financial reward was important, it was secondary to the goal of creating something new. All were only focused on the financial side of the business when eventually they were forced to complete business plans for investors. Building a worthwhile substantial business was more important than building their personal fortunes. All were driven to do things very differently from the industry. They planned to use all parts of the raw material, as they disliked waste. One CEO emphasised that he would lead the industry in terms of using sustainable environmental practices, which would be a crucial attribute of his brand.

*Filleting fish using cheap labour is not our future. Our thing will be developing really innovative high-added-value products while not wasting anything. It’s absolutely driving us. We will waste nothing from fish. In the end it will be 100 percent used. There will be nothing coming out the end going to a tip face or being thrown away. We will be completely sustainable in that way (EA-G).*

**Personal business objectives**

Market-oriented aquaculture CEOs had a range of business objectives. Their key aim was to be recognised as among the world’s best producers. One realised this by gaining accreditation to a globally respected certification scheme and employed transparent processes open to all. This included certification of the chain of custody from farm to plate. He stressed that if customers did not believe his claims they could come and see for themselves. All CEOs pitched their prices at the top end of the market and one was able to command some of the highest prices in the world. He said, you cannot claim to be the best if prices do not reflect it. The CEOs were able to charge a price premium for two reasons – scarcity and exclusivity. Their production was extremely small in the terms of total global production, thus as their products were scare they targeted the top end of consumer markets. Similarly one CEO was selective about whom he supplied. He succinctly commented ‘who you don’t supply is more important than who you do supply’. Closely linked to scarcity and exclusivity was margin. Even though the CEOs primarily focused on building great businesses they were margin-oriented. Their branding and market positioning deliberately aimed to capture high-margin premium prices.

*The average industry margin I am told is 10-15 percent. I said to my new general manager, why is it so fucking low! She said ‘because it’s a bad industry’. Why would you go to the expense of putting millions of dollars into plant to make only 10-15 percent margin? Why would you do that? Our goal is 50 percent margin and we’re on track to achieve that (EA-G).*

Overall, the CEOs were driven to build great businesses that were synonymous with the highest quality renewable products that money can buy. The business came first, and then margin followed. All saw a strong future in land-based aquaculture.
Production-oriented aquaculture CEOs – personal reasons for creating/pursuing the business

Production-oriented aquaculture CEOs moved from wild capture fisheries because they saw that aquaculture had a very strong future, in contrast to the wild capture sector. Aquaculture was strongly promoted and supported by government as the way forward. It was based on the farming of shellfish, which provided a stable and renewable resource base. Importantly, aquaculture would provide better certainty, resulting in improved financial incomes. Unlike the wild capture sector the uncertainty of the catch would be removed and they would be growing a physical asset. They saw it as not much different from building a sheep farm; hard work initially, but once the farm was producing, to a degree it would take care of itself. Moreover, much of their knowledge and skills learned in the wild capture sector were transferrable. The route to market was very similar to the wild capture sector and they could leverage off their industry networks to set up the business since many of the same people would be involved. Additionally, the CEOs saw it as an opportunity to have a more stable work-life balance as there was no need to spend time away from the family out-of-contact, in harsh and dangerous conditions for extended periods of time. All commented that aquaculture gave them regular work hours for the first time in their lives, thereby bringing them closer to their family and allowing them to be home every night. All moved their homes to be near their farms, which also made it easier for spouses and other family members to be involved in the business. In the early days this was important as it reduced the necessity to hire in staff, which assisted with keeping costs down.

We heard everywhere that the world’s short of protein and government was really promoting aquaculture. It was and still is the number one priority for the Minister. It was a good choice then and still is today. The potential’s huge (FA-L).

Personal business objectives

The personal business objective of all CEOs was to build a great business around an excellent renewable product, with a good balance between work and home life. While financial objectives were most important, all CEOs said that their work-life balance was also importance. They did not aspire for their business to become so large that they lost control of it. Like land-based farming, being hands on was important, particularly in dealing with local authorities and buyers, and in maintaining the farm. All were very focused on improving the productivity of their farms and were looking to enlarge them as this would provide improved returns. In part this was driven by a need to vertically integrate to produce consumer products. Larger farms were necessary to optimise economies of scale and to supply the quantities necessary to efficiently operate a processing plant. Their ultimate objective was to own and/or control all segments of their value chain, from farming through to marketing, as this would provide greater control over pricing and eliminate their reliance on large processing and marketing companies. In turn, this would result in more stable earnings.
Personally I don’t want to go too big and lose the personal touch. I think if you get too big you’ll just implode eventually. Better to keep it as a niche, but I want it to stand alone. I’m not going to go out there and work my guts out if I’m not making any money, that’s pointless. Turnover is vanity but profit is sanity (FA-J).

Overall, production-oriented aquaculture CEOs primarily aimed to create viable standalone businesses that would increase their incomes and provide a valuable asset they could pass onto the next generation. They wanted to expand into processing and marketing, because unlike market-oriented aquaculture SMEs, they had little direct access to consumer markets and consequently little if any influence over price.

9.3.3 Comments on business creation and objectives

The similarities and differences between the four quadrants are summarised in Table 9-2. There are stark differences between the reasons for starting or pursuing the businesses. Production-oriented wild capture CEOs continued with their family business, while market-oriented wild capture CEOs deliberately moved there to produce higher-value branded consumer products and to reduce the influence of the large companies on their activities. Production-oriented aquaculture CEOs also moved from the wild capture sector seeking better work-life balance and higher incomes, but interestingly, market-oriented aquaculture CEOs were outsiders and very passionate about creating premium-value branded renewable consumer products. Furthermore, personal business objectives were very similar between all market-oriented CEOs, but production-oriented CEOs had very different objectives. They were primarily focused on financial objectives – increasing income and growing their businesses into a valuable asset for the next generation. They were not very focused on environmental factors, either; despite its importance, it was not mentioned as an objective.

In contrast, crucial to market-oriented CEOs was building businesses that were synonymous with the highest quality products from renewable or sustainable sources. Closely linked to this was their aim to minimise the impact of their activities on the environment. They aspired to undertake and build a worthwhile venture that others would not or could not do. They were somewhat less financially driven than production-oriented CEOs, even though financial performance was important. In part this was because they were not under as much financial stress as production-oriented CEOs. Rather they saw the high margins and potential for high profitability as more of a validation of the opportunity itself. They also saw that their respective ventures could grow into large and very profitable businesses, in contrast to widespread industry thinking. CEOs in the market-oriented quadrants were motivated to produce above average returns on investment, but this was secondary and driven by their financial obligations to investors. The nature of the opportunity was the main motivating factor. In short, production-oriented
CEOs sought independence while market-oriented CEOs were driven by high levels of passion to build and grow their businesses.  

Table 9-2: Business creation and objectives

<table>
<thead>
<tr>
<th>Market-oriented SMEs</th>
<th>Reasons for creating/pursuing the business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Move away from producing low-value commodity products to produce high-value branded consumer products.</td>
</tr>
<tr>
<td>Personal business objectives</td>
<td>• Build a worthwhile business synonymous with high-quality branded products and the responsible utilisation of fishery resources.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Production-oriented SMEs</th>
<th>Reasons for creating/pursuing the business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Family succession.</td>
</tr>
<tr>
<td>Personal business objectives</td>
<td>• Grow the business into a valuable asset for the next generation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wild Capture</th>
<th>Reasons for creating/pursuing the business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Move from producing low-value commodity products to produce high-value branded consumer products.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquaculture</th>
<th>Reasons for creating/pursuing the business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Driven to do things differently from the industry after discovering opportunities for premium-value branded consumer products.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquaculture</th>
<th>Personal business objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Build a world leading business synonymous with the highest-quality renewable products and premium pricing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquaculture</th>
<th>Personal business objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Increase income and grow the business into a valuable asset for the next generation.</td>
</tr>
<tr>
<td></td>
<td>• To own and/or control all value chain segments, to better control prices and earnings.</td>
</tr>
</tbody>
</table>

9.4 Founding and top management teams, and personnel

9.4.1 Wild capture quadrants

Market-oriented wild capture SMEs – founding and top management teams

Market-oriented wild capture businesses were founded by two people with different backgrounds. In two cases one of the founders came from outside the industry with particular know-how, although it was the industry founder that articulated the opportunity. Apart from the founders, individuals with key capabilities that were external to the business also sat at the board table. One or two other highly skilled non-industry people were brought into the top management teams and generally given equity in the business. In one case this person became a director. This locked in key technical and particularly marketing capabilities necessary to exploit the opportunity. Hence a feature of market-oriented wild capture SMEs was the inclusion of (primarily tertiary-qualified) talented people on the board and in the top management teams. The main function of the industry founder was to search for new market opportunities, because they were in the best position to link the opportunity back to the resource to

Shane, Locke, and Collins (2003) identified a ‘desire for independence’ and a ‘passionate selfish love of work’ as important motivations of people making entrepreneurial decisions.
determine whether the opportunity was viable. The other members of the top management teams had separate responsibilities, covering technical, quality assurance, and marketing areas. But, they mostly shared a vision for the business through their complementary skills and knowledge. One founder spoke of the effort he went to, to hire a CEO whom he trusted. It was not until he asked him to travel that problems emerged. The CEO was very reluctance to venture away from his desk.

If somebody walks in the door and says ‘I’m here to run your factory but I don’t want to leave the office’ he may as well turn round and go back out the door. One CEO didn’t like flying; he didn’t like being away from home—good man. He’d just kept poking the paper in here and poking it out the other end, but absolutely no use to me (EW-B).

**Personnel**

Market-oriented wild capture SMEs used a mix of industry-experienced and non-industry people. Some of the non-industry personnel were tertiary qualified, and the CEOs were always on the lookout for technical expertise to align tasks to the required capabilities. They preferred not to hire industry-trained people, because they would rather train them themselves. Two CEOs commented that often they had people apply for jobs who claimed to be experienced, but the reality was very different. They had poor skills or the skills they claimed to have were non-existent. Preferred employees for all CEOs were tertiary educated graduates who brought different knowledge to the business. For example, one CEO hired a tertiary qualified food technician who was further trained up to develop seafood recipes from their raw material. They also contracted in the services of a packaging and branding expert to complement the food technician and then took the product to market. They were overwhelmed with the response.

We have a highly qualified food technician working for us. She developed [name withheld] and there’s an organisation in the US that caters for parties that were interested. When they ordered it was something like 10 containers a month…it was pretty mind boggling (EW-C).

In reality the founders, top management teams and employees of market-oriented wild capture SMEs were comprised of both industry and non-industry individuals. The industry people brought industry knowledge and networks to the business, while the non-industry people brought specific skills and capabilities needed to exploit opportunities.

**Production-oriented wild capture SMEs – founding and top management teams**

Production-oriented wild capture SMEs were owned by several family members who acquired the business through succession, but one SME was owned by the husband and wife only. Family members dominated the top management teams of all SMEs, although commonly their accountants, lawyers or financial advisors worked closely with them to provide external objective advice. Two had salaried managers who were also part of their top management teams. These SMEs allocated responsibilities based on functional experience, although final decisions and control ultimately rested with the CEOs. Different managers had responsibility for operations, administration/accounting and marketing. One
SME had a tertiary qualified manager, but this was unusual, because industry experience was of overriding importance. The top management teams were overseen by a board of directors that included family members and possibly some independent directors. One CEO took on independent directors following disagreements between the family directors. They struggled to agree on how the business could move forward. Thus, this CEO felt it important to have outside directors, especially for providing objective advice and with setting the business strategy.

*Family business board meetings are a disaster. They’re emotive; we just don’t get anything achieved. I needed an independent director to take the emotion out of it. I was introduced to one through my accountant...and another through my insurance broker. Two very good people...both professional directors. I met both of them and said why only one; we may as well have two (FW-D).*

**Personnel**

All CEOs had found it difficult to attract good people because of low wages, which were influenced by the price they received for their products. Consequently they were heavily reliant on the use of unskilled or semi-skilled labour. This was a particular problem in terms of employing fishing vessel crew. Few people can put up with the unsociable days and hours, or cope with the harsh conditions. Often they had no choice but to hire unsuitable individuals whose main motivation was to ‘go off the grid’ by going to sea. Two CEOs commented that drug taking and heavy alcohol consumption had been a major problem for them. Vessel departures had been delayed due to one or more members of the crew being ‘high or intoxicated’. Sometimes this would not be evident until at sea, when a crew member had become unwell. Another problem was the employed skippers, who did not own boats, do not own quota and were paid a share of the catch. While the catch share was intended to provide an incentive to maximise the value of each harvest, one CEO remarked that it had led to illegal practices, such as ‘high-grading’\(^\text{32}\) to maximise the value of catches. Another CEO said high-grading and dumping had been undertaken to avoid punitive ‘deemed value’ penalty fees.

*They get out there and high-grade to get the best money possible, they are only interested in money and not the sustainability of the fisheries (FW-E).*

Overall, family members of production-oriented wild capture SMEs dominated the boards and top management teams. While they had external advisors and hired in managers, it was the family that made the final decisions. Industry experience was valued, but often due to low wages they could only hire people that were unskilled or semi-skilled.

\(^{32}\) High-grading is where ‘inferior’ fish are replaced with ‘higher quality fish’. Inferior fish means they are too small or too big or of poor quality.
9.4.2 Aquaculture quadrants

Market-oriented aquaculture SMEs – founding and top management teams

All market-oriented aquaculture SMEs were founded by two or three individuals that came from outside the industry, although one member of two founding teams had some industry experience. Founding teams were led by an entrepreneur who articulated the opportunity. A characteristic of them was that they had carefully searched for, selected and then enlisted the help of other talented individuals to exploit their opportunity. These people became part of the founding team. Following the founding other highly skilled people were brought into the top management team for specific purposes, such as branding and marketing strategy. They were also given equity in the business. Equity also extended to board members who were each selected for their know-how and networks. One entrepreneur referred to these people as ‘missing links’, which he needed to find and bring on-board to exploit the opportunity or to set the stage for the future development of the business. Thus the entrepreneurs brought in critical expertise that was very important for the business. Many if not all of top management team members were tertiary-qualified, with expert skill sets. The main function of the entrepreneur who became the CEO was to instil a shared vision for the business. Mostly he took on the role of setting the strategic direction and sought out the resources needed to implement the strategy. The other members of the top team each had a key area of responsibility, but they worked informally, and closely together.

He did a degree in marketing...did branding overseas and then came back to New Zealand looking for something new. He worked for us and established the brand. Got an equity stake so has skin in the game. It was a combination of trust and those critical skills that we needed (EA-H).

Personnel

All entrepreneurs stressed that people with high levels of integrity and initiative were important to top management teams, because they mostly left people to their own devices to get on with the job. This and the honest sharing of information, coupled with transparency, had led to the discovery of other opportunities. Thus, the entrepreneurs had focused on employing people with ‘brains and initiative’; good practical problem solving skills that would commit to the business with a sense of what was required to build a great business. Internally this had generated the momentum for employees to gain further skills and knowledge. It was critical to the entrepreneurs that employees should not only share in their vision, but also put forward their own ideas and make an effort to operationalise the vision and problem-solve. Two CEOs stressed they had deliberately avoided hiring people with industry experience as they wanted their people to be trained from the ground up. They commented that people who only knew how to semi-process raw material and sell it by the container-load were of little use to them.

We need dreamers and visionaries, and people really committed to what they’re doing. We need people who can operationalise things to really come in behind. Too often we let the visionary
Overall, entrepreneurs along with other capable individuals founded market-oriented aquaculture SMEs. Notably, these SMEs were almost entirely managed and staffed by people with little if any industry experience. Rather the emphasis was on bringing together skilled and talented people from outside the industry, who in many instances brought a particular capability to the business.

**Production-oriented aquaculture SMEs – founding and top management teams**

Production-oriented aquaculture SMEs were founded by husband and wife teams, but in one close non-family associates had also been involved in the founding. All of the SMEs were overseen by a board of directors, which was made up of only the founders, but two businesses had an advisory board comprised of accountants, lawyers, and financial or technical advisors. Following the founding, two CEOs hired in a salaried operations manager who, along with the founders, became part of the top management team. The top management teams consisted of between two to four people. The founding CEO typically undertook responsibility for marketing and a manager was responsible for operations, while others were responsible for administration and accounting. Responsibilities were allocated on the basis of specific prior job experience, although control and decision making ultimately rested with the CEO. The CEO of one SME highlighted the difficulty in hiring skilled managers with the right knowledge and experience. He had employed either good operations people or good managers, but had struggled to find someone with both capabilities. All CEOs felt that being located away from the large cities was a major cause of this, as good managers would naturally gravitate to large cities where there were better opportunities.

*It’s really hard to find a good manager. A manager needs to know the industry inside out. I’ve got a manager who knows the industry inside out but he can hardly read or write, so I constantly have to keep on top of him. He has no idea, but he can run a farm to perfection and he loves it. If he’d had the opportunity to go away and be trained, he would most probably be really good, but honestly to run a farm you’d never get anyone better* (FA-J).

**Personnel**

All CEOs also found it challenging to attract skilled and retain experienced staff, because of the lower wages compared to the cities. Consequently they had relied heavily on the use of semi-skilled labour. Fortunately, as their farms were located in rural areas there had been a good supply of people looking for work. All preferred to train up their people and thus did not value industry experience, although they recognised it could have been useful in some situations. Their main problem had been finding skilled people within the local community for the more technical jobs, as they tended to move into the large cities where incomes were higher. In two cases this had caused them to use contractors, which had been more costly. All CEOs hoped that through growth they would one day be able to offer higher wages and career paths that would translate into a highly skilled, committed and productive workforce.
With the right people and good knowledge it can be just like a family, working in common together building the business. We don’t want people to always come here trained, as we train them. We’ve had people come who said they’re fully qualified in fisheries, but they were next to useless (FA-K).

Overall, production-oriented aquaculture SMEs were founded by family members, who dominated the boards and top management teams. Being located in rural areas, they struggled to attract managers and technical people. Consequently, they relied on unskilled or semi-skilled people. However, the CEOs did not consider industry experience that important as they preferred to train people themselves.

9.4.3 Comments on founding and top management teams, and personnel

As Table 9-3 highlights there were some marked differences between market-oriented SMEs and those in the production-oriented quadrants. The founding teams, boards of directors and top management teams of production-oriented SMEs were dominated by family members. The majority of SMEs had advisory boards or professional external advisors. Those that employed managers included them in their top management teams and their personnel mostly comprised of unskilled or semi-skilled people. They found it challenging to find and retain good personnel - technically and managerially skilled. The wild capture CEOs said their low wages contributed to this and the aquaculture CEOs said their rural locations were against them. Industry experience was valued by wild capture CEOs, but not so valued by aquaculture CEOs. In contrast, the founding teams, boards and top management teams of market-oriented quadrant SMEs were dominated by unrelated non-industry people with different know-how and expertise. Wild capture SMEs were led by an industry experienced entrepreneur, who sought out tertiary qualified experienced people with key capabilities (e.g. marketing or technical) to exploit opportunities. On the other hand, aquaculture SMEs, were led by non-industry entrepreneurs. Their founding teams, top management teams and personnel included highly-skilled individuals with little or no industry experience. In fact, they did not value industry experience and their entrepreneurs spent time finding the ‘missing links’ to put together highly skilled teams to exploit opportunities. They seldom if ever went to the job market; instead they used their networks to target people with exactly the right know-how and capabilities, for example branding capabilities.33

33 The composition of founding teams is of crucial importance, because they “can enrich the skill set and resources available for start-up, provide stability and balance, enhance networks, and increase legitimacy” (Whittaker et al., 2009, p. 54). Drawing on (Eisenhardt and Schoonhoven, 1990), Whittaker et al. (2009) further contend the ideal composition for growth is a team that combines individuals with common yet diverse prior affiliations. This is the case in the makeup of market-oriented founding and top teams.
Table 9-3: Founding and top management teams, and personnel

<table>
<thead>
<tr>
<th>Founding and top management teams, and personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild Capture</td>
</tr>
<tr>
<td><strong>Market-oriented SMEs</strong></td>
</tr>
<tr>
<td>• Founding and top management teams</td>
</tr>
<tr>
<td>• Unrelated individuals, but led by industry experienced founder. Directors and top teams include people with complementary capabilities. Most had equity.</td>
</tr>
<tr>
<td><strong>Personnel</strong></td>
</tr>
<tr>
<td>• Mixture of tertiary qualified and industry experienced people.</td>
</tr>
<tr>
<td><strong>Production-oriented SMEs</strong></td>
</tr>
<tr>
<td>• Founding and top management teams</td>
</tr>
<tr>
<td>• Family members, but had independent directors or unrelated professional advisors. Top management teams included managers.</td>
</tr>
<tr>
<td><strong>Personnel</strong></td>
</tr>
<tr>
<td>• Unskilled or semi-skilled. Industry experience was valued.</td>
</tr>
</tbody>
</table>

9.5 Concluding comments

The backgrounds, experiences, capabilities and aspirations of the CEOs were critical to the types of opportunities they pursued. Production-oriented CEOs grew up in the industry from a very young age and pursued opportunities closely related to what they knew about the industry. They primarily used their knowledge and experience to increase supply, either by catching or farming more. Production-oriented aquaculture CEOs leveraged off their wild capture background to take advantage of aquaculture opportunities, stimulated by government, to improve scale economies. Their efforts were directed at the production end of the value chain, which they had deep knowledge of. A marked difference between production-oriented and market-oriented SMEs was the capabilities of the founding teams, top management teams and personnel. CEOs of production-oriented SMEs largely relied on their own abilities to produce more of the same. They did not bring in capabilities or invest in building capabilities.

In contrast, market-oriented wild capture CEOs combined their deep industry experience, knowledge of consumer markets, and non-industry, business and start-up experience to pursue opportunities for high-value products. They used their non-industry networks to search for, select and bring together people from outside the industry with specific know-how and capabilities (e.g. marketing) to exploit market opportunities. Market-oriented aquaculture CEOs had no industry experience, but had broad functional work, start-up and business experience as well as deep branding know-how. Recognising opportunities for branded seafood products they also searched for, selected and teamed up with outsiders and entered the industry to produce these products. In short, they identified opportunities in high-value markets and then brought together the required know-how and capabilities to successfully exploit them,
the most important being brand management capabilities. Thus, search and selection processes were critical to market-oriented SMEs. Overall, they were distinguished by their entrepreneurial management capabilities\textsuperscript{34}, while production-oriented SMEs were not.

Aspirations particularly influenced the opportunities pursued and the match between the aspirations of the CEOs, and the opportunities they pursued was striking. CEOs in the production-oriented quadrants aspired to grow their businesses into a valuable asset for the next generation. For wild capture CEOs this meant controlling costs and maximising harvests, while for aquaculture CEOs this meant improving the productivity of their farms and enlarging them. Their aspirations were largely financial and family related. In marked contrast, market-oriented CEOs were driven to build worthwhile or world leading businesses that produced high or premium-value branded consumer products from sustainable resources. Financial aspirations were secondary and family considerations did not feature. In sum, all market-oriented CEOs were driven to exploit gaps in consumer markets with new products, while their production-oriented quadrant counterparts were driven to produce more of the same products.

The CEOs demonstrated entrepreneurship differently across the four quadrants, which is highlighted in Table 9-4. Following succession, production-oriented wild capture CEOs continued with their existing path-dependent businesses. A product of their history – pre-1986 QMS\textsuperscript{35} – they were more or less resigned that at some point they would exit the business, once costs surpassed earnings. Those that were entrepreneurial had sold off their business and shifted. They teamed up with outsiders to obtain external capabilities and built new market-oriented businesses, to capture higher yields from high-end consumer markets. They deliberately undertook activities that did not rely on access to the main quota species or located their new businesses – land-based activities – where they would not be constrained by the QMS. Production-oriented aquaculture CEOs, also sold off their wild capture businesses, and shifted to start new aquaculture businesses (production-oriented), to capture improved scale returns from a government-instigated opportunity. They wanted to develop market-oriented businesses, but lacked the capabilities to do so. In contrast, market-oriented aquaculture CEOs, industry outsiders, entered the industry and either created new businesses or transformed existing ones. They also located their businesses where they would not be constrained by the QMS, undertaking land-based activities to capture premium values. Thus, entrepreneurial CEOs deliberately created or selected market-oriented businesses and sought diversification. The different quadrants appear to have attracted or retained different people – entrepreneurial individuals to market-oriented businesses and non-entrepreneurial individuals to production-oriented businesses.

\textsuperscript{34} This resonates with Chandler and Jansen’s (1992) findings that the most successful founders possessed high levels of entrepreneurial, managerial and technical capabilities, which was enhanced by tertiary education, particularly business education and general managerial experience.

\textsuperscript{35} Quota management system.
Table 9-4: Entrepreneurial management capabilities

Market-oriented wild capture

CEO backgrounds and experience
- High school qualified. Non-industry work, business and start-up experience. Prior industry-specific knowledge and experience.

The opportunity/ business model/ objectives
- Supply of sustainable high-value branded consumer products.
- To build a worthwhile business.

Top management team and personnel
- Unrelated, highly skilled management, some with equity. Mix of tertiary qualified and industry skilled employees.

Market-oriented aquaculture

CEO backgrounds and experience
- Typically hold a tertiary qualification. Prior experience with product branding, exec management, start-up experience.

The opportunity/ business model/ objectives
- Supply of renewable branded products to premium markets.
- Build a world-leading business.

Top management team and personnel
- Unrelated highly skilled management with equity – team extends to board of directors. Non-industry skilled employees.

Production-oriented wild capture

CEO backgrounds and experience
- High school qualified, grew up in the industry. In-depth industry-specific knowledge and experience.

The opportunity/ business model/ objectives
- Consistent supply of fishery products.
- To grow the business into a valuable asset for family.

Top management team and personnel
- Family member founders with independent directors, and/or advisors and managers. Employees trained.

Production-oriented aquaculture

CEO backgrounds and experience
- High school qualified. Prior in-depth wild capture industry-specific knowledge and experience.

The opportunity/ business model/ objectives
- Volume supply of quality products.
- To grow the business into a valuable asset for family.
- To own and/or control all value chain segments.

Top management team and personnel
- Husband and wife founders with managers and advisors. Employees trained.
Chapter 10: Discussion

10.1 Introduction

The three previous chapters provided case study analysis in respect to the three research questions. This chapter summarises, interprets and discusses that analysis. It has two principal objectives; firstly to succinctly summarise the major findings of this study in relation to the research questions, and secondly to relate these findings to the theoretical discussion in Chapters 2 to 4, particularly to the Penrose-Teece (P-T) framework. The findings reveal that across the wild capture and aquaculture quadrants there are two polar approaches to business, depending on business model and technology use/innovation, with intermediate positions influenced by market positioning. Location on the continuum at or between the poles has implications for performance and growth prospects. Ultimately, location or positioning is strongly influenced by legacy and entrepreneurial management or the lack of it, and in particular, the presence or absence of entrepreneurial branding capabilities coupled with innovative behaviour. These are the dynamic capabilities that distinguish market-oriented SMEs from those in the production-oriented quadrants. In fact, market-oriented entrepreneurs not only shaped and created their markets, but also other aspects of their environment, which led to their superior prospects for growth.

10.2 Revisiting the research questions

10.2.1 How seafood SMEs create, deliver and capture value

This section summarises the answer to the research question: How do seafood SMEs create, deliver and capture value through their activities? The findings suggest the regulatory environment and large industry players greatly influence SME business models, value chain activities and market alignment. This is looked at first. Then the two polar approaches to creating, delivering and capturing value are discussed. A succinct summation of the answer concludes this section.

Regulatory environment

The regulatory environment had a significant impact on how the SMEs in this study created, delivered and captured value. The Quota Management System (QMS) which governs wild capture activities, and the Resource Management Act (RMA) which governs aquaculture activities, are complex, rather inflexible, and inadvertently perhaps, inhibit the activities of resource-constrained SMEs. Indeed, they appear to impede entrepreneurship, new entry and growth. New entrants cannot easily enter the industry because even if they have the relatively high levels of capital required, they must first secure sufficient quota or water space to make the venture viable. As wild fisheries quota is fully allocated, an existing business must either buy (if available to buy) or lease sufficient quota from an existing holder to
expand its operation. However, the market to buy quota is illiquid, because many quota owners either do not wish to sell or have entered into long term arrangements with others. Even if quota is available for lease, the price is often too high to make it profitable. Indeed, at one time or another all wild capture CEOs had been refused quota by some large fishing companies, even though it was available. On the whole, access to wild capture fisheries was collectively controlled by those controlling the quota, with this control extending beyond the harvesters to processing, distribution and marketing businesses. In other words, the QMS inhibited competition by allowing access control to fisheries resources. Additionally, all CEOs emphasised that in their view, Ministry officials had a poor understanding of the sector and were out of touch about the realities small businesses faced, for example the incentives underpinning the illegal dumping of fish.

The RMA, in turn, made it very challenging for aquaculture businesses to expand due to the cost, complexity and the time involved in gaining ‘resource consent’. In spite of this, all aquaculture CEOs remarked that their respective local councils were very supportive of their activities and expansion plans. Unlike land-based aquaculture businesses, marine-based businesses were additionally subject to the ‘Undue Adverse Effects’ (UAE) test. Production-oriented aquaculture CEOs complained that the UAE caused tension and at times conflict between the wild capture sector and themselves. As wild capture quota holders had an interest in all marine water space, they could frustrate the expansion plans of a marine-based venture where a UAE was suspected, unless an agreement was reached. Such an agreement could involve paying compensation to affected marine quota owners. In their view, the UAE test gave unfair leverage to quota owners, particularly the large fishing companies.

**Dominance of large companies and anti-competitive behaviour**

Interconnected with the effects of the regulatory environment was the dominance of the large wild capture/aquaculture companies, and indeed anti-competitive behaviour of a few. This had a major influence on how the SMEs created, delivered and captured value. Wild capture was dominated by a small number of large fishing companies and aquaculture was dominated by a single large company. These companies were described by wild capture interviewees as having a ‘stranglehold’ on the industry through their control of quota and infrastructure. For most production-oriented wild capture SMEs, however, these large companies were also their most important customer, with many reliant on them for price and access to markets. Together the regulatory environment and the dominance of the large companies significantly influenced how SMEs reacted to and constructed their individual businesses.

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36 The UAE test determines whether a marine-based aquaculture activity restricts access to or displaces fishing.

37 All wild capture and all focused aquaculture quadrant interviewees described anti-competitive behaviour of one large fishing company in particular, while another company was described by some interviewees as supportive and collaborative. Other companies, according to interviewees, were between these two.
Market-responsive business model v production-led cost-driven business model

Across the wild capture and aquaculture quadrants essentially two different business models were employed. SMEs in both market-oriented quadrants employed a market-responsive model, which was driven by consumer wants and problems. They undertook land-based activities and produced high or premium value finished products targeted at top end consumer markets. This resulted in them capturing high-levels of margin. Value was created by delivering high quality branded products that consumers’ wanted. Branding and marketing activities were central to their model. Production-oriented wild capture and aquaculture SMEs, on the other hand, employed a production-led cost-driven model. They undertook marine-based activities, producing unprocessed or semi-processed low-value intermediary products for commodity markets. Value for these SMEs was in minimising costs and maximising production. Rising costs were a clear threat to this model. In short, the business models, value chains, and markets of market-oriented SMEs were distinctly different to those of production-oriented SMEs.

Production-oriented SMEs had much longer value chains than market-oriented SMEs. Apart from the harvesting and processing segments, product could pass through more than a dozen distributors before reaching consumers. This added significant cost and resulted in margin being shared by many distributors. Moreover, production-oriented SMEs had limited value chain presence as they were involved in only a few value chain activities, particularly in those areas where limited value could be added, or indeed captured. Generally their activities were concentrated at the harvesting end of their value chains and they did not produce finished consumer products. This limited scope made it difficult to adapt to changes in the environment and the market. Beyond their own activities value chains were not visible, and they had little if any control over them. This caused them to be captive to their customers and disconnected from consumer markets. Very little if any market information came back to them, and thus they found it difficult to sense and exploit market opportunities, and very challenging to capture value. In short, they were embedded in captive value chains where buyers held the power.

Market-oriented SMEs, on the other hand, strived to keep their value chains as short as possible, so they were as close as possible to consumers. They operated in all segments of their value chains from farming/harvesting through to marketing and engaged in final markets with consumers, but they concentrated on producing finished consumer products. This not only meant that all value chain activities were visible, exposing opportunities which they actively searched for, but importantly it enabled them to control their value chains, and access those areas where value could be added. In short, they adopted a hierarchical governance approach which permitted them to coordinate and organise all activities throughout their value chains. They were closely connected to consumers, with product development and innovation driven by consumer problems. As Figure 10-1 depicts this created
a continuous feedback loop that linked customers and consumers to production activities and drove product development, which was critical for maximising the adding, delivering and capturing of value.

**Figure 10-1**: Market-oriented SME’s value chain feedback loop

![Market-oriented SME’s value chain feedback loop](image)

**Markets**

A major difference between the production-oriented and market-oriented SMEs was their market alignment. Those in the production-oriented quadrants had little interaction with their commodity markets, and almost no contact with consumer markets. Market engagement was alien to them, and compounded by a lack of marketing capabilities and market knowledge. They did not give much thought to markets and simply sold their production to commodity buyers for what they could get. They also did not actively look for feedback from the market, because in their view they were the best judge of how products should be processed and packaged. Even if they sought information, their buyers controlled the flow of it and passed very little if any information to them. Hence market opportunities were obscured, and they were captive price takers. One SME had attempted to break into consumer markets, but failed. As such production-oriented SMEs did not capture high levels of value.

In contrast, SMEs in the market-oriented quadrants were closely engaged in top-end consumer markets, of which they were very knowledgeable. They responded to changing market trends and preferences by delivering exactly what consumers wanted and valued. For example, country of origin and eco labelling was important to their customers. Market feedback not only facilitated improvements to existing products and services, but resulted in these businesses being alert to opportunities for new products. Thus, they were not only shaped by their markets, but they also shaped their markets. In fact, market-oriented aquaculture SMEs chose not, just to compete through improved products in the same markets as others, they also chose to create new markets by developing entirely new value propositions that focused on taste, peace of mind, prestige and a story. By creating their own market where there was no direct competition they had considerable influence over price and consequently were able to set their own prices. This resulted in them capturing high levels of value.

To sum up, there were effectively two polar opposites to creating, delivering and capturing value.
Production-oriented SMEs employed a production-led cost-driven business model, producing standardised commodity products. They focused on process upgrading to improve efficiency and scale. Being captive to their commodity buyers, they were unable to see and control all segments of their value chains and were therefore removed from consumer markets. They lacked knowledge about their value chains, and coupled with an absence of market knowledge, had little if any understanding of consumer wants or indeed problems. Being embedded in captive value chains made it difficult to perceive opportunities. In contrast, market-oriented SMEs employed a market-responsive business model, driven by consumer wants and problems. They produced high-margin branded products for top end consumer markets and focused on process, product and service upgrading. Their hierarchical governance approach ensured all value chain activities were visible and under their control, thereby exposing opportunities. They closely engaged in top end consumer markets and not only searched out, anticipated and adapted to future trends and tastes, but developed their own markets by shaping consumer tastes, preferences and trends. In short, market-oriented SMEs offered a premium solution to consumers to capture high levels of value, while production-oriented SMEs offered a partial consumer solution to commodity buyers to capture low levels of value.

10.2.2 The key capabilities of innovative, value adding/capturing SMEs

The second research question asked: What are the key capabilities that distinguish innovative, value adding/capturing SMEs from those which are not? Building on the differences in business models, the findings additionally reveal organisation structure, culture and innovative leanings were characteristically different, between SMEs in the production-oriented quadrants compared to those in the market-oriented quadrants. This section summarises these differences and how they influenced the creation, delivering and capturing of value. The section ends with a succinct summary of the key characteristics that appeared to be associated with innovative, value adding/capturing SMEs.

Organisation structure, culture and innovation

As discussed in the previous section, two very different business models were employed by the SME case businesses to create, deliver and capture value. It is also important to consider these business models in answering the second research question, inasmuch as production-oriented SMEs were characterised by a production-led cost-driven business model and market-oriented SMEs by a market-responsive business model. Along with these polar opposites to business models, value chains and markets, there were also differences in organisational structures, cultures and innovation. In fact, business models, value chains and markets significantly influenced how the SMEs were organised, their cultures and their propensity to innovate. But ultimately, all of these were shaped and influenced by the entrepreneurs or CEO-founders. As a result of these factors the SMEs took on some distinct characteristics, with some striking differences between those in the market-oriented quadrants compared to those in the production-oriented
SMEs in the market-oriented quadrants were characterised by their flat, flexible decentralised structures, which facilitated learning and collaborative problem solving. This flexibility, coupled with the agility of personnel, particularly management, resulted in participative decision making. It was the employees that drove the flexibility and coordination of activities, which together continuously reshaped the structure. In turn, this fostered trusting and entrepreneurial cultures, which were fundamental to solving customer problems. Management valued diversity and encouraged initiative. They continuously reinforced the culture, with personnel having a high degree of autonomy. Moreover, as entrepreneurial
cultures were fundamental for the continuous refinement of products and services as well as the businesses, they lent themselves to innovation.

Intrinsic to market-oriented SMEs’ cultures was that consumer markets came first and production followed – shaped by process, product and service, and logistics innovation. Tolerant of risk taking, coupled with a culture that drove innovation, they invested in advanced technology, and R&D. They engaged in organisational learning and externally with CRIs and universities to solve consumer problems. Fundamental to this was the identification, acquisition and integration of external knowledge as well as the acquisition and in-house development of new capabilities which enabled them to do things right while doing the right things. Market-oriented wild capture SMEs employed a mix of industry-experienced and non-industry people, but their aquaculture counterparts almost exclusively used personnel – with complementary skills – from outside the industry. This was because they did not want their activities constrained by people with preconceived commodity mind-sets and behaviours. With open discussion, and different ideas and skills, coupled with using external resources to learn and innovate, market-oriented SMEs took new approaches to solving old industry problems. In short, this underpinned the creation of new product solutions for discerning consumers in new markets.

In contrast, SMEs in the production-oriented quadrants used either a simple flat structure, or a hierarchal bureaucratic structure, with two or three layers of management and separate departments. In both cases authority and decision making was centralised in the CEO and tasks were largely standardised and assigned to separate personnel. The simple structure was employed by the smaller SMEs, while the hierarchal bureaucratic structure was used by the larger ones. Both of these structures were designed for efficiency rather than flexibility, hence personnel had little discretion. They underpinned a slow-to-change commodity culture that minimised risk. Thus, production-oriented SMEs were characterised by their production of standardised commodity products, where production (harvesting and primary processing) came first and commodity markets followed. Organisation structures were inflexible and activities were largely routine in nature.

Production–oriented management valued cost savings and were skeptical of opportunities, particularly those where innovation was required, because their businesses were about producing standardised commodities. Even if they spotted an opportunity they struggled to exploit it, or felt they would be blocked by the large companies from exploiting it. They did not consider that innovation was necessarily useful to their businesses, as they trusted their existing ‘tried and tested’ technology and efficient processes, which in their view could be little improved upon. However, while these SMEs did not involve themselves in innovative activities, they undertake ad-hoc problem solving, often daily. Nonetheless, they were very supportive of government efforts to innovate at the industry level. In fact, many felt it was government’s responsibility to undertake innovation on their behalf. Overall, production-oriented
SMEs’ structures and cultures had changed little from when the businesses were first formed. Consequently, they became locked into a closed commodity-led mind-set and did things in the old traditional and established way.

To conclude, the SME cases were characterised by either a commodity mind-set or an entrepreneurial mind-set, to pose a polar contrast. Production-oriented SMEs characteristically had top down, inflexible structures that underpinned a slow-to-change commodity culture. Innovation was not a high priority and their organisation structures and culture did not lend themselves to innovation, rather they lent themselves to the status quo. Product came first, and then markets followed. The culture was created, nurtured and sustained by successive past commodity producers. Thus, the seeds for today’s low levels of adding, delivering and capturing value were sometimes planted decades ago. Market-oriented SMEs’ organisation structures and entrepreneurial culture, by contrast, characteristically embraced learning, capability development and drove innovation. Markets came first, and product followed. These SMEs were dynamically integrated units with open flat structures that fostered a collective market-driven innovative approach to the businesses themselves. The culture shaped their propensity to learn and solve consumer problems. Put differently, production-oriented SMEs mainly used ordinary capabilities to supply a well-defined but static range of standardised products, while market-oriented SMEs used entrepreneurial management capabilities to provide what consumer more particularly wanted.

10.2.3 The influence of entrepreneurial management capabilities

While there were two polar opposites in terms of business models, value chains, markets, structures, cultures, and innovation – with nuances between them – ultimately all of these were influenced by the top management team, and in particular, the CEO. Indeed, CEO backgrounds, prior experiences, capabilities and aspirations influenced the opportunities they pursued. This leads into answering the third research question: How do entrepreneurial management capabilities influence value-adding activities in seafood SMEs? The findings show that entrepreneurial management capabilities were of critical importance, but in fact entrepreneurial branding capabilities together with innovative behaviours were most important for creating, delivering and capturing high-levels of value. This section discusses this claim and concludes with brief comments about the importance of these capabilities.

Demonstrations of entrepreneurship38

Across the four quadrants, CEOs demonstrated entrepreneurship differently (see Figure 10-2). Following succession production-oriented wild capture CEOs continued with their existing path-dependent businesses. Market-oriented wild capture CEOs, by contrast, sold off their production-oriented wild

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38 Entrepreneurship as used here encompasses innovation and business development in a personal sense (the vision, motivation and drive of the founder), not in a technical sense.
capture businesses and using their networks, teamed up with outsiders and built new businesses, to capture higher yields from an expanded range of high-value products. They undertook activities that did not rely on access to the main quota species and located their new businesses (land-based) where they would not be constrained by the QMS or by large the large companies. The CEOs of production-oriented aquaculture SMEs had also chosen to sell off their wild capture businesses and start new marine-based aquaculture businesses to capture improved returns from a government-instigated opportunity. Market-oriented aquaculture CEOs had entered the industry to exploit market opportunities for premium branded products. They either created new businesses or transformed existing ones. They also located their businesses (land-based) where they would not be constrained by the QMS, RMA or anti-competitive behaviour. In other words, CEOs in the production-oriented aquaculture and both market-oriented quadrants had deliberately positioned themselves in their respective quadrants.

**Figure 10-2:** Demonstrations of entrepreneurship

In fact, entrepreneurial CEOs moved out of the production-oriented wild capture quadrant, because if they had remained they could not have been entrepreneurial. The remaining CEOs did not appear to be entrepreneurial. They either remained in the quadrant, or in the face of rising costs and diminishing returns were forced to eventually exit from the business, which one did during the course of this research. CEOs in both production-oriented quadrants had deep industry-specific knowledge, but lacked knowledge of markets and marketing capabilities. In contrast, market-oriented wild capture SMEs had a combination of deep industry-specific experience (insider skills) and wide non-industry business experience (outsider skills). Their CEOs deliberately searched out marketing and branding know-how as well as the technical capabilities and technology needed to produce higher-value finished products. As outsiders could not easily access the raw material, they had to team up with insiders to exploit opportunities. Market-oriented aquaculture CEOs, as outsiders, had little industry-specific knowledge, but had a broad accumulation of prior job skills, including marketing and branding capabilities coupled
with senior management and start-up experience. Their knowledge and capabilities, particularly branding know-how, were critical for searching and selecting, and exploiting opportunities. They deliberately chose land-based locations where they would not be constrained by their environment and where they could be entrepreneurial. Fundamental to them was their entrepreneurial management capabilities, which production-oriented SMEs did not have.

**Market-responsive entrepreneurial path**

The demonstrations of entrepreneurship were underpinned by three interrelated and intertwined complexes of capabilities and businesses followed one of two paths. Market-oriented SMEs followed a market-responsive entrepreneurial path underpinned by a complex of entrepreneurial management capabilities. These capabilities were deeply rooted in four main processes: search, learning, R&D and innovation and decision making. Production-oriented SMEs followed a production-led cost-driven commodity path underpinned by a commodity-oriented complex of capabilities. The market-responsive business model of market-oriented SMEs supported flat, flexible organisation structures coupled with an entrepreneurial trusting culture that lent itself to innovation. This allowed the CEOs and their top management teams to be entrepreneurial, which further reinforced the business model. As Figure 10-3 illustrates, this created a dynamism that came from a self-reinforcing, interacting flow of entrepreneurial management capabilities, with all three capability complexes reinforcing each other in a continuous loop.

**Figure 10-3:** Self-reinforcing interrelated complexes of capabilities

A critical factor of market-oriented SMEs is what I call ‘entrepreneurial branding capabilities’. CEOs used entrepreneurial management, process, technical, innovation and brand management capabilities to add-value by creating brand attributes such as traceability from net-to-plate or harvest-to-order and just-in-
time delivery, where price was less important than quality. These enhanced food safety, freshness and product purity – core attributes that underpinned their brands – which permitted these SMEs to deliver superior benefits to consumers. Something that production-oriented SMEs were not equipped for, because they did not have entrepreneurial management capabilities and did not govern their value chains. For market-oriented SMEs it was more than just brand management, as it connected final consumers to the farm or the fishery. Indeed, entrepreneurial branding capabilities permitted these SMEs not only establish positions within existing markets, but also to create markets, which was central to the market-responsive entrepreneurial pathway. Critically these CEOs were ‘market shaping and creating entrepreneurs’, which placed their businesses in the unique position of facing little if any competition. This enabled them to capture high-levels of value.

**Production-led cost-driven commodity path**

In contrast, production-oriented SMEs on the production-led cost-driven commodity path had a different dynamic. Their slow-to-change, cost-driven business models underpinned inflexible top down organisation structures. Risk avoiding cultures that discouraged innovation followed the business model. Ultimately, their key capability was cost minimisation. This acted as an inherent impediment to expenditure on technology, marketing, and R&D. Inevitably this dynamic drove these businesses into a low-value adding cycle that continuously reinforced itself. Hence, restricted to a few value chain segments at the production end, and captive to their buyers, they remained with their existing path-dependent technology and processes. Showing initiative was discouraged, thus they did not naturally see or search for opportunities. Even if they did, they were unable to exploit them as they lacked the entrepreneurial management capabilities critical to transform the business. In fact, the production-oriented quadrants were not attractive areas for entrepreneurs. They would instinctively choose to avoid cost-driven commodity businesses, because they would be unable to control their value chains. Thus, they would face limits on their ability to create, deliver and capture value. Indeed, entrepreneurs would be unlikely to create a production-led cost-driven commodity business, because that is not what they do. Hence, entrepreneurship had not taken hold in the production-oriented quadrants and appeared to be a key reason why no new entrants with innovative ideas had come into these areas. If by chance entrepreneurs did enter a production-oriented business, they would quickly realise they would be trapped and vulnerable to being captive; causing them to quickly exit.

In sum, the three complexes of capabilities in Figure 10-3 were ultimately shaped and influenced by the entrepreneurs and/or CEOs. Together with their top management teams it was their vision and capabilities that drove their respective businesses, but it was not just about doing things right, more importantly it was about doing the right things. Entrepreneurial management was critical for shaping and creating environments, and markets. Ultimately, the adding, delivering and capturing of value was
significantly influenced by entrepreneurial branding capabilities and innovative behaviours. Endowed with these one market-oriented SME reported consecutive annual net profit margins in excess of 70 percent, while one production-oriented SME went out of business during the course of this research. While these are the extremes, they are indicative of the performance differences between using a complex of entrepreneurial management capabilities and a commodity-oriented complex of capabilities.

10.2.4 Concluding comments

The findings show that across the four wild capture and aquaculture quadrants two distinct paths were followed; a market-responsive entrepreneurial path or a production-led cost-driven commodity path. Those on the commodity path utilised a commodity-oriented complex of capabilities, based on traditional technology to produce undifferentiated products principally for commodity buyers. This was the path that production-oriented SMEs followed. They had followed this path since they were first formed and faced with a lack of entrepreneurial management capabilities, struggled with diminishing returns and increasing costs, and inevitably low-levels of value capture. While consumer markets had evolved (particularly the high-value and premium segments), they had not. Distributors and marketing companies had filled the gap, resulting in these businesses being captive to buyers, and further removed and disconnected from consumer markets.

In contrast, market-oriented SMEs captured high-levels of value by following the market-responsive entrepreneurial path, utilising a complex of entrepreneurial management capabilities. Underpinned by a market-responsive business model they applied advanced technology and innovation to solve customer problems. This enabled them to position themselves to shape and create high-value consumer markets, which in turn shaped them. Central to this was the alignment of advanced technology, product innovation and brand management capabilities, underpinned by four key processes at the organisational level; search, learning, R&D and innovation, and decision making. This created entrepreneurial branding capabilities – a significant difference between the two paths. Moreover, these market shaping and creating entrepreneurs constructed their environment where they could be entrepreneurial. This put them in the unique position of not directly competing with others in the same market. Overall, the four quadrants suggest two distinct paths that businesses took, albeit nuances within each quadrant and between them. Ultimately, entrepreneurial management was of critical importance for creating, delivering and capturing high levels of value.
10.3 Relating the finding to the Penrose-Teece (P-T) framework

The previous section summarised the major findings of this study in light of the research questions. Most of all, entrepreneurial management was found to be the critical ingredient to create, deliver and capture high-levels of value. It was not only important for creating and shaping businesses and markets, but also for creating an environment where market-oriented entrepreneurs could be entrepreneurial. Ultimately, entrepreneurial management aligned advance technology, product innovation and brand management capabilities to develop entrepreneurial branding capabilities, underpinned by four fundamental organisational processes; search, learning, R&D and innovation, and decision making. This was a major difference between the two paths. This section puts these findings into context by relating them to the Penrose-Teece (P-T) framework.

10.3.1 The pathway to prospects for growth

The findings, expressed another way, are represented graphically in a simplified two dimensional positioning chart (see Figure 10-4), which recognises nuances within each quadrant and between them.

Figure 10-4: Positioning of the SME businesses
Recognising these nuances, the chart combines the two paths – production-led cost-driven commodity path and market-responsive entrepreneurial path. Positioning is dependent on business model/market alignment and the level of technology/innovation. It is also strongly influenced by legacy and entrepreneurial management, particularly entrepreneurial branding capabilities coupled with innovative behaviour. The horizontal axis denoted by ‘Business model/Market positioning’, refers to whether an SME is a market taker and controlled by markets at one extreme of the continuum, or whether it is, at the other extreme, a market creator. The ‘Application of technology/innovation’ axis denotes the vertical continuum, with use of ‘traditional/existing’ technology and little innovation at one extreme, shifting to the high adoption of ‘customer-problem driven’ advanced technology and high levels of innovation at the other extreme. Entrepreneurial management capabilities or the lack thereof, influence where an SME is positioned in relation to the two continuums, and whether or not it might reposition.

Aside from positioning, Figure 10-4 also depicts a possible pathway to growth. But since the groups are aligned in a straight line, change may only be possible holistically. SMEs may not be able to just change some elements and move horizontally or vertically. They may have to apply technology/innovation and business model/market positioning capabilities simultaneously, as they are interrelated. Innovating, developing and applying more advanced technologies and employing more market-responsive viable business models, are thus needed for SMEs to reposition themselves upwards and to the right, thereby increasing their prospects for growth. The findings confirm that the more a business was driven by customer/consumer problems, known or perceived, the more it used advanced technology and innovated (Teece, 2007). This is fundamental to entrepreneurial management capabilities. Ultimately, SMEs must increasingly develop entrepreneurial management capabilities, if they wish to reposition themselves, and shift upwards and to the right. To do this they must develop higher-level processes and capabilities by developing, reconfiguring and integrating knowledge, particularly know-how. In other words they must learn. This requires leveraging knowledge, particularly external knowledge, for example, combining their experiential knowledge with know-how from research organisations, such as universities (Teece, 2007). This is critical, as SMEs are very unlikely to possess all the necessary knowledge and capabilities.

**Environmental influences on positioning**

The environment significantly influenced pathway positioning. The findings confirm Penrose (1959) and Teece’s (2007) arguments that the environment can have a controlling influence and restrict business activities, to opportunities with limited prospects for growth. Even market-oriented SMEs with high-levels of entrepreneurial management capabilities were not immune. Legislation, policy, government bureaucracy, lack of business ethics, and anti-competitive behaviour negatively impacted on the activities of all SMEs, particularly production-oriented SMEs. The Quota Management System (QMS), the
Resource Management Act (RMA), and the large companies particularly hampered their activities. Regulatory compliance took up extraordinary amounts of management time of resource constrained production-oriented SMEs. Despite market-oriented SMEs having entrepreneurial management and the resources, the regulatory environment was nonetheless challenging. For example, the QMS restricted access to raw material and the RMA hampered access to water space, necessary for expansion. Most of all, the findings are consistent with Penrose’s point that SMEs may be able to do little more than survive, which was the situation that at least four production-oriented SMEs themselves in.

Not only can quota holdings be a source of competitive advantage, but in Penrose’s (1959) terms they are also an ‘artificial’ barrier large businesses can use to deny others – especially small entrepreneurial SMEs – entry into the industry or access to raw material, even though opportunities existed. Large businesses do this to protect the status quo or to preserve the opportunities for themselves. Market-oriented wild capture CEOs emphasised they had been denied quota or raw material, even though it was available. Raw material one CEO was seeking was, in fact, a waste product which a large company preferred to dump rather than sell it to him. Production-oriented CEOs confirmed this could also include, control over and even denial of critical supplies, and/or control over pricing, and even access to logistics and markets. Thus, it is important to highlight that “if such power is great and widespread, it may seriously retard the growth of the economy”, especially if large dominant businesses do not exploit all the available opportunities (Penrose, 1959, p. 230). Hence, the QMS is a double-edged sword. On the one hand, it ensures the sustainability of New Zealand’s fisheries resources. On the other hand, it underpins an industry structure that by its very nature constrained the growth of entrepreneurial SMEs.

Market-oriented SMEs exemplified that large dominant firms can not only restrict the activities of existing SMEs, but also frustrate the start-up of new ventures through their ‘superior competitive power’. ‘Unfair’ practices by dominant businesses made SMEs vulnerable. These practices effectively controlled opportunities, which constrained SMEs from repositioning themselves higher up the pathway. If they had repositioned they could have become competitive rivals, and as one market-oriented wild capture CEO stressed, that ‘cannot be allowed to happen’. As Penrose points out, anti-competitive behaviour can lead to the creation of ‘protected areas’ where new entrants are deliberately kept out, for example marine-based areas. Consistent with Penrose, this caused new entrants to seek out other ‘interstice’ areas where large businesses had little or no influence, such as land-based aquaculture (market-oriented aquaculture quadrant) or fringe wild capture (market-oriented wild capture quadrant). Entrepreneurs in these areas deliberately located their businesses where they could avoid the influence of the large companies. This is also consistent with the fact that entrepreneurs would not enter areas (production-oriented wild capture quadrant), where profits are non-existent or very low. This study also

39 ‘Interstices’ are opportunities for small businesses that large business cannot exploit, because “no firm can take advantage of all possible profitable opportunities for expansion” (Penrose, 1959. p. 222).
confirmed that large dominant businesses cannot strictly prevent the entry of new ventures into the ‘interstices’ (market-oriented quadrants), where entrepreneurs can sense profitable opportunities, but large businesses can try to block small businesses if they attempt to expand beyond their interstice. Overall, the environment greatly influenced pathway positioning of the SME cases.

**Business model/Market positioning**

Pathway positioning was greatly influenced by business models/market positioning. This confirms Teece’s (2007, 2010) argument that business models are critical. They determined how the SME cases created, delivered and captured value, or in Teece’s terms, how they went to market. They *inter alia* defined value chain activities, technology usage, and market positioning. Comparing the business models of production-oriented SMEs to those of market-oriented SMEs – production-led cost-driven model versus market-responsive model respectively – highlighted stark differences. Their models influenced and were influenced by their respective organisation structures, cultures and innovation activities. Market-oriented SMEs activities rested on flat, flexible, decentralised structures and entrepreneurial cultures. Together they produced an environment favourable to decentralised transparent decision making, teamwork, learning, creativity and continuous innovation at the individual and firm-levels, principally directed at solving customer problems. Despite personnel being accorded high levels of freedom, processes ensured co-ordination. Individual initiative was very important for the decentralised allocation of resources. This reinforced on-going reconfiguration of their organisational structures and the business model, which underpinned their ability to govern all segments of their value chains. Thus, this study also confirms Gereffi’s (2014) point that firms that controlled their value chains received higher returns for their products. Moreover, not only was innovation critical for adapting their activities to changing markets, but also to “create, adjust, hone, and, if necessary, replace business models” (Teece, 2007, p. 1330).

By contrast, production-oriented SME’s activities rested on top down centralised structures designed for efficiency rather than flexibility, and a slow-to-change commodity culture that reinforced the status quo. They avoided risk in favour of more certain outcomes. The cultures did not lend themselves to initiative, creativity, or innovation, unless someone else innovated for them. Being reliant on long-established assets, and inflexible routines and processes, heightened their aversion to risk. This constrained their activities, including coordinating and organising their value chains and appeared to contribute to them being embedded in captive value chains. In line with Gereffi (2014), this caused these SMEs to be vulnerable, as their buyers exerted the most power over their value chains, which in turn, frustrated them from upgrading their activities to move up their value chains, to capture more value. Therefore, the findings agree that “decentralization must be favored because it brings top management closer to new technologies, the customer and the market” (Teece, 2007, p. 1335). Moreover, decentralisation
influences and is influenced by culture. Thus structure and culture are very important, as together they
directly influence flexibility, responsiveness and innovation. Yet, while Penrose acknowledges culture and
Teece notes its importance, culture is not integrated into the P-T framework.

The SME cases illustrated Penrose’s argument that how food processing businesses interact in markets,
was important for determining how they captured value. They can be market takers (i.e. production-
oriented SMEs) at one extreme, or (using entrepreneurial management) market creators at the other
extreme (i.e. market-oriented SMEs). Products can either be standardised and easily substituted or
highly specialised. This determined market positioning. Businesses supplying standardised products (i.e.
production-oriented SMEs), sold into ‘impersonal’ markets where “the identity of the seller was of no
importance to the buyers” (Penrose, 1959, p. 117). Thus, competition forces the cutting of prices and
indeed, “competitive advantage is illusory when all markets are highly competitive” (Teece, 2009, p. 76).
On the other hand, “the identity of the firm emerges as a significant competitive factor” for businesses
producing innovative branded consumer products (i.e. market-oriented SMEs) (Penrose, 1959, p. 117).
This study confirms that brand management capabilities were crucial, as they permitted market-oriented
SMEs to develop new markets for their products, which in terms of the P-T framework results in
businesses and markets coevolving. Importantly, a business faces little competition in a newly created
market (Teece, 2007). Ultimately, this can lead to the development of strong market bases reinforced by
enduring customer relationships, with the first movers’ products favoured over all others (Penrose,
1959). Market-oriented SMEs were a good example of this.

The findings also confirm that the catalyst for creating new products and markets can be that existing
markets become less profitable, or new markets are potentially more profitable. The lack of profitable
markets was the catalyst for market-oriented wild capture CEOs searching out and identifying more
profitable markets. Similarly, discovering new and potentially very profitable markets drove market-
oriented aquaculture CEOs to enter the industry. As (Penrose, 1959, p. 80) explains, the “really
enterprising entrepreneur has not often, as far as we can see, taken demand as ‘given’ but as something
he ought to be able to do something about.” This highlights a critical Penrosian point, that often a
business’s failure to grow was mistakenly attributed to the lack of demand, when in fact the main cause
was the lack of ’specific types of productive services’ (i.e. a failure of management). Moreover, Shuen et
al. (2014) confirm that when firms single-mindedly focus on efficiency they inevitably lose the capacity to
adapt to their competitive environment. This inertia constrained production-oriented SMEs from doing
the right things. Teece (2007) emphasises, they must probe markets and listen to customers, to
understand what they want. Market-oriented SMEs did this and particularly looked to understand shifts
in consumer’s tastes. This led to them learning about other “technical potentialities of their resources”
(Penrose, 1959, p. 117) and in her terms, resulted in the changing productive opportunity of their
businesses. However, it is important to note that while opportunities may be available, suitable business
models must be used to maximise value capturing. Thus, the findings confirm that business models are critical, as “no amount of good governance and leadership is likely lead to success if the wrong business model is in place” (Teece, 2007, p. 1331).

**Application of technology/innovation**

The findings confirm that aside from having a strong market position, businesses must concomitantly develop a strong technological base. Business success not only depends on the deployment of a viable business model linked to a strong market position, but also on technology selection and the capacity to innovate, to take full advantage of productive opportunities (Penrose, 1959; Teece, 2007). Production-oriented SMEs generally confined themselves to ‘tried and tested’ standardised technology and stifled ‘innovation proclivities’, as they preferred certainty in outcomes. They were uncomfortable operating in new areas, because of a lack of confidence to undertake new and different operations. Moreover, they were essentially a product of the know-how that their activities produced, and their prior knowledge and experience. Therefore, in Penrose’s terms, history matters. What’s more, production-oriented SMEs were “unlikely to develop abilities that would give [them] a substantial technological advantage in an entirely new field” (Penrose, 1959, p. 118). As Penrose reasons “the existing resources of such a firm are not favourable for the development of a specialised technological superiority in the use of raw materials, special skills, or processes in substantially different areas of operation” (p. 119). Where technology “is standardised and fairly simple” (p. 118), products can be easily imitated or improved on by others, and thus these SMEs were not endowed with a competitive advantage. The findings are consistent with these theoretical ideas. Overall, the continued use of standardised or traditional technology makes it very challenging for production-oriented SMEs to change their market positioning.

By contrast, market-oriented SMEs driven by customer and consumer problems and wants used advanced technology and extensively innovated. Critical to this was the identification, procurement and integration of external knowledge and technology, particularly know-how. These SMEs exemplified Cohen and Levinthal’s (1990) concept of absorptive capacity – identifying and assimilating external knowledge into their routines, processes and capabilities. In other words, learning was fundamental to market-oriented SMEs, as it was critical for developing their product innovation capabilities. The potency of learning was the result of identifying and acquiring knowledge that was principally directed at product development. This enabled market-oriented wild capture CEOs to move away from producing traditional products (in their original production-oriented businesses), and by doing so develop higher-level capabilities that in turn enabled them to additionally sense and seize other lucrative opportunities. Ultimately, the acquisition and integration of knowledge led to market-oriented SMEs creating new complementary products and services for new markets, which further improved their market positioning. By continuing to learn, these SMEs are very likely to improve their pathway positioning.
The findings provide empirical evidence that innovation was critical for upgrading processes and products, creating new ones, countering competition, and for improving competitiveness. Innovation included reconfiguring existing knowledge, by linking to others – internally and externally – with particular capabilities and know-how, obtaining complementary resources, and timing market entry to ensure a competitive advantage. Market-oriented SMEs were sensitive to and anticipated shifting consumer trends, new processing methods and the innovations of others, while production-oriented SMEs were not. They viewed R&D and innovation as unnecessarily risky and an “essentially speculative activity” (Penrose, 1959, p. 116), unless it had a very high probability of success. As Teece explains, it is not unusual for a business to sense an opportunity, but not seize it, because “the existence of layer upon layer of standard procedures, established capabilities, complementary assets, and/or administrative routines can exacerbate decision-making biases against innovation” (2007, p. 1328). In contrast, innovation enabled at least one market-oriented SME to be first to market, giving it a competitive advantage. To remain competitive they continuously innovated, or in Penrose’s terms, maintained “an active innovation policy” (Penrose, 1959, p. 114). They highlighted the importance of learning and experimentation. As Teece (1986, p. 288) points out “at some point in time, and after considerable trial and error in the marketplace, one design or a narrow class of designs begins to emerge as the more promising. Such a design must be able to meet a whole set of user needs in a relatively complete fashion.” This is what market-oriented SMEs did and what production-oriented SMEs did not do.

In brief, this study confirms that while technology selection and innovation are critical competitive differentiators that go hand and hand with product development, they must also be complemented with viable business models, control of value chains, shaping and creating of markets, and appropriate organisation structures to capture profits from innovation.40 Put differently, “invention and innovation by themselves are insufficient to generate success” (Teece, 2007, p. 1321).

**Entrepreneurial management capabilities**

Ultimately entrepreneurial management, or the lack of it, strongly influenced positioning on the pathway to prospects for growth, in relation to the two continuums, and whether or not an SME could reposition. This is consistent with the P-T framework, which argues that “enterprising [entrepreneurial] management is the one identifiable condition without which continued growth is precluded” (Penrose, 1959, p. 8). Market-oriented SMEs highlighted that entrepreneurial management had “special skills not ubiquitously distributed amongst management teams” (Teece, 2007, p. 1328). Of critical importance were their search and selection, and decision making processes. These were shaped and conditioned by the businesses themselves and also included entrepreneurial versatility, fund raising ingenuity, ambition,

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40 Teece’s (1986) article ‘Profiting from technological innovation’ and his (2006) article ‘Reflections on ‘Profiting from Innovation” provides additional understanding of how businesses capture value from innovation by acquiring and developing complementary and co-specialised assets, namely marketing, logistics and after-sales support.
and judgment. They particularly demonstrated entrepreneurial versatility, which involved significantly upgrading processes and products, and developing new markets that were impractical to others. The lack of capital was not in itself an obstacle because entrepreneurial capital-raising abilities instilled confidence in investors. All market-oriented SMEs were very ambitious and demonstrated a can-do attitude. Entrepreneurial judgment was collectively derived from the top management team, which was influenced by the makeup of the team - people with diverse backgrounds, specific knowledge and know-how, and relevant experience. Market-oriented wild capture SMEs comprised of industry insiders with deep industry-specific experience and outsiders with complementary capabilities. Market-oriented aquaculture SMEs comprised only of outsiders with diverse complementary capabilities. The backgrounds of market-oriented CEOs were particularly important for developing entrepreneurial management capabilities, as they had an innate ability to sense and seize their respective opportunities, which were shaped by their accumulated business experience and knowledge of markets.

It is important to note that entrepreneurial managers use a combination of internal and external resources to grow the business, including whether they see opportunities for growth arising from other possible uses of resources, but “the capacities of the existing managerial personnel of the firm necessarily set a limit to the expansion of that firm” (Penrose, 1959, p. 45). This study confirms that entrepreneurial management (of market-oriented SMEs) was critical for sensing opportunities arising from other possible uses of their resources. Penrose’s and Teece’s distinction between entrepreneurs and managers was also confirmed. The top management teams of production-oriented SMEs tended to rely on their own capabilities, and primarily focused on day-to-day administration and operations centred on improving efficiencies. This permitted production-oriented wild capture SMEs to make a living, albeit a very modest one, while production-oriented aquaculture SMEs did better. To a large extent their capabilities were a product of their backgrounds - deep industry-specific knowledge, non-tertiary education and limited knowledge of markets. While several obtained external advice, they did not always follow it, unless they were certain of it. Some had identified opportunities, but lacked interest or were not comfortable undertaking unfamiliar activities or moving into new areas. Alternatively, two CEOs were highly motivated, but lacked the capabilities to exploit their opportunities. Both of these situations were relevant to the P-T framework.

Market-oriented SMEs, on the other hand, used entrepreneurial management to “shape competition and marketplace outcomes through entrepreneurship, innovation, and semi-continuous asset orchestration and business reconfiguration” (Teece, 2007, p. 1345). Most of all, their CEOs concentrated on “figuring out the next big opportunity and how to address it” (Teece, 2007, p. 1346). Success did not so much depend on the efficiency of their operation, but rather on their “imaginative effort, the sense of timing, the instinctive recognition of what will catch on or how to make it catch on [were] of overwhelming importance” (Penrose, 1959, p. 37). Thus positioning on the pathway for growth was
driven by their entrepreneurial management learning and gaining knowledge of the potentialities of their resources. Market-oriented SMEs demonstrated this by transforming essentially the same or very similar raw material that production-oriented SMEs had, into a much more valuable final market product. To do this they simultaneously aligned their business model/market positioning and innovated, and as well as adopted more advanced technology. To reposition further up the pathway, businesses must not only develop entrepreneurial management capabilities, but they must continuously improve them, because as Penrose contends growth is a continuous process. In short, entrepreneurial management capabilities are crucial for determining the likelihood of whether or not a business might move and how far up the pathway they can drive the business.

Market-oriented quadrant SMEs did this by up-skilling personnel, adopting more advanced plant and equipment, and upgrading routines and processes to improve the coordination of tasks. This enabled them to build signature processes, which involved acquiring and assimilating knowledge from external sources, reconfiguring existing resources, and coordinating and integrating new product development processes. Ultimately, “driven by an intensely entrepreneurial genre of management” (Teece, 2007, p. 1346), they achieved technical fitness (doing things right) and evolutionary fitness (doing the right things), which involved developing and deploying dynamic capabilities.

10.3.2 Pathway to dynamic capabilities

The findings confirm that the use of dynamic capabilities – “the ability to integrate, build and reconfigure internal and external competencies to address rapidly changing markets” (Shuen et al., 2014, p. 7) - positively influenced the creation, delivering and capturing of value of market-oriented SMEs relative to production-oriented SMEs. Core to market-oriented SMEs were search, organisational learning, R&D and innovation, and decision making processes that together shaped their dynamic capabilities. Learning a key dynamic capability, underpinned the development and deployment of other dynamic capabilities. Market-oriented SMEs illustrated this. They learnt about, then selected and constructed their environment - favourable for creating and delivering high-value products and services to niche consumer markets which they then coevolved with. Central to this was the integration of external knowledge, including technical and product development know-how, particularly from research institutes and universities. Of prime importance was know-how to enhance product quality, add other product attributes and enhance the cold chain (logistics). This was critical as even these SMEs lacked certain knowledge. Leveraging internal with external knowledge and technologies was critical to innovation, which driven by entrepreneurial management drove the alignment of brand-management capabilities and innovation capabilities to develop ‘dynamic brand-management capabilities’.
The findings also confirm that innovation activities directed at solving customer problems was driven by absorptive capacity, an important dynamic capability. Market-oriented SMEs had high levels of absorption while production-oriented SMEs did not. This was influenced by the individual backgrounds and the prior experiences of the top management teams, which had the greatest influence on the enablement and development of dynamic capabilities. To a large extent this was driven by their entrepreneurial management capabilities, decentralised structures and cultures, which fostered learning and innovation. The cumulative absorption of knowledge increased their entrepreneurial management capabilities which in turn increased the development and deployment of dynamic capabilities. Therefore, building on the ‘positioning of SME businesses’ schematic (see Figure 10-4), and how it relates to the P-T framework, a ‘Pathway to dynamic capabilities’ is graphically represented at Figure 10-5.

Figure 10-5: Pathway to dynamic capabilities

The pathway to dynamic capabilities schematic adds a thick arrow to represent the increasing development and deployment of dynamic capabilities. The increasing use of entrepreneurial management, aligned to business models/market positioning and technology/innovation, results in the increasing development of dynamic capabilities. As dynamic capabilities are “shaped by the co-evolution of learning mechanisms” (Zollo and Winter, 2002, p. 339), they increasingly develop as processes are
‘performed better and quicker’ (Teece et al., 1997). Since entrepreneurial management is embedded in dynamic capabilities (Teece, 2007), the latter is increasingly needed for businesses to move up the pathway (represented by the thick continuum line). This is crucial, because as (Teece, 2007, p. 1346) stresses, globalisation has ‘upped the ante’ and mere ‘horse-trading’ skills are insufficient: “improving quality, controlling costs, lowering inventories, and adopting best practices will no longer suffice for long-run competitive success.” In other words, much more than ordinary capabilities, focused on economies of scale and efficiency, is needed. New strategies, business models, and a culture of entrepreneurship are required. “Decentralization must be favoured because it brings top management closer to new technologies, the customer, and the market” (Teece, 2007, p. 1335). This must be driven by entrepreneurial managers employing dynamic capabilities to manage activities within as well as outside the business. This includes aligning human resources, including their recruitment, deployment, training and development to strategic objectives (Feiler and Teece, 2014). Market-oriented SMEs particularly exemplified this.

Market-oriented aquaculture SMEs are positioned at the top of the pathway, because they developed and deployed strong dynamic capabilities to respond, transform, and manage their environment, businesses and markets. They did not simply start a business and develop new or improved products. Rather, they orchestrated a unique competitive advantage by orienting their resource base to their markets. This involved creating a unique value proposition that linked consumers to all segments of their value chains, resulting in the creation of new products and the development of new markets. Put differently, they developed and deployed dynamic brand-management capabilities – their key dynamic capability – by aligning brand-management capabilities with innovation capabilities driven by entrepreneurial management, underpinned by four organisational processes; search, organisational learning, R&D and innovation, and decision making. Market-oriented wild capture SMEs at an earlier stage of developing strong dynamic capabilities were well placed to move further up the pathway provided they continued to develop their dynamic capabilities, particularly dynamic brand-management capabilities. There is no inherent reason why they could not be as dynamic as their aquaculture counterparts, in creating the linkages between consumer problems, innovation and technology. However, the lack of availability of technological and managerial know-how had constrained their activities, which could in future hinder them from moving further up the pathway.

By contrast, production-oriented wild capture SMEs, are positioned at the bottom of the pathway as they were not entrepreneurial and lacked entrepreneurial management capabilities. Instead they mostly relied on ordinary capabilities and consequently struggled to make a living. Production-oriented aquaculture SMEs, on the other hand, employed best practices influenced by CRIs and hence their higher

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41 Strong dynamic capabilities permit a firm to sustain a competitive advantage, while weak dynamic capabilities do not (Teece, 2014).
positioning. They were fortunate in that they had no real competition and benefited from the innovations of CRIs, which enhanced their operational capabilities. However, positioned at or near the bottom of the pathway to dynamic capabilities, caused production-oriented SMEs to be vulnerable, because with final markets obscured, their commodity buyers – a single buyer in most cases – controlled them. Moreover, short-term ad-hoc problem solving took precedence over long-term strategic imperatives. Proposed high-value finished products were not feasible as they lacked an appropriate business model, decentralised structures and an entrepreneurial culture, as well as the necessary R&D, technical and marketing capabilities. Their inward focus ignored innovative solutions available in their ecosystem, particularly through partnerships with universities. In time production-oriented businesses could be driven out of business by market-oriented businesses, as they continue to shape their environments and coevolve with their markets. Nonetheless, it may not be a lack of entrepreneurial management capabilities per se that kept production-oriented SMEs at the bottom of the pathway, in fact. It could be because they feel it is the best way to perform. Some production-oriented SMEs with a niche commodity market in fact, had quite lucrative businesses.

For businesses to move up the pathway, two dynamic capabilities are useful. The first and possibly the most important is ‘ambidexterity’, which O’Reilly and Tushman (2004, 2008) refer to as the ability of a CEO to maintain the viability of the existing business, while undertaking innovations to ensure its future viability. One way involves managing dual business units with separately aligned business models, structures, cultures, processes and capabilities while maintaining tight links between the two - by a tightly integrated top management team with a common strategic intent (O’Reilly and Tushman, 2008). The tight integration of the top management team would permit the new (market-oriented) unit to leverage resources from their existing (production-oriented) unit, while organisational separation would permit cross-fertilisation but prevent contamination from the ‘business as usual’ production-oriented unit. To be successful the market-oriented unit would require independence, flexibility, entrepreneurship and innovation. Another approach is to try to diffuse an ambidextrous ‘culture’ throughout an organisation, to create ‘contextual’ as opposed to ‘structural’ ambidexterity. This avoids integration difficulties, but can be challenging to create and sustain (Birkinshaw and Gibson, 2004). In short, an ambidextrous CEO needs to concurrently support different types of business activities with a shared strategic intent, common values and linked processes to leverage resources (Shuen et al., 2014). However, CEOs may find this challenging as they may be “adept at refining their current offerings, but they falter when it comes to pioneering radically new products and services” (O’Reilly and Tushman, 2004, p. 74). Partnerships with universities can help, as this will accelerate learning and provide the needed capabilities to capture value from opportunities.

The second dynamic capability is ecosystem management (Shuen et al., 2014). This involves developing partnerships and joint ventures with competitors and complementors, and building relationships with
suppliers, universities, CRIs, funding bodies, officials, and NGOs. Businesses should also pay close attention to upstream and downstream segments of value chains, especially in terms of the marketability of potential products. Being well-informed of developments throughout the ecosystem can lead to resource and capability partnerships, essential for seizing high-value opportunities. Market-oriented businesses found this to be important. Moreover, in dynamic environments, new product development benefits from know-how external to the business (Chesbrough and Teece, 1996). Thus, firms should search across their ecosystem for relevant new technology, including among rivals and potential collaborators, customers, suppliers, complementors, and new entrants that are active innovators (Teece, 2007).

10.3.3 Concluding comments

This chapter summarised the key findings, related them to the Penrose-Teece (P-T) framework and built on that to graphically present a ‘pathway to dynamic capabilities’ framework (see Figure 10-5). The P-T framework explains why production-oriented SMEs were at the bottom of the pathway primarily using ordinary capabilities and market-oriented SMEs were at the top developing and deploying dynamic capabilities. This study found that there was something unique about the SMEs in the two market-oriented quadrants, particularly aquaculture SMEs. They not only developed and deployed dynamic capabilities, but importantly they used them to select and construct their environments, and then coevolve with their markets. Their CEOs were market shaping and creating entrepreneurs, who demonstrated depth in all three classes of capabilities. Their dynamic capabilities permitted them to continuously create, absorb and integrate knowledge. Knowledge creation was deeply embedded in their research processes, which underpinned their innovation capabilities. Their decentralised structures and entrepreneurial culture promoted combining knowledge from within and outside their businesses, which ultimately was transformed into new processes and products. Working in common with their customers they lived in the future, to offer a very different value proposition based on taste, story, peace of mind and prestige. Ultimately, underpinned by key organisational processes they created dynamic brand-management capabilities – their critical dynamic capability – to deliver this value proposition. This dynamic capability provided them with a key success factor that separated them from those in the production-oriented quadrants. They did not compete with a slightly improved product; rather they offered very different value propositions for entirely new markets.

On the other hand, production-oriented CEOs were experts within the value chain segments they were active in - farming and/or harvesting. This involved the use of an ‘extraordinary’ capability, based on their high-levels of tacit knowledge, but it is not a dynamic capability. In ecological terms, these CEOs were extremely well-adapted to their environment, but that adaption appeared to impede them from creating new opportunities, which required dynamic capabilities. While recognising the depth of their
farming and harvesting knowledge which was unparalleled, even if they identified new opportunities, they were unable to orchestrate the resources necessary to take advantage of them, as that required dynamic capabilities. To create new opportunities they need much greater exposure to consumer market signals, which they did not have.

To conclude, this study particularly confirms Penrose’s (1959) arguments that branding capabilities can provide businesses with a ‘significant shield against competition’, and Teece’s (2007) argument that in globalised open economies businesses must maintain dynamic capabilities driven by ‘an intensely entrepreneurial genre of management to sustain financial success’. This type of entrepreneurial management:

  Can sense and even help shape the future, unshackle the enterprise from the past, and stay ahead by augmenting knowledge assets, protecting them with intellectual property rights, establishing new value enhancing asset combinations, and transforming organizational and, if necessary, regulatory and institutional structures (Teece, 2007, p. 1346).
Chapter 11: Conclusion

11.1 Introduction

The previous chapter summarised the major findings of this study in respect to the three research questions and discussed how they related to the Penrose-Teece (P-T) framework, and building on this, in Figure 10-5 a ‘pathway to dynamic capabilities’ framework was presented. This final chapter first assesses theoretical contributions and then outlines the empirical contributions. This is followed by comments on the generalizability of the findings. Then this study’s limitations as well as avenues for further research are commented on. The chapter ends with some reflections, including a potential way forward for the industry, because sustainability of fisheries, both at the macro level and at the level of individual firms, is of huge significance economically and socially to New Zealand, and indeed the world.

11.2 Contributions

This research set out to discover the factors that most influence value adding, delivering and capturing activities of seafood SMEs, informed by the P-T framework. The study validates and extends our understanding of Teece’s (2007, 2009) dynamic capabilities framework, and from analysis of the data makes four theoretical and two empirical contributions. First, Teece’s dynamic capability framework is found to be robust and extendable to primary industries. It applies particularly well to the SME cases, even though they faced some challenging competitive dynamics. Second, the dynamic capability that I call ‘dynamic brand-management’ was found to be instrumental for creating new markets favourable to highly differentiated products. Third, the importance of business models is highlighted. The creation, delivering and capturing of value by seafood businesses is deeply rooted in business models. Fourth, culture was found to be of critical importance in shaping the propensity to solve customer problems. Fifth, an empirically induced pathway to dynamic capabilities was developed and represented graphically. Sixth, this study deepens understanding of how seafood SMEs can undertake more sustainable growth activities, leading to improved socio-economic well-being in an important primary industry, through an original in-depth empirical study.

Theoretical contributions

First, this research has deepened our understanding of Teece’s (2007, 2009) dynamic capabilities framework through its empirical application. The framework was principally designed to understand “complex business organisations and contemporary management practices in high-performing enterprises” that competed globally and operated in open economies subject to fast technological change (Augier and Teece, 2009, p. 418). New Zealand is an open economy, subject to fast technological change, and the SME cases competed globally. However, production-oriented SMEs were not high-
performing. They typically employed ordinary capabilities (sometimes with great expertise and tacit knowledge) and traditional technology to produce standardised products principally for a single commodity buyer. Cost-minimisation and scale economies dominated the economic thinking of their CEOs (including many in the industry), which they saw as the best way to compete. This dynamic has driven these businesses into a low-value downwards cycle that continuously reinforced itself. Thus, this study confirmed Teece’s (2007) argument that these are insufficient to sustain competitiveness even if coupled with ad hoc (number eight wire) problem-solving. Teece argues that ad hoc problem solving is not a capability and “scale and scope of the enterprise, have given way to a different set of mandates around developing (or encouraging) complementary investments and capturing cospecialization benefits” (p. 1332). Yet, despite this difference the framework applied particularly well to the SME cases, which faced some challenging competitive dynamics. The framework is robust empirically, even in this unlikely industry.

The seafood industry faces unique competitive dynamics. The quota management system (QMS) and the Resource Management Act (RMA) have created what Penrose (1959) refers to as ‘artificial’ barriers to growth. The anti-competitive behaviours of large companies are also challenging contextual factors for CEOs and their businesses. Very few industries are as ‘wild’, secretive and opaque as the seafood industry, which produces some distinctive behaviours and capabilities. These not only impacted on how the SMEs created, delivered and captured value, but also effectively stopped the activities of one production-oriented wild capture SME. This would have happened even if the business was endowed with entrepreneurial management capabilities and possessed unique and difficult-to-replicate dynamic capabilities. Notably, however, founder-CEOs avoided marine-based activities and instead selected, then constructed their own environments (land-based) where they could be entrepreneurial. Collectively the three classes of dynamic capabilities – sensing, seizing and transforming – enabled market-oriented SMEs to shape their ecosystem in a way that was most favourable to their activities. This highlighted the relevance of the framework to seafood businesses in a primary industry. Overall, these observations do not represent any fundamental departure from the framework; on the contrary, they reinforce the robustness of the framework and show it can be extended to primary industries, and in turn, these observations enrichen and possibly extend the framework itself.

Second, Teece (2007, 2009) points out that the dynamic capabilities framework is not necessarily complete. It is an umbrella framework and only highlights the most critical capabilities that managers need. He confirms that the market shaping and creating capabilities used by market-oriented SMEs is a key dynamic capability and lead to the coevolution of markets and businesses. The findings show, market-oriented SMEs assembled co-specialised and complementary assets to set-up their business, and implement appropriate business models and organisational structures, to produce highly differentiated consumer products for new markets. This involved sensing changed and future consumer needs,
through search and marketing processes. Additionally, the selection and shaping of the operating environment, of the businesses themselves, was rooted in a second dynamic capability. Market-oriented SMEs deliberately restricted themselves to land-based activities and located their businesses where they could shape their environment. It is not simply that they used dynamic capabilities to respond to, select and shape their environment and markets by undertaking asset orchestration, in a way that was most favourable to their business activities; more importantly they created ‘dynamic brand-management capabilities’, necessary to do so in an evolving way. This was the real driving needle of the two dynamic capabilities which resulted in markets, the business and their environment coevolving. The findings indicate dynamic brand-management capabilities were the result of aligning brand-management capabilities to innovation capabilities driven by entrepreneurial management, underpinned by four fundamental processes at the organisational level; search, organisational learning, R&D and innovation, and decision making. This is illustrated in Figure 11-1.

**Figure 11-1**: Dynamic brand-management capabilities

Dynamic brand-management capabilities were the critical dynamic capability of market-oriented SMEs, as they contributed most to their competitiveness. Technically the capability was highly effective as it involved specialised know-how, which one CEO described as the ‘missing link’. He was able to obtain the world’s highest prices for a key product. The capability functioned as a lynchpin, dynamically connecting and combining internal capabilities with capabilities and know-how external to the firm. It leverages
organisational processes that were continuously reworked and uniquely tailored to the context, which ensured they could not easily be imitated, as the processes themselves were context specific.

Third, this research advances our understanding of the importance of business models in the seafood industry. Business models are “frequently mentioned but rarely analysed: therefore, they are often poorly understood” (Teece, 2010, p. 192). Teece suggests this may be because, the complexities around capturing value are assumed away in standard approaches to competitive markets, where markets are given. However, in this study business models were central to how market-oriented SMEs – wild capture and aquaculture – developed their competitive advantage. Business models were critical, because “to profit from innovation, business pioneers need to excel not only at product innovation but also at business model design, understanding business design options as well as customer needs and technological trajectories” (Teece, 2010, p. 173). The capability to select and design business models is an important micro-foundation of Teece’s framework. By contrasting two very different model types, including their respective value chains and markets, this study confirms Teece’s claim. Indeed, market-oriented entrepreneurs regarded their business models as an integral and critical driver of their success.

The two business models – production-led cost-driven commodity model or the market-responsive entrepreneurial model – drove the contrasting ways the SME cases created, delivered and captured value. The model used by production-oriented SMEs contributed to them being embedded in captive value chains, as price takers. Such was their disadvantage that their buyers appeared to thrive under the chain’s opacity, at their expense. By contrast, the business model used by market-oriented SMEs caused them to govern all segments of their value chains, including price. In short, the two different business models defined their respective value chain activities and how they interacted with end markets. SMEs using the production-led model had little interaction with their end markets, taking what they could get from their buyers, while users of the entrepreneurial model shaped and created final markets favourable to themselves. This study particularly confirms Teece’s (2007) claim that the deployment of a viable business model is fundamental for business success, “No amount of good governance and leadership is likely to lead to success if the wrong business model is in place” (Teece, 2007, p. 1331). Indeed, the business model of market-oriented SMEs was fundamental to stimulating dynamic capabilities through which they generated and sustained competitive advantage.

Fourth, this study found that culture is of crucial importance in shaping the propensity to innovatively solve customer problems. While Teece (2007, p. 1334) recognises the importance of culture, its “full integration into the framework is left to others.” Culture acted as the glue between the business model, organisation structures and innovation or the lack of it. Business models influenced how the SMEs were organised. The flat flexible organisation structures of market-oriented SMEs facilitated the establishment of entrepreneurial cultures that valued diversity, independence and innovation, encouraged initiative
and promoted entrepreneurial behaviour, while those of production-oriented SMEs did not. The entrepreneurial cultures of market-oriented SMEs were a key driving force behind the continuous improvement of existing products, development of new ones and the businesses themselves. Ultimately, entrepreneurial management shaped and influenced the cultures. Central to their cultures was that markets came first and production followed — shaped by product, process and logistics innovation. By contrast, production-oriented SMEs were characterised by slow-to-change commodity cultures that avoided risk and thus were biased against innovation. Hierarchal organisation structures reinforced their closed cultures with production coming first and markets following. Solving customer problems was not a feature of these SMEs. To sum up, culture should be integrated into the framework, because the findings suggest that innovation requires the presence of an open entrepreneurial culture.

**Empirical contributions**

Fifth, this research led to the conceptualisation of the empirically induced ‘pathway to the dynamic capabilities’ schematic (see Figure 10-5). The pathway encapsulates (and theorises) the key findings and recognises nuances within and between each of the quadrants. Recognising these nuances, the pathway combines the two paths — production-led cost-driven commodity path and market-responsive entrepreneurial path, with positioning dependent on business model/market alignment coupled with the level of technology/innovation. The increasing use of entrepreneurial management capabilities, combined with business models/market positioning capabilities and technology/innovation capabilities, results in the increasing development of dynamic capabilities. As entrepreneurial management is embedded in dynamic capabilities (Teece, 2007, 2009), the latter is required for businesses to move up the pathway. This is crucial for success, because as Teece (2007, p. 1346) asserts “improving quality, controlling costs, lowering inventories, and adopting best practices…will no longer suffice…for long run competitive success.” Moreover, “invention and innovation by themselves are insufficient to generate success” (Teece, 1986; Teece, 2007, p. 1321). This study indicates that integrating external know-how, particularly from universities is important for developing dynamic capabilities. In fact, knowledge-integrating and knowledge-sharing processes are a key micro-foundation of the dynamic capabilities framework (Teece, 2007). These processes are critical as SMEs are unlikely to possess all the necessary knowledge. In short, the pathway shows how and why market-oriented SMEs created, delivered and captured high-levels of value, while production-oriented SMEs did not.

The pathway is useful to formulate business strategy and as a benchmarking tool to assess the relative positioning of a business within the seafood industry, and explain how it can move up the pathway. The pathway shows that by possessing the right mix of dynamic capabilities, a business can reconfigure and recalibrate its activities to improve competitiveness. This research found that production-oriented SMEs were obsessed with cost cutting. Maximising the creation, delivering and capturing of value were
secondary. Opportunities were not pursued or could not be pursued and potentially much value was left on the table. What was missing was combining opportunities with entrepreneurial management capabilities in a way that permitted the greatest possibility of success (Penrose, 1959). What is needed is for these SMEs to develop the capabilities to “shape the eco-system it occupies, develop new products and processes, and design and implement viable business models...to successfully innovate and capture sufficient value to deliver superior long-term financial performance” (Teece, 2007, p. 1320). The pathway to dynamic capabilities can assist to achieve this, by mapping out how businesses can undertake more sustainable activities, potentially leading to improved financial performance. However, while a good strategy and strong dynamic capabilities anchored by difficult-to-imitate resources are the basis for success, they are only displayed by a handful of firms (Shuen et al., 2014).

Sixth, this research contributes an original in-depth empirical study of SMEs in an important primary industry – the New Zealand seafood industry. Given the industry's importance, there is a remarkable paucity of research on the industry from a business perspective, and according to Barreto (2010) and Wang and Ahmed (2007) none using a dynamic capabilities approach. This may be because the industry is notoriously difficult to research. Little useful information is in the public domain. Official information which is useful is often classified as confidential, making it problematic for researchers to access. Moreover, as this researcher found, industry bodies can be uncooperative, claiming information could not be provided because it was commercially sensitive, when in fact it was not. Even officials stonewalled and obfuscated over requests for information, in spite of their responsibilities and legal obligations under the Official Information Act. One Ministry for Primary Industries manager before releasing information contacted a colleague to find out my motives. Another was unable to locate key reports. A manager at the Science and Innovation Group of the Ministry of Business, Innovation and Employment told me that certain information did not exist when in fact it did. His Acting Deputy Chief Executive, in response to a formal Official Information Act request, sent 49 blank pages by mail, claiming that the information was withheld because it was commercially sensitive. Following a complaint to his superiors the information was provided - months later.

Unsurprisingly, biological, fisheries resource management and economic perspectives dominate the literature. Neither of these has paid any attention to entrepreneurship, value chains or the creation, delivering and capturing of value. This is surprising given the importance of the industry to economic growth. Economic approaches mostly treat the firm as a ‘black box’ with value capturing and markets assumed. In fact, “in standard approaches to competitive markets firms can capture value by simply selling output in established markets, which are assumed to exist for all products and inventions” (Teece, 2010, p. 175). However, these approaches neglect the important role entrepreneurs play in utilising the resource, or the role they play in creating and shaping their environment, markets and businesses. The seafood industry may arguably have a world leading quota management system, but ultimately it is of
little value, if as Teece emphasises it cannot deliver superior long-term financial performance. Indeed, the findings show that possession of quota or marine space did not result in superior long-term performance. This research is possibly the first to use a capabilities approach encompassing the whole of the value chain that not only increased understanding of dynamic capabilities, but provided important insights into the role of managers and managerial processes. Thus, following in-depth analysis at industry, business and individual levels, a rich and more complete picture is produced of how the SME cases interacted with their environments and their markets, to create deliver and capture value.

An interesting empirical finding is that market-oriented wild capture SMEs all had a combination of industry insider and outsider knowledge and capabilities. Insiders provided access to the resource while outsiders provided *inter alia*, market knowledge and marketing capabilities, particularly know-how. Market-oriented aquaculture SMEs, on the other hand were comprised almost entirely of outsiders, while those in the production-oriented quadrants were comprised of only industry insiders. This suggests that for SMEs in the production-oriented quadrants to develop a sustainable competitive advantage, they must develop strong dynamic capabilities. In brief, the empirical findings taken together provide a new understanding of how New Zealand seafood SMEs can undertake more sustainable growth activities, leading to improved socio-economic well-being using different complexes of capabilities to create and capture more value.

### 11.3 Generalizability of findings

It is often, “appropriate and valuable” to generalize the findings from case study research (Flyvbjerg, 2006, p. 225). However, this is contingent on the cases themselves and how they were chosen. In this study, cases were carefully selected to ensure they encompassed SMEs that engaged in few value chain activities and those that engaged in multiple activities. As detailed in the methodology chapter, the cases were drawn from an initial selection of 113 seafood businesses. Of these, profiles to identify the level of value chain engagement were able to be prepared for 43 businesses from publicly available information. Their CEOs were then spoken to and of these, 34 agreed to participate in the research. From this 17 SMEs were selected for this study, and their CEOs interviewed. The cases were further reduced to 12, to further highlights differences in value chain activities and when the four quadrants were populated they each contained three SMEs. The scarcity of market-oriented quadrant SMEs means the selection was biased towards the market-oriented quadrants. The remaining five were used to inform this research generally. One met the requirements of the market-oriented wild capture quadrant and the others met the requirements of the production-oriented wild capture quadrant. Geographically four of the wild capture cases were in the North Island and two in the South Island. The aquaculture cases were evenly split between the North and South Islands.
A number of additional interviews involving key industry experts were also carried out. They confirmed that the four quadrants were robust, as the SME cases all fitted into one of the four quadrants. Moreover, the same themes and very similar views emerged from these additional interviews, including dominance of the large companies, anti-competitive behaviours, the impact of the regulatory environment on growth, production-led cost-driven business models versus market-responsive entrepreneurial business models, and commodity cultures versus entrepreneurial cultures. Thus, the cases appear to accurately depict industry SMEs and can be empirically generalized to them. The findings of this study cannot be statistically or formally generalized to the industry, but “formal generalization is overvalued as a source of scientific development, whereas ‘the force of example’ is underestimated” (Flyvbjerg, 2006, p. 228). Indeed, “that knowledge cannot be formally generalized does not mean that it cannot enter into the collective process of knowledge accumulation in a given field or in a society” (p. 227). While it can be argued that the findings are robust for SMEs in the New Zealand seafood industry, a more cautious approach should be taken when generalizing to the large companies, however, because the findings indicate they have different competitive environments.

11.4 Limitations and further research

This study has limitations, which also provide opportunities for further research. First, this research only looked at a sample of SMEs within the fisheries industry – a single industry. While the findings suggest that development of entrepreneurial management and brand-management capabilities by entrepreneurial managers are critical for seafood SMEs to create, deliver and capture high-levels of value, it may be different in large firms or SMEs in other industries. The findings suggest that the competitive environment is different for the large dominant firms at least. Therefore, size is a limitation. Other primary industry businesses may also be influenced by entrepreneurial management capabilities in different ways. Future research into the role of entrepreneurial management capabilities and particularly the role of brand-management capabilities across different primary industries (such as dairy, forestry or meat) would contribute to a better understanding overall of how primary industries businesses compete. A useful extension would be a cross-industry comparison. Further studies could particularly examine the effects of different classes of dynamic capabilities, such as brand-management capabilities and entrepreneurial market shaping and creating capabilities on business performance.

This study represents only an initial step to understanding the role of entrepreneurial management capabilities and in particular the role that brand-management capabilities play in creating, delivering and capturing value. Conceptual arguments and empirical analysis have concentrated on the effects of entrepreneurial management capabilities, on a business’s prospects for growth, rather than financial performance outcomes per se. Future research could also examine the particular characteristics of brand-management capabilities in more detail in order to identify mechanisms that shape this capability.
In addition, future research should consider in more detail other types of capabilities that influence the shaping or creating of markets, such as market-driven innovation capabilities or process innovation.

Next, the findings are specific to the New Zealand context. An interesting extension would be to compare the New Zealand fishing industry to another country in order to shed light on how entrepreneurial management capabilities vary between national settings. A similar study on Icelandic seafood SMEs, which use more advanced technology and extensively innovate, may provide some fruitful comparative insights to better understand contextual differences and the interplay between ‘business models/market positioning’ and ‘application of technology/innovation’. This would increase understanding of the pathway to dynamic capabilities and provide an important test of Teece’s (2007, 2009) dynamic capabilities framework in a high-performing seafood industry.

11.5 Closing thoughts

This research has shed light on a very important primary industry, which I believe ultimately can create, deliver and capture much more value. The research was carried out over the length and breadth of New Zealand, during a four year period in which the industry underwent some convulsions and turmoil. In addition to this research, I have been involved in a multi-track research agenda, together with my supervisors into other aspects of the fishing industry, ultimately targeted at how New Zealand seafood businesses can capture more value. This research took me to a number of countries, including Canada, China, England, Hong Kong, Japan, Norway and Iceland. This gave me deeper insight into the complexities of the industry and the range of issues confronting it. It also gave me a good understanding of global fisheries value chains and particularly the market-end of those chains.

My initial interviews, coupled with the research into offshore processing in China, also provided the catalyst to examine New Zealand’s foreign charter fishing sector. In July 2011 government launched a Ministerial Inquiry into the use and operation of Foreign Charter Vessels (FCVs). Three weeks later, my supervisors and I presented ‘Not in New Zealand’s waters, surely? Labour and other human rights abuses aboard foreign charter vessels’ at a Business School seminar and a working paper followed (Stringer et al., 2011a). In April 2014 the ‘Fisheries (Foreign Charter Vessels and Other Matters) Amendment Bill’ unanimously passed its second reading in Parliament. This Bill implements recommendations of the Ministerial Inquiry and Government’s decisions to improve vessel safety, employment, and fisheries management on FCVs operating in New Zealand waters. It seeks to protect the human rights of foreign fishing crew, through the reflagging of all FCVs to New Zealand and strengthened observer powers. Our initial findings of the FCV research, which link labour and human rights abuses to global production networks (GPNs) were subsequently published (see Stringer et al., 2013). Three related papers will follow later this year.
Despite the controversy that research raised, I hope this research will contribute to re-orientation growth in the industry. However, I was also puzzled by some of the findings that appeared to be a re-run from the early 1990s, so I undertook further historical research in an attempt to understand why (understanding ‘why and how’ certain outcomes arise is critical (Helfat et al., 2007a)). I discovered that the issues actually go back eighty years, to the early 1930s, and were highlighted in the ‘Sea Fisheries Investigation Committee’ (1937-1938) report to Parliament. That Committee undertook a wide ranging investigation into the prevailing conditions and future prospects for the industry. In the years leading up to the inquiry there was little if any cooperation throughout the industry, particularly in terms of ‘production and marketing’. The operating environment was very challenging, and characterised by conflicting agendas and a lack of capabilities, particularly in marketing. Despite an extensive investigation and a detailed set of recommendations, major problems – underpinned by widely divergent views and conflict – continued. In fact, a second investigation undertaken by the Caucus Fisheries Committee (1956), echoed many of the earlier problems and found major factions existing within the industry. This Committee recommended that the industry come together and form a strong national body to represent the interests of all parties, to deal with the many problems that the industry faced.

Despite the formation of the Fishing Industry Advisory Council, the problems continued, and in 1962 a third Parliamentary inquiry was undertaken by the ‘Fishing Industry Committee’, which investigated whether a Development Corporation might better facilitate the economic expansion of the industry, and resolve the factors impeding growth. Many of the findings of the Committee (1962) were similar to the 1937-1938 investigation, such as low use of technology, lack of value-added processing, poor marketing, lack of export market development, failure to utilise waste, anti-competitive behaviour, poor-quality products, and increasing costs. This led to the formation of the Fishing Industry Board, most of whose activities were taken over by the Seafood Industry Council (SeaFIC) in 1997. Overall, the challenges faced by many of my SME cases are well encapsulated by Jack Enwright, a Director of Seafoods Ltd, who more than 50 years ago lamented to the 1962 Fishing Industry Select Committee:

I still feel that the forces hidden are so great that this country will come a bad last simply because we have inexperience and inefficiency where we should have experienced saltwater fishing experience backed by ability, and a desire to assist in a wholehearted way the development of the industry...one gets the impression that during the last 30 years at least, development of the industry has been hindered and prevented because the powers to be would not be able to administer a growing industry because of inexperience (Enwright, 1962).

From this longer perspective, the problems identified in this research are deep-rooted, and the proposed pathway to improve individual businesses, and hence the industry, take on an even greater significance. It is a way forward to improve management capabilities, without which, there could be a similar lament in fifty years’ time.
11.5.1 A way forward

For long term viability a new approach is required. Government and the businesses themselves need to change their strategy and culture. Production-oriented businesses must develop and deploy strong dynamic capabilities if they are to move out of their captive value chains and develop a sustainable competitive advantage. Strong dynamic capabilities will yield higher total margins, once product is presented in such a way that quality is more important than price. This will in all likelihood lead to greater economic activity within New Zealand and give the country a better chance of retaining and increasing processing and other related jobs. To achieve this, seafood businesses must de-commoditise their business models and value chains, and create new ones. Put differently, “success requires the creation of new products and processes and the implementation of new organisational forms and business models, driven by an intensely entrepreneurial genre of management…” (Teece, 2007, p. 1346). The first step is for their CEOs, to aspire to move up the ‘pathway to dynamic capabilities’ (see Figure 10-5).

While nearly all SMEs in this study recognised the need to improve their capabilities, they were however hampered by limited resources. Thus government policy must target funding at building entrepreneurial management capabilities. As Teece (2009, p. 205) succinctly puts it “an economy with a competitive market structure will not spawn the creation of viable enterprises unless there are exceptionally capable entrepreneurs and managers orchestrating necessary responses.” However, policy is geared to a science-push approach with R&D funding primarily targeted at large businesses, most of which according to the Ministry of Economic Development (2011a), have not shown themselves to be very innovative. As chapter 4 shows this focus on research, rather than development of the businesses themselves is a mistake. It’s the businesses themselves and their management that need innovating, before their raw materials. As all great businesses started small, the focus must be on their development. An excellent example is Wattie’s Ltd. In 1934, its founder Sir James Wattie was refused government funding to develop the business to turn waste peaches into fruit pulp, for hungry depression era Aucklanders who had no money for food (Irving and Inkson, 1998). Instead, officials suggested he research the production of bleached asparagus for export, which they would fund. With limited education, no money, and no experience, Sir James instead teamed up with skilled outsiders (among others an engineer, electrician, and bank manager), and went on to build the largest and most important food processing company in the world. It had more products, greater market penetration, and was in more countries than any other food processor in the world. Sir James did this by following the market-responsive entrepreneurial path. Unsurprisingly, he was a long-time critic of government business policy.

42 Sir James Wattie left school at age thirteen. He later studied accountancy, because he heard one could not be a good businessman unless one could read a balance-sheet.
Nearly eighty year after Sir James Wattie was denied funding; some of the case study SMEs faced similar refusals. Yet, innovation funding has a significant positive effect when it is “targeted at firms that are building capability; that are small; and that have not previously undertaken R&D (Ministry of Economic Development, 2011a, p. 49). The opposite effect was found for large firms. Officialdom’s blind reliance on simple textbook economic models, in respect to entrepreneurial management and firm level issues, to use Teece’s (2011a) words, is “clearly a caricature of reality” (p. 13). Indeed, the firm is more than a price-and-output decision maker for given products. It is more a flesh-and-blood, growing, innovating, multi-product organisation that freely varies the products it produces (Penrose, 1959). Capability and production function issues are assumed away under standard production theory, thus competitive situations are likely to be misdiagnosed, because much of what goes on in the ‘black box’ of the firm is poorly illuminated. Accordingly, “treating capabilities and products as homogeneous inadvertently puts intellectual blinders on managers and policy makers” (Teece, 2011a, p. 13). This can lead to officials using these models, to “assume away constraints, undervalue learning, undervalue capability enhancement, and overemphasize strategic gamesmanship” (p. 13). Ultimately, advice based on such models can be flawed or just wrong, as the example of Wattie’s illustrates.

While management may be “adept at refining their current offerings...they falter when it comes to pioneering radically new products and services” (O’Reilly and Tushman, 2004, p. 74). Government must invest in management and in turn businesses must collaborate to build dynamic capabilities, as few can do it alone. Yet during the course of this research I was repeatedly struck by: poorly directed incremental innovation; reliance on ordinary capabilities; the use of traditional project-based strategy-consultants peddling an aging toolbox of classic (and static) frameworks, coupled with standardised non-transparent analysis; the lack of collaboration; the distrust of the motives of others; and, the widely divergent and entrenched views on the way forward for the industry. Distrust inhibits businesses from collaborating and sharing knowledge, which limits their ability to create and capture value. Teece (2007, p. 1324) points out that businesses “must embrace potential collaborators” to effectively identify and shape potential value capturing opportunities. Although it will be challenging to create, a market-driven entrepreneurial cluster – wild and aquaculture – promoting transparency, trust and collaboration through shared knowledge to assist businesses to secure business, technical, marketing, market knowledge and commercialisation expertise would overcome many bottlenecks to growth. Such a cluster would provide a non-traditional facilitated-network to help businesses to create, deliver and capture more value from their activities, particularly from overseas – and especially Asian – markets by promoting market-driven innovation throughout their value chains. The cluster would assist seafood businesses to enhance returns on an on-going basis by:
1. Shifting from producing bulk, unprocessed or semi-processed standardised commodity products (production-led approach) to producing high-value finished consumer products that high-end consumer markets require (market-led entrepreneurial approach); and

2. Promoting a whole of value chain approach through on-going market-driven innovation in process, products, branding and markets.

The former is necessary to drive the latter and the latter, in turn, is necessary to deliver the former. This mutually supporting approach would see seafood businesses capture more value through improvement to their capabilities, and in line with the aspiration: “developing new and higher priced product forms and markets will be key in lifting export revenue” (Ministry for Primary Industries, 2013, p. 50). To achieve this, businesses should partner with universities matched to their needs, as this will accelerate learning and provide the human capital to seize opportunities and capture value from them. New Zealand business collaboration with universities has been very limited as they are not seen as collaboration partners, unless it involves scientific or technical issues (Whittaker, Fath, Fiedler, and Simmons, 2011). Yet, the involvement of business schools, for example, would facilitate capability building and provide research, know-how, and knowledge integration capabilities from their wider global networks, which according to Teece (2007) are critical for business success. Such a cluster structure would overcome uncertainty as a CEO is more likely to “accept the judgement of people he knows and trusts and who can explain the basis of their judgement, especially if these people also share a general responsibility for the outcome” (Penrose, 1959, p. 59).

Examples of such industry-university-government clusters, and the infrastructure or platform to support its development, can be found in the Icelandic and Norwegian seafood industries, which implemented quality seal labels and other branding, traceability and just-in-time innovations in order to project the very best of their businesses into the homes of consumers globally. Importantly, such a collaborative cluster can produce the scale, resources and capabilities needed by individual businesses to move up the pathway to dynamic capabilities. Ultimately, this linked approach could create a virtuous dynamic and replace constant downward pressure on costs and returns. Indeed, premium prices could be captured, from Australia, the EU and the U.S.A. in addition to Asia, where consumers are willing and able to pay more (Ministry for Primary Industries, 2013). To be successful, the cluster would need to support on-going university-level research for the benefit of the industry as a whole. Research by New Zealand universities, and through this, to a worldwide network of researchers, would be a crucial element. Moreover, university researchers can also act as an independent bridge between the businesses and government to overcome mistrust (the greatest obstacle to success), and to ensure that the benefits of the research are shared throughout the industry. The individual elements are not necessarily new, but to be effective they need to be designed and implemented as a whole.
Ultimately, sustainability of fisheries, both at the macro level and at the level of individual firms, is of huge significance economically and socially to the world. Being dependent on poorly-treated human capital and aging technology producing a narrow range of standardised products, while wasting much of a fish and indeed its by-catch, will not meet the needs of a growing world. New Zealand needs to invest more in management to make its seafood businesses sustainable, but in more radical ways. Like Iceland, seafood businesses must aim to make the fillet the by-product. This will necessitate a profound shift in government thinking because as chapter 4 shows the science-push approach has largely failed the seafood industry. What’s needed is entrepreneurial management developing and deploying dynamic capabilities. Therefore, the suggested way forward can assist seafood businesses transform their activities and by doing so produce more from the same. In sum this thesis provides an improved understanding of how the seafood businesses themselves can better contribute to business success, economic growth and the well-being of the nation.
Appendix 1: Interview Guide

1. You and your business
   Your background and career, and how you got involved
   History of the business, about your top management team, board of directors, and advisors
   Who makes and how are strategic decisions made? (top-down vs bottom-up)
   Do you use information from, and involve junior staff in decisions? If yes, how?
   Makeup of costs, sales, profit, employees, ownership, and trends over time
   Goals, key ideas, value proposition and how they have changed since your involvement
   How do you share your goals, dreams and expectations with others in your business?
   Your key business strengths?
   What competencies are important for your business and how did you develop them?
   The main weaknesses of your business?
   How do you fund your businesses expansion/growth?
   How do you measure success and results?

2. Finding opportunities
   Where do new ideas for new products/services come from?
   What were the initial opportunities?
   What were the initial barriers and challenges and how did you overcome them?
   What did you learn from your initial opportunities?

Collaborative activities
   Do you seek out and build collaborative relationships? If yes, with whom, why, and how? Example
   Do you engage with universities and research organisations? If yes why, and how?
   Do you undertake product, market, or technical training for your staff? If yes, how?

Your products and customers
   Describe your products and major customers?
   Have your products changed over time? If yes why?
   What do they understand the value of your products to be?
   How do you determine your product price?
   How do you acquire new customers?
   Retrospectively, do you understand your customers well? If not why not?
   Do your customers have access to alternative products? If yes, do they purchase them and why?
   Do you customers ask for products you do not produce? If yes, do you accommodate their requests?

Adapting to the market
   How would you describe your competitive environment?
Do you look at the competitive environment and how do you obtain knowledge about your market?

How have the markets changed during the past three years? (Since the economic peak)

How has the business adapted to these changes (products; innovation; ways of doing business)?

Do you adapt products and services to different markets? If so, why and how? Example.

What lessons have been learnt?

What specifically do you need to understand about different markets to be able to develop your business?

Do you keep up to date about new processes and technologies? If yes how?

What kinds of knowledge or technology do you try to acquire (e.g. managerial capabilities, IP)? How?

Would you make any changes to your products or processes if you could? If yes what’s stopping you?

3. Pursuing business opportunities

Are there any challenges preventing you from pursuing current initiatives/opportunities? If yes how do you intend to overcome them? Example.

Can you give an example of a new product/service initiative and how you went about pursuing it?
- What planning did you do before pursuing the initiative? i.e. budgets, investment costs, market research, targeting of particular customers, opportunity cost, etc.
- What sources did you get advice from? And how important was that advice? And why?
- Who made the final decision about which initiative/opportunity to pursue?
- Did junior managers/staff contribute to the final decision?
- What skills and knowledge were important, and how did you develop/obtain them?
- Did you seek out collaborative relationships to help take advantage of the initiative? If yes why?
- Did you use competitor’s products to improve your own and would you in the future?
- Did you consider market positioning of yours and competitors products?
- What if any strategies do you follow to get more revenue from proposed products?
- What else did you consider when deciding to pursue the initiative?

Business Model

What activities do you focus on and why?

What major changes have you made to your business that resulted in an increase in revenue?

Have you or do you look at other ways of making more money from your products? What were they?

Do you know and understand the business costs of your partners, distributors/customers, suppliers, and competitors.

Do you reduce wasteful or excessive costs? If so how?

Do you review your business to see whether new processes and/or technology could be of benefit?

Do you consider any legal protection for your products?

Value chain

Can you describe your value-adding activities (complete value chain map)?

Are you still developing value-adding activities or are they mature?
What activities do you focus on and why?
Which activities are the most profitable?
Are you involved in these activities? If not why not?
Which value-adding activities cause the most problems and how do you resolve them? Example.
Has the value adding activities changed since 2007? If yes why and how?
Do you look at the value-adding activities to see how you can streamline the supply of product to customers? If yes how? Example.
Describe your interaction with markets and consumers? Example.
What impact do markets and consumers have on your own activities? Example.
Describe your interaction with large buying firms? Example.
Describe your interaction with government and other institutions? Example.
Describe your interaction and relationships with other firms throughout the value chain? Example.
Do you share knowledge and or investment with other organisations and businesses? If yes what key benefits have been obtained?
Do you look to bundling products with those from other businesses? If yes, what are the benefits? Example.
Are you engaged in outsourcing and/or insourcing. If yes how was this decision made and why?
Do you review your business to see whether new processes and/or technology could be of benefit?
When hiring employees what skill levels are important to value-adding activities? (e.g. education, technical, research, professional, language, cultural, market experience, other)
How do you acquire and develop relevant value-adding skills and knowledge?
Are there any challenges preventing the industry from pursuing value-adding initiatives/ opportunities? If yes how can the industry overcome them?
Retrospectively, do you understand the value chain well? If not why not?

4. Managing your business
Do you regularly change members of the top management team? If yes how?
Do you hold meetings to encourage diverse honest feedback and opinion from all staff?
Do you permit managers to influence your decisions? If yes, has this been beneficial?
Do you offer incentive schemes? If yes, what is the main benefit?
Do you look to bundle your products with those from other businesses? If yes, were/are the benefits?
Do you share knowledge and or investment with other organisations and businesses? If yes what key benefits have been obtained?
Do you have a written business plan?
Do you use R&D to help training and learning?
Do you monitor for the misuse of business assets, knowledge, and protection of IP? If yes how?
Do you monitor subcontractor’s use of your knowledge, technology, and IP?
Why and what do you currently do to acquire and develop relevant skills and knowledge?
5. Future opportunities and challenges

Have you found any future opportunities and how will you realise them?

What will be your main challenges preventing you from taking advantage of these opportunities and how will you overcome them?

In hindsight, what would you do differently today?

Future aspirations and where do you see the business in 5 years?

What advice would you give to a young CEO about the industry?

6. Value Chain Mapping (confirm capabilities with this map, as teased out during the interview)

What value chain activities are you involved in? What key capabilities are used to do it? What market channels do you use to reach those end customers?
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