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The Building of Strategic Capabilities for
Sustainable Competitive Advantage:
Case Studies in the New Zealand Seafood Industry

A thesis presented in partial fulfilment
of the requirements for the degree of
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in Strategic Management
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Preface

During the examination of the thesis, it was agreed that this preface be added to address issues raised concerning the contribution each case study makes to the theory on sustainable competitive advantage. The main issues raised are:

- (1) The within-case analysis;
- (2) The identification of firms' competitive advantages;
- (3) How firms' competitive advantages impact on their performance; and
- (4) Generalisations made about the study's findings.

The first three issues relate to the study's design and choice of methodology, including the researcher's experience in gaining the trust of participants and honouring the agreement to ensure that their involvement would not jeopardise their firms in any way. The fourth issue relates to the appropriateness of making generalisations at the national and general theory levels. These issues are addressed as follows:

- (1) Questions were raised about the case studies because it was assumed narrative accounts lack within-case analyses. However, the case studies, as narrative accounts, are the outcome of within-case analyses. The analyses consisted of the researcher synthesising the multiple types of data, resolving contradictions in the data and negotiating with participants any conflicts of recollections and limitations placed on the release of the data (refer p.262). The analyses culminated in the most sensible accounts of what happened in

the firms and the identification of sources of competitive advantage and the processes used to build them. The identified competitive advantages and building processes were further analysed at the cross-case level.

Prior to this study little research had been done on the process of building sources of competitive advantage. The researcher concluded, therefore, that the study should focus on this process. The researcher contends that the study's findings at the cross-case level on the capabilities building process are its greatest contribution to the theory on sustainable competitive advantage.

- (2) This study broadly defines competitive advantage as something one firm enjoys over another in a particular market. This definition does not presume a direct association between superior financial performance and a competitive advantage. Instead, an advantage is more in line with a firm consistently producing products and/or delivery systems with attributes that correspond to the majority of its customers' key buying criteria (refer p.9).

This study's identification of sources of competitive advantage commenced with the researcher observing relationships among concepts or variables during within-case analyses. Participants further contributed to the observations during a series of subsequent interviews (refer pp.260-1). The study used various multiple-data collection methods to verify participants' statements about sources of competitive advantage, their sustainability and the processes used to build them (refer pp.254-5). This method of identifying sources of competitive advantage was appropriate, given the broader definition outlined above and the restricted access to financial data, as outlined below.

- (3) Analysing the impact a source of competitive advantage has on firm performance (profitability) was hampered by participants either refusing the researcher's request for access to basic financial data or constraining its

release. For these reasons, a sixth research question regarding why firms operating in similar product markets display varied performance was eventually omitted from the study (refer pp.244-5).

Restricted access to comparable types of economic and financial data across firms and the industry prevented this study from tracking firm-level financial performance over time and making comparisons across firms and with industry averages. The study cautions against making within-nation and cross-nation comparisons of seafood firms due to the lack of available quantitative data on the performance and operations of New Zealand seafood firms (refer p.424).

- (4) The appropriateness of generalising the study's findings is best addressed by distinguishing between statistical generalisations and theoretical generalisations. The study could not be designed around statistical generalisations that focus on 'how many' types of quantitative research questions. Instead, the study was designed to ask a variety of 'what', 'how' and 'why' questions that lead to theoretical generalisation (refer pp.243-4). The comparative case study approach treated each case study as a separate experiment instead of a statistical sample (refer p.263).

The study qualifies any generalisations made to only those seafood firms with similar size and levels of vertical integration. The expectation was expressed that the study might provide a more comprehensive understanding of firm-level competitiveness with broader application to firms in other industries, particularly other natural resource-based industries characterised by high vertical integration (refer p.427). The theoretical generalisations made are reasonable given the stated qualifiers.

The researcher trusts that this preface clarifies the above issues so that the reader can fully appreciate this study's purpose, limitations and contribution.

Abstract

The aim of this study was to identify the process by which selected New Zealand seafood firms built firm-specific resources, referred to as strategic capabilities, to gain and sustain a competitive advantage in the context of New Zealand's economic reforms and transformation of the fisheries management system. Having identified several contextual factors unique to the seafood industry and the macro-environment, this study examined the capabilities building process using broad organisational, environmental and historical contexts. A case study approach was used to conduct the research. The case study design consisted of four medium to large-sized, highly vertically-integrated seafood firms. Data were collected from interviews, internal documents, industry documents and observations.

The study concludes that the strategic capabilities building process is predominantly systemic, that is utilising and combining several firm-specific resources to develop simultaneously sources of advantage so that firms can compete successfully in the highly competitive international seafood market. The systemic nature of the strategic capabilities building process requires seafood firms to build up intangible processes and routines that link all of their value chain activities in the best possible way. Processes and routines are dynamic; they change, therefore, with the acquisition and integration of new knowledge about a firm's operations, its products and those external environmental forces that impact on the firm. This study suggests that the greatest potential gain for highly vertically-integrated firms lies in senior managers' reviewing the nature and extent of their interactions, their comprehension of value chain activities, and their firm-wide communication-oriented processes and routines that support the capabilities building process. This study also confirms that for vertically-integrated firms operating in resource-based industries, secure access rights to the resource play a critical role in firm-level competitiveness.

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Introduction

The key purpose of this study was to explain and predict why some firms gained a competitive advantage in highly competitive environments. The theoretical basis to the study is the resource-based and knowledge-based views of the firm, which conceptualise firms as bundles of heterogeneous resources. When these resources are valuable, rare, inimitable and nonsubstitutable, they can provide firms with sustainable competitive advantages 'by implementing fresh value-creating strategies that cannot be easily duplicated by competing firms' (Eisenhardt and Martin, 2000:1105). However, further empirical research is needed to construct a theoretical framework that describes the processes firms use to build firm-specific resources into sources of competitive advantage.

This study identifies the process by which selected New Zealand seafood firms built strategic capabilities to gain and sustain a competitive advantage in the context of New Zealand's economic reforms and transformation of the fisheries management system. Contextual factors unique to the seafood industry and the macro-environment are highlighted. The capabilities building process is also examined within broad organisational, environmental and historical contexts. Contextual considerations were incorporated into the study to overcome an identified shortcoming of the resource-based view, which tends to view firms as operating in 'competitive isolation' (Montgomery, 1995).

The seafood firms in this study were chosen to represent a cross section of the New Zealand seafood industry that also displayed similarities in terms of size, highly vertically-integrated operations and strong dependence on export markets. Because the study's theoretical basis lacks empirically verified research on the capabilities building process, in addition to contextual and historical considerations the study adopted the theory building approach with comparative case study and field research methods.

The study concludes that the strategic capabilities building process in highly vertically-integrated seafood firms is predominantly systemic, that is utilising and combining several firm-specific resources to develop simultaneously sources of advantage so that firms can compete successfully in the highly competitive international seafood market. The systemic nature of the strategic capabilities building process requires the seafood firms to build up intangible processes and routines that link all of their value chain activities in the best possible way. Processes and routines are dynamic and, therefore, change with the acquisition and integration of new knowledge about a firm's operations, its products and those external environmental forces that impact on a firm.

A primary contribution to the field of strategy is made in providing a fuller understanding of the interactions between knowledge, firm-specific resources and the strategic links between and across value chain activities that provide firms with sustainable competitive advantage. The importance of coordinating and linking value chain activities is embodied in the concept *Managerial Capability*. *Managerial Capability* is defined as a quality exhibited by a highly vertically-integrated seafood firm that (1) integrates various types of knowledge in ways that link up all value chain activities to fully exploit the competitive potential of its resource base, and (2) responds to new opportunities and lessens the potential impact of external environmental forces on the firm's ability to succeed in particular markets.

External environmental forces also influence firms' development of strategic capabilities. The primary external forces identified are the New Zealand Government's economic policies, issues and policies related to foreign market access, and fisheries management policies and legislation.

This study reveals the basis to seafood firms' competitiveness is the security of tenure in access rights to the fisheries resources. The study redefines the conditions under which firms build up tangible as well as intangible resources that work in combination as sources of competitive advantage. This argument is developed in the following thirteen chapters.

Chapter 1 outlines the theoretical background to the empirical study, which is introduced in Chapter 7. Chapter 1 reviews the literature on the historical development of the resource-based and knowledge-based views of the firm, referred to as the Resource Approach. A contrast is made between the Resource Approach's focus on firm-specific heterogeneous resources as sources of competitive advantage and the Economic Approach's historical focus on firms' product-market positioning. While the literature provides a basis upon which to build further research, this study differs from earlier contributions by demonstrating that firms operating in highly competitive environments simultaneously develop and deploy both tangible and intangible resources when building sources of competitive advantage.

Chapter 2 begins a series of five chapters that provide an overview of the context within which this study is undertaken. This chapter examines different fisheries management regimes used in other nations, providing an applied basis for this empirical study which is incorporated into the Government policy-related recommendations outlined in Chapter 13.

Chapter 3 provides an historical overview of fisheries management in New Zealand from 800AD, when Maori most likely first arrived in New Zealand, until the present, thus placing the current fisheries management system in a historical

context. This contextual basis provides an understanding of the impact various fisheries management regimes have had on the seafood industry's development.

Chapter 4 examines the broad economic and social development of New Zealand from the mid-1800s until the present, with particular emphasis placed on the decade beginning in the mid-1980s when dramatic economic and social changes took place. This era in New Zealand's history provides insights into why the radically new and untested Individual Transferable Quota (ITQ) system was accepted in 1986 as the primary fisheries management framework. The chapter also considers New Zealand's implementation of economic and social reforms and compares its approach to accepted practice and the approaches taken by other small nations.

Chapter 5 outlines various economic performance measurements for the New Zealand seafood industry and indicators of change that have occurred since the implementation of the ITQ system. Highlighted in particular are the implications of the 1990 'Porter Project' for the seafood industry, which was first introduced in Chapter 4.

Chapter 6 reviews Maori claims to fisheries resources and the legislative changes enacted to settle those claims. This study contends that to fully understand New Zealand's seafood industry, it is imperative to comprehend the growing presence that Maori have in the industry and the importance of customary fishery claims that remain unresolved.

Chapter 7 starts by outlining the five research questions that guide the study's empirical investigation. Because the study aims to identify the processes by which selected New Zealand seafood firms built strategic capabilities, the research questions focus on the content of strategic capabilities, the contexts within which firms operate, and firms' capabilities building processes. The chapter proceeds to identify the research strategy and methods used and outlines

a critical methodological consideration, gaining access to seafood firms and industry-related organisations.

Chapters 8 to 11 introduce the case studies on the four medium and large-sized seafood firms in this study. The format for these chapters varies to accommodate the differences in data collected on each firm and limitations managers had for publishing data on their firms. These chapters form the basis for the identification of strategic capabilities and the formulation of the strategic capabilities building process, as outlined in Chapter 12.

Chapter 12 interprets the data within Chapters 8 to 11 and identifies five distinct but related strategic capabilities operative in the seafood firms. The first model outlines the pattern firms use in the capabilities building process, and a second one describes the process. A third model outlines vertical integration within the seafood firms. This chapter develops the study's findings within the contextual considerations outlined in Chapters 2 to 6.

Chapter 13 presents the study's implications, recommendations and advice. Because of the systemic nature of the strategic capabilities building process, the recommendations and advice are aimed at all those directly and indirectly involved in New Zealand seafood firms. The purpose of addressing a wider audience is so that all involved can better understand how individual and collective actions can facilitate or impede firms' capabilities building processes.

Findings from the study were presented periodically to conferences through a series of seven presentations between 1996 and 2000. In addition, one paper arising from the study has been published in a New Zealand-based peer-reviewed journal, *The New Zealand Society of Strategic Management Journal*, and two other papers have been published in *Marine Policy*, a UK-based internationally peer-reviewed journal. The seven conference papers and three journal articles are listed as follows:

Firm capabilities and sustaining competitive advantage: A study of the New Zealand seafood industry. *Proceedings of the 11th Australia & 10th New Zealand Combined Marketing Educators Conference*, University of Auckland, November 1996.

Building strategic capabilities for sustainable competitive advantage: A study of the New Zealand seafood industry. *Proceedings of the 5th Annual New Zealand Strategic Management Educators Conference*, Wellington, March 1997.

Sources of sustainability: A strategist's guide. *The New Zealand Society of Strategic Management Journal*, Spring Issue (November 1998), vol 3 no 4, pp. 24-33.

The resource-based and knowledge-based views of the firm: Sources of sustained competitive advantage. *Proceedings of the 7th Annual New Zealand Strategic Management Educators Conference*, Palmerston North, February 1999.

Issues and implications for the New Zealand seafood industry. *Proceedings of the 7th Annual New Zealand Strategic Management Educators Conference*, Palmerston North, February 1999.

Property rights and their role in sustaining New Zealand seafood firms' competitiveness. *Proceedings of the FishRights99 Conference*, Fremantle, Australia, 14-17 November 1999. FAO Fisheries Technical Paper 404/2, Food and Agriculture Organization of the United Nations: Rome.

The role of property rights in the development of New Zealand's marine farming industry (co-author Dr. Michael Harte, Science and Policy Manager, New Zealand Seafood Industry Council), *Proceedings of the FishRights99 Conference*, Fremantle, Australia, 14-17 November 1999. FAO Fisheries Technical Paper 404/2, Food and Agriculture Organization of the United Nations: Rome.

The role of property rights in the development of New Zealand's seafood industry (co-author Dr. Michael Harte, Science and Policy Manager, New Zealand Seafood Industry Council). *Marine Policy*, July 2000, vol 24 no 4, pp. 331-339.

New Zealand maori claims to fisheries resources. *Proceedings of the International Institute for Fisheries Economics and Trade Conference (IIFET 2000)*, Corvallis, OR, USA, 10-14 July 2000. Honourable Mention, Best Student Paper competition for PhD students.

New Zealand's indigenous people and their claims to fisheries resources. *Marine Policy*, March 2001, vol 25, no 1, pp. 23-32.

Chapter 1

Strategic Capabilities – An Evolving Concept

Introduction

During the past fifteen years strategy researchers have been building new concepts that more realistically reflect the rapidly evolving nature of firms and the changing dynamics of their competitive interactions (Sanchez, Heene and Thomas, 1996). With regard to sources of competitive advantage, the focus has shifted from product-market positioning to firm-specific resources. A new theory of the firm has emerged which views firms as collections of resources (Wernerfelt, 1984), and this theory asks how firm resources can be applied and combined so that a competitive advantage is sustained (Peteraf, 1993).

The purpose of this chapter is to outline the development of this new theory, referred to as the resource-based and knowledge-based views of the firm. Both of these views focus primarily on a firm's tangible and intangible resources as sources of sustained competitive advantage. The resource-based and knowledge-based views of the firm attempt to explain and predict why some firms gain a competitive advantage and superior performance in highly competitive environments.

Some regard the focus on firm-specific resources as potentially providing an integrative new paradigm for the field of strategy (Conner, 1991; Mahoney and Pandian, 1992; Spender, 1996). Several notable researchers have provided a strong foundation for firm-specific resources as the best source of competitive advantage (Penrose, 1959; Wernerfelt, 1984, 1989, 1995; Lenz, 1980; Lippman and Rumelt, 1982; Nelson and Winter, 1982; Barney, 1986, 1989, 1991, 1995; Dierickx and Cool, 1989; Peteraf, 1993, 1994; Grant, 1991a, 1996a, 1996b).

However, the focus on firm-specific resources has not yet undergone sufficient empirical research to develop a well-defined theoretical framework, concepts and constructs that address the inevitable shortcomings of a new theory, and standardisation of terminology. McGrath, MacMillan and Venkataraman (1995) make a call to strategic managers and-researchers to begin to understand the processes by which new competitive advantages are created and to develop useful tools to assist managers in navigating this relatively unresearched terrain.

There is growing awareness among contributors to the resource-based view that the most theoretically interesting variables are the least identifiable and measurable (Godfrey and Hill, 1995; Spender and Grant, 1996), eliciting increased interest in the knowledge-based view. It appears that the knowledge-based view, with its emphasis on tacit knowledge and the integration and creation of knowledge, holds the greatest promise of making a contribution to understanding firm-specific resources as sources of competitive advantage (Grant, 1996a). Until researchers make further progress in this area, we cannot be confident about what is useful to observe within the firm concerning sources of competitive advantage (Spender, 1996).

Competitive Advantage

This study focuses primarily on firm-level competitiveness while also incorporating industry- and national-level competitiveness. During the last decade strategy researchers have placed greater emphasis on the importance that nations

have in determining firm-, industry- and regional-level competitiveness. ‘Clusters’ of related and supporting industries, and other factors related to national-level competitiveness are addressed in Chapter 4’s discussion on the New Zealand economy and Chapter 5’s description of the New Zealand seafood industry.

Trade bloc-level competitiveness considers sources of competitive advantage through the formation of bloc economies such as the European Community, North American Free Trade Agreement, and Australia New Zealand Closer Economic Trade Agreement. The formation of bloc economies has led to research on ‘bloc competitiveness’ (Cho, 1997).

Concerning firm-level competitiveness, Kay (1993a) views a competitive advantage as something one firm enjoys over another in a particular market. Most discussion on competitive advantage is quick to associate superior performance with a competitive advantage. However, Kay states that relative to the weakest firm in a market, all other firms essentially have, to some extent, a competitive advantage, and as firms’ performances change, so does each firm’s competitive advantage. It follows that a firm in multiple markets may improve its overall performance by reducing its competitive advantage in one market to improve its advantage in another. According to Hall (1993:610) firms have a sustainable competitive advantage ‘when they consistently produce products and/or delivery systems with attributes which correspond to the key buying criteria for the majority of the customers in their target market’.

Perspectives on Competitive Advantage

Since the resource-based and knowledge-based views of the firm are fundamentally similar, this study refers to them collectively as the Resource Approach. Any discussion of the Resource Approach requires that it be linked with different understandings of competitive advantage as presented in the dominant theories of strategy, which are rooted in economic theory. This study

refers to these dominant theories as Evolutionary Economics and Industrial Organisation, which are primarily industry-level perspectives on competitiveness. Collectively they are referred to as the Economic Approach. Sanchez, Heene and Thomas (1996) state that although these theories have been very useful in guiding strategic thought, they are becoming increasingly difficult to reconcile with the rapidly evolving nature of strategic competition. Table 1.1 provides an overview of the main features of these four perspectives.

Table 1.1 Perspectives on Inter-firm Competition and Sources of Competitive Advantage

	Economic Approach		Resource Approach	
	Evolutionary Economics	Industrial Organisation	Resource-based View	Knowledge-based View
Possible source(s) of competitive advantage	Opportunism, luck	Entry barriers, mobility barriers, product-market positioning	Resources: tangible and intangible	Intangible resources: processes and routines
Sustainability of advantage	Not sustainable	Long-term	Long-term	Continuous short-term
Underlying economic theory	Process-oriented	Equilibrium-oriented	Equilibrium and process-oriented	Process-oriented
Level of analysis	Industry or firm	Industry	Firm	Firm
Main authors	Schumpeter, Nelson & Winter	Porter, Caves	Penrose, Wernerfelt, Senge, McGrath, Barney, Hall, Dierickx & Cool, Hamel & Prahalad, Lippman & Rumelt, Nonaka, Spender, Teece, Conner, Ulrich, Foss, Grant, Hall, Montgomery, Zander & Kogut, Collis, Kay, Norman & Rameriz, Amit & Schoemaker Eisenhardt, Helfat & Raubitschek	

Each of these four perspectives on sources of competitive advantage will be discussed in turn, in an order that to some extent reflects an historical

development to the field of strategy building a fuller understanding of sources of competitive advantage. This section will also discuss the implications of the Economic Approach for the Resource Approach.

Evolutionary Economics

Until recently, neoclassical economics and the field of strategy have developed relatively independently of each other and have had little reason to collaborate efforts on developing a fuller understanding of competitive advantage. One major reason for this separation has been that neoclassical economics has continued to focus at the industry-level while viewing firms primarily as production functions. Secondly, neoclassical economics has historically worked with a conceptual model which excludes the fundamental concept to the field of strategy, firm heterogeneity.

‘By basing their theorizing on the assumption that firms within the same industry are subject to identical cost and demand conditions, economists have actually assumed a world in which heterogeneity among firms cannot occur. However, this heterogeneity is the very precondition for the domain of strategic management’ (Knudsen 1995:179).

Links between economics and strategy have improved since evolutionary economics and Resource Approach overlap in one crucial element common to both perspectives, processes that bring about change. The main feature of evolutionary economics is that it assumes a dynamic state where economic structures are continually recreated as former structures are destroyed. According to evolutionary economics, processes of change are analogous to the biological terms variation, heredity and selection. Similar to populations of organisms adapting to their environment, it is assumed that populations of industries are subject to selection in their environment. Some industries survive through genetic variability, mutation and natural selection while others become extinct and are replaced by more successfully adapted industries (Foss, Knudsen and

Montgomery, 1995:5). Evolutionary thought applied to the field of strategy has mostly remained focused at the industry-level. However, an example of evolutionary thought applied at the firm-level is Schumpeterian economics.

Schumpeterian economics assumes that firms encounter an unstable and uncertain environment. While firms must continually respond to dynamic competitive forces they are only able to imperfectly anticipate significant changes, revolutions or creative destruction (Schumpeter, 1950). As firms fail to anticipate revolutions and adapt to their environment they cease to exist and new, better adapted firms take their place. The Schumpeterian model does not consider the long timeframes that are necessary for significant change to occur. This focus on short timeframes excludes the prospect of focusing on processes and routines that are built over time and which could enhance a firm's resource heterogeneity, a key component of the Resource Approach (Peteraf 1994, McGrath et al., 1995). Instead, Schumpeterian economics view routines as being embedded within a firm and slow to change over time. The routines contribute to a firm's inability to anticipate revolutions and eventually lead to its demise. Although routines are necessary for a firm to carry on, they are viewed as impeding a firm's ability to learn and adapt (Miller, 1993).

Nelson and Winter (1982) point out that one positive aspect of the Schumpeterian model is that firms can use revolutions or creative destruction to their advantage. Firms can use an unstable and uncertain environment for their gain by instigating revolution, particularly through product innovation. Barney (1986) adds that the assumed instability and uncertainty in a firm's environment introduces the concept of luck. Barney adds that although the uncertainty of luck means that it cannot be included in a firm's intended strategy, its timely inclusion could assist a firm's attempts to gain and sustain a competitive advantage.

Nelson and Winter's (1982) firm-level evolutionary framework views the firm as a knowledge-bearing entity that continually searches for new and more profitable

routines. This framework places firms in an historical context and views them as comprising of bundles of routines that pass on idiosyncratic knowledge. These routines lead the firm to either learn about and adapt to its environment or the firm becomes routinised, diminishing its ability to learn, change and withstand the selection forces at work in its environment. Those firms that change internally as environmental changes occur will most likely succeed over time. Failure of the firm is then due to the firm's inability to anticipate and respond to environmental changes.

Ultimately, the strategic implication of evolutionary economics is that managers should focus on making short-term profits without strong regard for any particular long-term competitive advantage or perhaps even for the firm's longevity. When facing a turbulent environment with uncertain future prospects, a short-term pursuit of superior performance is likely to be the most appropriate direction. However, the field of strategy continues to address the concerns of those strategists who intend that their firms continue for the long-term and assume that managers have some influence in shaping their firms' future while facing a less hostile environment than the one assumed by evolutionary economics.

Industrial Organisation

In line with economic theory, industrial organisation emphasises industry effects as the primary explanation for differences in firm performance. Largely popularised by Porter (1980), this perspective views firm performance as determined by two main factors: (1) an industry's attractiveness, and (2) its structure which includes the number and relative size of firms and the level of existing entry barriers. To generate superior performance a firm must have the ability to alter its industry by restricting the number of competitors, create high entry barriers that deter new entrants, increase product differentiation, and reduce demand elasticity by restricting available substitutes. Industrial organisation also

includes joint efforts by firms to alter the industry through strategic groups. Creating mobility barriers between groups then becomes a means by which firms can further restrict direct rivalry.

The longstanding acceptance of industrial organisation in the field of strategy attests to its impact and relevance to firms' pursuit of a competitive advantage and superior performance. This perspective is supported by convincing research such as the conclusions by Teece, Pisano and Shuen (1990) which show that structural impediments to competitive forces in part determine industry attractiveness, which allows incumbent firms to sustain a competitive advantage.

However, reliance on industry or market advantage alone is not sufficient for a firm to sustain a competitive advantage. Kay (1993a, 1993b), like many strategy researchers, concludes that other sources of advantage must also be developed to sustain competitive advantage and superior performance. Campbell-Hunt (1995:21) states that 'the life of an industry-granted advantage can be extended by strategic action, but that alone is not enough'. He concludes that industrial organisation involves a bit of luck, as does the Schumpeterian perspective, in that incumbents could benefit immensely from a munificent industry structure while new entrants, those on the outside, may not have much chance of success. However, industrial organisation lacks focus on how to assess firm resources and how to determine a systematic 'fit' between resources and identified market opportunities (Foss et al. 1995).

The strategic implication of industrial organisation is that firms should do what they can to alter the structure of their industry so that it favours oligopolistic behaviour, allowing existing firms to display superior performance. The obvious limitation, however, is that to some extent a firm is relying on conditions outside its control for its source of competitive advantage. Just as certain conditions have favoured a particular firm, they can also change in ways that erode any prior competitive advantage. No doubt, several New Zealand firms have learned this

lesson as deregulation continues to erode some firms' advantages and change the dynamics of competitive interaction. While industrial organisation has made significant contributions to the field of strategy, its limitations have motivated strategy researchers to seek out new sources of competitive advantage.

Implications for the Resource Approach

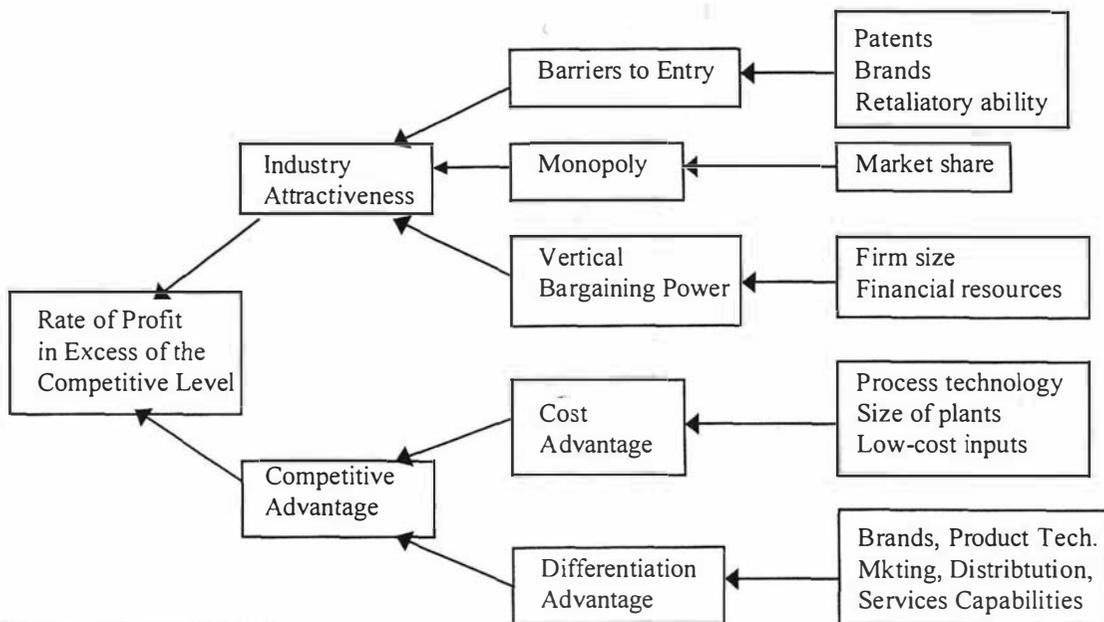
Amit and Schoemaker (1993) link the industrial organisation perspective with a focus on firm resources. They propose that managers making imperfect and discretionary decisions eventually develop firm capabilities which are ultimately the source of a firm's competitive advantage. Their model also includes strategic assets which are the capabilities that form the basis for firms' competitive strategy. Their model links a firm's strategic assets with strategic industry factors by noting that the two must overlap for a firm to gain a competitive advantage. This link is similar to the SWOT analysis that emphasises the strategic 'fit' between firm strengths and industry opportunities. However, 'the SWOT framework tells us that environmental analysis, no matter how rigorous, is only half the story' (Barney, 1995:49).

Grant (1991a) and Collis (1991) contend that the Resource Approach complements the insights provided by the Economic Approach's industry-level perspective on competitiveness. An example of this complementary relationship is Grant's (1991a) model which asserts that resources have always been the basis for profitability *vis-à-vis* a focus on industry attractiveness and product-market positioning. Figure 1.1 outlines Grant's model of how various resources are used as the basis for competitive advantage and profitability.

This complementary relationship is further substantiated by Collis' (1991) research of the global bearing industry, which is outlined in Figure 1.2. Collis concludes that the Economic and Resource Approaches complement each other while a reliance on only one type of analysis severely limits firm strategy. This complement is achieved when a firm builds its strategy on the assets that provide

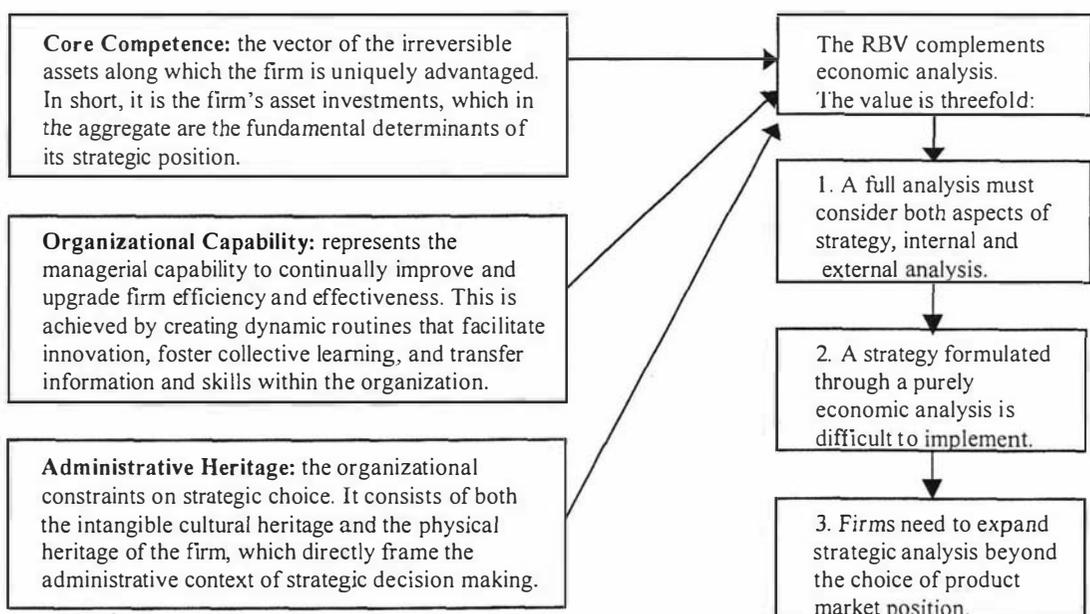
the firm with a unique advantage along with its managerial capability and organisational constraints on strategic choice. According to Collis, a focus on firm-level analysis combined with economic analysis produces a far richer firm strategy.

Figure 1.1 Resources as a Basis for Profitability



(Source: Grant 1991a)

Figure 1.2 The Contribution of the Resource-based View of the Firm to Global Competition



(Source: Collis 1991)

Kay (1993a,1993b) states that competitive advantages that arise from the structure of an industry or market should be used to their fullest benefit by a firm. However, reliance on industry or market advantage alone is not sufficient for a firm to sustain a competitive advantage. Similarly, Grant (1996a) concludes that as markets become more dynamically competitive, strategy based only on product-market choices and positioning within them are unlikely to yield superior performance that is more than temporary.

The Economic Approach's influence on strategy has been significant and longstanding. Clearly, in some highly dynamic environments the strategic implications of the Schumpeterian model may prove to be most appropriate for firms. As well, a firm should use competitive advantages that arise from the structure of an industry or market to their fullest, however, reliance on these insights alone severely limits firm strategy and competitiveness. Strategy researchers and strategic managers continue to seek out other sources of competitive advantage that sustain superior performance.

The Resource-based View

According to Collis (1994) the primary tenet underlying the resource-based view is that the best source of sustained competitive advantage is firm-specific, superior resources. The Resource Approach focuses on a firm's critical resources that differentiate it from its competition (Wernerfelt, 1989), including effective organisational learning (Senge, 1990), distinctive human resources (Cappelli and Crocker-Hefter, 1996), workplace relations (Pfeffer, 1994) or superior management practices (Pettigrew and Whipp, 1993). Stalk, Evans and Shulman (1992) conclude that firms that compete effectively compete in several ways, with all their qualities being a reflection of a capabilities-based competition.

The concept of developing strategies based on the unique strengths of the firm has been around for some time. Penrose (1959) first explored firm's strengths and weaknesses and characterised the firm as a collection of productive resources.

However, some regard Wernerfelt (1984) as the first to explore the firm from the resource-based view. Wernerfelt acknowledges that his earlier work was essentially ignored until around 1990 when several researchers began contributing to the resource-based view. He uses the metaphor that ‘I put a stone on the ground and left it. When I looked back, others had put stones on top of it and next to it, building part of a wall’ (1995:172).

To date, the resource-based view has lacked standardisation of terminology. Authors have used various terms in reference to bundles of critical resources that make up sources of competitive advantage. Richardson (1972) first used the term capabilities to refer to the distinctive knowledge and abilities a firm possesses and which determine a firm’s activities. Other authors have used strategic capabilities (Lenz, 1980; Hall, 1992, 1993), organizational capabilities (Ulrich, 1987; Ulrich and Lake, 1990; Ulrich and Wiersema, 1989; Williams, 1992; Chandler, 1992, 1993; Zander and Kogut, 1995; Grant, 1996a, 1996b), distinctive capabilities (Kay, 1993a, 1993b), combinative capabilities (Kogut and Zander, 1992), dynamic capabilities (Teece 1998; Eisenhardt and Martin, 2000), and core capabilities (Leonard-Barton, 1992). Others have used interactive competencies (Werther and Kerr, 1995), distinctive competencies (Snow and Hrebiniak, 1980; Hitt and Ireland, 1985) and core competencies (Burgelman and Rosenbloom, 1989; Prahalad and Hamel, 1990, 1994a, 1994b, 1995; Hamel, 1993; Prahalad, 1993; Markides and Williamson, 1994). Barney (1995) points out that while distinctions can be made between the various terms used for bundles of critical firm resources, they can be used interchangeably.

Prahalad and Hamel’s core competencies term is gaining considerable acceptance and has become one of the most widely used theoretical frameworks for the resource-based view. Acceptance of core competence was enhanced in part by the publication *Competence-Based Competition* edited by Hamel and Heene (1994) which provided an impressive compilation of the competence approach. The first attempt to standardise definitions and concepts in the

Resource Approach was the compilation of sixteen papers published as *Dynamics of Competence-Based Competition* edited by Sanchez, Heene and Thomas (1996). Their objectives were to develop a foundation for a theory of competence-based competition that incorporates the dynamic and cognitive aspects of the core competence perspective and to demonstrate through firm and industry studies the practical applicability of the concepts.

There are two common themes underlying the various terms used in reference to critical resources as the best source of competitive advantage. These terms take either a content approach, identifying rent-generating resources and outlining how they might form the basis for competitive advantage, or a process and routines approach, questioning how valuable resources are created, augmented and preserved (Peteraf 1994). Strategy professionals have spent less time researching the process of building critical resources (Hamel, 1993).

There has been growing interest in distinguishing between the types of critical resources that act as the source of competitive advantage. Some authors distinguish between tangible and intangible resources (Caves, 1980; Wernerfelt, 1984, 1989; Barney, 1986, 1991, 1995; Hall, 1992, 1993). According to Wernerfelt (1984:172):

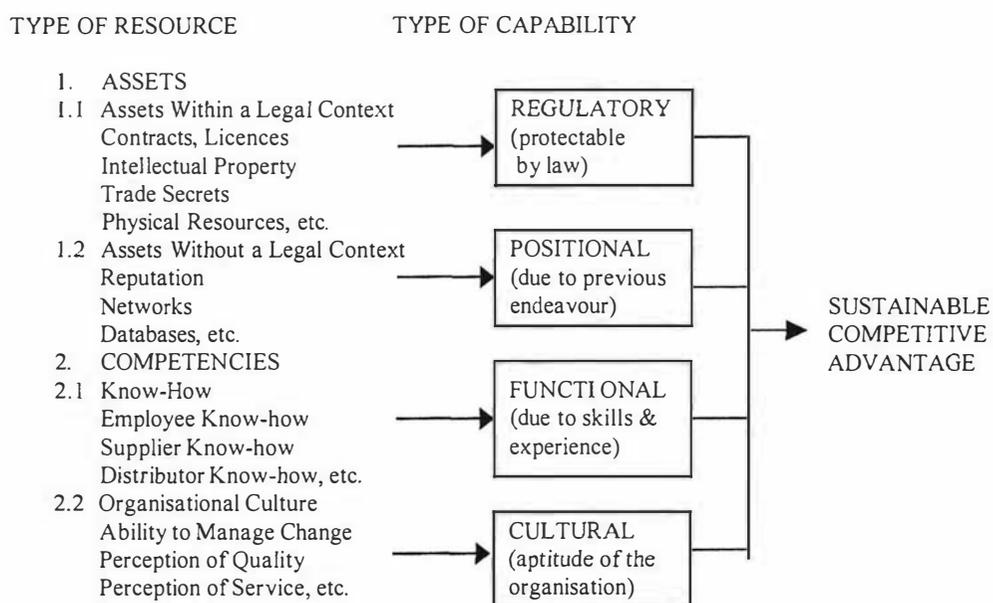
‘a resource could be thought of as a strength or weakness of a given firm ... at a given time [and] could be defined as those (tangible and intangible) assets which are tied semi-permanently to the firm’.

Barney (1991) considers tangible resources as unique and having a constrained supply while intangible resources consist of tacit knowledge or know-how that is culturally based, and therefore embedded within a firm, creating barriers to competitors understanding the source of an advantage. Barney (1991:101) states that firm resources include ‘all assets, capabilities, organizational process, firm attributes, information, knowledge, etc.’ which are strategically relevant.

Early on, Wernerfelt (1984) provided examples of critical resources; brand names, in-house knowledge of technology, employment of skilled personnel, trade contracts, machinery, efficient procedures, capital, etc. Wernerfelt (1989) later added a new dimension to understanding critical resources by classifying them according to their useful time frames: fixed assets (plant and equipment, mining rights, employees with specific training) have long-run capacity; blueprints (patents, brand names, reputations) have practically unlimited capacity; and cultures have limited short-run, but unlimited long-run capacity.

Hall's (1992, 1993) model of how intangible resources sustain a firm's competitive advantage provides a detailed description of intangibles. According to Hall, intangible resources can lead to a regulatory capability, assets within a legal context, positional capability, assets without a legal context, functional capability, know-how or tacit knowledge, or cultural capability. These intangibles are considered to reside within the firm which then impedes competitors understanding the source of the advantage. Figure 1.3 outlines Hall's model of intangibles.

Figure 1.3 Intangibles, Enabling Capabilities and Sustainability

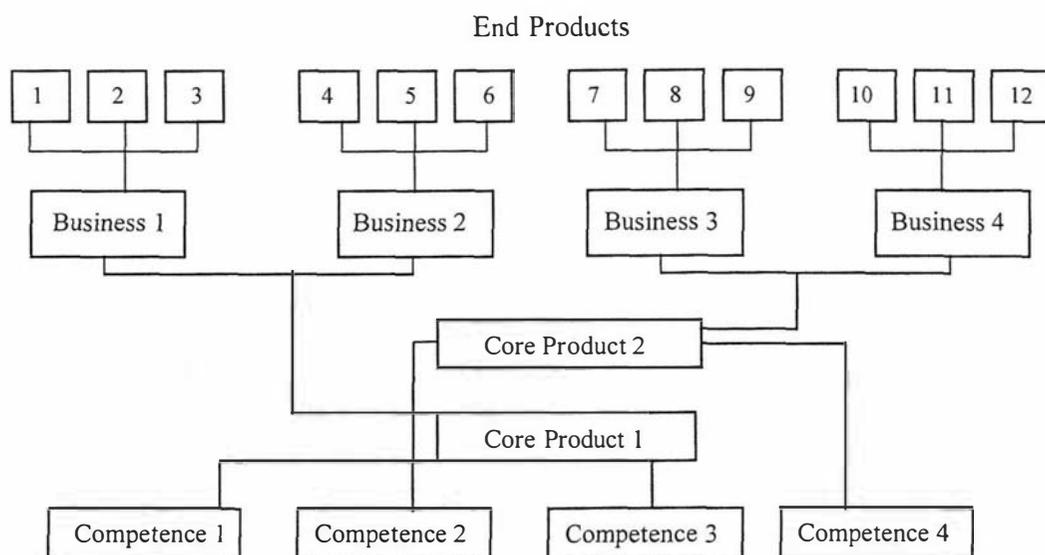


(Source: Hall 1993)

Researchers have been noting the increasing importance of intangible resources since tangible resources are viewed as becoming increasingly difficult to use as a basis for a sustained competitive advantage. Very few tangible resources have the uniqueness and supply limitations required to sustain an advantage. The resource-based view considers both types of resources, tangible and intangible, in the quest for sources of advantage while the knowledge-based view's attention to processes and routines inclines it to focus primarily on intangible resources that are embedded within a firm.

Prahalad and Hamel's (1990) core competencies popularity may be explained in part by their emphasis on both the content and processes/routines approaches. Prahalad and Hamel's core competence model is outlined in Figure 1.4.

Figure 1.4 Competencies: The Roots of Competitiveness



(Source: Prahalad and Hamel 1990)

Their concept of core competencies, coordinating diverse production skills and integrating multiple streams of technologies, places them in the content arena, which is mainly aligned with the resource-based view. Their model of competencies is similar to a tree in that it is assumed to grow from its roots or core competencies. These competencies nourish core products, which give rise to

business units that have end products as their fruits. However, their emphasis on organisational learning, knowledge creation and integration places them in the processes and routines approach, the domain of the knowledge-based view.

Prahalad and Hamel (1994a) later added to their core competence framework the following concepts: foresight which is the ability to not only identify industry trends and opportunities, but to develop ‘further insights into the size and shape of the opportunity ... mobiliz[ing] every ounce of emotional and creative energy in the company’ (1994a:126); stretch which views strategy as incremental decisions led by top management’s ‘relatively clear view of the goal [of the firm] and a broad agenda of the capability-building challenges that lie between today and tomorrow’ (1994a:146); and leverage which refers to utilising a ‘core competence across multiple businesses and into new markets’ (1994a:231). Thus, ‘foresight, stretch, and leverage provide the energy and rationale for proactive advantage building and industry re-engineering’ (1994a:277).

Resources are also viewed as isolating mechanisms or impediments to imitation which allow firms to secure economic rent-producing resources (Rumelt 1984, 1987; Mahoney and Pandian 1992). Teece (1986) links profitability to a firm’s ability to prevent competitors’ appropriating technological innovation. Wernerfelt’s (1984) resource position barriers are seen as partially analogous to entry barriers. Caves and Ghemawat (1992) use mobility barriers to refer to durable conditions that provide excess firm profits which cannot be profitably imitated by their competitors.

Godfrey and Hill (1995) argue that inimitability of a resource depends upon the height of barriers to imitation, which in turn is a function of the extent to which the target resource is unobservable. Godfrey and Hill state that:

‘The core proposition of the resource-based view with regard to sustainability proceeds on the logic that, all else being held constant, the more unobservable a valued resource, the higher are the barriers to

imitation, and the more sustainable will be a competitive advantage based upon that resource' (1995:522-523).

Godfrey and Hill (1995) consider firm resources to be similar to quantum mechanics, which hold that the act of observing a subatomic particle effects a change in the state of that particle. Similarly, observation of firm resources immediately erodes the height of the barrier to imitation. Observation of firm resources would then erode the height of the barrier to imitation. Similarly, Lippman and Rumelt (1982) concluded that the source of competitive advantage is ultimately incomprehensible. If resources must be unobservable to be inimitable, then it raises the question of how can firms invest in resources to gain a competitive advantage.

However, Conner (1995) focuses on conditions when a firm's most profitable strategy may in fact encourage imitation. An example of this condition is when a firm operates in an industry characterised by a positive network externality, i.e., its consumers value a product more the more other consumers use it. As Conner (1995:210) argues:

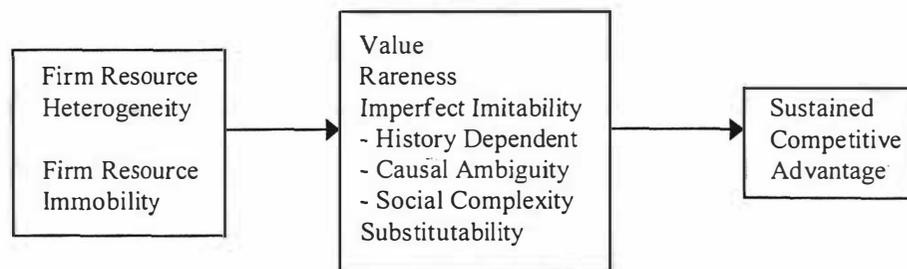
'a network externality exists when the size of the user base affects a consumer's taste for (or the desirability of) a product, or for a group of products based on the same underlying technology or design'.

A firm operating in a network externality environment, explains Conner, obtains an advantage when its user base is large and there are many ways available to expand the user base. If cloning or imitating an innovative firm's products increases its user base, there is the prospect that the innovative firm could enhance its performance. The benefits of cloning or imitating are most evident in licensing and franchising arrangements.

Barney's (1991, 1995) framework on critical resource characteristics has been well accepted in the resource-based literature. Barney suggests that heterogenous

and immobile resources that are rare, valued and embedded within the firm create barriers that impede competitors' ability to acquire, imitate and substitute the source of the firm's competitive advantage. This Platonic ideal of the perfect firm resource is useful for theoretical purposes, but it is not without its shortcomings, which are addressed later. Barney's often referred to framework is outlined in Figure 1.5.

Figure 1.5 The Relationship Between Resource Heterogeneity and Immobility, Value, Rareness, Imperfect Imitability, Substitutability, and Sustained Competitive Advantage



(Source: Barney 1991, 1995)

According to Barney, managers must address four important questions about their resources and capabilities to understand internal sources of competitive advantage. First, do a firm's resources and capabilities add value by enabling it to exploit opportunities and/or neutralise threats? The second question concerns rareness. A resource or capability is unlikely to provide a competitive advantage if numerous competing firms control it. And so, the question is asked, how many competing firms already possess these valuable resources and capabilities? The third question addresses competitors' ability to imitate resources and capabilities that generate sustained competitive advantage. According to Barney, imitation can occur by duplication, an imitating firm builds the same kinds of resources, and substitution of some resources for other resources. Imitation can be costly for competitors for three reasons: the importance of history in creating firm resources; the importance of numerous 'small decisions' in developing, nurturing, and exploiting resources; and the importance of socially complex resources. A

firm's competitive advantage not only depends on the value, rareness and inimitability of its resources and capabilities, but also on the firm's ability to exploit its resources and capabilities. The fourth question is then, is a firm organised to exploit the full competitive potential of its resources and capabilities?

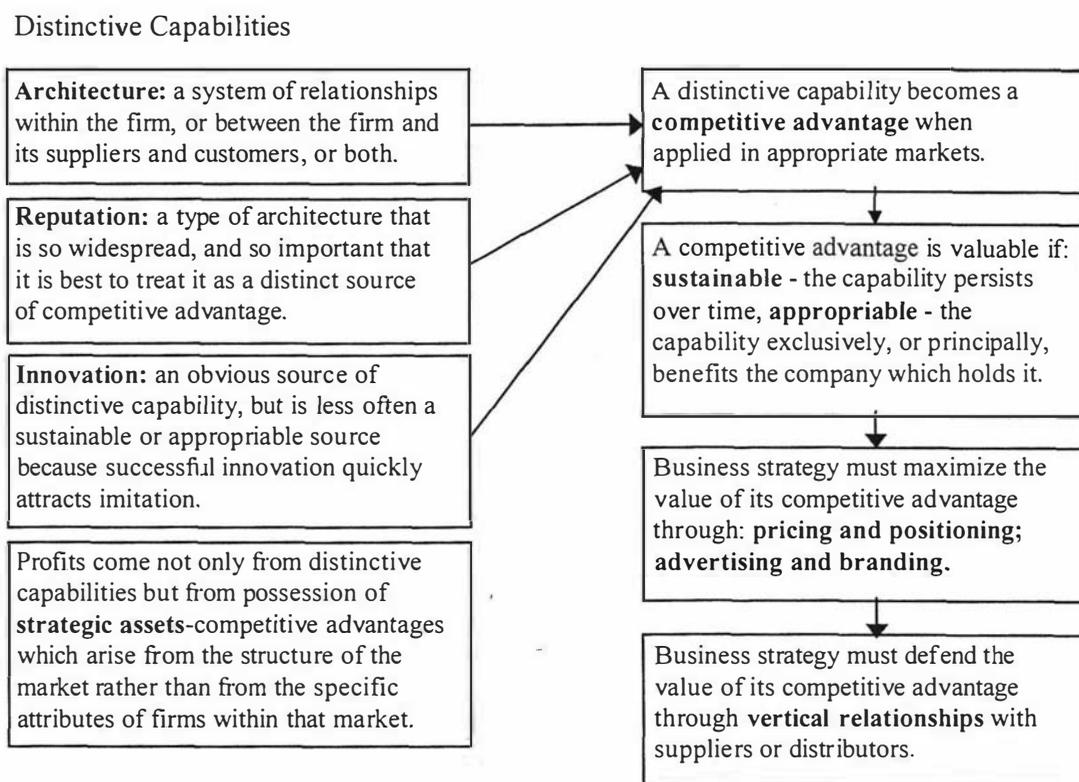
However, when the focus on firm-specific resources is applied to a firm, it is often difficult to identify which resources individually or collectively contribute to a firm's performance. Foss et al. (1996:8) point out that the resource-based view has so far ignored the prospect that:

‘the value of an individual resource is likely to be at least partially contingent upon the presence (or absence) of other resources; that is, it may be a system of resources that matters, not individual resources taken separately’.

Similarly, Eisenhardt and Martin (2000) conclude that in highly competitive and unpredictable markets, long-term competitive advantage does not lie in particular dynamic capabilities, but in ‘resource configurations’ that continually change.

Kay's (1993a) research of firm strategy displays the combined contribution that various resources or distinctive capabilities may have in making up a firm's competitive advantage. Kay argues that firms displaying outstanding performance derive their strength from distinctive capabilities, which consist of architecture, intra-firm and inter-firm relationships, reputation and innovation, the least sustainable sources of advantage.

Strategic assets or market structure conditions can also play a role in securing a competitive advantage. However, Kay warns of relying solely on conditions external to the firm as the source of advantage. Firms must discover their distinctive capabilities and apply them in appropriate markets. Figure 1.6 outlines Kay's model of the structure of strategy.

Figure 1.6 The Structure of Strategy

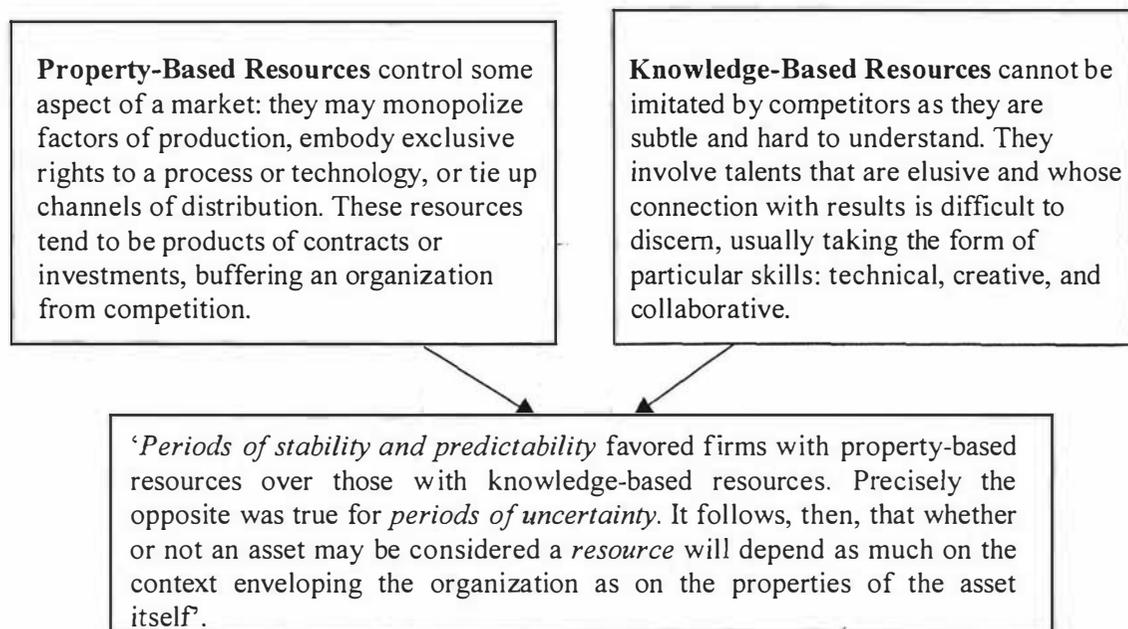
(Source: Kay 1993a).

Kay (1993a, 1993b) is one of the few contributors who considers the specific context within which a firm has a competitive advantage. Montgomery (1995:265) raises the concern that the resource-based view has tended to treat firms as if they operated in a state of 'competitive isolation'. This tendency fails to acknowledge that forces outside the firm largely determine the value of a firm's resources. Porter (1991a) argues that resources are valuable to a firm only if they allow the firm to perform activities that create advantages in particular contexts.

Two studies in particular have identified key contextual variables to resources providing a firm with a competitive advantage. First, Miller and Shamsie's (1995) research of the Hollywood film industry concludes that consideration of the environmental context has strong importance in determining the relationship between different resources and measures of performance. They place as much

emphasis on the context enveloping the firm as on the properties of particular resources. During periods of environmental stability Hollywood film studios developed quite different resources than those developed during periods of uncertainty. Figure 1.7 outlines the importance Miller and Shamsie place on a firm's environmental context.

Figure 1.7 The Importance of the Environmental Context in Determining the Relationship Between Different Resources and Measures of Performance



(Source: Miller and Shamsie 1995)

Second, Maijoor and Van Witteloostuijn's (1996) research of the Dutch audit industry supports the growing view that contextual considerations are vital to identifying the resources that may provide firms sustainable competitive advantage. Similar to Hall's (1992,1993) regulatory capability and Kay's (1993a, 1993b) strategic assets, Maijoor and Van Witteloostuijn (1996) argue that strategic regulation, protection of firms by government intervention, is a major source of sustainable competitive advantage.

As is displayed by Miller and Shamsie (1995), there is significant overlap between the resource-based and knowledge-based views of the firm. Since the knowledge-based view has emerged out of the resource-based view, there is considerable overlap between the two. Both regard the internal, firm-specific resources as the main source of competitive advantage. However, the main differences between the resource-based and knowledge-based views have to do with expected outcomes of critical resources and the types of resources targeted in the quest for sources of competitive advantage. As mentioned earlier, the resource-based view focuses on resources that provide competitive advantage for the long term, while the knowledge-based view's focus on processes and routines explores ways to continually create and re-create new sources of competitive advantage. Intangible resources, firm processes and routines, are often cited as the resources that best meet Barney's characterisation of the ideal resource (Bess, 1998).

This difference in expected outcomes of critical resources inclines the two perspectives, at least initially, to seek out different types of resources. The resource-based view considers both types of resources, tangible and intangible, in the quest for a competitive advantage while the knowledge-based view's attention to processes and routines inclines it to focus primarily on intangible resources that are embedded within a firm. While firms adopting the knowledge-based view also acquire, create and deploy tangible resources, they would not be quick to assume that a particular advantage is sustainable when based primarily on identifiable, tangible resources. The difference between the resource-based and knowledge-based views concerning the types of resources valued and incorporated into a firm is not one of exclusion, but one of degree.

The Knowledge-based View

According to Teece (1998:55-56), the present debate on critical resources is inevitable since the field of strategy has 'worn intellectual blinders' and not

noticed the obvious. That is, 'knowledge and its applications are at the very roots of modern economic growth and prosperity'. Since the appearance of the resource-based view, several contributors have acknowledged that a knowledge-related orientation is the most likely source of a competitive advantage.

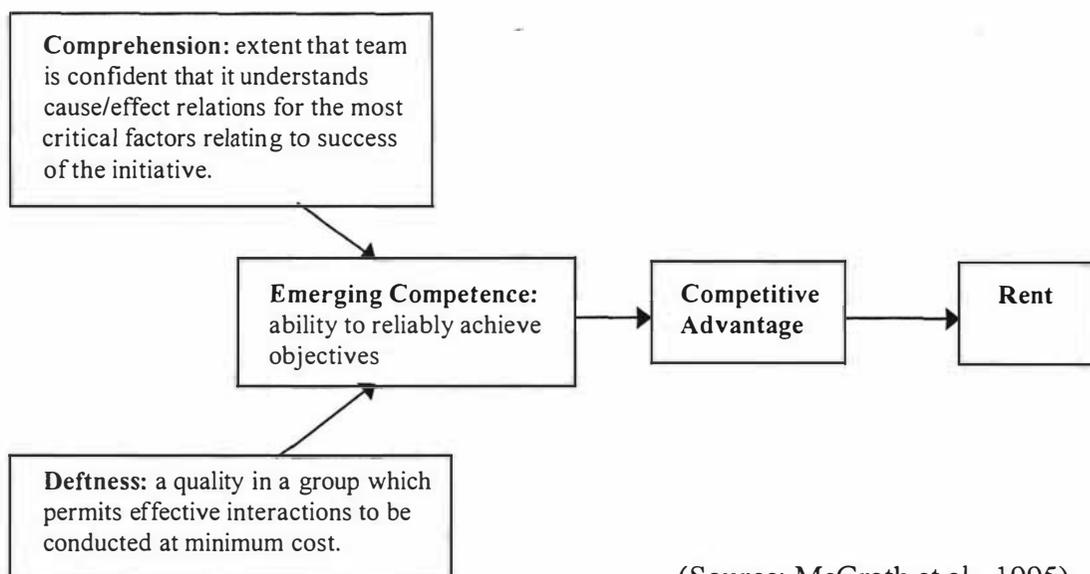
Lippman and Rumelt's (1982) causal ambiguity emphasises the importance of firm-specific knowledge in a firm's ability to display superior performance. Winter (1988) refers to firms as repositories of knowledge. Teece et al., (1990) argue that it is the mechanisms by which firms learn and accumulate new skills and capabilities that really matter. Cyert, Kumar and Williams (1993) conclude that it is proprietary knowledge that creates an advantage for the firm. Weick and Roberts (1993) emphasise knowledge integration with their concept of collectivity or 'aggregate mental processes' that bring about more controlled information processing, mindful attention and heedful action, resulting in fewer errors. Similarly, Henderson and Cockburn's (1994) architectural knowledge refers to the integration of knowledge across firms' disciplinary and organisational boundaries.

Levinthal and March (1993) warn, however, that developing new knowledge while exploiting current competencies is problematic, potentially creating myopias such as the tendencies to ignore the long run, the larger picture and to overlook failures. Kogut and Zander (1996:502) view the firm as a 'social community specializing in the speed and efficiency in the creation and transfer of knowledge'. Conner and Prahalad (1996:477) state that 'the cooperation of individuals and the knowledge they apply to business activities is ultimately the essence of the resource-based view'.

The research by McGrath et al. (1995) exemplifies the knowledge-based view by concluding that the answer to what type of resource provides a competitive advantage lies in looking at a firm's processes to develop new sources of competitive advantage. McGrath et al. (1995) focus on the processes which lead

to the reliable and repetitive achievement of desired outcomes. This process includes competence, which indicates an increasing convergence between the various objectives of an initiative. Comprehension is the outcome of a process where elements of individual know-how and skill become linked. This linkage between group members allows them to respond as if the complexity of the system in question was understood by all those involved. Deftness is the quality in a group that permits heedful interactions to be conducted at minimal cost, minimising opportunity, transaction and agency costs. Figure 1.8 outlines the conceptual model developed by McGrath et al. (1995).

Figure 1.8 A Resource-based View



(Source: McGrath et al., 1995)

Since the knowledge-based view is relatively new, it is no surprise that contributors remain focused on addressing two fundamental issues. First, contributors have not yet agreed on the definition of knowledge and the types of knowledge that are most crucial to a firm's success. Knowledge refers to more than a firm's knowledge of competitors, markets and technology, which have always been necessary in formulating strategies and designing firm structures. Knowledge in a broader sense refers to human assets, the knowledge retained and created within individuals and through their interactions. Reliance on human

assets as the source of an advantage brings up the obvious issue that each day a firm's assets walk out the door, and there is some question as to whether they will return (Coff, 1997).

This issue elicit^s several others such as how can firms retain and motivate knowledgeable workers as well as utilise their output? Several contributors to the knowledge-based view address two types of human assets, implicit or tacit and explicit knowledge. The second issue concerns whether knowledge resides in individuals and is then shared by others in the firm or can organisations develop mechanisms to embed knowledge into its processes, routines and culture, thereby creating an advantage sustained by causal ambiguity and social complexity?

Types of Knowledge

Grant (1996a:110), like most contributors, opts not to enter the age-old debate concerning knowledge. He simply defines it as 'that which is known'. He adopts Nelson and Winter's (1982) understanding of explicit and implicit knowledge. Explicit knowledge is that which can be written down, knowledge about, and tacit knowledge is that which cannot be written down, knowing how through experience. 'Tacit knowledge can only be observed through its application and acquired through practice' (Grant, 1996a: 111). Most contributors, including Grant, agree that the origin of all knowledge ultimately resides within the individual.

Nonaka and Konno (1998) view knowledge as acquired through one's own experience or reflections on the experiences of others. Tacit knowledge is highly personal and difficult to formalise. Examples include subjective insights, intuitions, and hunches. Explicit knowledge is expressed through words and numbers and can be readily transmitted formally and systematically between individuals.

Spender (1996) proposes a more dynamic framework, which recognises several different types of knowledge. Spender (1994) further clarifies knowledge by separating the psychological individual type from the sociological or collective type in both tacit and explicit knowledge. Spender (1996) contends that a firm's knowledge mix may change over time, and hence its strategies. Given that there may be several different types of knowledge, 'there may be several different knowledge-based theories of the firm, one for each type of knowledge' (Spender, 1996:52). Spender emphasises the need to base a theory of the firm on precisely defined knowledge, otherwise we cannot understand which firm has the more significant knowledge and how that leads to a competitive advantage.

Organisational Knowledge

The Knowledge-based literature is now asking the question, is it actually possible to manage knowledge, as opposed to information and data, like other resources? To answer this question affirmatively, contributors to the knowledge-based view are essentially redefining the purpose of a firm's existence. Some contributors refer to a firm as a 'a shared space for emerging relationships' (Nonaka and Konno, 1998) and a 'social community' where speed and efficiency in creating and transferring knowledge are the determining features of a sustained competitive advantage (Kogut and Zander, 1996). Teece (1998) states that the knowledge-based view stresses the entrepreneurial side of corporate governance, where firms are not so much designed to minimise transaction costs but are structured to shape and reshape clusters of assets in distinct and unique combinations needed to serve ever-changing customer needs. Foss (1996) argues that what is common to all knowledge-based contributions is that firms are seen as more than contractual entities. According to Foss, what is essential about the firm is its function as a repository of distinct productive knowledge and its ability to learn and grow based on this knowledge.

The difficulty in creating ‘social communities’ or ‘shared space’ is evident in Hamel and Prahalad’s (1996) epistemological inquiry into what is required for managers to be able to attract, retain and motivate knowledgeable workers. They ask: How do you create an organisation that really, truly lives in the future, and then interprets today’s decisions in that context? How does one unleash corporate imagination? How does one turn technicians into dreamers? How does one turn planners into strategisers?

When the knowledge required to design strategy and organisations is available to lower-level employees, they have power over the top management (Spender, 1996). Positional authority is invalid when knowledge workers have networks beyond managerial control (Hamel and Prahalad, 1996). If firms are viewed as institutions for integrating knowledge, primarily tacit knowledge, which can only be exercised by those who possess it, top-down hierarchical coordination fails (Grant, 1996a).

Grant (1996b:377) views the firm as integrating the specialist knowledge of many different individuals and applying the knowledge in the production of goods and services.

‘If knowledge is a critical input into all production processes, if efficiency requires that it is created and stored by individuals in specialized form, and if production requires the application of many types of specialized knowledge, then the primary role of the firm is the integration of knowledge’.

Grant (1996a,1996b) uses the term organizational capability to refer to the integration of specialist knowledge to perform a discrete productive task. Grant contends that if employees have mobility between firms, organisational capability must depend more on the firm’s ability to integrate knowledge rather than the extent of individual’s specialised knowledge. Grant (1996b:380) identifies three

characteristics of knowledge integration pertinent to firms' quest for a competitive advantage:

'efficiency of integration - the extent to which the capability accesses and utilizes the specialist knowledge held by individual organizational members;

scope of integration - the breadth of specialized knowledge the organizational capability draws upon;

flexibility of integration - the extent to which a capability can access additional knowledge and reconfigure existing knowledge'.

Helfat and Raubitschek (2000) support Nelson and Winter's (1982) perspective on the firm, which, like other social institutions, evolves by adapting the knowledge shared by its members. The firm provides the context within which explicit and tacit knowledge interact and become embedded in the firm's routines and culture. This perspective presumes that the firm has an ability to know independently of its employees (Spender, 1996).

For example, Kogut and Zander (1992:384) suggest that organisations are 'social communities' which transform individuals and social expertise into products and services by applying 'a set of higher-order organizing principles... not reducible to individuals'. Kogut and Zander (1996) argue that a firm is distinct from other firms because of its rules of coordination, communication and the process of learning which are situated 'mentally' in a firm's social identity. The learning processes within the social context constructs individuals' identities and elicits group membership.

Similarly, Nonaka (1994) proposes a paradigm for managing dynamic aspects of the organisational knowledge creating processes. Knowledge creation centres on building tacit and explicit knowledge but, more importantly, on the interchange or convergence between these two types of knowledge. It is the creation of individual's tacit knowledge and the quality of convergence that leads to improvements within the firm and superior performance. While individuals

articulate their knowledge, managers can manage the process that organizationally amplifies the knowledge created by individuals, and crystallises it as a part of the organisation's knowledge network. Managing a firm's collective knowledge and learning process can create a spiral model of knowledge creation. Particularly for firms that are highly integrated, managers must interact so that a firm's collective actions are understood and shared by key managers. A firm's collective of managers can then explore new ways of mobilising and combining several types of resources so that value is created in new ways.

Nonaka acknowledges that since the prime movers in the process of organisational knowledge creation are individual members, commitment to the process is vital. Nonaka (1994:17-18) proposes that three basic factors induce individual commitment: intention which refers to how individuals form their approach to the world and try to make sense of their environment; autonomy which widens the possibility that individuals will motivate themselves to form new knowledge; and environmental fluctuation which can bring about individual 'breakdowns' or interruptions of an individual's habitual, comfortable 'state-of-being'. When individuals experience a 'breakdown' they have an opportunity to reconsider fundamental thinking and perspectives that might lead to realigning commitment.

Nonaka's theory of knowledge creation extends not only to individual, group, and firm transfers of knowledge, but also extends to inter-firm levels. Similarly, Norman and Ramirez (1993) focus on co-producing with other economic actors within value-creating systems. Strategy then becomes a systematic social innovation, which continuously designs and redesigns complex business systems. Other researchers are also inquiring how 'collective' approaches can be applied to inter-organisational relationships (Narus and Anderson, 1996; Iacobucci and Ostrom, 1996) and strategic alliances (Noble, Stafford and Reger, 1995).

Spender's (1996:60) dynamic knowledge-based framework views individual learning taking place in the context of the social entity that relies on individuals as the active agents. Collective knowledge is not consumed within the firm's processes and routines, but it is an outcome of firm activities. Managers then become 'nodes of imaginative leadership and influence in the complex of heterogeneous emotionally and politically charged knowledge systems'.

Shortcomings of the Resource Approach

The Resource Approach provides an intriguing theoretical model of sources of competitive advantage. However, as with any developing theory, the focus on firm-specific resources has shortcomings that strategy researchers must reconcile for this new theory to be relevant, rewarding and accepted by practitioners. As the knowledge-based view evolves separately from the resource-based view, shortcomings identified in knowledge management will continue to arise. Fahey and Prusak (1998) identify several errors that must be resolved for effective, systematic knowledge management. Previous sections have addressed the resource-based and knowledge-based views tendencies to assume resource inimitability is vitally important and to lack consideration of contextual issues. This section briefly outlines four of the more general shortcomings of the Resource Approach.

1. The Role of Non-critical Resources

When the Resource Approach is applied to the complexities of a real firm, it is often difficult to identify which firm resources, individually or in combination, make up its competitive advantage. It is unlikely that all of a firm's resources would be considered critical to a firm gaining and sustaining a competitive advantage. Montgomery (1995) points out that the focus on identifying and using valued resources, the crown jewels or the best of the best, has led us to knowing a lot about a few resources, and very little about a lot of resources. Strategy

researchers must, therefore, determine the role of non-critical resources in a firm's quest for sustained competitive advantage.

According to Montgomery, the resource-based view will gain further credibility when strategy researchers incorporate the full spectrum of resources: the good, the bad, and the boring. Montgomery (1995: 261) refers to pedestrian resources as those purchased through market exchanges and whose 'common nature does not mean that their assembled presence has no consequence'. On this point, Teece's (1998) contribution includes complementary assets in his model of how a firm captures value from its knowledge assets.

2. The Value of Resources Change Over Time

Leonard-Barton (1992) is one of the few contributors who addresses the issue that the value of rent-generating resources may change over time. Leonard-Barton outlines how core capabilities can become core rigidities. The focus on the best resources, which typically takes lengthy periods of time to acquire or create and deploy, cannot neglect the potentially negative and rapid consequences to a firm caused by 'good resources gone bad', particularly when firms are involved in takeover or turnaround situations. This point gives further credence to the knowledge-based view, which first assumes that critical resources have limited usefulness, and, therefore, strategic managers must continually seek out new sources of competitive advantage. McGrath et al. (1995) state that given the dynamic nature of some resources, researchers within the resource-based view could benefit from more consideration of resources and competitive advantages that diminish over time as well as rents derived from the more volatile Schumpeterian perspective.

3. Focus on a Narrow Period of Time

Montgomery (1995) points out that the resource-based view has typically focused on a narrow period of time when a firm's critical resources are matched

appropriately with its environment and support its competitive advantage. The resource-based view must acknowledge that a firm's period of prosperity could be brief. Porter's (1980) industry classifications acknowledge that a firm's period of prosperity, during the industry's emerging stage and possibly beyond, could be relatively short. To date, the resource-based literature has not adequately addressed the issue of what can be said about the time periods before and after a firm's period of prosperity.

To some extent, the knowledge-based view addresses this issue by declaring that pre- and post-periods of prosperity have little relevance in the overall discussion on internal sources of competitive advantage. The knowledge-based view assumes that rent-generating competitive advantages have limited usefulness, therefore, strategic managers must continually search for new sources of advantage. Rumelt (1984:558) emphasises this point by stating that 'the task of general management is to adjust and renew these resources and relationships as time, competition and change erode their value'.

4. Overemphasis on Managerial Prerogative

An interesting feature of the Resource Approach is its tendency to overemphasise managerial prerogative. According to Montgomery (1995:256), underlying the field of strategy's normative approach is the notion that, 'if management tries hard enough and works smart enough, their firms too can be unusually successful'. Little consideration has been given to those factors in a firm's internal and external that are not within management's direct control. This tendency to overemphasise managerial prerogative is probably most evident in the work of Prahalad and Hamel (1990, 1994a, 1994b, 1995). According to Prahalad and Hamel (1994a:276), managers must be willing to 'overturn the present industry accepted practice, redraw segment boundaries, set new price-performance expectations, and reinvent the product or service concept'. To date, other than Leonard-Barton's (1992) dark underside of resources, little

consideration has been given to those forces in a firm's internal and external environment that are not within management's direct control.

Summary

Emphasis on opportunism, luck, industry attractiveness and product-market positioning will all continue to be a part of strategists' repertoire. However, evolutionary economics and industrial organisation alone do not provide complete strategic analyses upon which to base a firm's competitive advantage. The Economic Approach combined with the Resource Approach have provided more useful strategic insights, but the field of strategy's normative approach inclines researchers and strategists to seek out other sources of competitive advantage that sustain superior performance. This discussion has outlined the developments that have brought together what is referred to as the resource-based view and its extension, the knowledge-based view of the firm.

Much progress has been made towards answering what internal resources, tangible and intangible, a firm must have at its disposal to create and re-create a unique and sustainable advantage. The accepted criteria is that they must be heterogeneous, immobile, rare, valuable and difficult to imitate and substitute. While tangible resources have been viewed as an increasingly difficult basis for a sustained competitive advantage, the focus has switched to understanding intangibles, a firm's processes and routines. Some work has been done on exploring those processes and routines that a firm needs to exploit its resources, create an environment for learning, create knowledge and integrate it throughout the organisation and perhaps beyond through inter-firm relationships.

The focus on intangibles is changing the way strategists view competition, firm structure, human assets and their interactions. The strategy literature is making it increasingly clear that in a dynamically competitive environment a knowledge-based orientation is essential to sustaining a competitive advantage and superior

performance. This new focus is leading the field of strategy to undergo a major paradigm shift (Conner, 1991; Mahoney and Pandian, 1992; Spender, 1996).

The Resource Approach requires further theoretical and empirical research to develop a well-defined framework, concepts and constructs that address the inevitable shortcomings of a new theory and standardisation of terminology. Despite its shortcomings, the resource-based and knowledge-based views have gained considerable momentum and have begun to make substantial changes to the field of strategy. Godfrey and Hill (1995) state that if a theory can consistently explain some data better than any other theory, then we can appropriately act as if the theory were true. As more researchers test the resource-based and knowledge-based views' propositions with firm level and inter-firm level research, and develop strategies to test their impact, this new theory of the firm could prove to be far more relevant and rewarding. Perhaps then more strategists will agree with Wernerfelt (1995:173) that the focus on firm-specific resources will be 'so obvious that I suspect that we soon will drop the compulsion to note that an argument is resource-based [and] basing strategies on the differences between firms should be automatic, rather than noteworthy'.

Chapter 2

Fisheries Management Regimes

Introduction

The management of fisheries is defined as those sets of measures designed to lead to an increase in net benefits from the increased biological yield of the resources. These benefits are viewed within a human welfare context and include increased net economic yields, improved employment, increased community welfare or reduced conflict (Christy, 1999). There is growing awareness worldwide that the net benefits from some fisheries are at risk, and the problems associated with fisheries management require urgent attention, and in some cases, consideration of management alternatives. The New Zealand fisheries management system has included the full spectrum of alternative management systems since it began with the Oyster Fisheries Act 1866. Legislative changes continue to alter and further develop the ITQ system implemented with the Fisheries Amendment Act 1986. Thus, New Zealand's management system has had few similar systems elsewhere in the world to consider and with which to make comparisons. For these reasons,

an understanding of New Zealand's fisheries management system and alternative management systems is critical to this study.

This chapter provides an overview of fisheries management regimes used in different nations, which includes an examination of property rights, fisheries science, management institutions and co-management, a management alternative that is attracting growing interest throughout the world. There is evidence that co-management regimes enhance the biological and economic sustainability of some fisheries. Co-management has the potential to address the growing complexity and bureaucratisation that is almost inherent in fisheries management regimes, problems that often lead to biological and economic mismanagement. The former New Zealand Minister of Fisheries (MFish), an independent reviewer of the Fisheries Amendment Act 1996 and some industry groups propose adoption of co-management principles for some fisheries.

Fisheries Worldwide

Fisheries remain important sources of food throughout the world, with fish accounting for 19 percent of the total human consumption of animal protein (FAO, 1993). Numerous coastal areas throughout the world have developed longstanding economic and social dependence on local fisheries, so that 200 million people now rely on fisheries for direct or indirect income. Too often, communities, regions and nations sacrifice long-term sustainability of local fish stocks for short-term protection of local employment. Nations continue to allow fisheries to experience heavy catching effort, while ignoring year after year the warning signs that their fisheries are potentially heading for collapse (Mace, 1996).

About 100 million tonnes of fish are harvested each year (Grainger and Garcia, 1996). Worldwide, fisheries are considered to be overexploited and experiencing severe overcapacity. FAO (1995a) estimates that approximately 44 percent of the world's fisheries are heavily or fully exploited, 25 percent are overexploited,

depleted or recovering from depletion. Alverson, Freeburg, Murawski and Pope (1994) estimate that commercial marine fisheries result in 28.7 million tonnes of bycatch and 27 million tonnes of fish discarded. However, the actual removal of marine resources may be even higher due to unreported landings, fish lost to spoilage, subsurface mortality, and ghost fishing mortality caused by lost gear that continues to fish (Mace, 1996). Accordingly, the world's fisheries are commonly characterised as overexploited, being on the brink of disaster and having little or no room for expansion.

A large number of factors has contributed to the current state of the world's fisheries, and most fisheries managers agree that overcapacity is the fundamental problem surpassing all others. Overcapacity can refer to overcapitalisation, excess capital invested in fishing vessels and gear, or excessive levels of participation, or both. World fishing fleets are operating at an estimated loss of \$US54 billion, while many fisheries would probably not be viable without government grants and subsidies (Mace, 1996).

Those groups exerting the greatest pressure on governments to improve fisheries management, though usually not providing the greatest support for management action when it is taken, are groups of fishers competing for the same resource (Gulland, 1989). This situation has fuelled an increasing number of violent conflicts. It is often easier for governments to protect a fishery's status quo than to incur the high social and/or political costs required to improve a fishery (Mace, 1996). It follows that any discussion on improving fisheries management should begin by asking whether a nation's public really wants its fisheries managed better or how important it is to manage fisheries better? According to Gulland (1989), these seemingly trivial questions help to explain the various factors related to poor management of fisheries.

An urgent need exists worldwide to strengthen the management of most fisheries, as many current management regimes fail to provide sustainable yields of fish

stocks (FAO, 1995a, 1995b, 1995c). The challenge for any fisheries management system is to determine and enforce harvest levels that will sustain fish stocks and access rights to fisheries. Most nations continue to face similar problems related to overcapacity in fisheries, such as declining catch-per-unit-effort, excessive competition and overcapitalisation, most often due to subsidies available that encourage the building of new fishing vessels. United Nations Food and Agriculture Organization data indicate that nominal fleet size seems to have peaked during the mid-1990s, however, actual fishing capacity may still be increasing due to improved efficiency and refitting of older vessels (Gréboval, 2000).

Two issues fundamental to fisheries management continue to be debated. The first issue concerns how to determine access to fisheries by way of property rights. Which individuals or groups should have rights to a fishery or fisheries, and what should be their duties towards maintaining productive fish stocks and supporting communities that are economically and socially dependent on fisheries? A related question directly relevant to this study is how changes in fisheries management institutions and systems would impact on seafood firms' performance and competitiveness.

The second issue concerns scientific methods used to assess and manage fish stocks. The inherent uncertainties in and limitations of these methods cause fisheries scientists and managers to question whether sustainable management of fish stocks can occur using the current single-species model. Some scientists and managers are calling for a multi-species or ecosystems approach (Ludwig, Hilborn and Walters, 1993; Mace, 1996; MFish, 1997b). The nature of the data and the assumptions used in current scientific methods often result in fisheries management advice with high uncertainty and low predictability of fish stock populations and behaviour. Fisheries management has historically focussed on biological aspects, being concerned primarily with protection and conservation of fish stocks. However, fisheries management must now consider a greater variety

of elements, including the social and economic impact of a management regime. If a more holistic approach is adopted in the sustainable management of fish stocks, how does this impact on property rights and, subsequently, on individual seafood firms?

Property Rights

Property rights is a fundamental issue in the management of all natural resources. The concept of property is extraordinarily complex, as it may contain numerous entitlements and expectations related to exclusivity (Christy, 1999). Property rights are essentially bundles of rights to use or transfer particular resources.

There are four types: open access, private property, communal property, and state property. Feeny, Berkes, McCay and Acheson (1990) define these four types as follows. Open access is the absence of well-defined property rights, with access unregulated and open to everyone. Private property indicates the right to exclude others from using a resource, and the right to regulate a resource is vested in an individual or group. Communal property refers to the right to a resource held by an identifiable community or groups of interdependent users. State property indicates that the right to a resource is vested exclusively in government, which determines access to resources and the level and nature of exploitation. In effect, any management system that is not open access is a form of private property rights where some are excluded from access to the resource. The question must be asked who belongs to those groups with certain rights and duties towards the resource? (Ostrom, 1991).

One of the greatest challenges is to resolve the issue of the role of property rights in the sustainability of fisheries (Mace, 1996). Economists' application of private property rights to fisheries management (Gordon, 1954; Christy, 1973) remained largely theoretical until the Moloney and Pearse (1979) model was adopted by New Zealand and subsequently by other nations.

The 'tragedy of the commons' has been a popular argument for the ecological and economic benefits of implementing private property rights to managing a natural resource. The 'tragedy of the commons' was first outlined by Gordon (1954) and later Hardin (1968) with each depicting social dilemmas where each self-interested, rational resource user has an incentive to behave in ways that could eventually lead to tragic consequences for the resource, the larger group of users and the resource user (McCay, 1999). Even when there is evidence that the resource is declining, the individual resource user's strategy is to continue, or even consume or harvest more, since others cannot be stopped from doing the same.

'According to Hardin, it is rational for a herder to add extra animals on a common pasture although this would collectively lead to a 'tragedy' due to overgrazing. The positive utility for the individual herder of adding an extra animal to the pastures is +1 while the negative utility (as a result of ecological degradation) is only a fraction of -1. Privatization of the grazing land, it is argued, will ensure that it becomes irrational for the herder to add an extra animal to the pasture, beyond the carrying capacity of the land; the landowner will have a vested interest in refraining from practices that undermine the capacity of the land to renew itself since he or she alone bears all the costs of ecological harmful practices' (Pálsson, 1999:2).

However, Hardin's argument has caused some confusion between open access and communal property rights. Hardin's use of the 'commons' connotes inevitable resource overexploitation and degradation due to uncontrolled access to the resource and no restrictions on resource use. This situation is more accurately referred to as open access (Pomeroy and Williams, 1994). According to Feeny et al. (1990), Hardin's (1968) popular argument that there is an unavoidable tragedy for any resource held in common is simplistic. Hardin assumes that common property takes on the characteristics of open access, including a lack of constraints on individual behaviour, and resource users being incapable of agreeing to a set of rules of conduct. The Hardinian thesis is seriously flawed as it assumes that users of the common resource live in a 'social

vacuum', in the absence of interaction, sociality, community values and cultural norms (McCay and Acheson, 1987). Hardin overlooks several examples of societies' institutional decision-making arrangements and cultural factors that construct and enforce rules and norms that constrain individual behaviour and sustainably manage the common resource for centuries (Pálsson, 1999).

Contrary to Hardin's (1968) conclusion, success and failure in sustainable resource management may occur under communal property as well as under state and private property regimes (Feeny et al., 1990). Each type of property right, except open access, offers a solution to the eventual problems of overexploitation and degradation of resources (Lim, Matsuda and Shigemi, 1995). Sustainable management is defined as 'meet[ing] the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development, 1987:393). The basic challenge to sustainable management of natural resources is in finding ways to define, measure and operationalise it (Munasinghe and Shearer, 1995).

In a fisheries context, sustainability typically refers to biological sustainability of a target fish stock through different harvesting scenarios ranging from almost no removal to removal of a large portion of the fish population, depending on how well the fish stocks have been managed (MoRST, 1996). Some definitions of sustainability include economic and social development along with biological sustainability. However, historically, social issues have been treated as externalities of fisheries management and thus left to other policy areas to address (Symes, 1996).

Sandberg (1996) proposes that for a property rights regime to work, it must have an incentive structure that balances the rights of fishers to harvest fish stocks with their duties towards maintaining productive fish stocks and supporting those social structures associated with the fishing sector. Sandberg proposes that without a balance or 'correspondence' between rights and duties fisheries

management institutions will fail due to a lack of legitimacy. For example, if fishers believe that their rights to access and harvest are inadequate, they may operate with a black market, causing fisheries institutions' compliance costs to escalate.

Sandberg (1996) subdivides property rights into five distinguishable elements: rights to access, to harvest, to manage, and to exclude and alienate some user groups from specific fisheries. All of these elements must be addressed for sustainable management of fisheries. Sandberg states that most incentive structures typically provide fishers with only the first two elements, access and harvest, and the others remain the focus of other groups and institutions, however:

'From the empirical data, we now learn that the institutional arrangements with the best correspondence between rights and duties, are those based on collective rights, where the group to which the resource is common is not universal, but limited and bound to each other in some form of network of obligations or social contract – and one which also has rights to exclude and to manage' (Sandberg, 1996:39).

Historically, the right or requirement to manage for the long-term sustainability of fish stocks, such as refraining from overfishing, was rarely imposed as long as the common view prevailed that oceanic resources were too vast to be depleted by harvesting. For example, in 1883 T.H. Huxley extolled the inexhaustible ocean resources:

'I believe that the cod fishery, the herring fishery, the pilchard fishery, the mackerel fishery and probably all the great sea-fisheries are inexhaustible; that is to say, nothing we can do seriously affects the number of fish' (Smith, 1994:392).

Although open access management systems fail to achieve sustainable management of fish stocks, most developing nations have open access fisheries,

which account for more than half of the global fisheries harvest (Rosenberg, Fogarty, Sissenwine, Beddington and Shepherd, 1993).

Open access in international waters, outside national jurisdictions, is an issue for straddling or transboundary and migratory fish stocks. Deepwater species in international waters are also vulnerable to exploitation by way of open access, especially species such as orange roughy and grenadier, which have late maturity and low reproduction rates and longevity (Hopper, 1995). International waters have attracted substantial fishing efforts by several distant-water fleets, particularly those from Spain, Portugal, Poland, South Korea and Taiwan. Furthermore, uncontrolled high seas fishing of straddling fish stocks can seriously undermine stock conservation strategies developed by adjacent nation states (Crean and Symes, 1996). However, nations involved in fishing are not willing to delegate power to a central regulatory agency for fear that this may dilute their national rights, and so historically fisheries in international waters have lacked a single authority with the power to institute regulations (Anderson, 1987).

This situation changed with the 1982 United Nations Law of the Sea Convention, enforced in 1994, which outlines the basic principles for management of high seas fisheries. Article 117 states that all nations have the duty, individually or in co-operation with other nations, to take measures to conserve resources on the high seas. Furthermore, some coastal nations have taken unilateral measures to protect some fisheries outside their 200-mile Exclusive Economic Zone (EEZ): Chile has claimed jurisdiction over waters beyond its EEZ; Canada's Coastal Fisheries Protection Act 1994 extends its jurisdiction beyond its EEZ; and in 1996 New Zealand's Minister of Fisheries, Hon. Doug Kidd, proposed consideration of New Zealand extending its EEZ from 200-miles to 600-miles from shore. To date no action has taken place on this proposal.

Collective action to manage high seas fisheries has occurred *vis-à-vis* the United Nations Conference on Environment and Development 1992. This Conference raised the issue of the 'precautionary principle' as applied to resource management. The precautionary principle advocates prudent foresight, consideration of future generations' needs, conservation of resources' productive capacity and immediate corrective actions to avoid overexploitation and overcapacity. The placement of the burden of proof on resource exploiters addresses the often-used argument that fisheries scientists must first provide scientific evidence to substantiate a reduction in harvest levels before any reduction is implemented for sustainability measures. According to the precautionary principle, the presence of scientific uncertainty is not a reason to avoid taking measures to prevent environmental degradation.

The precautionary principle has been applied to the longstanding issue of pelagic driftnet fishing on the high seas. The UN Agreement, Resolution 44/225, banned driftnetting on the high seas (Garcia, 1994). The precautionary principle is now embodied in the FAO (1995a) and FAO (1995b) and has been applied to aquaculture in FAO (1995c). If the precautionary approach is fully adopted in international waters, as well as within nations' jurisdictions, it may well be one of the most important paradigms for the future viability of fisheries (Mace, 1996).

Fisheries Science

The scientific basis to fisheries management has been advanced by way of numerous marine scientists' contributions. These include Thompson and Bell's (1934) yield-per-recruit model in the 1930s to 1950s, Graham's (1935) 'law of fishing' concept that fishing expands as stocks become depleted, Schaefer's (1954, 1957) stock production models, Ricker's (1954) stock and recruitment models, and Beverton and Holt's (1957) stock production and recruitment modelling. During the 1960s and early 1970s stock assessment models were developed, such as virtual population analysis (VPA) and cohort analysis.

Currently, several institutions use extensions of the VPA methodology to improve estimation techniques and statistical diagnostics (Mace, 1996), while various alternative stock assessment methods are used, including size-based methods (Gallucci, Amjoun, Hedgepeth and Lai, 1996), non-equilibrium stock production models (Prager, 1994) and stock synthesis (Methot, 1990).

Biological modelling of fish stocks is based on a fundamental ecological principle, density-dependent population regulation. As harvesting reduces a density-regulated population, per capita net production increases until the population cannot compensate for any additional mortality. According to Rosenberg et al. (1993:828), 'the production generated through compensation, which is known as "surplus production," can be harvested on a sustainable basis'.

The management of a single species then begins by determining that proportion, the total allowable catch (TAC), of the fish stocks that could be extracted without endangering its sustainability. The New Zealand Fisheries Act 1983 defines TAC as:

'the amount of fish ... that will produce from that fishery the Maximum Sustainable Yield (MSY), as qualified by any relevant economic or environmental factors, fishing patterns, the interdependence of stocks of fish, and any generally recommended sub-regional, regional or global standards ... [and] allowing for the Maori, traditional, recreational, and other non-commercial interests in the fishery...'

A species' TAC is not the same as its MSY. A TAC is the extracted quantity of fish stock caused by human activity that, on balance of probabilities, will move the biomass towards MSY in the long-term. MSY cannot be measured directly as it is a function of a species' biomass, reproduction, recruitment, mortality, etc. (MFish, 1999).

MFish approximates MSY with two biological reference points, Maximum Constant Yield (MCY) and Current Annual Yield (CAY), which are respectively

static and dynamic approximations. MCY is the maximum constant catch that is estimated to be sustainable within an acceptable level of risk at all probable future levels of the biomass. MCY assumes the same catch is taken from the fishery year after year. CAY is the one-year catch calculated by applying a reference fishing mortality, F_{ref} , to an estimate of the fishable biomass. If applied every year, CAY would maximise the average catch from the fishery within an acceptable level of risk. CAY recognises that fish populations fluctuate from year to year, and so the catch is altered each year.

MCY and CAY are used to determine the Maximum Average Yield (MAY), which is the long-term average yield obtained when the catch each year is the CAY. MFish does not define the 'acceptable level of risk' for MCYs and CAYs because the MFish's level of knowledge of most fish stocks is inadequate to quantify assessments of risk (MFish, 1997a). MSY remains the fundamental reference point for sustainable management of fisheries.

It is important, however, to distinguish between overexploited and collapsed fish stocks. Overexploitation refers to fish stocks that are currently being fished hard enough that the stock biomass is below the MSY biomass (Hilborn, 1995). Overexploitation does not necessarily equate to non-sustainability. While overexploited stocks can be managed sustainably at a level below the MSY, the 'problem with an overexploited stock is that higher yields are possible if fishing pressure is reduced ... [and] overexploitation may cause considerable economic loss' (Hilborn, 1995:2). Therefore, an overexploited fish stock will grow when harvesting levels decline, while a collapsed fish stock will not grow, at least in the short-term, even when harvesting ceases.

Another goal of fisheries management may be to operate at maximum economic yield (MEY), a concept developed by Gordon (1954). If adhered to, MEY would guarantee that the net contribution from a fishery to an economy would be maximised. The MSY and MEY were combined to make up the Gordon-Shaefer

bio-economic model which, for the last forty years, has governed the basic parameters of fisheries management (Symes, 1996).

MEY can be pinpointed theoretically, however government and society may choose to forgo some economic efficiency to pursue other goals such as income redistribution, maintenance of a balance of payments equilibrium, reduction in structural unemployment and provision of recreational activities (Anderson, 1987). Since fisheries management is but one of many tools available to governments to enhance overall societal goals, governments choose to operate at some level other than MEY, which could be referred to as maximum social yield (MScY). The process of determining MScY, the acceptable tradeoffs between economic efficiency and societal goals, depends upon who is involved in the decisions (Anderson, 1987).

Like most other nations' fisheries management systems, MFish's use of MSY is in practice more in line with MScY. The Fisheries Act 1996 requires the Minister of Fisheries to set or vary a TAC to achieve a fish stock size that will produce the MSY, however, the Minister may qualify sustainable measures by taking into account economic, social, political and cultural factors deemed relevant at the time. The Minister's consideration of these other factors, however, could only alter the rate at which the fish stock size is moved towards the size that will produce MSY.

When sufficient information is available, MFish uses stochastic population modelling with risk analyses, as well as simulation modelling to test the relationship between CAY and MCY for a range of different types of fish populations. MFish incorporates data for fisheries assessments from various sources. These include catch and effort data; catch monitoring (observers); length and age data for use in fisheries models to determine population structure; and data from the quota monitoring systems, which includes actual Total Allowable Commercial Catch (TACC) and landed catch, TACC overruns and bycatch

trading (MFish, 1997a). Since 1992, MFish has relied almost exclusively on marine research provided by the National Institute of Water and Atmospheric Research Ltd (NIWA).

The fundamental data used to assess and manage fisheries often lacks credibility, because the fishers themselves usually provide scientists with data on fish landed, which is then used in fish stock assessments. Fishers may provide deliberately incomplete or inaccurate data. Fishers also know that scientists must often work with a poor knowledge of demographic parameters and ecosystem interactions (Mace, 1996). Due to the nature of the data and assumptions that are used to generate fisheries stock assessments, the results contain inherent variation and uncertainty. For example, MFish is advised to allow at least a 50% chance that the TACC will over time lead the fish stocks towards a level that will support the MSY (MFish, 1996).

For some time fisheries scientists and managers have acknowledged the inherent uncertainty surrounding the sustainable management of fish stocks. According to Gulland (1989:267), 'Larkin (1972) was one of the first to call for an explicit recognition by [fisheries] managers that they and their scientific advisors probably did not know what they were doing'. The main reason for this inherent uncertainty is that 'the abundance of fish stocks fluctuates very substantially over time' (Hannesson, 1993:122). These significant year-to-year changes in early-life survival, and hence in recruitment, make it difficult to determine the extent of the density-dependent response, the rate of survival from spawning to recruitment that stabilises the adult density.

'The inherent variability in the dynamics of marine fish stocks, the difficulty and expense of measuring abundance and demographic parameters of widely distributed populations, and the complexity or high dimensionality of ecological systems virtually assure uncertainty in resource status ... natural variability, scientific uncertainty, and conflicting objectives (or values) can cause difficulties in achieving sustainable resource use' (Rosenberg et al., 1993:829).

Accordingly, it is very difficult for fisheries scientists to say in precise, quantitative terms what actions are necessary to prevent a stock from collapsing, and what catch rates can safely be taken without risk of stock collapse (Gulland, 1989). The standard fisheries science models assume that fish stocks will rebuild if harvesting ceases, and this assumption causes concern that these models fail for stocks that are defined as collapsed (Hilborn, 1995). Some fisheries scientists and managers, therefore, remain concerned about current methods of assessing fish stocks due to their theoretical simplicity in relation to the oceanic environment.

According to Symes (1996), biological modelling of fish stocks provides little opportunity for consideration of the oceanic environment's tendency towards instability and oversimplifies fish stocks' behaviour by assuming that under most conditions they will display predictable behaviour. In 1977, Larkin concluded that a MSY based on historical statistics of a fishery is not attainable on a sustained basis, and his conclusion has since been supported by other reviews of the history of fisheries (Royce, 1987). The realisation that the MSY model had fundamental flaws 'left a vacuum in the bag of tools of the fishery manager' (Rettig, Berkes and Pinkerton, 1989:275).

'Fisheries management is "management under conditions of extreme uncertainty" and it is difficult to escape the conclusion that a system based on the application of predictive science to single species is likely to get it wrong almost as often as it gets it right' (Symes, 1996:7).

According to Gulland (1989:267), several fisheries managers still fail to acknowledge 'the uncertainties in biological assessments', and 'the costs involved in achieving even the minimum degree of precision needed for certain types of regulations', such as annual TAC revisions. Mace (1996:7) contends that 'it is not so much the state of the art of the science that is limiting, it is simply that most fisheries systems have not yet been adequately researched'. However, Mace (1996) acknowledges that there are some notable exceptions, with some

fisheries failures being due to a lack of quality scientific research and others to an insufficient quantity of scientific research.

A commonly cited example of fishery failure is the herring fishery. It was common belief in the early 1960s that 'because of the shape of the yield per recruit curve, it is impossible to overfish herring' (Gulland, 1989). However, the Peruvian anchoveta fishery's annual catch plummeted from 13.1 million tonnes in 1970 to less than 2 million tonnes in 1974. There is some convincing evidence that the interaction between environmental conditions and fishing effort caused significant and rapid depletion of the fish stocks. It would appear that while fishing effort remained high the anchoveta, being a highly unstable fish with a short and prolific reproductive life span, reacted violently to increased ocean surface temperatures caused by El Niño and reduced primary production (Caddy and Gulland, 1985). However, there remains no general agreement on the causes of the collapse of this fishery (Hilborn and Walters, 1992).

A second example is the Grand Banks cod fishery in the northwest Atlantic Ocean, which until recently had remained one of the oldest and most prolific fisheries. Although the northern cod had a long history of research, the fishery dramatically collapsed in 1992, resulting in 40,000 jobs lost in Newfoundland (Mace, 1996). To date, fisheries scientists have not been able to explain conclusively the collapse of this fishery. According to MacKenzie (1995:26), the collapse of the Grand Banks cod fishery 'is a compendium of the mistakes being made in fisheries all over the world'. In brief, MacKenzie contends that the Canadian Department of Fisheries and Oceans (DFO) made several errors: DFO scientists 'didn't want to believe that the whole theoretical basis for their work was wrong' (1995:27-28), and 'politicians used the uncertainty [in stock assessments] to set catches as high as possible' (1995:29).

A likely explanation is that while the cod was subjected to increasing catch effort, the presence of below normal cold water might have affected its spawning,

recruitment, growth or migration. Of interest in this example are the conflicting positions of scientists, fishers and a local processing company. While fisheries scientists were predicting increasing cod stocks, the local fishers were increasingly concerned about poor catches and retarded growth weights (Finlayson, 1994). Two years before the stock collapsed, the largest seafood processing company, National Sea Products, held the view that 'fishing has never been better' (MacKenzie, 1995).

Finally, the deepwater orange roughy fishery off the coast of New Zealand, which began in the late 1970s, provides an example of insufficient scientific research. The huge spawning aggregations being discovered and the associated high catch rates misled scientists, managers and the industry who all assumed that the orange roughy's large biomass was implicitly associated with high productivity (Mace, 1996). However, subsequent studies revealed that orange roughy has a much lower mortality rate, an age of maturity that exceeds 20-25 years, and a maximum age possibly in excess of 150 years (Francis, 1995). The subsequent research led to the orange roughy's long-term sustainable yield level being reduced to about 20 percent of the initial estimates.

Debate continues over the relative importance of unpredictable environmental factors and whether sufficient scientific information was available to avoid any collapse of the above fisheries. According to Symes (1996), collapses of marine species are likely to increase as the result of climatic changes caused by global warming. However, climatic changes could have an uneven impact on the marine environment, with some exploited species decreasing and collapsing and others expanding and prospering under the same climatic conditions (Glantz, 1992). Hilborn (1995) reminds us that environmental changes are not at all uncommon, and that fisheries managers and fishers need to accept these phenomena and learn to adapt.

Moreover, since the early 1980s some fisheries scientists attempted to apply chaos theory's unpredictability to the oceanic environment since chaos theory comes much closer to the fisher's perception of the oceanic environment (Smith, 1990; Wilson and Kleban, 1992). Its application to managing fisheries could be seen to challenge the very premise upon which fisheries management is based (Symes, 1996). Chaos theory is best understood in relation to fisheries on the highly productive continental shelves, where the ecosystems tend to be unstable, and dramatic changes tend to occur. This is one of the main reasons why these ecosystems can yield such enormous amounts of fish (Sandberg, 1996).

The proponents of chaos theory adopt the view toward chaos that is now being applied to marketing. That is, chaos is a form of order we have not yet learned to understand (Baskin, 1996). According to chaos theory, it is possible that fish stocks would not be inclined towards equilibrium. Instead, they would vary unpredictably within limits, bringing into question reliance on annual stock assessments and 'annual fine tuning of sustainable fishing effort by means of TACs and quota adjustments' (Symes, 1996:7).

Although some scientists have applied chaos theory in principle, it remains unable to make any significant changes to current management systems. Management systems in line with chaos theory are likely to involve less regulation and allow greater flexibility of response, much more in keeping with traditional fishing strategies, switching from fish stocks in decline to fish stocks on the increase (Symes, 1996).

During the early 1990s the New Zealand commercial sector experienced increases in catches. The assumed reason for these increases was fish stock abundance. This led to the industry proposing increases in some TACs (Annala, 1996). In 1991 the 'adaptive management approach' was developed in consultation with the seafood industry to manage fish stocks for which there was limited information on stock size which could be used as a basis for varying

TACC levels (MFish, 1996). This approach is designed to undertake additional monitoring and analyses to improve fish stock assessments and estimates of MSY.

Some representatives of the New Zealand seafood industry have also proposed that some species could be 'managed at levels below that which would produce MSY, provided their reproduction does not become seriously threatened' (MFish, 1996:6). The rationale for this industry proposal is a 'multi-species' as opposed to single-species perspective on fisheries management. MFish, however, has resisted this proposal since allowing a species to be driven below MSY level would require multi-species TACC while TACCs remain set on a single-species basis.

While the simplifications of the single-species model discredit fisheries management's predictability, the realism of multi-species models creates unmanageable complexities (Holm, 1995). Several multi-species models, involving only two or three species, have been developed (Collie, 1995), however:

'[multi-species models] have rarely been useful in a stock assessment or fisheries management context because of the large number of alternative hypotheses that can potentially explain the observations, the lack of incorporation of all key biological and environmental interactions, or the lack of data on the nature and extent of these interactions. Multi-species mathematical models are capable of producing an almost unlimited diversity of combinations of multiple stable and unstable equilibria, regular and chaotic fluctuations, and extinctions' (Mace, 1996:7).

Although bi-economic modelling is challenged in theory and discredited in practice, it still remains the best theory available (McGoodwin, 1990).

Management Institutions

The relationship between the institutions that manage fisheries and fishers is defined once it has been determined for whom fish stocks are common. If fish stocks are common to a collective of nation states, such as the European Union, the resulting institutions will produce a certain set of strategic choices in favour of the collective. If they are common to particular nation states, the resulting institutions will produce strategies that favour those nation states. If the fish stocks are common only to coastal communities, again quite different social institutions and management strategies will be produced. For whom fish stocks are common has always been defined and redefined as a nation's social and political contexts have changed. So called traditional fisheries have been shaped by the political histories of particular nations (Sandberg, 1996).

Historically, the heads of the European coastal nations recognised their sovereignty extending to a territorial sea, which was typically limited to three-miles from shore. Since offshore fish stocks were considered inexhaustible, and exclusion of access to high seas fisheries was virtually unenforceable, little attention was given to the management of the fish stocks (Scott, 1999). However, until early last century, it was more the case that inshore fish stocks were considered common to coastal communities. Various local customary laws and agreements created exclusive rights to waters adjacent to coastal villages. Regulated use of coastal fishing grounds supported local villages and generated revenue for local government. Local fishers' detailed knowledge of fishing grounds and the behaviour of fish stocks, transferred from generation to generation, was used to determine social agreements on competition and sustainability of fish stocks.

It is important, however, not to overstate the efficacy of local management systems, since they were not all successful in achieving sustainable fisheries. Community-based fisheries management is prone to failure, particularly when the private sector or local governments can potentially take over (Mace, 1996), or the

system's effectiveness is undermined by the absence of key features, such as relatively low human population density, and homogeneity of kin- or territorially-based communities (Bailey and Zerner, 1992). When successful, local management systems were typically introduced through collective social agreements, including codes of behaviour, customary territorial use rights, open access for all members in the community, rules governing the time and duration of access and gear used, and the enforcement of strict sanctions which could disbar transgressors from participating in fisheries (Symes, 1996).

As fishing technology and catching effort have improved, there has been increased awareness that fish stocks are limited and could be depleted by harvesting. In response, governments have typically taken direct control of managing fish stocks. Government involvement in fisheries management has been initiated when open access to fisheries has caused severe and obvious depletion of the resource base, leading to lower incomes or unemployment in the fishing sector (Hannesson, 1993). For some, a fish stock was likened to a herd of livestock with the view that heavy harvesting effort depleted the stock and changed its average age and size. This comparison with livestock herds supported the use of regulating fishing gear and open seasons, however, governments were not equipped to enforce either kind of regulation or monitor their effectiveness. After World War Two, the need for regulation of fish stocks became clearer, and by then fisheries managers had some science on which to base it and the means of enforcement, both by licence and surveillance. (Scott, 1999).

Coastal nations began to extend their jurisdiction over coastal waters from 3 miles to 12 miles, then 50 miles. By the mid-1970s coastal nations began to extend their jurisdiction out to 200 nautical miles from shore. The United Nation's Law of the Sea Convention acknowledged a nation's right to implement management measures over all waters within a 200 mile zone. The justification for this extension of national jurisdiction was that foreign-registered vessels had contributed to the rapid depletion of many fish stocks. However, the focus of

fisheries management has largely remained on development and expansion, rather than control and restraint in catching effort (Mace, 1996).

If fish stocks were managed with a species-specific maximum sustainable yield to ensure a steady flow of certain species, there would be benefits to a nation state's balance of trade and national treasury (Sandberg, 1996). Governments use fisheries management to redistribute income, maintain a balance of payments equilibrium, reduce structural employment and provide recreational activities (Anderson, 1987), although almost invariably the perspective on these matters is short term (Mace, 1996).

In taking direct control of fisheries management, centralised government bureaucracies became responsible for granting property rights to fisheries. However, one of the unsettled questions about property rights systems is whether governments are prepared to acknowledge that the rights they distribute qualify as standard property rights under local law of property (Scott, 1999). Despite continued debate on this issue, an outcome of centralised governments controlling fisheries was that local communities no longer had responsibility for granting property rights to fisheries. This led to significant changes in fishers' sense of identity, value systems and purpose in their own communities (McGoodwin, 1990).

The emphasis placed on private individual property rights and relationships with the government as the grantor of access to fisheries eroded certain qualities found in fishing communities (Jentoft, McCay and Wilson, 1998). Government bureaucracies became responsible for fisheries research, policy formulation, implementation and regulatory enforcement. Fisheries biologists were called upon to give advice on how to manage the resources to attain fisheries policy goals (Hannesson, 1993). The most universally accepted goal of fisheries management has been conservation and protection of fish stocks (Beddington and

Rettig, 1984), and so fisheries managers often perceive their role as the defenders of fish populations against depletion by fishers (Rettig et al., 1989).

The ‘spectacular failures’ outlined in the previous section show that scientific analysis of fish stocks sometimes leads to inadequate advice for fisheries policy makers. As well, fisheries management policy occasionally goes contrary to consensus scientific advice based on biological, social and economic considerations (Rosenberg et al., 1993). The outcome has been the accumulation of evidence that several managed species have been overfished (Symes, 1996). These crises have tarnished the bureaucratic and science-based approach to fisheries management (McGoodwin, 1990).

Governments have not only failed frequently to prevent overexploitation, but in many instances they have even exacerbated the problems through mismanagement (Hannesson, 1996; Finlayson, 1994). Often, fisheries managers’ biological goals may be stated explicitly while unstated objectives seem to take precedence (Mace, 1996). Ludwig et al. (1993) contend that harvesting of an inherently fluctuating resource is subject to a ratchet effect. That is, during relatively stable years, a series of good harvests occur, which encourages additional investments in vessels and processing capacity. When harvest rates return to normal or below normal, the catching sector appeals to the government for direct or indirect subsidies or the continuance of high harvest levels.

‘When confronted with uncertainty, fishery managers have been under enormous pressure to allow continued harvest levels and scientific advice has been discounted’ (Rosenberg et al., 1993:829).

For example, the haddock fishery off the New England coast was relatively stable from the 1930s until the 1960s when foreign fishing fleets arrived. At that time, fisheries managers allowed the harvest rate to increase against scientific advice. The outcome was that the haddock stock declined considerably (Hennemuth and Rockwell, 1987).

Ludwig et al. (1993:17) take a pessimistic view of fisheries management's ability to sustainably manage fish stocks. They argue that there is 'remarkable consistency' in the history of resource exploitation. That is, 'resources are inevitably overexploited to the point of collapse or extinction' due to the following common features:

1. Wealth or the prospect of wealth generates political and social power that is used to promote unlimited exploitation of resources;
2. Scientific understanding and consensus is hampered by the lack of controls and replicates, so that each new problem involves learning about a new system;
3. The complexity of the underlying biological and physical systems precludes a reductionist approach to management. Optimum levels of exploitation must be determined by trial and error; and
4. Large levels of natural variability mask the effects of overexploitation. Initial overexploitation is not detectable until it is severe and often irreversible.

However, Scott (1993:191) acknowledges that administrators of management systems often must tailor their regulations to meet the disparate demands of 'howling, rent-seeking, myopic sub-groups' that make up any fishery. Furthermore, Mace (1996) contends that it is unfair to blame fisheries managers entirely for the current predicament:

'Fisheries managers, who are usually government employees, often have extremely limited power to implement the necessary controls, due to the lack of strong national policies, or the lack of political will to implement strong policies even if such exist on paper. It is difficult to develop and implement management strategies to satisfy long-term objectives when those objectives have not been specified precisely and may be subject to the whim of politicians ... In addition, national government policies relevant to fisheries are often unco-ordinated and conflicting, with some government agencies taking action to restrict fishing activities while others take actions to promote it' (Mace, 1996:9-10).

Just as attempts to sustainably manage fisheries have failed spectacularly and numerous problems have yet to be resolved, some depleted fish stocks have been

rebuilt successfully after managers implemented reductions in fishing effort. Richards and Deuel (1987) explain the rebuilding of Atlantic striped bass stocks. The report *Status of the Fishery Resources off the Northeastern United States for 1992* (NMFS, 1992) outlines the rebuilding of the Georges Bank herring and mackerel fisheries. Aron, Fluharty, McCaughran and Roos (1993) state that cooperation between Canadian and U.S. research and management restored sockeye and pink salmon stocks in the Fraser River in British Columbia, Canada, and restored the halibut stocks, with the highest yield ever from that fishery occurring in 1989, after 100 years of commercial harvest. Furthermore, Aron et al., (1993) support fisheries management by acknowledging its substantial success in sustaining harvests of fish stocks in complex biological and social environments. They point out that fisheries management institutions have imposed harvest rates on the Bering Sea total catch that are below the total acceptable biological catch. They have also imposed seasonal and area restrictions to protect marine mammals while resisting pressure from the over-capitalised, multi-billion dollar seafood industry to increase strict quotas.

Fisheries managers can alter commercial harvest rates by way of two types of controls: the first type attempts to block the incentive for fishers to 'race for fish'; the second aims to change the incentive system (Gréboval and Munro, 1999). The more common incentive blocking (input) controls are restrictions on the number of vessels participating in a particular fishery and restrictions on individual vessel's capacity. This is done by imposing vessel length restrictions or more elaborate formulae for aggregate vessel size restrictions that combine some or all of the following: length, breadth, engine size and tonnage. These types of capacity restrictions lead to vessels being designed to be within the stated size restrictions, yet have the fishing capacity of much larger vessels. Other incentive blocking (input) controls restrict fishing methods and gear used. Restrictions on fishing areas and seasonal closures are also intended to limit fishing capacity during specific periods of time.

However, fisheries managed with these types of incentive blocking (input) controls alone eventually experience excessive competition, overcapitalisation and a tendency towards overexploitation of fish stocks. Incentive blocking (input) controls actually create 'incentives for fishers to defeat the rules, especially by increasing the use of any unregulated inputs' (Townsend, 1995:39). Fishing capacity is likely to expand along uncontrolled and uncontrollable dimensions, since fishers do not have appropriate incentives to reduce their fishing effort (Hannesson, 1993).

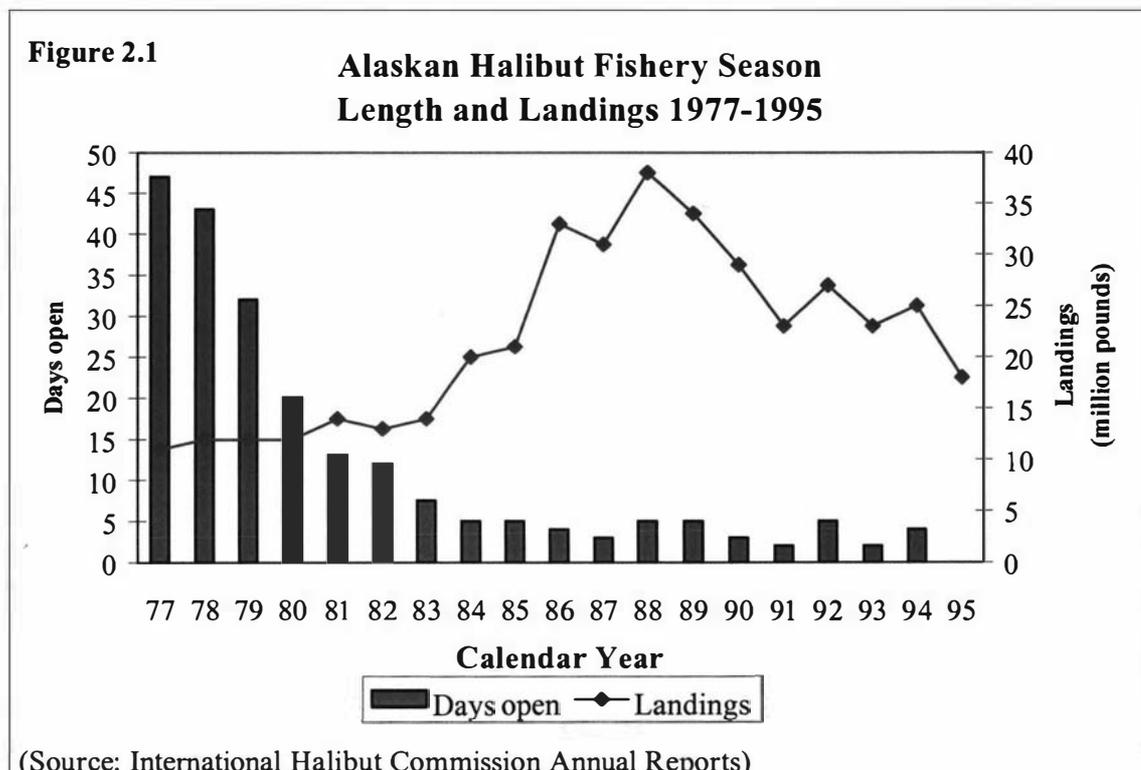
Incentive adjusting (output) controls set a limit or quota on the total catch taken. A quota can sustain the fish stocks, provided the quota is appropriately determined, managed and enforced. However, incentive adjusting (output) controls eventually lead to excessive competition and overcapitalisation since they create races to exhaust the quota (Townsend, 1995). Fishers actually have an incentive to invest in greater fishing capacity to gain a larger portion of the total catch.

Most developed nations' fisheries management systems use both incentive blocking (input) and incentive adjusting (output) controls, but the general movement worldwide is towards the latter. Some fisheries have been considered successful when managed with incentive blocking (input) controls, however, overcapitalisation tends to eventually occur, and in the case of restrictions on fishing time, the likely outcome is ever shorter seasons (OECD, 1993).

A classic example is the North Pacific halibut fishery, which occurs primarily in Alaska and British Columbia. This author has had extensive involvement in the Alaskan halibut fishery. In 1979 the Canadian Department of Fisheries and Oceans implemented a limited entry system with 435 permit holders while the U.S. National Marine Fisheries Service opted for a regulated open entry system where the level of participation in the fishery was not restricted. Improved harvesting levels and increased participation levels turned the halibut fishery in

both nations into short derby-style openings until private property right systems were implemented (Deweese, 1995). In 1991 British Columbia implemented an individual vessel quota system (IVQ), and in 1994 Alaska implemented an individual fishing quota (IFQ) system. Private property right systems are discussed later.

If the fishing seasons had not been dramatically reduced in both nations' fisheries, harvest levels would have exceeded the TACC. The days available to fish halibut in British Columbia were reduced from 60 days in 1982 to five days in 1990, consisting of a series of 24 to 48 hour openings. Similarly, the days available to fish halibut in Alaska were reduced from 47 days in 1977 to a series of 12-, 24- or 48-hour openings occurring only two or three times during the fishing year. Figure 2.1 shows the decline in halibut fishing days and simultaneous increase in landings between 1977 and 1994.



Although the days open to fishing remained steady at two to four days per season, the total landings continued to rise until 1988, reaching 38 million pounds, and then declined to 23 million pounds in 1991. Once the IFQ system was implemented the fishing season was extended from 15 March to 15 November. Soon after implementation the total landings increased, reaching 56 million pounds by 1999 (NMFS, 2000).

While the derby-style openings persisted, an unrestricted number of vessels participated in the Alaskan halibut fishery. The 'race for fish' was understandably excessive, endangering vessels and crews especially when weather conditions were severe. Most of the halibut caught during these short openings were frozen, since the fresh market quickly became over-supplied. This situation reduced the quality of product to consumers and drove down the price fishers received, eventually leading to the common practice of fishers receiving advances on the price of fish with final, unspecified instalments coming at a later date. If overall area quotas were not caught during the scheduled openings, an additional opening would occur with area and time restrictions, and usually limits on catch determined by vessel length.

From an economic perspective, overcapacity represents an excessive amount of capital in vessels or fishing gear that remains underutilised, while from a social perspective the most important manifestation of overcapacity is that too many people are dependent on fisheries for their livelihood. Mace (1996) contends that unless the overcapacity problem is resolved, attempts to address many of the other important problems in a fishery will largely be wasted. While fishers' operations remain economically marginal, they may not be able to afford adopting behaviours that could minimise their impact on fishing grounds and bycatch species. While a high proportion of fishing operations remain economically marginal, there is likely to be:

- '(i) increased pressure on scientists to conduct "optimistic" assessments and increased challenges of the validity of the science,
- (ii) increased pressure on managers to select the total allowable catch (TACs) from the upper, risk-prone confidence intervals of projected catch distributions,
- (iii) increased pressure on governments to provide financial aid (i.e. subsidies) to prop up failing businesses, and
- (iv) increased incentive to circumvent fishing regulations, including under-reporting of landings and use of destructive fishing practices. In addition, highliners who are doing well may not want to change the status quo. Even those operating at the margin who recognize the overcapacity and overfishing problems may nevertheless want to protect a "way of life", hoping that the status of the resource or the market will improve in the future' (Mace, 1996:6).

Once a fishery's fleet capacity has been reduced to a more economically viable level, it is imperative that incentives and barriers are put in place to prevent other vessels from entering the same fishery at a later date, especially if the fishery becomes more attractive through higher catch-per-unit-effort and fish prices.

Experience has shown that fleet capacity can be brought to economically viable levels by way of implementation of property rights, which act as an industry-funded 'buy-out' of less efficient operators (Mace, 1996). Implementation of property rights applied to fisheries can occur in several ways. Property rights in fisheries can be allocated to communities or groups by way of a territorial use right in fisheries (TURF) which provides a community or group exclusive access to a certain area, a stock use right in fisheries (SURF) which provides a group exclusive access to a stock, and community development quotas (CDQ) which allocate specified quota holdings in a fishery to a community. These various applications of property rights to communities or groups lead to collective actions to manage fish stocks.

Property rights can be allocated to individuals by way of a limited licence scheme which provides exclusive rights to the licence holders, and a quota system that

allocates quota to individuals (IQ) defines who can access a fishery and what right a person has to a quantity of the TACC. IQ is allocated according to vessel ownership, individual vessel quota (IVQ), which usually has restrictions on transferability of the access right. However, IQ is more commonly allocated to individuals as individual transferable quotas (ITQ), which is typically granted in perpetuity and provides transferability of ownership by way of buying and selling at market rates.

The transition to implementing an ITQ-type system can be substantial and painful, depending on particular communities' economic and social reliance on the seafood industry. Implementation of an ITQ-type system requires careful consideration of numerous issues and their effects at both micro- and macro-economic levels and their effects on local communities. Some communities may become ghost towns while others grow and create new jobs; some people will have to leave the catching sector permanently while those who remain can expect fishing crews to become smaller and some processing plants to become idle. The pain caused by implementing an ITQ-type system could be enough to induce policy makers to abandon the idea (Scott, 1999). These effects in part explain why ITQ-type systems, especially comprehensive systems, remain relatively rare throughout the world. Iceland, New Zealand, Australia, Canada, the Netherlands, South Africa, Chile and the United States have adopted ITQ-type systems.

The basis used for the initial allocation of quota has been a contentious issue for all nations that have implemented ITQ-type systems. The most commonly used basis for allocating quota initially has been the catch or fishing history of particular vessels during designated base years. The quota is typically allocated to the vessel owner exclusively with no allocation to others who contributed to the catch history, such as skippers and crew members.

This basis for allocating quota provides vessels owners with a windfall profit since the value of the ITQ reflects expected future cash flows from harvesting the

fish stocks in perpetuity. The transferability of the quota provides quota owners the option of selling their quota at current market value. The windfall profit is realised since vessel owners' rights to access the resource under previous management regimes had little or no market value. Since this economic benefit for vessel owners excludes direct benefits for others who have been involved in a vessel's accumulation of catch during the base years used to determine the allocation of quota, the initial allocation of quota remains one of the most debated and contentious issues in the decision to implement an ITQ-type system.

'It needs to be recognised, however, that the accumulation of fishing history is the cumulative result of a community practice, involving, besides boat owners, a whole range of other actors – skippers, crews, fleets and communities. Existing levels of fishing are not only the consequences of the application of machinery, capital, and the skills of the boat owners to the resource-base, also of fundamental importance are the human skills acquired in a particular social context at sea. Therefore, to privilege boat owners in the allocation of quota shares is to ignore the facts of fishing history ... There seems, therefore, to be an inbuilt bias towards boat owners among managers and politicians and in much of the management literature' (Pálsson, 1999:3).

A second issue concerning the allocation of quota is the concentration of quota ownership. ITQ-type systems commonly stipulate quota aggregation limits on quota ownership to avoid the prospect of monopolistic power in particular fisheries. For example, New Zealand's Fisheries Act 1996 restricts aggregated quota ownership, in most cases, to no more than 35 percent of the combined TACC for every stock of a species (section 59) as well as excluding quota ownership by an 'overseas person' (section 56). However, in the Icelandic case, quotas are becoming concentrated in the hands of fewer boat owners and seafood firms (Pálsson, 1999).

It is generally stated that the implementation of an ITQ-type system transforms fishers' behaviour from that of hunters to farmers of the fish stocks so that, in line with Hardin's 'tragedy of the commons' described earlier, fishers take on a

stewardship role in sustaining the fish stocks. The ecological benefits from this stewardship role should encourage quota owners to sustain the fish stocks they exploit as would a herder on a privatised agrarian pasture (Pálsson, 1999). Certainly for some if not most fishers allocated quota, their attention was turned from obstructing policies that could impact on the amount and distribution of their catch to adhering to biologists' proposals for increases or decreases in the stock. Most realised there was far less need to behave rivalrously, provided each could bring in a harvest while respecting the limits of owned quota (Scott, 1999).

When 'the race for fish' is over through the allocation of individual quota, fishers should then have an incentive to increase the profit made on the quota caught by reducing costs and producing valuable products (Hannesson, 1993). ITQ is promoted as leading to more economically viable fisheries since market mechanisms are allowed to operate more effectively (Jentoft et al., 1998). Transferability gives less efficient quota owners an incentive to sell their ITQ to those who are able to use it more efficiently, leading to a better fit between fishing capacity and available fish stocks. In comparison with previous management systems based on fisheries regulation and entry limitations, 'an ITQ system tends to improve the allocation of resources' (Scott, 1999:14). Hannesson (1993: 126) views ITQ as 'incentive-compatible' with fishers and fishing firms. Hence, both should work together to maximise returns on quota through efficient use and processing of information.

The Icelandic ITQ system is similar to that of New Zealand's. Iceland's ITQ system began when annual vessel catch quotas were issued after the 1972-75 moratorium on the catching of herring. The annual vessel catch quotas became transferable in 1979, thus becoming the first ITQ-type system in the world. In subsequent years, catch vessel quotas were issued for other fisheries, and their duration was increased from one to two years in 1986 and then from two to three years in 1988. In 1990 fully transferable vessel catch quotas were issued for an indefinite period of time, based on catch histories in 1981-83.

However, in 1998 the Icelandic Supreme Court declared fisheries laws on ITQ unconstitutional because they privileged those who derived their fishing rights from ownership of vessels during the 'fishing history' years (Copes and Pálsson, 2000). After changes were made to the ITQ system to address the charge of discrimination in access to fish stocks, ITQ was deemed by law to be not permanent or secure, and so quota owners were not eligible for compensation in the event the government revoked it (Gissurason, 1999).

Norway's IVQ system is perhaps the next most similar ITQ-type system to New Zealand's. It is of interest to note that in the late 1980s efforts to implement an ITQ-type system in Norway were 'flatly rejected, even though all actors acknowledged the need for a more flexible system' (Hersoug, Holm and Rånes, 1999:434). Instead, the Norwegian seafood industry agreed to implement an IVQ system as a temporary measure in response to the 1988/89 cod crisis. Norwegian TACs are allocated to different groups of vessels, with each 'group quota' allocated by either IVQ or by 'maximum quotas'. The IVQ is shared amongst the participating vessels as a fixed portion of the TAC. 'Maximum quota' is set at an upper limit for each participant, with the sum of the 'maximum quota' set higher than the total 'group quota'. Participating vessels compete to catch their individual 'maximum quota' before the 'group quota' is caught at which time the fishing ceases (Williams and Hammer, 1999). Hence, the 'fishing right', or IVQ, is distributed as competitive quota, not as guaranteed quota, and it is not transferable. However, a separate 'access right' is transferable, but only within geographical limits (Hersoug et al., 1999).

Arnason (1999) compares the property rights in New Zealand, Norwegian and Icelandic ITQ-type systems. Notwithstanding the social problems associated with defining and enforcing property rights, Arnason (1999) uses Scott's (1988) collection of different property rights characteristics briefly outlined as follows:

- **Security**, or quality of title, refers to the ability of the owner to withstand challenges to the property right by other individuals, institutes or the government;
- **Exclusivity** refers to the ability of the property right holder to use and manage the resource without outside interference;
- **Permanence** refers to the time span of the property right, from zero time to infinite duration; and
- **Transferability** refers to the ability to transfer the property right to someone else. Divisibility, subdividing the property right into smaller parts for transfer, is an important feature of transferability.

Amason (1999) constructs an aggregate numerical measure of the above four characteristics to compare the various ITQ-type systems. The quality of the property right characteristics is measured with a Q -measure on a scale of 0 to 1. A measure of 0 means that the property right has none of the particular characteristic, while a measure of 1 means that a property right completely represents the characteristic. Hence, the higher the numerical value for each characteristic, the stronger the property right. Table 2.1 provides a rough numerical estimate of the quality of the characteristics for each nation's ITQ-type property right. Table 2.1 demonstrates that New Zealand's ITQ is nearly perfect with respect to all four property right characteristics, with a Q -measure of 0.96. Iceland's ITQ has a Q -measure is 0.86 and Norway's IVQ has a much lower Q -measure of 0.44.

Table 2.1 Estimated Quality of Quota Property Rights for New Zealand, Iceland and Norway

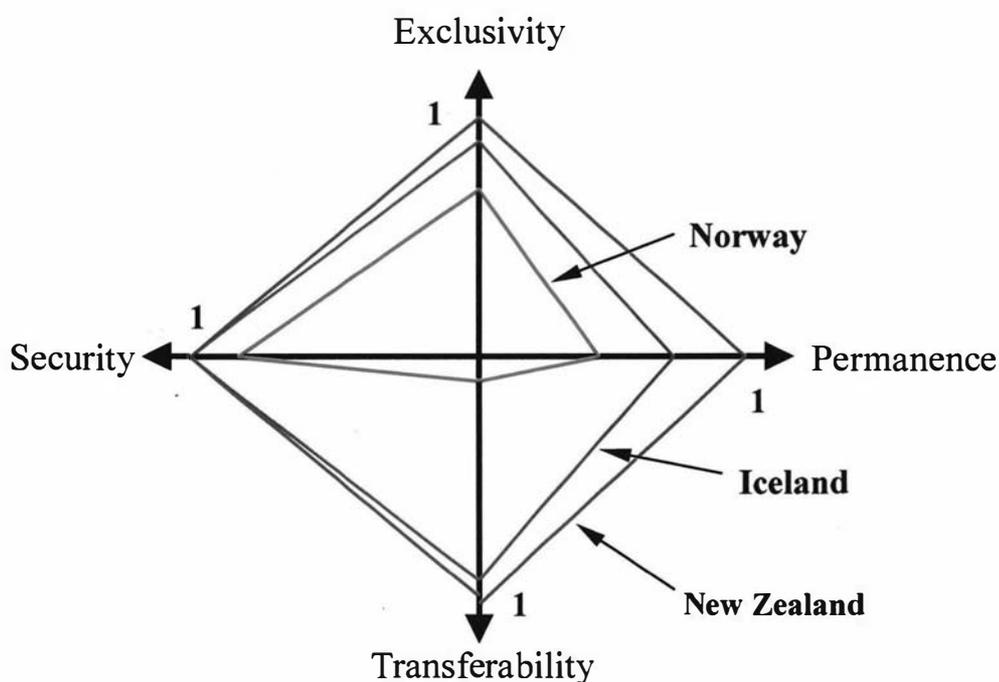
Characteristics	New Zealand	Norway	Iceland
Security	1.00	0.90	1.00
Exclusivity	0.95	0.70	0.90
Permanence	1.00	0.50	0.80
Transferability	0.95	0.10	0.90
Q -measure	0.96	0.44	0.86

(source: Amason, 1999)

Arnason (1999) maps these four property rights characteristics along the axes in a four-dimensional space, as outlined in Figure 2.2. As with Table 2.1, each characteristic is measured on a scale of 0 to 1. Figure 2.2 portrays the four characteristics of New Zealand's ITQ with the blue line, Iceland's ITQ with the green line and Norway's IVQ with the red line. Arnason's (1999) four-dimensional space displays New Zealand's ITQ as having the strongest overall measures of different property rights characteristics relative to the other nations' ITQ-type systems. Hence, New Zealand's application of a comprehensive ITQ system stands out from other nations, based on Scott (1988).

Iceland and New Zealand remain the only two nations that have implemented comprehensive ITQ systems, applying the system to most of each nation's commercial fisheries. Early in 2001 the New Zealand MFish committed resources to fully implement the ITQ system and announced its intention to introduce most of the remaining commercially valued species into the system over the following three years.

Figure 2.2 The Quality of Quota Property Rights in New Zealand, Norway and Iceland



(source: Arnason, 1999)

While several nations have implemented, or intend to implement, ITQ-type management systems for some fisheries, it is unlikely that any nation will implement as comprehensive of an ITQ system as New Zealand's. The reason is that to date governments have encountered strong political challenges when proposing ITQ-type management systems, as evidenced by Norway's outright rejection of the ITQ system during the late 1980s and the moratorium on IFQ fisheries in the United States after the introduction of two North Pacific fisheries in 1994. Similarly, the Canadian IVQ system implemented in 1991 has not expanded significantly (Deweese, 1995). Despite the growing interest in private property rights applied to fisheries, only 5 to 10 percent of world total catches are managed by some type of vessel catch quotas (Gissurason, 1999).

However, ITQ systems are not panaceas for the myriad of problems in fisheries management. An ITQ system does not prevent fishers from racing to find the fish or to take up positions in preferred fishing grounds (Scott, 1993). In fact, it could be argued that an ITQ system encourages irresponsible fishing practices since quota owners have weak incentives to display responsible resource use and collective stewardship (Pálsson, 1999).

'If the Hardian argument applies to herders and pastures ... it should, indeed, also apply to quota holders. For the quota holder, the positive utility of cheating—overfishing of quota ("quota busting"), discarding immature fish ("high-grading"), and illegal fishing on "closed" areas and protected breeding grounds—is +1 while the negative utility of such practices is only a fraction of -1. It is rational, in other words, for the quota holder, following Hardin, to cheat although, again, this may collectively result in environmental tragedy ... Much evidence on the Icelandic context supports such a conclusion' (Pálsson, 1999:2).

Although ITQ proponents claim that the system encourages fishers to provide fisheries managers with good quality information (OECD, 1993), Townsend (1995) concludes that an ITQ system creates strong incentives for fishers to fail

to report landings. Preventing the cheating of some fishers becomes more complicated and costly (Scott, 1999).

‘An ITQ quota holder who is able to sneak a little extra catch benefits directly in the short-term, while the long-term consequences (a somewhat reduced stock size due to a somewhat increased fishing mortality) are spread across all quota holders. In addition, fishers often tend to trade off the certainty of the present against the uncertainty of the future (meaning that they have high discount rates). Such uncertainties may be large; for example, uncertainties about future abundance and distribution of the resource, future stock assessment findings, real or anticipated changes in government leaders or government policy, concern about continued physical ability to participate in fisheries, and fear of possible downturns in market demands and prices’ (Mace, 1996:16).

According to Annala (1996:53), ‘Reliable estimates of illegal catch are notoriously difficult to obtain and New Zealand is no exception’. Furthermore, Gulland (1989:271) states that quotas put a load ‘on scientists to calculate their value each year, and the grave difficulties (maybe even impossibilities) of enforcing them, can be put down perhaps to inertia rather than rational choice’.

Several fisheries scientists and managers have made unfavourable assessments of ITQ systems. Pálsson and Helgason’s (1996) analysis of Iceland’s ITQ system concludes that the system lacks the expected increases in economic efficiencies. Furthermore, there is little actual data and analysis to confirm Clark’s (1993) conclusion that New Zealand’s ITQ system has increased the industry’s efficiency, competitiveness and profitability, given the lack of any comprehensive studies of the economic gains resulting from the ITQ system (Anderson, 1996).

The New Zealand seafood industry has experienced substantial growth since the mid-1980s when the ITQ system was implemented. However, the main drivers of growth in the industry have been the implementation of the 200-mile EEZ, the resulting expansion of the deepwater fisheries and growth of the non-ITQ marine farming sector. These drivers of growth have no direct correlation to the

implementation of the ITQ system. It is conceivable that the expansion of the deepwater fisheries, measured simply by harvest levels, could have occurred under a different type of management regime. Chapter 12 argues, however, that the security of tenure in property rights provided by the ITQ system has significantly influenced seafood firms' ability to invest in downstream value chain activities, which may not have occurred to the same extent under a regime that provided less security of tenure in access to the fisheries resource.

Although the New Zealand ITQ system was intended to minimise government-imposed regulation while encouraging industry participants to assume more responsible attitudes and roles toward the sustainability of marine resources, some would argue that the seafood industry has experienced a rapid increase in government-imposed regulation, which will eventually lead to a level of... bureaucratisation that impedes the system's intended efficiency gains (Harding, 1991).

It may be the case that private property rights could further disembed the resource from its social and cultural contexts, 'further reducing the social capital and ecological flexibility needed for effective management' (Jentoft et al., 1998:432). ITQ owners and local communities may be as economically marginal as open access fisheries when stocks decline unpredictably (Mace, 1996). According to Bromley (1982), simple privatisation of fishing rights alone is no protection against sub-optimal management or annihilation of fish stocks. Contrary to the assumptions of fisheries economics, the application of private property rights 'cannot on its own be expected to maintain or improve the condition of the marine habitat' (Pálsson, 1999:3). An ITQ owner only has a limited desire to protect and preserve his/her property in a system that has public good features (Scott, 1999). Without resource users having concurrent responsibility to manage the resource there is no guarantee that private property rights alone will institute sustainable resource use (Jentoft et al., 1998).

Numerous factors contribute to the current state of the world's fisheries. An estimated 70 percent of the world's fish stocks are now overfished (FAO, 1995a). Wilson, Acheson, Metcalfe and Kleban (1994:291) put the blame for fisheries management failure on 'political and economic interests that overturn basically good scientific advice'. As mentioned, Rosenberg et al. (1993) view the traditional open-access management systems and risk-prone management decisions as the obstacles to improved management success.

However, according to Townsend (1995), all forms of government-centred management systems have been expensive to administer and enforce, especially when fishers believe that fisheries managers neither understand nor sympathise with the views of fishers (Rettig et al., 1989). In many cases, fishers demand participation in decision-making because they have lost faith in fisheries managers' ability to solve problems, pointing out their lack of adequate data and the incidents where fisheries management has exacerbated problems (Pinkerton, 1989).

In the New Zealand example, the government's intended role in the ITQ system is that of resource trustee while those who derive the economic benefit of the resource pay for the cost of management. In so doing, MFish has implemented a cost recovery regime that aims to allocate the cost of fisheries services to those who benefit from a service. The seafood industry has responded by raising some fundamental issues: Who determines the services required and the mechanisms for recovering costs, and what of stakeholders independently purchasing services? These enquiries by the seafood industry, among other matters, have led to a restructuring of the industry and a redefining of MFish's role, which is discussed in Chapter 3.

If the primary goal of fisheries management is the sustainability of fish stocks, then it has experienced mixed success. Sissenwine and Mace's (1992) audit of the New Zealand ITQ system found that while there has probably been a decline in

the abundance of some valuable fish stocks, some fish stocks may be rebuilding. Fisheries management's track record has compelled fisheries scientists and managers to focus on reinventing prevailing fisheries management practices and trying out new approaches. Jentoft et al. (1998) point out that there are similarities in the numerous new approaches to alternative management practices. The similarities include a focus on less government control and more involvement by resource users in the management process.

Scott's (1993:197) advice to fisheries managers is to avoid 'getting trapped in the economics of individualistic regulated fisheries ... [and] model and predict the opportunities and successes, problems and failures, of fisheries groups, communities, and cooperatives'. Mace (1996) concludes that the most effective institutional arrangement will most likely involve shared management of fisheries resources, with the balance between government and user control varying with each fishery.

Co-management

Proponents of less government control and more involvement by resource users in the management process often refer to 'co-management' as the management alternative having perhaps the most potential to address fisheries problems. There is no widely accepted definition of co-management (Berkes, George and Preston, 1991). Jentoft et al.'s (1998) definition is widely used in New Zealand:

'Co-management is the collaborative and participatory process of regulatory decision-making among representatives of user-groups, government agencies and research institutions' (Jentoft et al., 1998:423).

Co-management is not dependent on any particular type of property right regime, excluding open access, however implementing an ITQ system is an important step toward forming fishery groups (Scott, 1993). Co-management works by altering the relationships among the actors in the fishery, primarily fishers and

government, and striking a balance between the needs of local groups for self-determination and governments' need to have assurance that fish stocks are well managed (Pinkerton, 1989). Co-management is based in common property theory which attempts to find the best ways to manage and protect resources shared by members of a society (Acheson, 1989a). Co-management institutionalises shared decision-making among various resource users, setting up a game in which the pay-offs are greater for co-operation and long-term planning than for opposition and/or competition (Axelrod, 1984). However, co-management affects more than potential pay-offs for resource users. It is more than an incentive structure or set of rules imposed on resource users.

'It [co-management] is a social system that changes the nature of the game, the relationships between players and what each of them strives for. Co-management means an ongoing collaborative and communicative process, where resource users and other actors, are in an entrepreneurial and creative role' (Jentoft et al., 1998:426).

Co-management is not new to the management of fisheries and other natural resources, and so it should not be presumed as a logical step invoked by the fashionable wisdom of privatisation (Scott, 1993). Co-management involves rediscovering and renewing a commitment to governance at lower levels that involves civil society and voluntary associations (Dubbink and Vliet, 1996). Co-management implies a community in which social pressures can be brought to bear upon individuals who violate rules mutually agreed upon. While this view originated in anthropology it has been used by political scientists concerned with institutional rule-making (Rettig et al., 1989).

Assuming that a government has already converted each fisher's catch into an explicit annual numerical entitlement, such as ITQs, the first question to ask is, 'what aspects of fishing can self-governing groups actually control? The answer is: almost everything... except measures or regulations to protect the size of the stock by restricting effort or the catch' (Scott, 1993:189). Since communities of

resource users exist within a larger social system, complete devolution of fisheries management has not been appropriate; government intervention for conservation measures and allocation of resources among communities is needed (Feeny et al., 1990).

To date, co-management agreements are not common in fisheries management. However, there are some examples of fisheries managed jointly between governments and fishers that recognise co-management as a viable management option (Jentoft and Kristoffersen, 1989; Acheson, 1989b; Pinkerton, 1989; Berkes and Kislalioglu, 1991). Fishers possess knowledge gained from their experience that may complement fisheries science, producing more enlightened, effective and equitable remedies and solutions to management challenges (Rettig et al., 1989; Dyer and McGoodwin, 1994). Local communities have extensive information about the fishing sector and its technology that is very useful in designing effective management systems (Townsend, 1995). The participation of various resource users can enhance the legitimacy of the management system, and hence compliance (Jentoft et al., 1998). The examples of self-regulation in fisheries show that fishers have agreed to individually respect their fellows' rights to fish in certain ways, giving up their rights to interfere with each other (Scott, 1993).

The expected implication for co-management, however, is that when resource users obtain more responsibility for functional management of fisheries, they are likely to behave in a more morally responsible manner (Jentoft et al., 1998). It is reasonable to expect co-management to mediate conflicting demands of different groups 'given a genuine commitment to the management of fisheries by a co-partnership of local knowledge, experience and expertise on the one hand and state enforcement on the other, ...' (Crean and Symes, 1996:201). According to Pinkerton (1989:8), 'sharing responsibility for enhancement is an excellent starting point for more comprehensive co-management', and once new

relationships are established it is easier to extend co-operation to other fisheries management functions.

A fundamental attraction of co-management is that property rights are more effective in sustaining fish stocks when they reflect the joint interests of a community of users instead of individuals (Ostrom, 1977; McCay and Acheson, 1987). Co-management shows promise in solving several fisheries policy problems and has the potential to:

- 'promote conservation and enhancement of fish stocks,
- improve the quality of data and data analysis,
- reduce excessive investments by fishermen in competitive gear,
- make allocation of fishing opportunities more equitable,
- promote community economic development, and
- reduce conflict between government and fishermen, and conflict among fishermen's groups' (Pinkerton, 1989:4).

Co-management could appeal to fishers because of (1) the recognition that they possess knowledge gained from their experience which may complement fisheries science, producing more enlightened, effective and equitable remedies and solutions to management challenges (Rettig et al., 1989); and (2) the prospect of participating in decision-making processes that could provide 'an increased sense of economic and cultural self-determination through greater control over one's working life' (Pinkerton, 1989:26).

The attraction for fisheries managers could be (1) the sheer cost savings in finding more effective means of gathering relevant fisheries data by utilising local experience and expertise; (2) the realisation that a fishery can not be managed without the co-operation of the fishers (Rettig et al., 1989); and (3) the participation of various resource users enhancing the legitimacy of the management system, and hence compliance (Jentoft et al., 1998). Indigenous people such as Maori could envision co-management as an expression of cultural self-determination in addition to self-interest (Pinkerton, 1989). The appeal for

seafood firms is the prospect of new opportunities that could enhance their individual and collective performance and competitiveness.

However, fishers and fisheries managers typically have an antagonist relationship since fishers often view fisheries managers as distant, impersonal, insensitive bureaucrats (Jentoft et al., 1998), and fisheries managers view fishers as desiring to decimate fish stocks for short-term gain (Pinkerton, 1989). A co-operative approach to management would, therefore, appear highly unlikely without fundamental reassessment of each others' rights to influence fisheries policy.

On the other hand, it follows that the proposal of co-management could be viewed by bureaucrats as a threat to their authority and legitimacy. As noted by Harding (1991), a Weberian view of bureaucracies is that they tend to perpetuate themselves and impinge into all areas of life. Sissenwine and Mace (1992) found that New Zealand's ITQ system did not reduce government intervention; it actually expanded record-keeping and reporting requirements, which increased administrative staff by 10 percent (Falloon, 1993). Fisheries management institutions are often filled with inertia and unable to meet challenges brought on by resource fluctuations and crises (Jentoft, 1989).

Since co-management has similarities with local or customary fisheries management systems that historically applied to small, local communities, the question arises whether co-management can be developed within highly centralised, bureaucracies and adapted for diverse conditions in offshore fisheries (Crean and Symes, 1996). Co-management systems have been operative in Norway (Jentoft and Kristoffersen, 1989), Spain (Alegret, 1992) and Japan (Yamamoto, 1995; Lim et al., 1995). For centuries Japanese coastal waters have been under co-management, with fishers participating in the formulation of fisheries policies, allocation of fishing licences and implementation and enforcement of regulations, and the interests of the larger community are represented (Lim et al., 1995).

A more recent example of a communal property arrangement is the Alaska Community Development Quota Fisheries Management Program (CDQ), which began in 1992 for remote, undeveloped coastal communities adjacent to highly developed industrial fisheries in the Bering Sea. Initially 55 coastal communities were eligible for the CDQ. The programme's overall goal is to 'provide the means for starting or supporting commercial seafood activities in western Alaska that will result in ongoing, regionally-based commercial seafood or related businesses' (Ginter, 1995:156). CDQ community organisations gain access to a CDQ reserve portion of annual pollack TAC. With the revenue generated from the reserve, organisations attempt to meet their objectives outlined in community development plans. Although it is difficult to measure CDQ's ability to enhance control and sustainability of local enterprises, positive economic growth has been realised and several infrastructure projects had been completed by 1995.

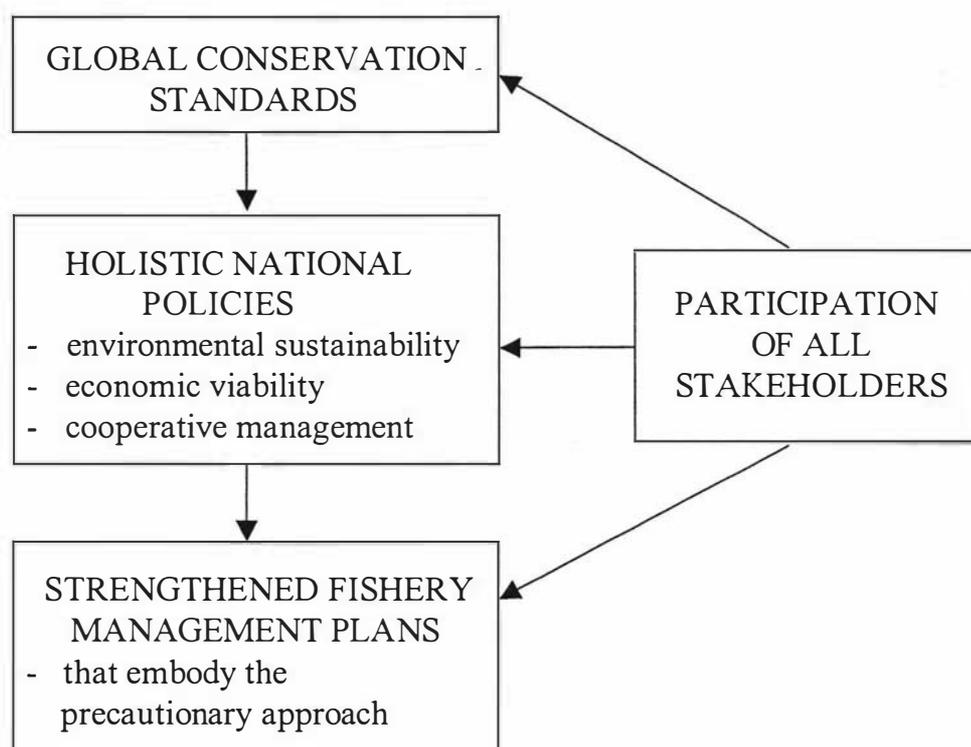
Furthermore, fisheries management systems in Denmark and Norway have included strong representation by fishers in consultations prior to fisheries management policy-making decisions (Symes, 1996). As well, the New Zealand MFish takes an inclusive approach to stakeholder involvement by way of Stock Assessment Working Groups, whose purpose is to advise the Minister of Fisheries on changes needed to each fish stock's TAC and TACC to ensure their sustainability. The Stock Assessment Working Groups consist of representatives from MFish, customary Maori, and commercial, recreational and environmental sectors, whose advice to the Minister is compiled in an annual *Report from the Fishery Assessment Plenary*. Before the Minister makes the final decisions on the setting of TACs and TACCs, further consultation occurs on sustainability measures and other management controls.

Despite MFish's measures to consult with various stakeholder groups in formulating fisheries policy and advising the Minister on TACs and TACCs, an independent review of the Fisheries Act 1996 (PriceWaterhouseCoopers, 1998) concludes that aspects of the 1996 Act and its administration need immediate

amendment. If the seafood industry, MFish and other stakeholders accept the reviewer's recommendations, several of New Zealand's fisheries will be co-managed to a greater extent than they are presently.

According to Mace (1996), the current state of the world's fisheries demands commitment to cooperative management and cooperative problem-solving, which would require a united effort by fishers, environmentalists, scientists, managers, politicians and other stakeholders. Mace's (1996) key elements required for successful fisheries management in the future are outlined in Figure 2.3.

Figure 2.3 Key Elements for Future Successful Fisheries Management



(Source: Mace,1996)

Mace (1996:16) acknowledges that the changes required to achieve environmental sustainability, economic viability and cooperative management will be extremely costly and controversial since, 'in many fisheries, stakeholders cannot even agree on the problem, let alone the solutions'. In addition to the

monetary costs, the structure and function of institutions would need to be modified to achieve the required balance between government-based and community-based management. It is vital to have in place global conservation standards and guidelines in line with the precautionary principle, holistic national policies and fisheries management plans with long-term objectives.

In addition, marine research must be increased while fisheries management decisions must be devolved to the lowest appropriate level, and, in some cases, community development programmes should be considered. However, Jentoft et al. (1998) remind us that even if co-management principles are adopted:

‘one should also be open to the possibility that co-management may fail (or succeed) for reasons that have nothing to do with the model itself but the institutional and social framework surrounding it ...[and] a risk is that co-management may entrench the power of an administrative elite and be as impersonal, insensitive and indifferent to local concerns as management by government’ (1998:428, 431).

Instead of discarding co-management because of these uncertainties, it is important to experiment. Co-management is a dynamic and interactive process that evolves and changes over time in response to a variety of factors. It is time-consuming, and the process requires long-term government support and commitment that should ultimately lead to management approaches that are efficient, equitable, empowering and sustainable (Hauck and Sowman, 2001).

Summary

This chapter briefly outlined many of the issues and problems in the sustainable management of any natural resource, including fish stocks. Evidence is given of the growing awareness worldwide that the problems associated with the management of fisheries require urgent attention and consideration of management alternatives. To facilitate an understanding of New Zealand’s fisheries management system, this chapter provides an overview of fisheries

management regimes used in different nations, which includes an examination of property rights, fisheries science, management institutions and co-management.

In summary, property rights applied to the sustainability of fisheries remains one of the greatest challenges facing fisheries managers (Mace, 1996). There has been a movement worldwide towards the application of private property rights to fisheries. An ITQ system may well be the best means of addressing the long-term issue of overcapacity. However, ITQs are not a panacea for fisheries management. An ITQ system does not necessarily transform fishers into harvesters of the sea. Under an ITQ system fishers could continue to display behaviour that is harmful to fishing grounds, bycatch and other marine resources. As well, when fish stocks decline unpredictably, an ITQ system could lead to fishers and local communities becoming economically marginal, as would occur under an open access regime.

More marine research is needed to provide time series data for stock assessment models and studies on the effects of global warming and other atmospheric changes that can contribute greatly to stock declines. The inherent complexity and unpredictability of the marine environment requires stock assessment models to be sufficiently robust so that their output can provide sound, quality advice for fisheries managers. However, the lack of credibility in some marine data leads to inadequate advice for fisheries policy makers. At other times, governments' conflicting goals have led to inappropriate fisheries policies being implemented. These issues have resulted in some 'spectacular failures' in efforts to sustainably manage fish stocks, which have tarnished the bureaucratic and science-based approach to fisheries management (McGoodwin, 1990).

Fish stock management could well be enhanced by way of self-governed groups, particularly for those management systems that have already allocated explicit entitlements, such as ITQs. However, the literature demonstrates that successful self-government cannot be legislated; it needs fishers' approval, both in its

introduction and its continuance (Scott, 1993). No matter which management model is adopted, it is certain that those nations that fail to adopt a sustainable management approach for their fisheries may face extreme uncertainties that negatively impact on their fish stocks, individual fishers and firms' performance and competitiveness, and coastal communities and regions dependent on fishing. 'No fishery in its natural state needs any management. What we are all trying to do is manage the people in relation to their impact on their fisheries' (Kidd, 1999:5).

Chapter 3

Historical Overview of New Zealand Fisheries Management

Introduction

The Chapter 2 outline of alternative fisheries management regimes emphasises that fish stocks can be managed in different ways. However, acceptance of the New Zealand ITQ system by both MFish and the seafood industry has created almost a sense of finitude in the quest for enhanced fisheries management. This view was expressed by the former Minister of Fisheries in his speech to the United Nation's Food and Agriculture Organization in Rome on 11 March 1999. 'The most advanced form of fisheries property rights so far developed is the individual transferable quota, or ITQ' (Luxton, 1999:1). The current Minister supports the ITQ system, which he views as something New Zealanders should be proud of and should defend while striving to improve it (Hodgson, 2000).

The purpose of this chapter is first to demonstrate the various ways in which fisheries have been managed in New Zealand, thus placing the current ITQ system in an historical context. Early management regimes, beginning in the mid-1800s, were based on state property rights, which used various input

controls to regulate catching effort. State property rights regimes, utilising limited entry and regulated open entry systems, remained in place until private property rights were first implemented for some deepwater fisheries in 1983 and then for inshore fisheries beginning 1986. Detailed descriptions of the management of New Zealand's fisheries and of events leading up to the introduction of private property rights-based management can be found in Sharp (1997), Gaffney (1997) and Harding (1991).

Second, this chapter substantiates the significant impact of the various fisheries management regimes on the New Zealand seafood industry's operations and their strong influence on when and how the seafood industry developed. This study contends that individual firms should consider the varied ways in which the Government has influenced the seafood industry, how it continues to do so today, and it intends to influence the seafood industry's future.

This chapter consists of seven sections: (1) the impact that early and subsequent settlers had on the marine environment until the mid-1800s; (2) the Government's entry into fisheries management beginning 1866 and the limited entry system that was in place until 1963; (3) the regulated open entry system operative from 1963 to 1982; (4) the build up to the QMS from 1983 to 1986; (5) subsequent changes that brought about the QMS until the present; (6) proposed amendments for the marine farming sector; and (7) recommendations for managing New Zealand's fisheries in the future.

Maori Tribal-based Rights – 800 AD to mid-1800s

The marine environment was of great importance to the first settlers of New Zealand, a land known at that time as *Aotearoa*. Upon their arrival, between 800 AD and 1100 AD, Polynesians settled along *Aotearoa*'s coast, and over the centuries developed a distinctive Maori culture (Ell, 1985). They relied heavily on the marine environment for sustenance and as a means of travel. In comparison to small South Pacific islands, *Aotearoa* must have appeared as a vast and varied landmass. Belich (1996) speculates that these first settlers viewed

Aotearoa as a constellation of ‘resource islands’, offering the early settlers varied and abundant resources.

‘It is useful to suppose that they [early settlers] approached the country as a huge archipelago of “islands” – patches of useful land separated by patches of less useful land, and best accessed by sea’ (Belich, 1996:41).

Seasonal variations in food supply required Maori to travel between ‘resource islands’. Belich (1996) proposes that early settlers sourced most of their food from the ‘fishing islands’ and the ‘big game islands’. Due to the abundant and easily accessible marine life, first settlers existed primarily on a diet of shellfish and seals. Belich’s (1996) hypothesis is that gardening, gathering and fishing largely contributed to overall diet, and archaeological evidence confirms that, even while on hunting expeditions, hunters fished and gathered. ‘Hunting expeditions exploit[ed] the exceptionally rich moa islands of the eastern South Island ... [and] everyone everywhere gathered and fished when they could’ (Belich, 1996:47).

Subsequent inhabitants of *Aotearoa* were also attracted to its clean and abundant marine environment. Firsthand accounts and documentation of the marine environment’s numerous and varied species no doubt enticed more settlers to commence commercial fishing. By 1792 there was a thriving sealing industry, and whaling became prosperous by the early 1800s, attracting whaling ships primarily from Australia, the United Kingdom and the United States. The period from the late 1700s until the mid-1800s was characterised by a distinct lack of management of fish stocks. In the absence of any restrictions, sealers and whalers continued their exploits.

Prior to the arrival of subsequent inhabitants, Maori’s tribal-based social institutions provided leaders with vested authority to determine rights of access to food supplies, regulation and enforcement of these rights (Sharp, 1997). However, Maori’s tribal-based social institutions could not restrict the efforts of

subsequent inhabitants, especially sealers and whalers. Their presence did provide Maori with new commercial opportunities, particularly trade in seal furs. Although the Treaty of Waitangi in 1840 ensured the sovereignty of Maori, subsequent legislation eventually eroded Maori's entitlements until the mid-1980s (Sharp and Bromley, 1990). The addressing of indigenous rights in *Aotearoa*, as guaranteed in the Treaty of Waitangi 1840, has led to significant amendments to fisheries management legislation, which are outlined briefly in this chapter and in more detail in Chapter 6.

Limited Entry Management System – 1866 to 1962

The New Zealand Marine Department administered the management of fisheries until 1974. The Marine Department's primary emphasis was on fresh water fisheries, with most research conducted on fresh water eels and trout. Beginning in the 1960s, the Department increased its research of marine species. The Marine Department ceased to exist in 1974 when some of its duties went to the Ministry of Transport and the administration of fisheries management went to the Ministry of Agriculture to form the Ministry of Agriculture and Fisheries (MAF) (P. Todd, personal communication, March 1999). The following is a brief outline of the historical development of marine fisheries management and relevant legislation. Since fresh water fisheries have relatively little commercial significance and remain outside the ITQ system, except for the South Island eel fishery, they are not within the scope of this study.

The New Zealand Government's involvement in managing marine fisheries began in the mid-1800s with regulations on fishing activity and limited entry applied to particular fisheries. This type of management system limited access to certain fisheries through a licensing scheme and other controls such as restrictions on gear and fishing methods used, areas that might be fished, and regulative restrictions on sizes and species caught. Licensing and other entry controls were put in place to regulate exploitation and to protect the rights of

fishers. The limited entry management system remained in place until 1963 when it was replaced with a regulated open entry regime that used a permit system.

The first fisheries management legislation was the Oyster Fisheries Act 1866. The 1866 Act provided exclusive use to those who developed artificial oyster beds, regulation of exploitation of natural oyster beds and a licence scheme to restrict oyster harvests. The Oyster Fisheries Amendment Act 1869 gave exclusive rights for up to five years to those who discovered a natural oyster bed. This early legislation reflects the fact that the vast majority of commercial fishing at the time took place inshore.

The purpose of the Fish Protection Act 1877 was to provide a comprehensive approach to regulating fisheries. The significant changes in this legislation were that the Governor could declare fisheries, regulate fishing times and mesh sizes and grant exclusive rights to a fishery. According to the 1877 Act the Governor could:

‘define areas which constituted fisheries, reserve parts of fisheries, establish times of the year during which fish could be taken, and set mesh sizes for nets used for fishing. The significance of this was a right to harvest fish was no longer open-ended. It was able to be defined by area, by season, and, in a limited way, by reference to the equipment used to catch fish ... Not only, therefore was a right to fish subject to review ... but it could be further modified or altered by the Governor acting alone as he saw fit’. (Harding, 1991:13).

The fishing areas defined within the 1877 Act included New Zealand waters within three miles of the shore. A series of subsequent regulations restricted licence holders’ ability to catch fish, such as restrictions on the minimum, legal allowable size of fish caught and the number of people a licence holder could employ to catch fish.

The Fisheries Conservation Act 1884 consolidated previous fisheries legislation and introduced a number of more specific regulations on size and weight of fish and seals that could be taken, closed seasons, fishing methods and prohibitions

on illegal fishing and polluting fishing grounds. An amendment to Regulation 2, however, introduced a significant change for Maori involvement in fisheries management. The original Regulation 2 did not apply to Maori or when fishing with a rod and line. The amended Regulation 2 required Maori to obtain a licence to catch fish for reasons other than personal or family consumption (Department of Justice, 1988). 'This change enfolded a significant group of people into the rapidly growing regulation and control of commercial fishing with all that this entailed' (Harding, 1991:17).

The Oyster Fisheries Act 1892 consolidated all previous enactments concerning oysters, with further licensing of fishers and registering of boats used in this fishery. The Sea Fisheries Act 1894 further consolidated existing enactments and introduced some new restrictions on the oyster fishery, such as licensing and registration of vessels, the appointment of inspectors and fishery officers, enforcement procedures and penalty provisions. The Sea Fisheries Amendment Acts of 1895 and 1896 differentiated between requirements for oysters and other shellfish.

During the late 1880s and early 1900s, the Government had the view that it should offer some encouragement for commercial fishing to occur while protecting and conserving fish stocks. For example, the purpose of the Fisheries Encouragement Bill 1885 was to encourage fishing in New Zealand, provide for the establishment of fishing towns and villages, and promote the production of canned and cured fish for export. As well, the Government chartered several trawler surveys to assess the quantity and quality of fish in New Zealand waters and determine suitable areas for bottom trawling.

The Sea-Fisheries Amendment Act 1903 allowed the Government to have further control over commercial fishing activities. The 1903 Act required (1) fishing and oyster vessels trading in Auckland to have registration numbers displayed on the bow and mainsail, (2) owners of licensed fishing vessels and curers of fish to report all fish caught and cured to the Marine Department, and (3) penalties to be

levied against those who wilfully destroyed fish (New Zealand Parliamentary Debates, 1903).

The Fisheries Act 1908 consolidated various enactments to date and set up the administrative system and statutory framework that remained in place until the Fisheries Act 1983. The 1908 Act specified detailed regulations, stringent enforcement procedures and penalty provisions with the purpose to protect and conserve fish stocks. The 1908 Act also established New Zealand's jurisdiction over a three-mile wide territorial sea. The Fisheries Amendment Act 1912 enabled the Government to require licensing of foreign vessels fishing within New Zealand's three-mile jurisdiction. New Zealand had no control over foreign vessels outside the three-mile zone until the Territorial Sea and Fishing Zone Act 1965 established a nine-mile zone outside the three-mile territorial zone.

During 1937 and 1938 the Sea-Fisheries Investigation Committee investigated several aspects of commercial fishing, including licensing. An important recommendation of the Committee's report was that licensing fees should be increased, and the Marine Department should have the right to refuse issue of a licence. From 1945 to 1964 further changes to the licensing scheme resulted in fisheries being managed primarily by way of a rigid limited entry system.

As shown so far, from 1866 until the early 1960s, New Zealand fisheries were managed with (1) various controls such as restrictions on gear and fishing methods used, areas that could be fished, and regulative restrictions on sizes and species caught, and (2) restrictions on participation in fisheries by way of a port-based licensing system. These limited entry controls were put in place to ensure that harvest levels protected and conserved fish stocks and that fishers were protected by way of controlled access to fisheries. By the end of this period several inshore fisheries were underexploited and employment in the commercial fishing sector remained relatively low and stable.

Regulated Open Entry System – 1963 to 1982

Up until the early 1960s the seafood industry remained relatively small, with three-quarters of the domestic catch supplying local markets with a limited range of high-value, inshore species (Sharp, 1998). Beginning in the early 1960s, with Government support, the seafood industry began a period of increased participation and competition for fish stocks. The period from the early 1960s to the early 1980s was characterised by the Government implementing a regulated open entry system to encourage greater domestic participation in commercial fishing.

In 1961 a Parliamentary Select Committee inquired into and reported on the seafood industry. The Committee concluded that restrictive policies had resulted in the industry being unable to grow and compete internationally (Fishing Industry Committee, 1962). The Committee's report recommended that (1) the current licensing system be abolished and replaced with a vessel registration system, and that (2) a Fishing Industry Board be established.

The Fishing Industry Board Act 1963 set up the Fishing Industry Board (FIB) as a statutory body funded in part from a levy on fish sold domestically and overseas. The Minister of Fisheries would determine the ten appointments to the Board, which represented various seafood industry organisations, as well as a member independent of the seafood industry and an independent chairperson. The FIB intended to direct attention to economic production, marketing, pricing and supply, quality assurances, and the fostering of co-operation within the seafood industry. Eventually the FIB promoted the development of the seafood industry by assisting with:

1. trade development both domestically and internationally and the maintenance and development of standards for hygiene and seafood quality,
2. communication, coordination and consultation among the many industry sectors,
3. research and development and cooperation with domestic and international research centres, and

4. facilitation of consultation between the Government, the seafood industry, other statutory bodies, and user groups and provide logistical support and centralised information.

(Fishing Industry Board, 1995)

The Government's adoption of other Select Committee Report recommendations brought about changes in policies that led to a relatively unconstrained expansion of participation in the catching sector. The Government's intention to encourage domestic participation was driven by the acknowledgement that the seafood industry was currently under-utilised, and so New Zealand was not gaining the full economic benefit of the fisheries resource.

This view was supported by the potential benefits to the seafood industry by accessing the Australian market and the increasing presence of Japanese vessels off New Zealand's coast (Harding 1991). The appearance of Japanese deepwater fishing effort outside New Zealand's three-mile territorial sea also raised concern about sustainability of fish stocks. The seafood industry began to exert pressure on the Government to control the foreign fishing fleet effort and to enable the domestic fleet to expand into the deepwater fisheries. There was also the realisation that 'economic development [of the seafood industry] required technology, processing and marketing arrangements, different from those to which the industry was geared' (Sharp, 1997:504).

The Government expanded the opportunities for growth of the seafood industry with the Territorial Sea and Fishing Zone Act 1965, which extended New Zealand's jurisdiction from 3-miles to 12-miles and empowered MAF to regulate control of foreign vessels entering this 12-mile zone. At that time, Government financial assistance available for the purchase of new fishing vessels increased significantly. For example, the Government guaranteed mortgages up to \$1 million and lent up to \$600,000 (Ackroyd, Hide and Sharp, 1990).

In 1970 another Fishing Industry Committee was established to (1) review the findings of the 1962 Fishing Industry Committee, including conservation

measures, (2) determine the conditions required for the rapid development of the seafood industry, and (3) specify targets for growth and how to attain these growth targets.

During this period, the number of fishing vessels increased substantially. In 1967 the number of registered vessels was 2161, increasing to 5178 by 1977. There was significant growth in the number of vessels over 21 metres in length, which were used in deepwater fisheries. However, most of the growth in the number of registered fishing vessels was in vessels under 12 metres in length. These smaller vessels were used by a significant number of part-time fishers to fish inshore. The composition of the registered fishing fleet in 1967 and 1977 is shown in Table 3.1.

Table 3.1 Composition of New Zealand registered fishing vessels, 1967 and 1977

Vessel Size	1967	1977	% change
<12 metres	1744	4593	163
12-21 metres	394	534	35
>21 metres	23	51	122
Total	2161	5178	140

(Source: HREF 7)

New Zealand's domestic fleet expanded into the deepwater fisheries. However, foreign fishing vessels continued to fish extensively and compete directly with New Zealand fishers and continued to take more fish from outside the 12-mile zone than did New Zealand vessels (Sullivan, 1998). The fact that the New Zealand fleet could not better utilise the deepwater fisheries gave rise to the Government considering an extension of jurisdiction beyond the 12-mile limit. At the same time the United Nations Committee on the Law of the Sea was focusing growing international attention on the extension of coastal nations' jurisdiction to 200 miles from shore.

The New Zealand Government introduced the Territorial Sea and Exclusive Economic Zone Act 1977, which extended the territorial sea from 3 miles to 12 miles and established an EEZ extending 188 miles beyond the territorial sea. The New Zealand EEZ is the seventh largest in the world, encompassing 4.1 million square kilometres of ocean, more than 15 times the size of New Zealand's landmass. The expansion of jurisdiction to 200 miles was the single most important action taken by the Government to expand domestic fishing activity. The 200-mile EEZ provided immense opportunities for New Zealand fishers and fishing firms to expand into a vast, relatively unknown expanse without hindrance from other nations, except for the southwest corner, Fisheries Management Area 6 Sub-Antarctic, which overlaps with Australian jurisdiction.

The United Nation's Law of the Sea Convention acknowledges New Zealand's right to implement management measures over all waters within its 200-mile zone. New Zealand has responsibility to set annual TACs and TACCs. In return for international recognition of its 200-mile zone, New Zealand makes available to foreign nations that portion of the TACC that cannot be harvested by domestic fishing activity. Foreign vessels are not allowed to fish within the 200-mile EEZ without a government-to-government arrangement. New Zealand is also responsible for conservation measures and, therefore, can implement various controls, such as closed areas and seasons, and prohibition of fishing methods and fish caught in certain areas. New Zealand reserves all rights to water within its 12-mile territorial sea for its domestic vessels.

Once the 200-mile EEZ was in place, the Government was determined to encourage the domestic fishing fleet to catch the maximum amount of fish possible (Harding, 1991). The Government launched a series of policies to encourage investment and expansion in the seafood industry. However, the domestic fleet lacked the larger vessels and technology to fish deepwater fisheries. Furthermore, the seafood industry did not have the international market structures in place to handle the volume of deepwater catches. For these reasons, initial expansion of the deepwater fisheries relied heavily on charter and joint

venture arrangements with foreign partners. Chartered foreign vessel arrangements typically consisted of contracting catching capacity so that raw materials would be delivered to on-shore processing and distribution facilities. Joint venture arrangements generally provided more domestic benefits than did charter arrangements.

‘The [joint] venture would have to develop a fishery capable of expansion, but requiring technology or equipment beyond what New Zealand companies could provide. The ventures were also required to incorporate a reasonable degree of New Zealand participation and provide a fair and adequate return to domestic interests. Joint venture proposals would have to be export oriented, incorporate advanced processing techniques, provide for the greatest possible degree of processing within New Zealand and for training New Zealanders. Joint ventures were also required to provide assured export marketing arrangements and remunerative prices in New Zealand, and be prepared to use or establish shore facilities in regional development priority areas in New Zealand...’ (Harding, 1991:69).

In addition to charter and joint venture arrangements, the Government encouraged expansion of the domestic fleet into deepwater fisheries with duty-free vessel importation, concessionary interest and suspensory loans, investment allowances and tax incentives. During the period 1963-1983, the Government provided loans to the seafood industry totalling \$67 million: \$50.5 million to the catching sector, \$15 million to the processing sector, and \$1.5 million for export incentives (Sharp, 1997).

The combination of the Government establishing the 200-mile EEZ and incentives to expand the seafood industry with more vessels with greater catching capacity per vessel brought about the desired outcomes. Reported landings of fish increased six to seven percent per annum, and the value of exports overall increased by a factor of five during the 1979-1983 period (Sharp, 1997). The export of deepwater species alone increased from 4000 metric tonnes in 1978 to 26000 metric tonnes in 1982, a 400 percent increase. (Duncan, 1983). The Government’s encouragement of the seafood industry’s expansion into

deepwater fisheries was further fuelled by MAF's scientists estimating that the potential yield from the 200-mile zone could be increased fourfold over prior estimates, up to one million tonnes per annum (Harding, 1991).

While the Government looked for growth of the seafood industry through expansion into deepwater fisheries, there was the realisation that the consistent growth rates in landings that occurred during the 1970s could not be sustained. This was due in part to several operators of larger vessels finding deepwater fisheries to be uneconomic, and with some opting for fishing the inshore fisheries. Furthermore, the expansion of the inshore domestic fleet led to complaints by full-time fishers that the larger vessels entering their traditional grounds, as well as the high number of part-time fishers during peak seasonal periods, were squeezing them. Inshore fishing permits had increased 'from less than 4000 in 1975 to 14000 in 1979' (Harding, 1991:75). By the late 1970s the inshore fisheries experienced significant overcapacity and fish stocks were showing signs of severe depletion.

The Fisheries Amendment Act 1978 allowed the Minister of Agriculture and Fisheries to declare any particular fishery, if deemed threatened, to be a controlled fishery for purposes of conservation and economic stability of the seafood industry. Declaring a fishery controlled allowed the Minister to implement a number of control measures, such as determining the quantity, quality and size of fish caught, fishing methods used, area restrictions, and number of fishing units allowed in a particular fishery. The 1978 Act was further amended in 1979 to allow the Minister to restrict large, foreign owned vessels, under charter or joint venture arrangements with New Zealand firms, to operate outside the 12-mile zone.

By the late 1970s and early 1980s both the inshore and deepwater fisheries were showing signs of stock depletion. Current fisheries policies, based primarily on limited entry controls, were not sustaining fish stocks, leading the Government to acknowledge that the seafood industry faced serious problems. During this time

the seafood industry continued to voice concern about how fisheries were managed and to request that the Government address the situation.

In response to the threat of a massive protest by trawlers in Wellington harbour on 1 April 1979, the Government conceded that significant changes were needed to enhance the management of fisheries and agreed that the Fisheries Act 1908 should be rewritten (P. Stevens, personal communication, March 1999). Further consultation between the industry and MAF led to the National Fisheries Management Advisory Committee (NAFMAC) being established in 1982. Committee membership comprised mostly seafood industry organisation representatives with the function to:

‘provide a national overview of the management of the fisheries resources; oversee the implementation of regional fisheries management plans; provide a forum for discussion of proposals for the management of specific fisheries of national importance; and make recommendations to the Ministry of Agriculture and Fisheries’ (MAF, 1981/82).

At this time various changes were implemented to reduce the inshore commercial fishing effort to a harvest level that would ensure the fish stocks’ protection and conservation. This reduction in effort was accomplished by MAF implementing a moratorium on issuing new fishing permits, catch reductions for some high-value species, removal of part-time fishers’ involvement, cancellation of non-operated permits and an increase in permit fees.

The period 1963 to 1982 was characterised by a regulated open entry management system that encouraged expansion and development of the seafood industry. In 1983 the estimated overcapitalisation of the inshore fisheries was \$28 million, about 20% of total fleet capacity (Sissenwine and Mace, 1992). Despite MAF having imposed various measures to reduce commercial fishing effort, by the late 1970s and early 1980s it was apparent they were not working.

Quota Management System – 1983 to 1986

The Fisheries Act 1983 introduced significant changes to the fisheries management system and statutory framework. The 1983 Act introduced individual quota allocated under regulations to participants in the seven main deepwater fisheries. The 1983 Act also outlined a framework for regional fisheries management to conserve the fish stocks, promote commercial and recreational fishing, limit access to fisheries, and provide for optimum yields from fisheries (Cunningham, 1983). Overall, the 1983 Act remained focused on regulations that limited access to fisheries to reduce catching effort.

For example, commercial fishers were required to apply to MAF for a fishing permit, and it was illegal to fish without a permit. The 1983 Act included a definition of a commercial fisher that required a person to substantiate whole or substantial reliance on fishing for income in order to obtain or renew a fishing permit. The permit scheme led to a dramatic reduction in the numbers of part-time fishers, removing 2,260 permits which accounts for almost half of the commercial fishers in the early 1980s (Harding, 1991). Significantly, a large number of those part-time fishers who did not meet the permit scheme's criteria were Maori. The 1983 Act did not provide any means of compensation for those exiting the catching sector. A Government buy-back of vessels was seen as a temporary measure to reduce fishing effort, requiring increasing amounts of Government funding for any further reductions.

The 1983 Act was intended to implement a new regime that utilised long-term planning in controlling commercial fishing effort. In line with the United States' Magnuson Act, MAF intended that the 200-mile EEZ would be divided into ten fisheries management areas (FMAs), with each FMA having its own set of controls. Long-term fisheries management planning would be introduced by way of Fisheries Management Plans (FMPs) for each FMA, and each FMP would be designed by MAF and the local seafood industry, with the intent of providing a more democratic approach to fisheries management.

MAF, acknowledging that co-operation with local seafood industry would be required for success of the management planning process, sought to ensure the seafood industry's co-operation by threatening the reinforcing of restrictive licensing (Harding, 1991). However, the legal complications resulting from the FMP's public planning process left many participants less than enthusiastic about this complex control mechanism. The FMPs remained in the amended 1986 Act and in effect until 1991.

In 1983 NAFMAC released *Future Policy for the Inshore Fishery*, which proposed assessing existing fish stocks and then making some statement of what proportion might be taken each year to ensure the continuity of the overall fisheries resource. Such a statement was to be made by way of a TAC for each fish stock. It was also mentioned that some statement should be made about the economic viable yields for each fishery. NAFMAC also advised on reducing catching effort and proposed six different types of long-term policies for consideration: (1) reliance on attrition; (2) competitive fishing up to TAC levels; (3) effort controls on gear, methods, seasons or species; (4) fisheries management plans; (5) controlled fisheries; (6) and ITQs. After consultation with the seafood industry through public meetings, NAFMAC recommended to the Minister implementation of ITQs in combination with regional fishery management plans (NAFMAC, 1983).

While some individuals and groups in the seafood industry pushed the Government to implement ITQs, the industry was not initially unanimous in its support for ITQs (P. Stevens, personal communication, March 1999). The FIB submitted a report (Fishing Industry Board, 1984) outlining the industry's point of view on ITQs at that time. The report warned that seafood industry support for ITQs could be contingent on the following: (1) short-term effort reduction for inshore fisheries; (2) fishers receiving a quota allocation sufficient to keep them viable; (3) further consultation between MAF and the seafood industry; and (4) since ITQs would not eliminate some conflicts, ongoing consultations would be required by way of liaison committees and FMP processes. The FIB Report also

emphasised that ITQs would not be appropriate for some fisheries, that the administration system including required documentation should be kept as simple as possible, and ITQs should be allocated for a minimum of ten years so that investments could remain secure.

In 1984 the Labour Government came into office. In response to the state of the economy at that time, the Government focused on increasing the use of market forces in the economy. This climate of favouring market forces as the solution to economic and social issues strongly affected the options available for managing fisheries (Harding, 1991). The realisation that current input controls were not sustaining fish stocks led the Government to strongly consider implementing the NAFMAC recommendations, which included output controls coupled with measures to improve the efficiency of the over-capitalised catching sector.

It was with some risk that the Labour Government in 1984, after lengthy consultation with the seafood industry, considered the implementation of the ITQ system. The approval of the ITQ system occurred during a time of rapid and significant changes brought on by Government economic reforms. Chapter 4 outlines the economic reforms that began in New Zealand in the mid-1980s. The mid-1980s was perhaps the optimal time period for the implementation of ITQs in New Zealand. Previous and possibly subsequent political and legal environments may not have approved the ITQ system. It is important to recall that, to date, private property rights had been applied to fisheries management in theory only, outside of their application to some Icelandic fisheries, making the implementation of New Zealand's comprehensive ITQ system a radical departure from current fisheries management regimes throughout the world.

‘... the ITQ scheme was characterised as heralding a change in thinking about fisheries. The shift involved a move from a hunting mentality to the concept of farming or harvesting the resource’ (Harding, 1991:113).

Despite its radical nature, the Fisheries Amendment Bill, which gave legislative effect to the ITQ system, encountered relatively little obstruction to its passage in Parliament. The Fisheries Amendment Bill was passed into law on 25 July 1986. The intended functions of the 1986 Act were: (1) to control the quantity of fish extracted from fisheries to sustainable levels by way of TACs and TACCs; (2) to maximise benefits from the fisheries to the nation by creating appropriate economic incentives for investment in fisheries, including the implementation of ITQs which would bring about rational industry restructuring; (3) to allocate ITQs and for quota to be a fully tradeable or leasable property right; (4) to maintain an efficient government-based monitoring system to keep track of catch against quota; and (5) to allow quota owners to catch up to their quota at any time during the fishing year, thus removing the 'race for fish' (Shallard, 1996).

The implementation of a comprehensive ITQ system was unique in the world in that it included the vast majority of commercially caught species. Thirty-two³² species were included initially in the QMS, which accounted for approximately 85 percent of the commercial catch. Each species under the QMS was defined by a Quota Management Area (QMA) which consisted of an FMA or grouping of FMAs, depending on the distribution of that species' fish stock. QMAs were set up to improve the management of ITQ species while the management of non-ITQ species remained according to FMAs.

The setting of initial TACs for the over-fished inshore fisheries was estimated conservatively, set between twenty-five percent to seventy-five percent lower than the 1983 catch levels (Sissenwine and Mace, 1992). The quota for inshore fisheries were allocated with a provisional maximum assessment of quota (PMITQ) based on each qualifying permit holder's catch history of the best two out of three fishing years: 1981/82, 1982/83 and 1983/84. However, in many cases the initial allocations of quota were significantly below fishers' catch histories, resulting in substantial losses incurred by the seafood industry (Clement and Pfahlert, 1996).

Since the Government had already set in place an informal quota arrangement for some deepwater fisheries, beginning in the late 1970s, ITQs were first implemented for seven deepwater fisheries. In 1982 eleven firms were allocated quota, which was then transferred to ITQs in 1986 (Clement and Pfahlert, 1996). The seafood industry supported the implementation of deepwater ITQs because of concern that these fisheries could be quickly fished to destruction (Falloon, 1993). Annual quota and harvest rights were allocated by means of 'the level of domestic investment, quantity of deepwater catch that had been supplied for onshore processing, onshore investment, and the extent to which this investment was committed to the processing of deepwater species' (Sharp, 1997:510). To avoid the prospect of monopolistic power by individual firms, a 20 percent individual aggregated limit was placed on each TACC. Furthermore, quota holding was restricted to New Zealand residents and firms with less than 25 percent foreign ownership.

It is of interest to note that the Government retained ownership of substantial amounts of quota at the start of the ITQ system. In 1986 the TACCs totalled 520,901 tonnes: 60.8 percent of the TACCs, 316,769 tonnes, were allocated to 1,472 permit holders; 49 percent of the ITQs, 255,241 tonnes, went to the 12 largest seafood firms. The Government retained the remaining 39.2 percent of ITQs, 204,132 tonnes. The Government has sold most of its ITQ by way of competitive tender on the open market. As early as December 1986, the Government sold 140,183 tonnes of ITQ, primarily hoki and orange roughy quota, for \$76.6 million. In addition, the tender sale was conditional on the purchaser agreeing to lease the ITQ from the Government for five years and pay an additional annual lease payment to the Government, with ownership transferred at the end of the five years (Clement and Pfahlert, 1996).

The 1986 Act retained some aspects of the 1983 Act, including: (1) all fishers were still required to obtain a fishing permit, (2) commercial vessels were required to register with MAF, and (3) MAF retained the power to impose various input controls such as restrictions on fishing gear, fishing methods,

landings, fish size, fishing seasons, and fishing areas. These input controls were still required for management of non-ITQ species. The traditional input controls implemented under the FMPs contradicted the basis of the ITQ system where quota owners are able to determine the most efficient timing and means of catching their quota. Under FMPs, however, a TACC managed in part with input controls could potentially impinge on quota owners' rights as created by the QMS and outlined in the 1983 Act, section 28B(5). The need to run dual management systems made it more difficult to achieve the ITQ's intended degree of efficiency and co-ordination (Falloon, 1993).

The ITQ system assumes that fish will not be taken unless a fisher holds ITQ for the species targeted and caught. However, while using the best fishing technology available fishers cannot be sure that they will catch their targeted species. There is inherent variability in catch since most species move from one ground and depth to another in response to changes in currents, water temperature and availability of food. For these reasons, the ITQ system allowed fishers to forgo penalties if their overfishing did not exceed ten percent of their quota. As well, if fishers did not catch their entire quota by the end of the fishing year, up to ten percent of their quota could be forwarded to the next fishing year.

The inherent uncertainty in fishing leads to bycatch, or non-targeted fish being caught. The ITQ system introduced the concept of deemed value, whose purpose was to remove the economic incentive from fishers landing species for which they did not own ITQ. Deemed value represents a payment made by the fisher to the Crown for the non-ITQ species caught and landed. The deemed value was intended to be sufficiently low to discourage the catching of non-ITQ species but yet sufficiently high to ensure that when bycatch was caught it would be landed and utilised and not dumped at sea.

The initial allocation of ITQ was made in specified tonnage, with the Government intending to buy and sell ITQ on the open market as a means of adjusting any required changes in TACCs. There was also the intention to set up

a revolving fund from the sale of ITQ and collection of resource rentals to compensate ITQ owners in the event that catch levels could not be reduced sufficiently through the Government buying up ITQ on the open market (MAF, 1986). However, the revolving fund was never implemented.

Resource rentals paid by ITQ owners to MAF went towards recovering some of the cost of administering the ITQ system. Resource rentals had been introduced in the late 1970s for the deepwater fisheries as payment to the Crown for accessing a publicly owned resource. Resource rentals remained a constant source of debate between the seafood industry and MAF. MAF anticipated that resource rentals would rise as the ITQ system's expected benefits led to increased industry profitability. However, if by chance the seafood industry did not experience greater profitability, the Government would bear a greater share of the ITQ system's cost. Since MAF needed ongoing work with the seafood industry on management matters, MAF could more effectively undertake its primary tasks if the level of resource rentals was not a source of debate with the seafood industry (Falloon, 1993). Resource rentals were replaced in 1994 with a cost recovery regime.

The Government set up an ITQ buy-back scheme to reduce TACCs in depleted fisheries and to compensate those who exited the seafood industry. The seafood industry argued that the buy-back scheme was required as compensation for fishers' efforts put forth under previous Government policies, which had encouraged fishers' investment to further develop the seafood industry. The buy-back scheme 'was a means for dealing with the economic and biological legacy of earlier property rights and associated incentives for fisheries development' (Sharp, 1997:514). While some fishers opted for selling their ITQ to pursue other types of employment, others sold their ITQ to processors in exchange for an ongoing contract to supply fish (Fallon, 1993). However, most ITQ owners opted to retain their ITQ with the hope that TACCs, which had been reduced in the initial allocation of ITQ, would in time increase as fish stocks rebuilt (Clement and Pfahlert, 1996).

Enforcement efforts to ensure that fishing harvests remained under the authority of the ITQ system were initially rudimentary as MAF focused efforts on setting up the required administrative systems. This initial lack of enforcement probably allowed bad habits to develop, which proved to be much harder to address later on (Falloon, 1993). The integrity of the ITQ system relies heavily on the requirement that the various participants furnish a series of cross-referencing documents (Sullivan, 1998). Once the administrative systems were in place, enforcement efforts focused on detecting inconsistencies in the misreporting of catches. This enforcement approach required monitoring and cross-checking detailed paper trails resulting from the flow of product from commercial harvesters to licensed fish receivers. The required documents are the Catch, Effort and Landing Return (CELR), the Quota Management Report (QMR) and the Licensed Fish Receiver Return (LFR). MAF adopted this approach to compliance since physical monitoring at all possible points of landing was viewed as too costly. There was no restriction on where product could be landed.

Currently, enforcement efforts also include physical surveillances, intelligence gathering, covert operations and random inspections. The enforcement system enables non-compliance to be tracked and detected well after the event. The potential penalties for non-compliance include forfeiture of ITQ, vessels, fish and equipment, and fines up to NZ\$250,000, unless special reasons are found and a defendant can prove that there was no intention to commit the offence, and all reasonable measures to prevent the offence had been taken. The data provided to MAF from the CELR is essential for MAF to meet its conservation requirements according to the 1986 Act. The CELR information is used to determine the amount of catch effort being applied to a fishery, and whether more effort required in a fishery indicates that a species is overfished and may require a reduction in the TACC.

The 1986 Act established for the first time in New Zealand's history the right to harvest a fish stock having economic value. The primary purposes of adopting the ITQ system were to bring catch levels to sustainable levels and to enhance

the competitiveness of the seafood industry by providing the climate for improved efficiencies in the harvesting of fish stocks. The transferable price of ITQ would then reflect the expected future cash flows from harvesting the ITQ, and by way of buying and selling ITQ, rights to harvest fish stocks would go to their highest valued commercial use. Not only was the New Zealand ITQ system a radical departure from previous management regimes, it was also unique in that initially it included the vast majority of commercially caught species. Several problems did surface after implementation of the ITQ system, which required further consultation and amendments to fisheries legislation. Some of these problems are addressed in the remaining sections.

Quota Management System – 1987 to present

The ITQ system as introduced in the 1986 Act was initially viewed by most in the seafood industry as a relatively simple and workable management system. Since its introduction, the system has been revised continually, requiring substantial time and effort by MAF and the seafood industry to amend legislation and policy changes. According to the industry, the relatively simple ITQ system has become complex, bureaucratic and expensive to manage. This situation has led to increasing fisheries legislation while the seafood industry requests that fisheries management be simplified. The industry contends that the increasing complexity and bureaucracy of the ITQ system has imposed unnecessary financial costs on individual fishers and fishing firms, and has not provided the industry overall with corresponding benefits (Horton, 1997). This section briefly outlines some of the many and varied amendments to the 1986 Act that have led to an amended Act being enacted into law in late 1999. This section also briefly outlines Maori fishing rights, an issue that remained unresolved until after the introduction of the ITQ system.

The ITQ system allocated quota to existing participants in the seafood industry. As mentioned, excluded from the initial allocation of ITQ was a significant number of part-time fishers, many of whom were Maori. The ITQ system also

excluded any reference to Maori fishing rights, which Maori argue were secured under the Treaty of Waitangi 1840. While the ITQ system initially prompted indigenous claims to large areas of fisheries, it also proved an effective means of resolving Maori fishing rights claims (Sullivan, 1998).

Soon after the ITQ system was implemented, Maori obtained a series of injunctions issued by the High Court against further quota allocations. Following protracted disputes between Maori and the Government, the Maori Fisheries Act 1989 was passed. The 1989 Act was considered an interim settlement, which required the Government to buy back and transfer ten percent of TACCs to the Maori Fisheries Commission before 31 October 1992. The Commission would administer fishery assets on behalf of Maori. In order to meet the obligations as outlined in the 1989 Act, the Government actively traded in the open market to obtain ITQ during the period 1989-1993 (Clement and Pfahlert, 1996).

The Treaty of Waitangi Settlement Act 1992 was intended to be the full and final settlement of all Maori commercial fishing rights claims as secured under the Treaty of Waitangi 1840. The Settlement Act, otherwise known as the 'Sealord deal', resulted in substantial assets, primarily as quota holdings and half ownership of Sealord Products Ltd., now Sealord Group Ltd., being allocated to Maori. Since the 1992 Act also provides that Maori gain 20 percent of the quota holdings for all new species placed under the ITQ system, Maori will continue to have a major influence in the seafood industry's development. Approximately one hundred commercially caught species remain outside the ITQ system. The addressing of Maori fishing rights is covered in more detail in Chapter 6.

The Fisheries Amendment Act 1990 brought about one of the most important changes to the ITQ system, the basis of ITQ from a fixed tonnage to a proportional basis (Luxton, 1997). During the late 1980s MAF fisheries scientists became concerned about the level of some fish stocks, which led to large reductions in TACs, particularly for orange roughy. The inherent fluctuations in fish populations and uncertainty of stock assessments could not ensure a constant

amount of ITQ by tonnage from one year to the next. Any reduction in TACCs would require that the Government repurchase ITQ on the open market. To avoid substantial outlays for ITQ repurchasing, the Government implemented a swap of ITQ from QMAs where the fish stocks were stressed to QMAs where the fish stock remained plentiful.

MAF announced that effective 1 October 1989 ITQ would change from a specified or fixed tonnage per year to a proportion of the TACC adjusted each year for sustainability measures. The implications of this change were that MAF avoided substantial costs to repurchase ITQ and from that point on could vary TACs and TACCs each year, with no compensation to ITQ owners in the event of a TAC reduction. Needless to say, the seafood industry objected to the change in the basis of ITQs. In exchange for ITQs changing from a fixed tonnage to a proportional basis, the Government agreed to freeze resource rentals for five years, except for increases that occurred due to an increase in the consumer price index.

In 1991 MAF conducted an extensive review of the ITQ system by way of an independent task force whose purpose was to make recommendations on future fisheries management structures and legislation. The task force recommendations intended to build on the existing ITQ system while simplifying it and providing more development opportunities for fisheries. The proposed structure allowed for a greater role to be played by ITQ owners in the management of their fisheries through quota owner associations. These associations could propose fisheries management measures and levy their members while the Government would retain control of setting sustainability standards to be met by the quota owning groups (MAF, 1992a). The task force recommendations did not begin to change fisheries legislation until late 1994.

The Fisheries Amendment Act 1994 implemented a replacement for resource rentals. MAF had considered implementation of a tax on quota holdings to replace the resource rentals. Instead, the Government implemented a full cost

recovery levy to be implemented 1 October 1994. The cost recovery levy fit within MAF's intention to simplify its administration by focusing on the delivery of core services and devolving non-core services to the private sector. MAF's core services would include the allocation of harvest rights, liaising and disputing resolution, enforcement and prosecution, while all other services would in time become contestable. It was envisioned that relevant stakeholder groups, through consultation, would determine needed non-core services, and those who benefited from the services would then pay for them. The Government proposed these changes with the view that it could not deliver the needed flexibility, responsiveness and diversity the seafood industry required. The intended outcome would be lower costs for MAF's services, which would then be paid in full by the seafood industry by way of full cost recovery (Kidd, 1994).

The 1994 Act also introduced Annual Catch Entitlements (ACE), which became the tradeable right to harvest a quantity of fish stocks. ACE is still the only harvesting right and is used to balance catch instead of ITQ. On October 1, the beginning of the fishing year, an ITQ owner would be allocated an amount of ACE equal to ITQ held. From that point on, ACE and ITQ would be traded separately and have no direct relationship. The purpose of ACE is to provide a transferable, flexible mechanism to maximise fishing capacity and to allow new entrants to fisheries with adequate protection for both ITQ owner and the fishery (Kidd, 1996).

In October 1994 the Government determined that there should be a separation between the Ministries of Agriculture and Fisheries. The separation was implemented on 1 July 1995. The new Ministry of Fisheries (MFish) retained responsibility for administration of fisheries management systems, including catch and effort data management, collections and payments, enforcement, TAC and TACC setting and quota management functions. The former MAF Fisheries Research component was merged with the Crown Research Institute, the National Institute of Water & Atmospheric Research (NIWA), whose research focus then broadened to include atmosphere and climate, oceanography,

freshwater and coastal marine fisheries and aquaculture and fisheries enhancement.

It was the intention of MFish to introduce contestability of fisheries science research contracts. However, outside of NIWA, marine science research capabilities in New Zealand are limited. The Cawthron Institute in Nelson, the Fishing Industry Board and some academic staff at universities, particularly the University of Auckland, make up most of the remaining research capabilities. In addition, the Crop & Food Research's Seafood Research Unit in Nelson conducts research in the seafood processing sector.

Government funding of fisheries science research has declined steadily from \$21.5 million in 1992/93 to \$19.8 million in 1993/94 and \$19.5 million in 1994/95. In 1996, funding was reduced further to \$15.8 million. Peter Hargreaves, CEO of NIWA, addressed the impact of further reductions in research funding at the 1996 Fishing Industry Association Conference. Hargreaves (1996) contended that there was a growing demand for fisheries research for several reasons, including:

1. that for many species in the ITQ system, stock abundance and productivity and hence yields were not available. As of February 1996 the current stock size relative to the stock size that would produce the MSY was unknown for 109 (61 percent) of the 179 fish stocks in the ITQ system,
2. that the extent to which many inshore finfish species had rebuilt since their introduction in the ITQ system was unknown, and
3. that there was increasing pressure for commercial development of some previously lightly exploited species.

Hargreaves (1996) concluded that if Government-funded research continued to decline at the current rate, it would inevitably result in a reduction of New Zealand's fisheries science capability, increasing the risk to fish stocks, the environment and the seafood industry. Subsequently, NIWA's core fisheries research has continued at a relatively constant level, maintaining approximately

90 percent of research tendered by MFish, which totalled \$11.777 million in 1998-99 and \$11.343 million in 1999-00. In addition, NIWA has undertaken an increasing amount of fisheries research contracted directly by various commercial stakeholder groups (NIWA, 2000).

The Fisheries Act 1996 brought about several significant changes. Several sections of the 1996 Act are in line with the 1992 Fisheries Task Force's recommendation that fisheries management adopt an 'ecosystem approach' to ensure the sustainability of the environment as well as fish stocks. This macro-management approach was to be adopted in consultation with relevant stakeholders. The intentions of the former Minister were exemplified in his speech at the 1997 Fishing Industry Conference.

'It [Fisheries Act 1996] provides for more explicit environmental standards and gives further opportunities for the users of the fisheries to accept increasing responsibility for managing the resource... The new Fisheries Act makes considerable advances in issues relating to sustainability, expanding the opportunities for stakeholder participation in fisheries management and in better defining the role of Maori' (Luxton, 1997:4).

The former Minister made it apparent that he intended for the seafood industry to accept more responsibility for managing resource use while emphasising consultation with stakeholders to ensure the sustainability of both the environment and fish stocks. As well, several sections in the 1996 Act increased the Minister's authority to implement various regulations that could impact significantly on ITQ owners' ability to choose when, where and how they might catch their quota, as outlined in the 1983 Act section 28B(5) (Chapman, Tripp, Sheffield and Young, 1996).

MFish's intent to utilise an ecosystem approach to ensure the sustainability of the environment and fish stocks and their economic use is evident in *Changing Course – Towards Fisheries 2010* (MFish, 1997b:2). In this publication MFish states that 'to effectively manage our fisheries, we need to manage fish in the

context of the environment in which they exist, that is, an ecosystem based management approach'. Ecosystem management is defined as 'an holistic approach to managing natural systems recognising the interconnections of species and habitat' (MFish, 1997b:23).

This 'holistic' approach will require considerably more research on fish stocks and their ecosystems, which raises the question of who will fund the required research. The ecosystem based management approach implies TACs and TACCs are set on a multi-species basis, and perhaps balancing the exploitation of two or more species so that a mixture of species could provide 'optimal' utilisation. However, Mace (1996) states that there is currently insufficient evidence on how species interact and replace each other in an ecosystem to balance multi-species exploitation.

The former Minister, Hon. John Luxton, urged the seafood industry to take another step in the direction of devolving fisheries management. The seafood industry was to restructure around property rights, and the resulting organisations would have a more direct involvement in and more responsibility for the management of their respective fisheries. At the 1997 Seafood Industry Conference Luxton stated:

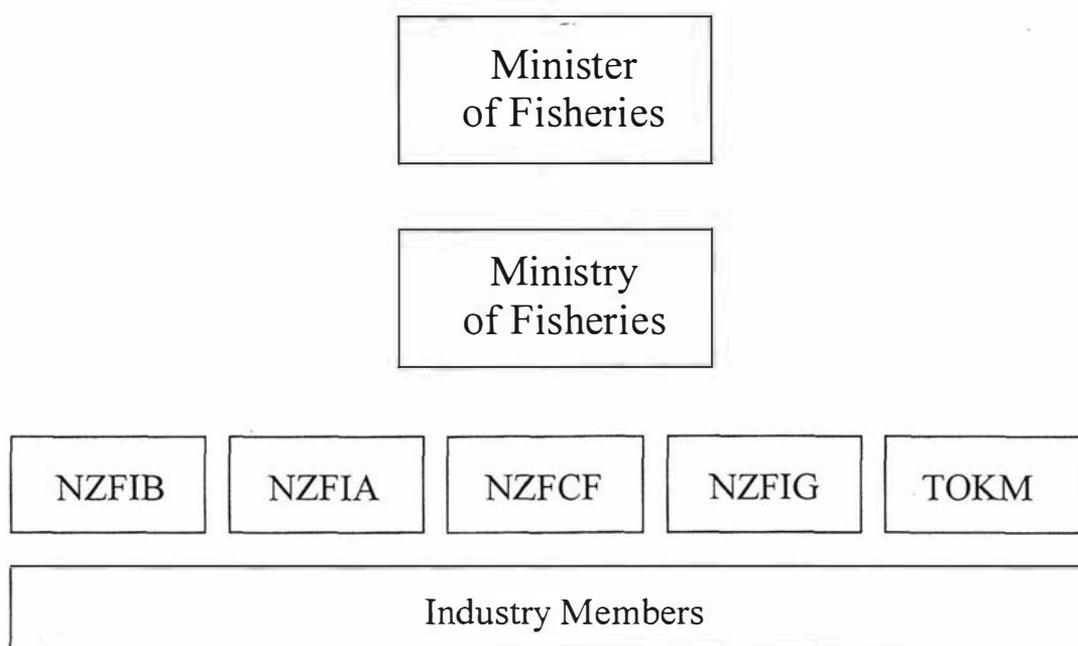
'It is my clear view that we have reached a point in the development of fisheries management in New Zealand when it is vital that the fishing industry begin to assume a far greater level of responsibility to collectively manage fisheries within appropriate sustainability parameters. To progress co-management strategies it is necessary for you as an industry to begin to develop effective associations of users to assume the duties and responsibilities associated with property rights. My challenge to you is to continue to develop such associations so I can work with you to advance further the management models currently available to us and thus ensure a healthy future for your industry' (Luxton, 1997:5).

The seafood industry has taken up the former Minister's challenge to restructure. The main reasons that the seafood industry has responded favourably to this issue

are that, first, the industry acknowledges that the functions undertaken by the Fishing Industry Board and some trade organisations have duplicated efforts and led to unnecessary complications. Second, industry growth, recent investments and cost recovery have led ITQ owners to specialise their planning and operational processes along ‘effective associations of users’, as encouraged by the former Minister.

The seafood industry structure prior to the 1996 restructuring is outlined in Figure 3.1, which illustrates the seafood industry organisations that interacted with MFish directly and by way of the FIB.

Figure 3.1 New Zealand Seafood Industry Prior to 1997



(Source: Craig, 1998)

The FIB consisted of 10 members appointed by the Minister to have representation from:

- The New Zealand Federation of Commercial Fishermen (NZFCF)
- The New Zealand Fishing Industry Guild (NZFIG)
- The New Zealand Fishing Industry Association (NZFIA)

- Fish retainers
- MFish
- The Treaty of Waitangi Fisheries Commission (TOKM, beginning 1992)
- One member independent from the fishing industry
- An independent chairperson

(Fishing Industry Board, 1995)

In addition to the FIB, the seafood industry was represented by the following organisations: the Fishing Industry Association (NZFIA), which represented most of the fish catching, processing and marketing firms, accounting for about 90 percent of ITQs and marine farming products; the Federation of Commercial Fishermen (NZFCF), which remained as the representative for owner-operators from all sectors of the seafood industry, but whose membership also included those with other connections to the seafood industry; the Fishing Industry Guild (NZFIG), which continued to represent fishers in all types of commercial fishing and had a member on the FIB; and TOKM, which continues to represent Maori and facilitates their entry into fishing as well as administers assets allocated to Maori through the 1989 and 1992 Acts.

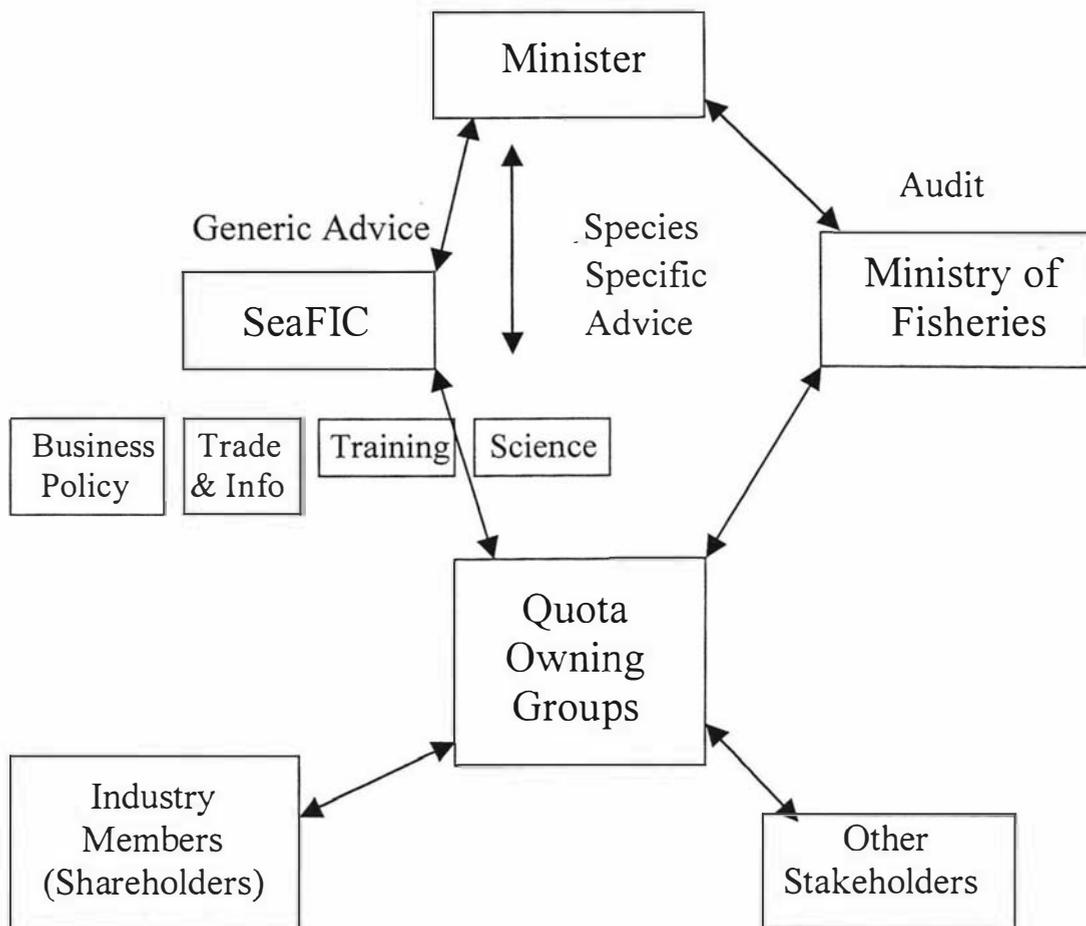
The seafood industry has developed the Seafood Industry Council (SeaFIC), which took over several generic services and functions formerly undertaken by the FIB, and some functions that had been the responsibility of industry organisations, particularly the FIA. Essentially, the FIB and FIA's functions have been subsumed within SeaFIC, while other industry organisations (NZFCF, NZFIG and TOKM) remain intact to represent their respective members and associates. SeaFIC's purpose and goals include:

- promotion of a profitable sustainable industry
- utilisation of fisheries
- fisheries self-management
- skilled knowledgeable people
- market access for quality product
- positive public awareness

(Sharp, 1998)

It is the intention of SeaFIC to change its offering of generic services as quota owning groups or companies (QOCs) continue to take increased responsibility for issues specific to their fisheries. Figure 3.2 displays SeaFIC's structure, which consists of four units, providing the seafood industry with generic services, and QOCs that operate independently with their own specific direction and purpose.

Figure 3.2 The Restructured New Zealand Seafood Industry



(Source: Craig, 1998)

It is intended that over time the QOCs will take increasing responsibility for providing their own administration, co-ordination, research, compliance and consultation, as well as developing management plans for their respective fisheries.

‘The idea is that the quota owning companies will be the primary representative bodies for the quota holders’ interests, and then the SeaFIC will be a generic body that provides support services. This model could be applied across the entire industry. Instead of having a statutory body sitting at the top, nominally representing the industry, we will have the industry quota holders represented by their own organisations with an industry owned and managed body under them’ (J. Mace, personal communication, December 1995).

This new structure places QOCs in direct relationship with MFish, seafood industry members and other stakeholder groups. A list of seafood industry stakeholder groups, including quota owning and non-quota holding companies, in addition to NZFCF, NZFIG and TOKM, are as follows:

- Aquaculture Council (Aquafed)
- Bluff Oyster Management Co. Ltd.
- Central Eel Management Co. Ltd.
- Challenger Dredge Oyster Fishery Management Co. Ltd.
- Challenger Scallops Enhancement Co. Ltd.
- Coromandel Scallop Fishermen’s Association Inc.
- Coromandel Scallops (Non-QMS)
- Hoki Fishery Management Co. Ltd.
- Leigh Fishermen’s Association Ltd.
- Mussel Industry Council
- Northland Scallop Enhancement Co.
- New Zealand Stakeholders Association
- New Zealand Fishing Vessel Owners Association
- New Zealand Paua Management Council
- New Zealand Rock Lobster Industry Council
- New Zealand Tuna Longliners Association
- QMA2 Inshore Finfish Management Co.
- QMA3&5 Inshore Finfish Management Co.
- QMA7&8 Inshore Finfish Management Co.
- Salmon Farmers Association
- Seafood Consortium Ltd.
- Squid Fishery Management Co. Ltd.
- The Orange Roughy Management Co. Ltd.
- The Pagrus Auratus Co. (SNA1)
- The Scampi Fishery Development Co. Ltd.
- The Scampi Fishery Management Co. Ltd.
- Tuna Advisory Group

(SeaFIC, 1998)

The purpose of SeaFIC's Business Policy unit is to position property rights owners to take responsibility for the delivery of fisheries processes and planning while maintaining ongoing participation in generic issues and development of a supportive policy framework on the following issues:

- property rights
- co-management
- consultative processes
- environmental strategy
- legislative reform
- registry devolution
- SeaFIC governance
- advice to the SeaFIC CEO

SeaFIC's Trade and Information Business unit works on behalf of the seafood industry to reduce business costs by improving foreign market access, developing an appropriate minimum food safety standard regime, providing appropriate information in line with industry expectations, and providing an authoritative and entertaining magazine, *Seafood New Zealand*.

This unit is the primary vehicle for the seafood industry to collectively lobby and advise the New Zealand Government on foreign market access issues. In addition to participation in international trade agreements, such as the 1993 Uruguay Round of the World Trade Organization, the New Zealand Government is involved in several bilateral and regional relationships that largely determine New Zealand seafood firms' access to other nations' markets. For this reason, seafood firms benefit from the unit's efforts to lobby and advise the Government on several market access development issues, as well as disseminating relevant information to seafood industry participants.

SeaFIC's Training unit, the Seafood Industry Training Organisation, provides industry-driven training options, including higher-level training to support self-management and to meet compliance requirements.

SeaFIC's Science unit provides the seafood industry with independent, high quality scientific research services and advice funded by the Foundation for Research, Science and Technology. The unit also participates with MFish scientists by way of the Fishery Assessment Working Groups, the Research Planning Groups and Research Co-ordinating Committee. It also deals with other matters such as sustainability measures, proposed fisheries services and conservation measures. As well, the Science unit provides specific types of research, such as stock monitoring and assessments.

Beginning in 1996 MFish allowed a limited number of services, primarily research projects, to be made contestable through a competitive tender process (Fishing Industry Board, 1996). This provision for contestability provided the opportunity for QOCs, SeaFIC's Science unit and other providers of research services to compete for MFish science research contracts. Although QOCs are not required to purchase any research services, it is expected that an increasing number of fisheries science contracts, which historically have gone to NIWA, will be transferred to SeaFIC's Science unit, other providers of research services, and possibly those QOCs that can develop their own research capabilities.

Despite the seafood industry's efforts to restructure into 'effective associations of users', the 1996 Act contains legislation that inhibits the seafood industry from assuming 'the duties and responsibilities associated with property rights', as encouraged by the former Minister (Luxton, 1997:8). The seafood industry views the fisheries legislation as needing to reflect co-management principles before the seafood industry can commit and invest further in the QOCs. The former Minister agreed:

'As it stands, the 1996 Act is very centralised and prescriptive... [and] the Act would have been expensive to implement and inflexible to manage, and may have led to poor management and environmental outcomes... In addition, the 1996 Act does not allow for the devolution of non-core Government fisheries services (approved in principle by Cabinet), it lacks a robust cost recovery scheme and provides few incentives for fisheries rights holders to take a

constructive role in managing their share of the fisheries resource. Aquaculture rights are uncertain and recreational rights are poorly defined' (Luxton, 1998:2).

The former Minister initiated a review of the 1996 Act, which concluded that aspects of the 1996 Act and its administration required immediate amendment.

The Reviewer recommended:

- fundamental realignment of the roles of Government and fisheries stakeholders and the implementation of transparent consultation and decision-making processes;
- a simplified and less prescriptive operating regime than what currently existed; and
- devolution of responsibility for fisheries management to fisheries property rights holders at the discretion of the Minister.

Some of the Reviewer's recommended amendments to the 1996 Act include:

- enabling the Minister to devolve fisheries management functions to property rights holder groups;
- enabling the Minister to approve fish stock management plans developed by representative and accountable QOCs; and
- providing for regulations designating appropriate specifications and standards for devolved management functions and the elements required in a fish stock management plan.

(PriceWaterhouseCoopers, 1998)

The Independent review of the 1996 Act proposed the following model:

Minister of Fisheries:	Meeting international and Treaty obligations. Approving Management Plans.
MFish:	Developing high-level standards and specifications. Audit of Management Plans. Strategic policy advice. Criminal enforcement.
QOCs:	Working for property rights holders. Developing Management Plans. Providing co-ordination, administration, research, compliance and consultation.

It was expected that subsequent changes to fisheries management legislation would put in place several fisheries reforms, such as (1) enabling the responsibility for providing or purchasing required non-core government fisheries services to be devolved to QOCs, (2) amending both the 1983 Act and the 1996 act to allow the Minister to devolve the responsibility for the provision of registry and other functions to QOCs, and (3) improving the operation of the 1996 Act through a series of amendments to streamline or simplify the ITQ system (Luxton, 1998).

Chapter 2 describes the co-management literature as first emphasising the enhancement of sustainable fish stocks; other benefits such as increased industry efficiencies and reduced compliance costs are secondary considerations. However, during the mid- to late 1990s, the New Zealand Government emphasised other aspects of co-management, such as decreased administrative and compliance costs and increased efficiencies in the harvesting of quota.

For example, in *Fisheries Reforms 1998: Paper 6: Co-management* the question is asked, Why provide for co-management of fisheries? The stated answer is that 'while the QMS provides some of the tools for economically efficient harvesting of commercial fisheries it cannot, at present, deliver a range of efficiency gains associated with collective action' (Fisheries Reforms, 1998:2). The emphasis remains on QOCs, or combinations of QOCs, developing co-management plans, and 'as more fisheries move into co-management, the role of MFish will change and diminish' (Fisheries Reforms, 1998:4). *Fisheries Reforms* outlines the following expectations concerning sustainability:

'the potential benefits for sustainable management derive from the regime's potential to customise fisheries management, including integration across a range of fisheries in an area, and the potential to improve compliance through ownership of the harvesting rules and constructive dispute resolution' (Fisheries Reforms, 1998:9).

The Government's emphasis on efficiency gains and self-regulation resulting from co-management has engendered scepticism about this aspect of fisheries reforms. Russ Babcock, President of the Marine Scientists Society, expressed concern that the promised consultation over fisheries co-management was pre-empted by the introduction of the Fisheries Amendment Bill. Babcock accused the Government's reforms of creating 'an unprecedented conflict of interest around fisheries management'. In his view stock assessments must stay independent of the seafood industry to ensure quality management of the nation's ocean and marine heritage (Acrimony, 1999).

The former Minister replied to Babcock's article by stating that the purpose of the fisheries reforms is to ensure 'the proper balance between sustainability and economic efficiency'. The former Minister denied the accusation that the Government was handing over full management responsibilities to the seafood industry, and in so doing deviating from the purpose and principles of the 1996 Act.

'This is what the bill is all about. The Government sets the rules and standards and, where appropriate, devolves the operation of those rules to groups that have demonstrated they are representative and accountable. The Government remains the independent watchdog by monitoring and auditing performance and carrying out criminal enforcement activities' (Participation, 1999:10).

In his first speech to the seafood industry in May 2000, the current Minister outlined his vision for the seafood industry over the next 20 years. The Minister emphasised the importance of the sustainability of fish stocks and his expectation that the seafood industry will grow in value by developing 'smarter catching techniques, processing techniques and marketing techniques' (Hodgson, 2000:4). The Minister viewed the tension between 'sustainability' and 'utilisation' as 'make-believe. It only exists in the short term, because unsustainable utilisation is by nature a short term idea. Long term unsustainable utilisation is a nonsense' (Hodgson, 2000:7).

Concerning the role of seafood industry organisations, such as QOCs, the Minister stated that all those involved in fisheries needed to 'break new ground' by progressing fisheries plans (Hodgson, 2000:5). However, the Minister's acknowledgment of the conflicts that have occurred between stakeholder groups should be seen in the context of his valuing 'a less combative policy and management process' (Hodgson, 2000:10). It is expected that the Minister will consider devolving responsibility for some fisheries management services only when stakeholder groups can work more closely together, acknowledging all interests in a fishery and ensuring fish stocks remain sustainable.

Marine Farming

As is outlined in Chapter 5, New Zealand's marine farming sector, consisting primarily of Greenshell™ mussels, pacific oysters and farmed salmon, has been a major success. Two different management regimes regulate marine farming, and these dual regimes create uncertainty in terms of property rights for marine farmers and which legislation applies to particular situations. The two marine farming management regimes are as follows:

- the Marine Farming Act 1971 (1971 Act), which applies to marine farms that were established before enactment of the Resource Management Act 1991 (RMA 1991), and
- the joint RMA and Fisheries Act 1983 (1983 Act) regime, which applies to marine farms that have been established since 1991.

Until 1991, marine farm licences were issued under the 1971 Act, which provided tenure of up to 14 years, with a preference right for an extension of 14 years, or less where considered appropriate. The 1971 Act was not intended to create a perpetual right of coastal occupation. Conditions placed on leases and licences granted under the 1971 Act, including conditions relating to tenure, can be varied. In practice, however, applications for variation of conditions related to the extension of tenure are routinely granted. Marine farms established up till 1991 by way of leases and licences under the 1971 Act can continue operations indefinitely pursuant to the RMA 1991, Section 426. The marine farming sector,

therefore, considers the arrangement under the 1971 Act to represent the granting of a perpetual right to occupation (Harte and Bess, 1999).

Since 1991, applications for marine farms have come under the joint RMA 1991 and 1983 Act regime. Under this regime marine farmers must obtain (1) a RMA 1991 coastal permit for occupation of space and management of environmental effects, and (2) a 1983 Act marine farming permit for the possession of stock. Under this joint regime, coastal permits and marine farming permits can be granted for up to 35 years. In practice, however, permits for coastal occupancy are generally granted for much less than 35 years, and the granting of marine farming permits are matched accordingly. The marine farming sector regards the security of tenure provided them under the joint regime to be significantly less than the security provided under the 1971 Act.

The RMA 1991, the 1983 Act and the 1996 Act set out obligations to manage the adverse effects of marine farm activities on the aquatic environment. The RMA 1991 resource consent application for marine farming and spat catching includes the obligation to avoid, remedy or mitigate any adverse effect on the environment arising from an activity carried out by or on behalf of a person. The 1983 Act provides permits for those involved in marine farming or spat catching who hold a resource consent authorising the activity under the RMA 1991.

The Chief Executive of MFish may only issue a marine farming permit if satisfied that the effects of the activity would not have undue adverse effects on fishing or the sustainability of any fisheries resource. The term 'sustainability' is not defined in the 1983 Act, although it is defined in the 1996 Act. However, 'fishery resource', according to the 1983 Act, means any fishery, or any stock, species, habitat, or location of fish, aquatic life, or seaweed. This definition encompasses a range of environmental parameters that overlap with obligations under the RMA 1991.

In line with the RMA 1991, the 1996 Act contains an obligation to avoid, remedy or mitigate the adverse effects of, in this case, fishing on the aquatic environment. 'Fishing' includes the activity of harvesting, which is the end point of marine farming, but it does not refer to marine farming's other core element, growing the marine stock. Therefore, it is unclear whether the environmental considerations of the 1996 Act apply to marine farming, and so far this point has not been tested in the courts. Despite this lack of clarity, marine farming continues to be managed jointly under the 1983 Act and the RMA 1991.

Problems with overlapping environmental regulations stem from the jurisdictional boundaries between fisheries law and the RMA 1991. Provisions in the RMA 1991 and the 1996 Act attempt to define these boundaries, but they, as well as associated compliance costs, remain unclear. Overlapping environmental regulations and compliance costs should be rectified by legislative changes that clearly state which environmental effects should be regulated by which legislation.

The joint 1983 Act and RMA 1991 regime provide little clarity about the rights of marine farmers. The existence of two management regimes for marine farming generates confusion and unnecessary uncertainty for the sector about which regime applies to a particular situation. These two regimes make it difficult for the Government to provide an integrated and consistent approach to the management of marine farming. The continuation of these two regimes increases the likelihood that local and central government and other interests could erode the rights, and hence economic security, of the marine farming sector.

Understandably, under this legislative confusion, the marine farming sector has experienced difficulty in securing investment financing. The sector continues to work towards legislation reform, and until conflicts arising from the dual management regime are addressed, marine farming's growth prospects remain uncertain (Harte and Bess, 1999).

The current Minister acknowledged that aquaculture legislation has ‘collided and it’s all a bit of a mess’ and that ‘gaps in public policy’ need to be urgently addressed (Hodgson, 2000:6). It is no surprise that MFish is currently undertaking reforms of the aquaculture legislation.

Managing New Zealand’s Fisheries for the Future

Although the ITQ system is regarded as one of the most innovative and successful fisheries management options in the world, the seafood industry overall views subsequent legislative changes to the 1986 Act as having resulted in a complex, bureaucratic administration system that causes the industry to incur expensive compliance costs. The seafood industry ‘angry about the red tape and delays that they said were strangling their industry ... [joined in a] flare-waving protest ... before they came ashore in Lambton Harbour and marched on Parliament’ (Fishing Flotilla, 1999:3). This explains the current interest in adopting management alternatives that would simplify and preserve the integrity of the original ITQ system, as first outlined in the 1986 Act.

Despite its overall success, New Zealand’s fisheries management system is failing to fulfil its potential to provide for profitable and sustainable fisheries. On the one hand, MFish is still equipped with a full range of fisheries regulatory mechanisms but is increasingly reluctant to employ them without consensus support from property rights holders. On the other hand, ITQ owners and marine farmers face increasingly strong incentives to manage their own affairs but lack the legitimacy to make rules, collect funds, and purchase management services except on a totally voluntary basis (Bess and Harte, 2000).

To reap the full potential benefits of New Zealand’s marine resources, changes need to be made in the approach taken towards fisheries management, starting with changed attitudes for some fisheries managers, ITQ owners and marine farmers. Fisheries managers generally pay too much attention to fisheries biology while rarely acknowledging a fishery’s economic and social factors. While many ITQ owners and marine farmers are inclined to criticise MFish’s handling of

their fisheries, too many remain reluctant to take up additional authority and responsibility for the management of their fisheries. However, the reluctance among ITQ owners and marine farmers continues to diminish while bureaucratic obstacles to change remain in place. There is growing recognition within the seafood industry that the management of New Zealand's fisheries needs to move away from a centralised, bureaucratic regime to one that:

- promotes the economic viability of fishing relative to other productive sectors, and simultaneously ensures sustainability of the fishery resource; and
- facilitates an increasingly positive relationship between property rights holders and fisheries managers, leading to mutually beneficial outcomes.

(Bess and Harte, 2000)

For this transition to occur, MFish must devolve additional rights, responsibility and authority for fisheries management to resource users and local and regional communities. The development of wild fisheries and the security of tenure that now permeates ITQ provides a framework for devolving fisheries management functions. Scott (1993), in particular, argues that the allocation of ITQ in a fishery overcomes many of the obstacles to devolved management approaches.

‘In many fisheries the ITQ will be less a new instrument of regulation, less a kind of individual property right, than a membership card in a self-governing fishery group. Compared to the old scattered voluntary inshore groups, this new type will have access to information, will indeed produce it itself. It need not be homogenous, for its distributional problems will be largely resolved by the prior distribution of ITQs’ (1993:197).

The 1996 Act defines the role of central government in fisheries as providing for the ‘utilisation of fisheries resources while ensuring sustainability’. In practice, this should include:

- Establishing the rules and regulations that enable successful and sustainable fishing activity,
- Ensuring that property rights are clear, appropriate and enforceable,

- Transferring management responsibilities to property rights holders,
- Co-ordinating collection and provision of information to fisheries stakeholders, and
- Ensuring the effectiveness of management frameworks and systems, including setting standards for fisheries management plans, monitoring and auditing the performance of fisheries management plans, and prosecuting offenders who break the law.

(Bess and Harte, 2000)

In addition to taking more steps toward fulfilling this role, the Government needs to create legitimacy and accountability for recently established property rights holders' organisations. Only the Government, through legislative and policy instruments, can define and legitimise power-sharing and decision-making arrangements, which legally establish and defend user rights and security of tenure (Pomeroy and Berkes, 1997). The Government could also provide various types of assistance and service for property rights holders' organisations, such as co-ordinating a formal administrative structure and holding forums to maintain interaction between various stakeholders.

One fundamental debate in the co-management literature is whether fishers can be entrusted with managing their own resources (Pomeroy and Berkes, 1997). Unless government and its officials can be convinced of fishers' desire and ability to manage themselves and their fisheries sustainably, little progress can be made on devolving rights, responsibility and authority for managing fisheries. New Zealand's seafood industry, therefore, is required to demonstrate actions that convince the Government it can organise itself into organisations capable of developing management frameworks that provide for and deliver the utilisation of fishery resources while ensuring their sustainability. Although currently lacking the legal right to manage or enhance their fisheries, ITQ owners since 1996 have begun to organise themselves. At this early stage, the QOCs have several key functions in common:

- To facilitate the collection of funds to finance fisheries management activities, such as research or reseeded, and to manage the delivery of such services,
- To make fisheries management rules to achieve effort spreading or seasonal closures and to impose sanctions on non-compliance by ITQ owners,
- To represent the interests of ITQ owners in government processes that involve consultation such as the determination of government required fisheries management services and the setting of TACC, and
- To defend against erosion of harvesting rights and to promote the expansion and development of management rights.

(Bess and Harte, 2000)

Property rights holders' organisations need to be relatively free to structure their arrangements so that they can best develop management frameworks that provide for and deliver the utilisation of fishery resources while ensuring their sustainability. SeaFIC anticipates that over time QOCs will take increasing responsibility for providing their own administration, co-ordination, research, compliance and consultation as well as developing management plans. MFish would oversee the auditing and monitoring stages for each co-managed fishery's management plan.

Fundamental to the success of this approach is the establishment by Government of clearly defined and appropriate rights and responsibilities for marine farmers in a way that is compatible with the rights of ITQ owners. Once this issue is resolved, the seafood industry must assure the Government that property rights holders' organisations and systems provide for sustainability of their fisheries.

Summary

The history of fishing in New Zealand faces continual challenge and change. As this chapter demonstrates, fisheries management in New Zealand has undergone significant and, at times, radical changes. Over the years, New Zealand's fisheries have been managed under very different and sometimes conflicting types of management regimes. This chapter substantiates the significant impact

of the various fisheries management regimes on the seafood industry's operations and their strong influence on when and how the seafood industry developed.

Now that the ITQ system has been operative for 15 years, it is difficult to imagine the Government discarding a management system that has been frequently held up as the principal example of successful application of property rights to fisheries management and one of the most innovative approaches to managing wild fish stocks.

Although marine farming has not come under the ITQ system, there is growing recognition that its integration with ITQ fisheries must be improved. Recent government and stakeholder initiatives to better define and manage marine farming rights have been welcomed by the commercial sector, although many issues remain unresolved. Once some outstanding property rights issues are resolved, New Zealand's fisheries management system will be in a better position to fulfil its potential to provide for profitable and sustainable fisheries.

Chapter 4

The New Zealand Economy

Introduction

The economic and social changes that took place in New Zealand beginning in the mid-1980s help explain the acceptance of the ITQ system by the Government and the seafood industry. During the period from 1984 to 1990 New Zealand experienced rapid and extensive economic reforms as the Labour Government directed the nation from its long history of centralised government control and an isolated economic system to a decentralised, market-based and outward-oriented economy. This period transformed New Zealand both economically and socially, and some refer to it as a time of revolution. It was at this time that the Government passed into law the Fisheries Amendment Bill which gave legislative effect to the ITQ system. The radically new and untested fisheries management system proposed in the Bill promised sustainable management and economic efficiency by way of individual tradeable property rights. Perhaps the Fisheries Amendment Bill's radical nature was its attraction during this period of radical change. The Bill encountered relatively little obstruction in Parliament in its passage on 25 July 1986.

This period of radical change should be seen in the context of New Zealand's early history and events leading up to the mid-1980s. For this reason, the first section in this chapter outlines New Zealand's economic and social environment beginning in the mid-1800s when New Zealand became a British settler state. New Zealand's cultural and economic dependence on Britain remained in place until Britain's entry into the European Community in 1972. At that time New Zealand was thrust into the international trade arena while its economy remained strongly dependent on exports of primary product commodities. New Zealand's prolonged dependence on commodity exports and its continued use of central government controls propelled the Labour Government in 1984 to launch dramatic and sweeping economic reforms.

The second section outlines the period from 1984 to 1990 when economic reforms restructured the public sector and forced the private sector to adjust to a market-based environment virtually free of Government assistance and protection. The changes introduced during this period altered permanently most New Zealanders' expectations of Government intervention on both economic and social issues. The third section outlines the reforms that have continued from 1990 until the present. During the early 1990s the National Government introduced further economic reforms as well as reforms to health care, education and social assistance. However, the introduction of the Mixed Member Proportional (MMP) system in 1996 led to a slowdown in the reform process, which was curtailed further after the 1999 election. The fourth section compares New Zealand's approach to the reform process to that of other small nations and includes measures of economic performance.

The last section addresses the topic of national competitiveness, which gained national importance in 1990. Professors Michael Porter and Michael Enright of the Harvard Business School undertook a study, referred to as the Porter Project, of the New Zealand economy's international competitiveness. The Porter Project followed on from Professor Porter's five-year research project on sources of advantage in international competition based on studies of ten nations. Beginning

in 1990 and continuing to the present, the ideas and recommendations of Professor Porter have played an important role in focusing New Zealand's industry leaders and Government officials on various economic and systemic issues that substantially impact on the nation's ability to succeed as a decentralised, market-based and outward-oriented economy.

New Zealand's Early Economic History

New Zealand's early history revolves around imperial dependence on the 'mother country', Great Britain. The colonisation of New Zealand was part of the nineteenth-century British expansion to promote its economic interests throughout the world (Kelsey, 1995). The early settlers brought with them Britain's language, literature, song, popular culture, educational processes, sporting ties, familial contact, military service, religious observance, gardening habits, and other ties that seemed to suspend New Zealand between the old and the new and eventually making the legacy of colonial dependence, in some ways, permanent (Haworth, 1994).

New Zealand's economic links with Britain have been the strongest and most lasting form of dependence. New Zealand's economic dependence on Britain was secure as Britain provided assured access to its markets for virtually all New Zealand export products. New Zealand has historically exported agricultural products to Britain in exchange for manufactured goods. New Zealand's economic dependence on Britain was enhanced further in the 1930s when the Government inhibited trade with other nations by way of a tight system of high tariffs and restrictive import licensing with price controls on many goods (McNelis and Bollard, 1991). During World War Two Britain and New Zealand began guaranteed purchase agreements for New Zealand's primary products exported to Britain. Beginning in the 1960s, Britain put in place a series of five-yearly trade agreements to determine access and prices for New Zealand agricultural exports (James, 1992). In return New Zealand agreed to British manufactured goods continuing to have favoured access to New Zealand. The

export earnings from New Zealand's primary products to Britain paid for manufactured goods and raw materials needed to build up its domestic manufacturing sector.

Post-World War Two, New Zealand's strong and continued economic dependence on Britain left the nation reliant on industries that produced primary commodities while at that time most other developed nations began to reduce their production of these commodities and increase production of products with higher technological content. Like most developed nations, New Zealand experienced prolonged economic prosperity during the post-World War Two period. New Zealand's access to Britain's markets allowed its primary products-based economy to generate sufficient wealth to provide its citizens with a promise a good life and a good society (James, 1992). By 1950 New Zealand's relative standard of living, measured by per capita Gross Domestic Product (GDP), was the third highest in the world (Crocombe, Enright and Porter, 1991).

According to James (1992) the vehicle for this good life and society was the welfare state – capitalism and multi-party representation, modified by socialism and keynesian economics into a kind of technocracy. James (1992) refers to New Zealanders' broad acceptance of the welfare state as the 'prosperity consensus' where the Government was viewed as guaranteeing economic improvement and individual and social security. According to James (1992), there were some unique features of New Zealand that helped explain why its citizens accepted the prosperity consensus. First, New Zealand was a largely homogeneous society. As late as the 1950s over 90 percent of New Zealanders were of British descent. New Zealand's ethnically near-uniform society held widely shared values, and the large middle class did not show much of extremes in wealth or poverty. Second, New Zealanders desired a society that would provide security and avoid the ravages of economic depression and war which it had experienced in the 1930s and 1940s. Third, New Zealand was a colonial society that was dependent militarily, culturally, economically and mentally on Britain.

Sutch (1966) concludes that much of New Zealand's history since the arrival of settlers from Britain has been characterised by a long quest for national and individual security. Many of the British migrating to New Zealand in the nineteenth century sought material security as they fled England for fact or fear of starvation, unemployment and homelessness. New Zealand's strong dependence on Britain and the assurance of support reinforced its citizens' quest for security. The prosperity consensus was self-reinforcing as it delivered prosperity and stability, which in turn reinforced the ideal among the nation's academics and politicians. Most national policy debate occurred within known and accepted boundaries and reinforced broadly agreed societal and national objectives (James, 1992).

'It [prosperity consensus] was a concept sustained by geographical isolation and by an enduring pride in our enlightened cradle-to-grave version of Fabian socialism. We believed in our largely unexamined myths: harmonious race relations, a great place to bring up children, a progressive and productive primary industry which formed the "backbone" of the country. Secure in our historical place as a valued member of the British Commonwealth, we believed our trading and cultural ties with a country 12,000 miles away would define our nationhood and support our aspirations' (Russell, 1996:11).

New Zealand's prosperity consensus allowed everyone an intrinsic right to a 'fair go' in pursuing their personal self-interests while also having 'a fair chance to conform' (James, 1992:13). The wide endorsement of the prosperity consensus among the majority homogeneous population was not held back by a few dissidents and Maori who lived mostly on the fringe of the majority's prosperous society and at that time did not challenge the consensus view. Most Zealanders viewed Maori more 'as a sideshow, bound for absorption into the mainstream value system where practicable ... or for extinction as inappropriate deviations' (James, 1992:12).

The majority of New Zealanders believed that they had succeeded in creating a society that 'ensured all citizens had a right to a job, a decent living wage,

income maintenance in adversity, shelter, education to the individual's highest potential, access to health care and support in old age [and] the state was to secure those rights ...' (James, 1992:19). Full employment was the goal of economic and social policies, and in so doing the Government became the nation's major employer (Kelsey, 1995). For all its virtues, the New Zealand public service had, over 80 years, protected and employed for life one-fifteenth of the total workforce (Russell, 1996). From 1961 to 1971 New Zealand was remarkably successful in maintaining high levels of employment (OECD, 1975). During this period peace and prosperity reigned throughout the country, and in the eyes of the majority New Zealand was 'God's own country – Godzone, for short' (James, 1992:7).

'In retrospect, given the conditions of social and cultural homogeneity coupled with a mechanism enabling easy social mobility which checked any divergent tendencies, the comfort of dependence on an acknowledged motherland, a widely shared way-of-life tradition, an agreed ideology that was part of a worldwide intellectual trend and an underpinning prosperity, it would have been surprising if consensus had not developed' (James, 1992:11).

However, throughout the world business methods were changing radically. By the 1960s firms began to locate in several nations, and the emerging international economy demanded increased domestic and trade liberalisation. Dramatic changes occurred as many nations shifted from relatively centralised, government-controlled and isolated economic systems to more decentralised, market-based and outward-oriented economies, which emphasised export promotion (McNelis and Bollard, 1991). The rapid increase in the trade of goods and services throughout the world made it increasingly difficult for nations to protect their domestic industries and employment. At the same time, there were new economic players in the international trade arena. Japan and more recently developed east Asian nations, particularly Korea, Singapore, Thailand, Taiwan and Hong Kong, embraced the necessary adjustments to export-oriented economies with hopes of attaining sustainable economic growth.

At this time New Zealand began to widen its international markets, reducing its economic dependence on Britain. In 1966 New Zealand and Australia agreed to a special trade arrangement, the New Zealand-Australia Free Trade Agreement (NAFTA), which eliminated duties on several goods and promoted a significant increase in trade between the two nations. New Zealand improved its economic and trade relations with South Pacific island nations after the South Pacific Forum in 1971.

The most significant change in New Zealand's trade relations came about when Britain entered into the European Community in 1972. This ended New Zealand's assured trade access to Britain by way of five-yearly trade agreements between the two nations. This change forced New Zealand into the international trade arena. The percentage of New Zealand's overall exports destined for Britain declined from 51 percent in 1965 to 19 percent in 1976 (OECD, 1975; 1987).

'The old emperor was changing the seating at the court and relatives of the new European bride would have prior claim. Sentimentally, it shocked the clinging colonials in the antipodes; culturally it was a shocking message to an overdependent adolescent to get out into the world' (James, 1992:44).

Though New Zealand had diversified its trading arrangements, its economic policies continued to subsidise exports of primary commodity products and protect the growing domestic manufacturing sector from imports. Beginning in the 1960s and continuing through the 1970s, export incentives were used to boost export earnings from New Zealand manufactured goods. However, high demand overseas for wool, meat and dairy products had produced an euphoric dependence on agricultural exports (Carew, 1987). The subsidies for farmers continued to increase, reaching on average \$40,000 per year for each farm (Russell, 1996). New Zealand's exports had traditionally the highest concentration of commodities of all OECD nations, excluding Iceland (OECD, 1983).

The unfavourable effects of New Zealand's prolonged reliance on a primary products-based economy began to surface as early as the 1960s. The generous farm subsidies had translated into increased costs in land, equipment and services rather than increased rewards (Russell, 1996). Low international prices for agricultural commodities resulted in the price of New Zealand's agricultural exports falling in real terms relative to the price of manufactured goods. New Zealand's terms of trade fell abruptly from 1966 to 1971 (OECD, 1975). Although New Zealand increased its overall volume of exports beginning in the mid-1970s, the expenditure on imports grew at a higher rate than earnings from exports (Chatterjee, 1992).

A rapid growth in nominal wages occurred throughout the 1960s and 1970s, the increased amounts not justified by productivity movement (OECD, 1982). In 1974 the economy was hit hard by the first OPEC oil price rise, which caused high inflation and a deteriorating balance of payments. The Government responded to the oil price rise with a series of successive devaluations which triggered wage/price spirals (McNelis and Bollard, 1991). New Zealand was the only OECD nation where labour productivity declined during the period 1973 to 1979 (OECD, 1993). As New Zealand wages followed rising prices, and in turn added to costs of production, overall prices continued to rise, creating a vicious circle.

For the period 1974 to 1981 the current account deficit deteriorated sharply, averaging 6.5 percent of GDP compared to 1 percent for the previous eight-year period (OECD, 1983). Although the conservative National Government had taken some measures to deregulate the economy during the mid- to late 1970s, rising inflation persisted, reaching 17 percent by 1982 and showing no signs of falling (Carew, 1987). At that time the Government reintroduced price controls on wages, interest rates and exchange rates, and associated policies (OECD, 1985).

The Government's fiscal deficit totalled around 2 percent of GDP during the early 1970s and then gradually increased to 9 percent by 1983/84 (OECD, 1985). This increase was driven by high proportions of investment in social capital (houses, hospitals and schools), 'think big' energy project developments and support for agricultural exports, all of which did not result in significant increases in total productivity (James, 1992). As the price of 'think big' projects escalated, the Government had to borrow heavily to finance them, and the jobs these projects promised to create never eventuated (Russell, 1996).

The combination of the current account and fiscal deficits led to an accumulation of foreign debt. Foreign debt rose twelve-fold between 1974 and 1982 and domestic debt threefold (OECD, 1983). By 1984 foreign debt was close to 30 percent of GDP (OECD, 1985). Most of the real element to this increase in debt was due to the 'think big' programme (McNelis and Bollard, 1991). The rising levels of foreign debt used by the Government led to higher foreign debt interest payments, which contributed to the reoccurring fiscal deficit.

By the early 1980s New Zealand's prosperity consensus appeared unworkable economically. It became increasingly clear that New Zealand's continued reliance on agricultural exports, which were subsidised by the non-farming sectors, could not generate the earnings required to finance the nation's imports and the prices of protected domestic manufacturers' goods. The non-farming sectors' incomes were taxed at increasingly high levels to continue the farm subsidy programmes. In 1982 the personal income tax rate was raised to as high as 66 percent (OECD, 1987). By the early 1980s New Zealanders were becoming less inclined to forgo consumption of foreign-made goods that remained unavailable while import restrictions protected domestic manufacturers.

During this time, the nation's social cohesiveness that had been strong for decades began to unravel. The sense of personal financial wellbeing that had validated the prosperity consensus began to evaporate (James, 1992). In the three decades from 1950 to 1980 New Zealand's standard of living had declined from

third highest in the world to twentieth position (Crocombe et al., 1991). During the early 1980s registered unemployment reached levels not experienced in New Zealand since the 1930s depression, peaking at 80,000 in January 1984 (OECD, 1985). The New Zealand economy required significant structural changes before an economic recovery was possible, and by the early 1980s the forces for change were strong.

At this time a younger generation emerged that had grown up during the prosperity consensus. As this generation came into power in business and politics, it was impatient with the status quo and agreed that values and policies had to change. The new generation confronted New Zealand's predicament in the world with a willingness to take risks and explore a new society unfettered by unchanging consensus (James, 1992). During this time some progress was made in addressing structural changes. New Zealand and Australia liberalised trade between them with the Closer Economic Relations Agreement in 1983, however, most other changes were short-term measures that failed to bring about needed structural changes for an economic recovery to occur.

Then in July 1984, an exchange rate crisis prompted the new Labour Government to take drastic action. In between the National Government's announcement in June 1984 of an election in July and the election, there was a strong speculative outflow of funds in anticipation of the Labour Party winning the election and, as had been disclosed, devaluing the currency by 20 percent. These outflows, and the danger that the reserves would be exhausted, made a large devaluation inevitable (OECD, 1985). As money continued to pour out of New Zealand in expectation of a devaluation, the Treasury and Reserve Bank borrowed \$1.7 billion in four weeks to prop up the currency (Russell, 1996). The Labour Party, led by Prime Minister David Lange, won the July 14 election and immediately proceeded to address a financial crisis.

Economic Reforms, 1984 - 1990

Any Government administration elected in 1984 would have faced the urgent need to remedy inefficiencies that had been tolerated for the previous two decades (Walker, 1989). The intransigence of the outgoing Muldoon Government provided the new Government with 'a fertile climate in which to introduce an urgent agenda and the party with a unifying objective that would keep it from internecine quarrels for some time' (Russell, 1996:68).

The new Minister of Finance, Roger Douglas, redefined Government's role from one of favouring certain sectors at the expense of others to one ensuring that people get value for money from the nation's resources and equity or fairness for everyone (Douglas, 1989). The New Zealand economic reforms had striking similarities to those implemented in the United States beginning in 1980 by then President, Ronald Reagan. Like 'Reaganomics', the New Zealand economic reforms came to be known as 'Rogernomics'.

The major aim of the Labour Government's economic reforms beginning in 1984 was to revitalise the nation by removing subsidies and distortions while encouraging economic growth, efficiency and competition in a price stable environment (Carew, 1987). All direct controls reintroduced by the National Government between 1982 and 1984 – plus previous policies on import quotas, subsidies and massive borrowing to sustain living standards – were reviewed by the Labour Government, which emphasised removing distortions and encouraging greater competition in the financial sector (OECD, 1985). The new Government then implemented one of the most broad-based and rapid reforms of financial policy ever undertaken (Harper and Karacaoglu, 1987).

The financial sector reforms occurred over two distinct phases. The majority of the reforms occurred during the first phase which began in 1984; the second phase occurred during the early 1990s. Conventional economic wisdom, however, holds that stabilisation of an economy should begin by reforms to the goods, trade and labour markets, and continue with reform of the financial sector.

Since financial markets adjust fairly quickly, when they are reformed first they reinforce distortions in those markets not yet reformed. Contrary to this conventional wisdom the Labour Government liberalised New Zealand's financial sector well ahead of other sectors and with as much speed as possible (McNalis and Bollard, 1991). The Government took on a 'blitzkrieg' approach towards the reform process (Easton, 1994), and with almost evangelical fervour, it set about redesigning the economic and social structure of New Zealand (Kelsey, 1995). The swiftness with which the Government moved to change the economy reflected its view that the best solution was to head straight for the cause of the problem rather than try to paste over the symptoms, as had been done by the previous National Government (Carew, 1987).

The first phase of the financial sector reforms involved drastic liberalisation and removal of controls to open up competition. The objectives were to:

- achieve more efficient financial intermediation by way of a competitively neutral policy environment that encouraged contestability within and across markets,
- complement the above objective by recognising the 'public good' aspects to financial market regulations, which would enhance the stability of the financial system, and
- achieve better macroeconomic outcomes by maintaining price stability, enhancing business and household savings and promoting growth by assisting in better allocations of investment to improve productivity.

(OECD, 1998:103).

The key measures for this first phase were:

- abolition of interest rate controls,
- floating of the New Zealand dollar,
- removal of restrictions on balance sheet structures,
- relaxation of restrictions on entry to the sector,
- removal of limits on foreign ownership,
- privatisation of state-owned financial institutions,
- removal of restrictions on foreign currency borrowing,

- introduction of formal banking supervision, and
- tightened securities legislation in respect of insider dealing, substantial security holder disclosure requirements and futures contracts.

(OECD, 1998:105).

The main macroeconomic policy changes were (1) an explicit policy to fully fund the fiscal deficit at market interest rates and (2) the 1989 Reserve Bank Act whose objectives were price stability, independence in implementing monetary policy and required regular reporting to Parliament (OECD, 1998). The Reserve Bank Act made inflation the sole objective of monetary policy (Lloyd, 1997). Policy changes that impacted on savings included introduction of (1) a tax imputation regime to avoid double taxation on dividends received by shareholders and (2) a Taxed-Taxed-Exempt regime that taxed contributions to, and income earned by, superannuation schemes while payments from superannuation schemes were tax exempt (OECD, 1998).

Furthermore, the tax system was overhauled to make it more neutral, close loopholes, reduce exemptions, broaden the tax base and flatten the rate scale. The new tax schedule introduced in 1986 had three brackets – 15, 30 and 49 percent – compared with the previous five brackets from 20 to 66 percent. The company tax rate was increased from 45 to 48 percent to avoid incentives to manipulate income sources (OECD, 1987).

Similar types of reforms occurred in the area of trade to phase out import licensing schemes and sell them through competitive bidding and to eliminate or phase out export subsidies and incentives. The Government introduced such public sector reforms as clarifying objectives and strengthening incentive systems to improve the performance and accountability of a number of its businesses. Reformed labour relations introduced voluntary unionism and market-based bargaining under the Industrial Relations Act 1987 (OECD, 1999). The Government then began a comprehensive programme to corporatise and privatise its businesses.

Since 1984, the Government's programme to corporatise and privatise its businesses has led to the sale of assets totalling nearly \$16 billion, mostly during 1988-1990 (OECD, 1998). The most notable sale was that of Telecom to a consortium of two US-based telecommunications suppliers, Bell Atlantic and Ameritech, and two New Zealand firms, Fay Richwhite and Freightways, for \$4.25 billion. The sale of Telecom in 1988 brought the total sale of government assets to \$8.3 billion, which fell short of Douglas' 1988 budget target of \$14 billion (Russell, 1996).

During the first two years of economic reform the agricultural sector was hit hard. The Government acted quickly to eliminate agricultural subsidies. In addition, the combination of increasing interest rates and a collapse of land prices, which fell by 40 to 50 percent, forced many farmers to leave their farms (Russell, 1996). Consumer prices increased 15.5 percent in 1985, 13.2 percent in 1986, and 15.7 percent in 1987. These price increases were fueled by the devaluation of the currency, the end of price/wage freezes and the introduction of a broadly based 10 percent goods and services tax in October 1986 (OECD, 1989). In 1987 the stock market crash hit New Zealand hard and signalled the recession which had already been felt by the agricultural and manufacturing sectors and carried through to the construction sector and other non-tradeables (McNelis and Bollard, 1991). After 1987 the rate of inflation fell sharply and remained under 2 percent in three successive years (Wooding, 1997).

One glaring consequence to the economic reforms during this period was the slow overall economic performance that continued into the early 1990s. For the period 1983 to 1991 the annual percentage change in real GDP was only 1.3 percent (OECD, 1998). The import volume growth lagged as domestic demand remained weak, which led to a significant and steady decline in employment levels. Unemployment increased from 3.8 percent in 1985 to 11 percent by December 1988 (OECD, 1989).

After four years of reform, New Zealand's economy had begun to adjust to market forces and increased exposure to internal and external competition (OECD, 1991), and then by late 1991 there were more buoyant economic conditions (OECD, 1998). The export sector experienced strong growth and improved terms of trade. There were significant improvements in the performance of several sectors of the economy – agriculture, fishing, hunting, forestry, mining, transport, communications – while other sectors such as manufacturing, building and construction, restaurants and hotels, and general government services experienced sharp contractions (Chatterjee, 1992).

During this first phase of reforms, industries and firms had to adapt quickly to macroeconomic liberalisation, reductions in protection and subsidies and deregulation by way of removing price controls, entry barriers, operating controls and changes to several Government enterprises (Savage and Bollard, 1990). Significant structural changes to the economy had affected all the major sectors (Birkes, 1997). Like other New Zealand industries, the seafood industry had to contend with the effects of deregulation which changed Government imposed duties, subsidies and taxation, brought about severe fluctuations in interest and exchange rates and later altered the bargaining power of unions.

The economic reforms implemented to date introduced a degree of environmental change unimaginable to many New Zealand managers, requiring them to adjust to several types of deregulation which, when simultaneously implemented, dramatically altered not only their sense of business but often their basic values and beliefs. Campbell-Hunt, Harper and Hamilton (1993) vividly outline the degree of economic upheaval brought on by economic reform. They find evidence that by the end of the first phase, only a minority of firms had emerged beyond the 'survival' mode of adaptation to the market-driven environment, while most firms required more time to respond effectively to the tougher market conditions. By this time both the public and private sectors had sought ways to improve their adaptation to New Zealand's new market-based business environment. However, the second wave of reform was about to begin.

'If New Zealanders thought they had voted [in the 1990 election] to stop the juggernaut of change, they were rudely disillusioned' (Russell, 1996:223).

Economic Reforms, 1990 – present

After two successive terms in office the Labour Government lost the 1990 election. Prior to the election fundamental differences had developed between the Prime Minister, David Lange, and Minister of Finance, Roger Douglas, on the direction of economic and social policies. These differences weakened the momentum of economic reform and caused dissent within the party. Douglas eventually resigned as Minister of Finance but was then re-elected to Cabinet, which became the catalyst for Prime Minister Lange's resignation in August 1989 (Russell, 1996). When a rejuvenated National Party won the 1990 election, New Zealand had become a much different environment than when the Party was last in power in 1984.

'By the time the National Government launched stage two of the revolution, the changes in the landscape of New Zealand were plain for all to see. The country was entering a serious recession; unemployment was soaring; the ill, homeless and dispossessed proliferating. In the cities, foodbanks reappeared for the first time since the 1930s; in the rural heartlands, whole communities just melted away as the reforms redesigned the fabric of New Zealand' (Russell, 1996:229).

The National Government was prompted into action by the serious recession, a projected fiscal deficit compounded by the Bank of New Zealand requiring a \$620 million interjection from the Government and the spiralling cost of the 'think big' projects begun during the late 1970s and early 1980s. The new Minister of Finance, Ruth Richardson, urged the new Prime Minister, Jim Bolger, to press on with the reform process.

At that time several industry leaders and Government officials were interested in the recent research conducted by Professor Michael Porter of the Harvard Business School. Professor Porter had already conducted a five-year research

project on sources of advantage in international competition based on studies of ten nations: the United States, West Germany, Italy, United Kingdom, Sweden, Switzerland, Denmark, Japan, Korea, and Singapore (Porter, 1990). In 1990 New Zealand appeared ready to become the focus of Porter's study on national competitiveness. Early that year Professors Michael Porter and Michael Enright, along with a team of New Zealanders, embarked on a study of the New Zealand economy's international competitiveness. The purpose of the study was to take 'a deep and fundamental look at the New Zealand economy and the history, national attitudes and institutions that have shaped it' (Crocombe et al., 1991:8). The study, referred to as the Porter Project, is covered later in this chapter.

The National Government acted swiftly to continue the momentum behind the economic reforms begun by the Labour Government. In addition, the National Government introduced social reforms, which during the previous six years under the Labour Government had remained untouched (Russell, 1996). Between 1984 and 1990, expenditure on social welfare programmes had increased substantially. The National Government was resolved to address the welfare state from the start, acting quickly to introduce reforms to employment relations, social assistance, education and health care (Russell, 1996).

The aim of the Employment Contracts Act 1991 was to promote an efficient labour market by allowing both employees and employers to determine the nature and structure of employment contracts (OECD, 1998). Under the 1991 Act, an employee may choose to negotiate an individual contract or be bound by a collective contract that the employer must recognise. Reforms to social assistance aimed to increase self-reliance for beneficiaries and to reduce the Government's fiscal burden. Various measures were implemented, including: introducing user part-charges and means-testing for various services; reducing the unemployment benefit rate and tightening benefit eligibility; lowering replacement rate for sickness, invalid, single parent and student allowances; altering the publicly-provided pension scheme by increasing the surcharge, lowering the abatement threshold and raising the eligibility age. Education

reforms introduced bulk funding and changed the nature of funding at the tertiary level so that institutions set their own student fee structures and financing (OECD, 1998).

Health care sector reforms involved decentralising the system into four Regional Health Authorities (RHAs) and attempting to increase efficiency by implementing profit motives for RHAs, which received Government funding for purchasing health services on behalf of the Government. Crown Health Enterprises (CHEs) were also set up to implement profit motives and compete for health care services (OECD, 1998). However, the expected efficiencies and profits generated from introducing profit motives into the health care sector did not eventuate. The RHAs and CHEs consistently experienced deficits, and there was widespread lack of confidence in the health care sector's ability to meet performance expectations and in the credibility of policy setting (Ministry of Health, 1996). In 1997 the Transitional Health Authority (THA) was set up to replace the four RHAs. In 1998 the CHEs were renamed Hospital and Health Services (HHS), which are 'not-for-profit' institutions (OECD, 1999).

The Fiscal Responsibility Act 1994 attempted to improve both the accountability and transparency of the Government's fiscal management by requiring short- and long-term fiscal plans and demonstrating consistency in objectives. In addition, the Resource Management Act 1991 (RMA) was introduced to improve accountability for the enforcement of environmentally sustainable management. In so doing the RMA vested most of the power for implementation in local governments while central government preserved the right to refine policy and set national environmental standards. However, the absence of more detailed policy guidance from central government has led to 'the quasi-absence of quantified and dated national objectives and the many gaps in national environmental data make *accountability* elusive at [the] national level' (OECD, 1998:92).

The Government's broad vision and goals for the sustainable management of the environment, as well as the roles and responsibilities for central and local governments, industry, *iwi*, non-governmental organisations and communities and individuals, are outlined in the *Environment 2010 Strategy* document (Ministry for the Environment, 1995). The RMA uses the 'user pay' principle, which has been commonly implemented during the reform process and has resulted in some industry leaders expressing concern that the RMA imposes excessive costs for environmental compliance (OECD, 1998).

The Government has taken several steps to introduce further competition in the public and private sectors. The Government's 1996 budget stated the intention to remove all remaining tariffs well within the Asia Pacific Economic Cooperation (APEC) 2010 deadline. This intention led the Government to announce in late 1997 that all tariffs on automobiles would be removed by 1 December 2000. The announcement resulted in the earlier than expected demise of the New Zealand auto assembly industry (Barber, 1997). Furthermore, by September 1999 the New Zealand dollar trade weighted index slumped to a six-year low, essentially eroding the lowering prices on automobiles due to tariff removal (Louisson, 1999).

The Government has permitted private sector agencies to compete directly with some Government-owned businesses. In 1998 the Government permitted full postal competition and passed the Accident Insurance Act 1998 to allow commercial insurance companies to compete directly with the Accident Rehabilitation and Compensation Insurance Corporation (ACC) to manage claims and underwrite workplace injury insurance (OECD, 1999).

Greater competition in electricity generation was introduced with the Electricity Reform Act 1998, which gave Ministers the power to implement the split of state-owned Electricity Corporation of New Zealand Limited (ECNZ) into three competing state-owned generators. The 1998 Act also mandates the ownership

split of lines and energy businesses to further enhance competition for energy generation.

Policy changes in relation to the Education Amendment Act 1990 were implemented in 2000 which allows approved private training establishments to compete directly with tertiary educational institutions for government funding at the same levels available to universities, polytechnics and colleges of education.

During the 1990s the Government continued to sell off state-owned assets such as Forestry Corporation for \$1.6 billion and Works and Development Services for \$108 million (OECD, 1998). In 1998 the Government sold its 51.6 percent shareholding in the Auckland International Airport for \$390 million and its 66 percent shareholding in the Wellington International Airport for \$96.36 million. In 1998 the Government completed the float of Capital Properties Limited New Zealand (CPNZ), which resulted in the Government receiving \$100 million (OECD, 1999).

In October 1996 the Mixed Member Proportional (MMP) system was introduced into a politically unstable situation, reflecting the disintegration of party politics. By this time the electorate became disillusioned by the lack of improved economic performance (Lloyd, 1997). This disillusionment led to the acceptance of the MMP system, while it was only accidentally, opportunistically and reluctantly accepted by politicians (Russell, 1996). Following the 1996 election, when no clear majority emerged, the National Party and New Zealand First Party entered into a coalition government that lasted until August 1998. The 1999 national election resulted in a dramatic change in the balance of power as the coalition government changed from the centre-right to the centre-left. The Labour party won a majority of the votes, and as expected entered into a coalition government with the Alliance party. The new coalition government halted further market-based economic and social reforms.

National Comparisons

There has been considerable debate in the media concerning the New Zealand Government's approach to the reform process relative to the process implemented by other relatively small nations. For example, Australia's approach to economic reform during the last fifteen years has been to gradually implement change and avoid significant economic and social upheavals. During this time, Australia's economic growth has surpassed that of New Zealand. If New Zealand's economy had grown at the same rate as Australia's between 1984 and 1998, it would be a third larger than it currently is (Harris, 1999).

Concerning the cross-Tasman comparison, Sherwin (1999) states that New Zealand started its reform process in 1984 from a substantially worse position than that of Australia, which implies more drastic reforms were needed. This justification for the New Zealand Government's approach to reform has less merit when comparing New Zealand's economic situation during the mid-1980s to that of Ireland and Finland.

At that time, the Governments of Ireland and Finland openly acknowledged their nations' poor economic conditions, which were quite similar if not worse than New Zealand's. Ireland, Finland and Singapore have produced significant economic gains during the last fifteen years, which raises the question, could New Zealand have experienced better economic performance to date had the Government taken a different approach to the reform process?

The comparative data demonstrates that, by the mid-1980s, New Zealand's economy was worse than that of most other OECD nations. Figure 4.1 shows New Zealand's annual rate of inflation, measured by the consumer price index excluding interest rates (CPIX), relative to an average inflation rate for eighteen OECD nations for the period 1980 to 1998.

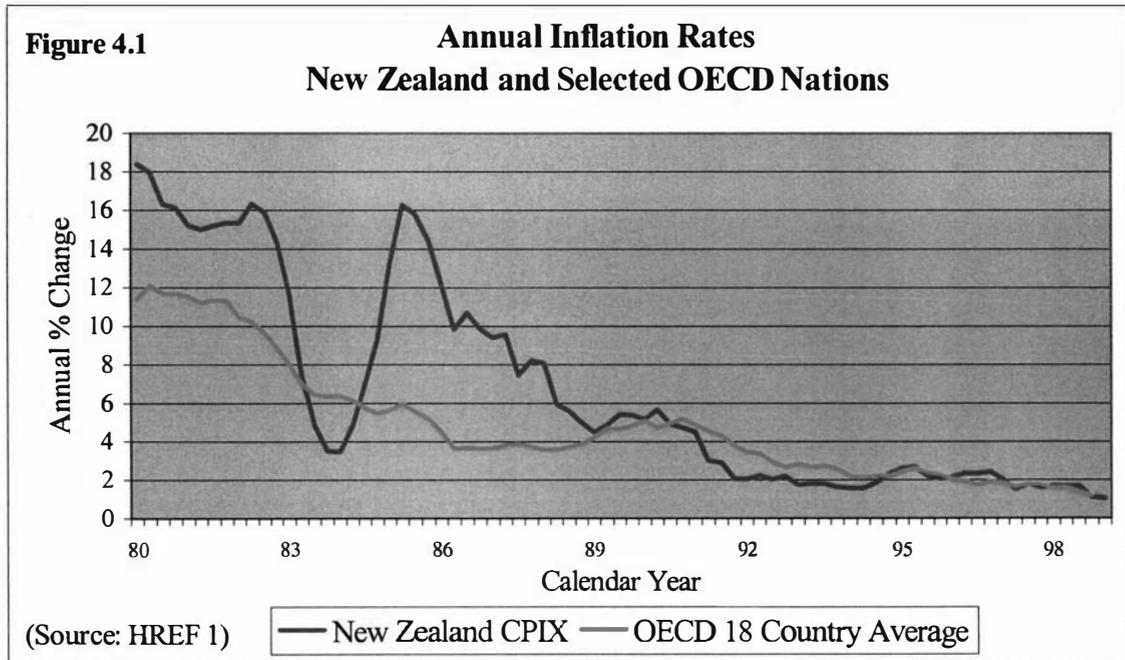


Figure 4.1 demonstrates that New Zealand's inflation rate exceeded the OECD average from 1980 to 1989, except from late 1983 to 1984 when the Muldoon Government reintroduced price controls. During 1991 to 1995 New Zealand's inflation rate was lower than the OECD average, and subsequently has remained in line with the OECD average. New Zealand's high inflation rate kept short-term interest rates high, and as the inflation rate fell so did short-term interest rates.

Figure 4.2 shows New Zealand's short-term interest rates compared to those of the United States, measured by the ninety-day bank bill rate. Since 1992 New Zealand's short-term interest rates have fallen in line with those of the United States. Since then the difference between the two nations' short-term rates has diminished markedly, especially since late 1998.

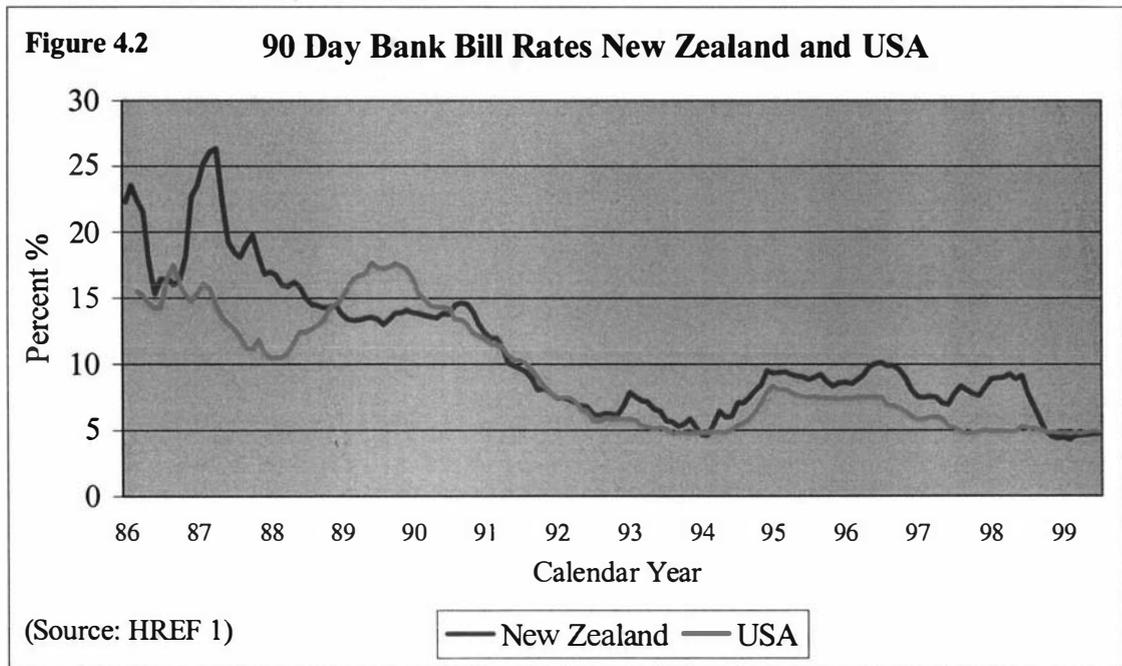


Figure 4.3 shows that New Zealand's real rate of growth in gross domestic product (GDP) lagged behind the OECD 18 nation average from 1982 to 1992 and then exceeded the OECD average from 1993 to 1997. During 1993 to 1998 New Zealand experienced a fairly impressive 23.8 percent growth in GDP, outperforming the OECD average of 15.5 percent, however, for the same period, Finland's GDP growth was 47.9 percent and Ireland's was 69.1 percent (HREF 2). The Asian economic downturn, which contributed to a recession in New Zealand, resulted in real GDP growth remaining weak through to early 1998. New Zealand's change in GDP from 1997 to 1998 was minus 0.8 percent (HREF 2). Since mid-1998, New Zealand has had an annual growth rate of around 3 percent (Sherwin, 1999).

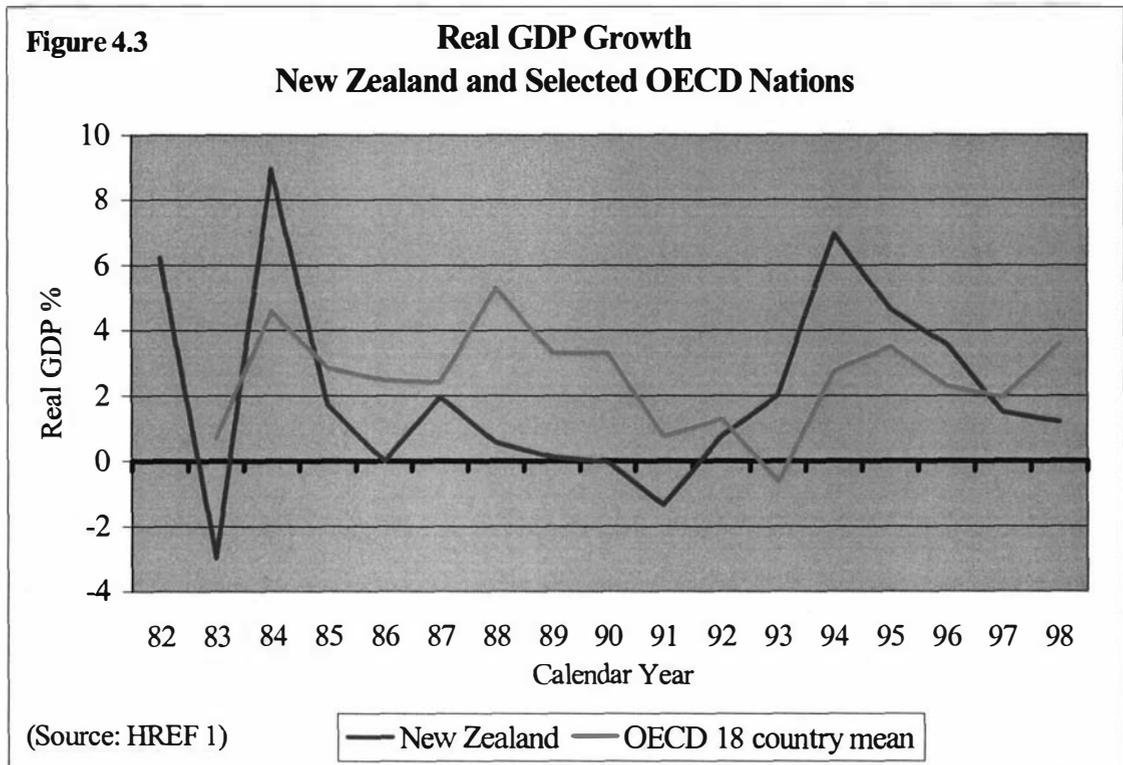
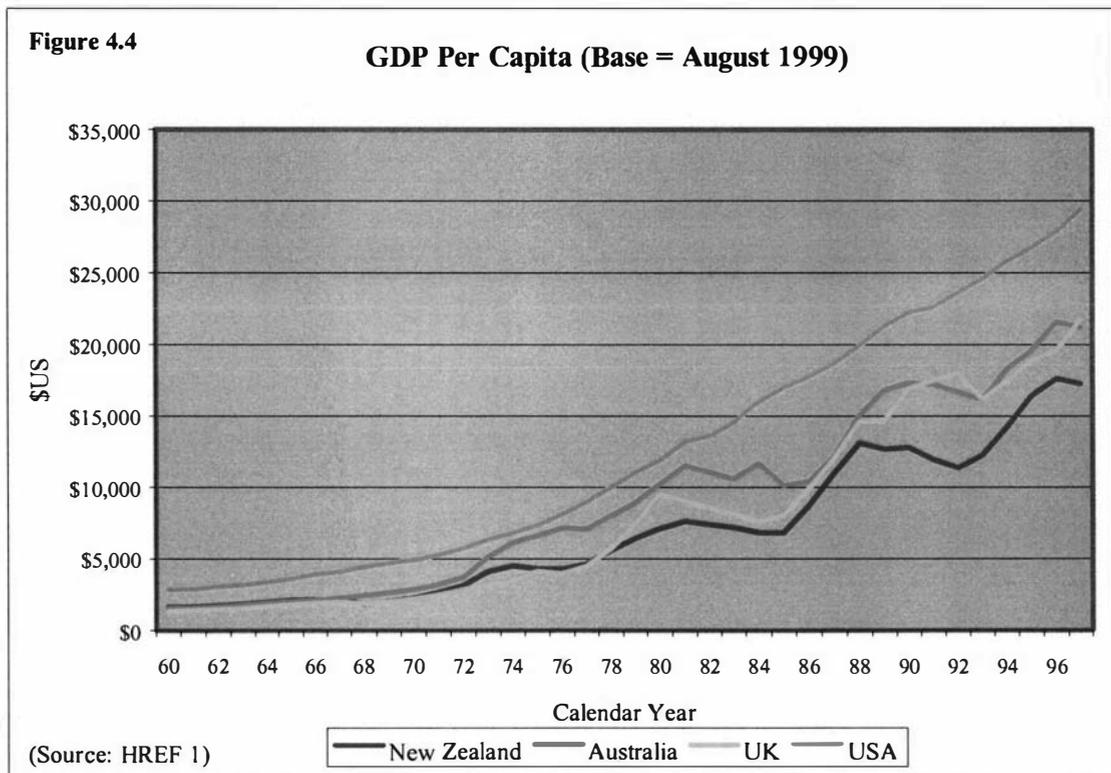


Figure 4.4 shows that during the 1960s and 1970s, New Zealand's GDP per capita lagged behind that of the comparative nations, which substantiates New Zealand's economy having required significant reform by the 1980s. During the period 1986 to 1988 New Zealand's GDP per capita kept pace with Australia and the UK. However, during 1989 to 1992, New Zealand lagged well behind the comparative nations, and since then has marginally improved its rating.

The New Zealand economy's lack of long-run growth is of concern since it is the fundamental determinant of real incomes and economic welfare (Lloyd, 1997). For New Zealand to regain a position nearer to the top of the international per capita income ratings, the nation must be able to make continued productivity improvements that exceed the growth rate of other nations (Sherwin, 1999).



‘There is quantitative evidence ... [that] New Zealand now has perhaps the least-interventionist or, equivalently, the most market-based economy in the OECD’ (Lloyd, 1997:118). New Zealand has been a world leader in implementing policies that have accelerated the closure of inefficient, uncompetitive firms, industries and government businesses. However, New Zealand has not had the same success in developing new economic growth (Alexander, 1999). The Government’s marginal changes to economic policies have not increased the nation’s rate of innovation and investment necessary to create new growth industries (Alexander, 1999).

It is beyond the scope of this study to assess lessons learnt from the varied approaches that small nations have taken to implement economic reform. However, the question now for Government and industry leaders is not so much whether or why other small nations are doing better than New Zealand, but how can New Zealand develop better links with these nations, particularly Australia, and use them as sound bases from which to trade with the rest of the world

(Bollard, 1999). Since 1992 the New Zealand economy has improved. The economy is going in the right direction, and the real challenge now is to recover the lost ground of earlier decades (Sherwin, 1999).

National Competitiveness

This section discusses the topic of national competitiveness. As mentioned in Chapter 1, there is growing interest in regional-level competitiveness, or 'clusters' of related and supporting industries, and other factors related to national-level competitiveness, including the role of government in economic development. National competitiveness has been a topic of debate since Professor Michael Porter's study of New Zealand in 1990, referred to as the Porter Project. The purpose of the study was to assess New Zealand's economy and its history, national attitudes and institutions to determine the nation's level of international competitiveness. This section provides a brief theoretical discussion on national competitiveness, which is followed up by discussion on the Porter Project.

The study of competitiveness at the national level initially focused on international trade according to Ricardian theory, which has comparative advantages as the primary determinate of a nation's competitiveness. Ricardian theory argues that a nation's abundance of certain resource factor endowments such as labour, capital and/or natural resources, best determines its basis for competition *vis-à-vis* other nations. Nations well endowed with labour relative to other nations should then invest in labour intensive industries while nations with capital endowments should invest in capital intensive industries. Those nations well endowed with natural resources should be able to build natural resource-based industries that use these resources at a lower cost and with higher productivity levels than nations that have less natural resource endowments. However, Ricardian theory's emphasis on comparative advantage misleads governments by falsely supporting the view that wages should be kept low *vis-à-vis* labour productivity when the real purpose of strengthening national

competitiveness should be to enable a nation's citizens to earn higher incomes and standards of living (Cho, 1997).

Furthermore, the theory of comparative advantage fails to explain current dynamics in international business. The development of international trade has altered the nature and location of production in the world (HREF 3). Labour, capital and natural resources now move relatively freely throughout most of the world. A nation's resource factor endowments now play a diminished role in determining national competitiveness. As nations shift the basis of their competitiveness from dependence on resource factor endowments, there is increased interest in additional factors that a nation can offer its industries and firms and in the dynamic interaction between some factors.

Positive and reinforcing interaction between nation-, industry- and firm-specific factors can become a source of competitive advantage for firms both domestically and globally. The positive interaction between these factors can increase a nation's productivity level, which then leads to increased incomes and standards of living. The emphasis placed on the interaction between factors should motivate a nation's government to serve the welfare of its constituents within a particular spatial area (Dunning, 1993), since the principal economic goal of a nation is to produce a high and rising standard of living for its citizens by productively employing the nation's resources (Porter, 1990).

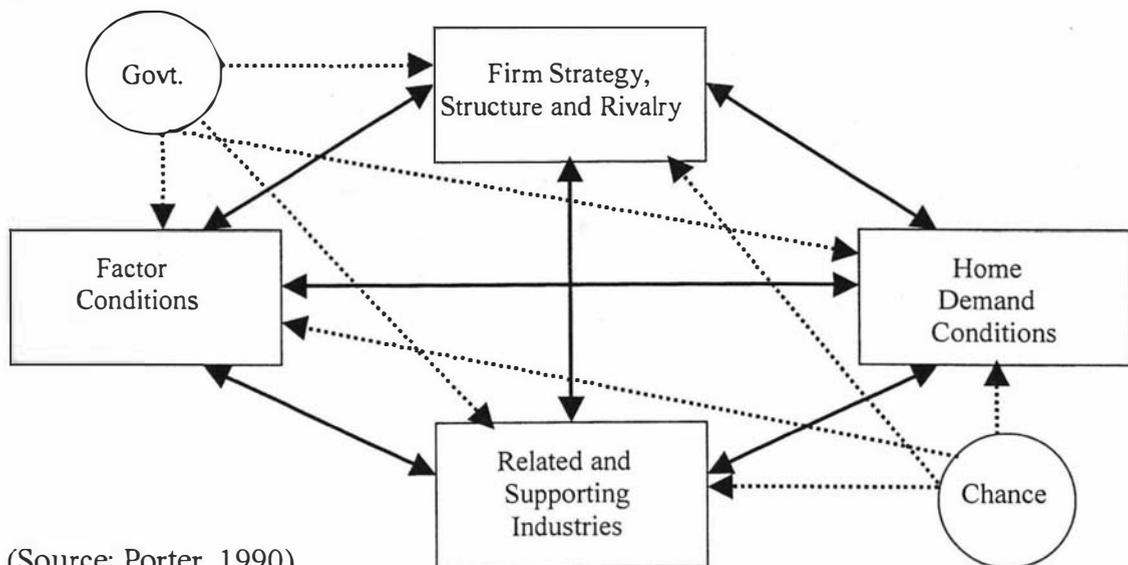
The freeing up of trade internationally also allows firms and industries to move across national borders. Government policies on such factors as market liberalisation, taxes, savings and human capital influence the attractiveness of a nation to successful industries and firms, as well as entrepreneurial startups (HREF 4). National attractiveness influences firms' decisions on where to invest funds, source inputs, locate production facilities, export and have inter-firm arrangements. These firm-specific decisions impact on a nation's ability to improve its domestic productivity and raise its standard of living.

Nations, therefore, 'compete' on the basis of policies that promote domestic productivity improvements which lead to higher standards of living (C-word, 1996). Governments act as 'strategic oligopolists to protect or advance their national economic interests ... [and] the ultimate responsibility for a country's competitiveness in global markets rests with its own democratically elected government' (Dunning, 1993:10-13).

Multinational firms have also had a critical role in developing and integrating regions of several nations and enhancing those nations' competitiveness. According to Dunning (1981, 1988a, 1988b, 1993), three elements determine a multinational firm's international competitiveness: (1) ownership specific advantages which remain exclusive or proprietary rights of firms, not of nations or governments; (2) location advantages, particularly in terms of 'location-bound' consumers; and (3) internationalisation advantages. Most literature on global strategic management, including the Resource Approach, focus primarily on ownership-specific and internationalisation advantages.

Although Porter's (1990) study on national competitiveness understates the role played by multinational firms, it redirects attention toward location advantages in nations that could stimulate competitive advantage in some industries and firms. Porter (1990) explains why particular locations may appear attractive as home bases for successful international competitors (Rugman and Verbeke, 1993). According to Grant (1991b), Porter's (1990) study on national competitiveness broadens the scope of competitive strategy theory to encompass both the international dimension and the dynamic national context of competition.

Porter's (1990) theoretical framework, Figure 4.5, referred to as the diamond model or home country diamond, consists of four broad determinants and two external variables that shape a nation's environment to the benefit or hindrance of firms by providing them with pressures, incentives and capabilities to improve and innovate. The determinants are factor conditions, demand conditions, related and supporting industries and firm strategy, structure and domestic rivalry.

Figure 4.5 Determinants of National Competitive Advantage

- **Factor conditions** are the inputs necessary to compete in an industry. For a nation's industries to succeed internationally there must be continual investments to create and upgrade more advanced and specialised factors instead of reliance on inherited factor endowments.
- **Home demand conditions** can help create industries' international competitiveness by firms perceiving and responding to domestic consumers if they are sophisticated, demanding and anticipate foreign demand.
- **Related and supporting industries** share common technologies, cost-effective or highest-quality inputs, distribution channels, customers or activities, or provide products that are complementary. The relationships developed by working closely together in efficient and preferential ways can lead to upgrading innovation to develop international competitiveness.
- **Firm strategy, structure and rivalry** encompass how a nation's firms are created, organised and managed and the nature of domestic rivalry. A nation's social norms and attitudes towards business create unique environmental conditions that impact on domestic firm rivalry and firms' international competitiveness.
- In addition, **chance** events outside the control of firms and a nation and **government** at all levels can influence the national environment. Chance events can create discontinuities that can shift competitive positions, nullifying previous advantages and creating the potential for other firms to replace them. Government should have an indirect role that leads to creating an environment that acts as a catalyst to encourage firms to raise their competitive performance.

The home country diamond model reflects the theoretical position that the primary determinants of international competitiveness are located in the home-base environment. Nations tend to succeed in industries where domestic firms 'cluster' in a home environment that is the most dynamic and challenging for a particular industry, and the microeconomic environment should stimulate firms to upgrade and widen advantages in industry both domestically and internationally (Porter, 1990). 'Firms must think and compete globally while competitive advantage depends largely on a firm's ability to innovate in technology, service, marketing, distribution, image and product concept' (McManus, 1990:18).

However, none of the four determinants and two external variables in the diamond model are new or unexpected, and so Porter's (1990) primary contribution is to bring them together in a useful manner for business and government strategy (Rugman and D'Cruz, 1993). The strength of Porter's home diamond model is that it encompasses firm-, industry- and nation-specific factors, integrating both micro and macro perspectives on competitiveness (Cho, 1997). The diamond model, however, is designed to explain the success of advanced nations' economies, and it has less relevance for those nations in less developed or developing stages that lack some of the four factors (Cho, 1997).

Porter (1990) admits that the diamond model requires positive interaction between the four determinants and two external variables when applied to more sophisticated industries and segments, and that this interaction is less important for resource-intensive industries and standardised, lower-technology segments where factor costs are frequently the basis to competitive advantage. The same theoretical framework was applied to the Porter Project. However, the Porter Project acknowledged the limitations of the diamond model when applied to natural resource-based nations such as New Zealand (Cartwright, 1993). The Porter Project accepted the model 'as representing a desirable benchmark condition, and the structure and performance of New Zealand industries was evaluated in terms of this pre-determined prescription' (Cartwright, 1993:56).

The Porter Project

The aim of the Porter Project was 'to bring a new perspective, new data and fresh ideas to the debate over New Zealand's economic options and hopefully to serve as a basis for positive action by individuals, companies, unions and government' (Crocombe et al., 1991:12). The New Zealand Trade Development Board (Tradenz) sponsored the Porter Project and co-ordinated contributions from various government agencies, including the Department of Scientific and Industrial Research, the Ministry of Commerce, the Ministry of External Relations and Trade, the Ministry of Forestry, the Reserve Bank, the Treasury and the Ministry of Agriculture and Fisheries.

The overall response to the Porter Project was encouraging as numerous organisations and individuals contributed to this in-depth assessment of New Zealand industries' competitiveness. The Fishing Industry Board and the seafood industry were keenly interested in the Porter Project's attention to the industry and intention to identify requirements for economic development and change (Fishing Industry Board, 1990). The Porter Project's implications for the seafood industry are outlined in Chapter 5.

The Porter Project conducted a detailed audit of New Zealand's institutional environment to assess its impact on the competitiveness of New Zealand firms and its influence on the economy's ability to grow and prosper. Combined with this audit were analyses of twenty New Zealand industry studies, although only abstracts from the dairy, forest products, electric-fencing and software industries are included in the published results (Crocombe et al., 1991).

In line with Porter (1990), the Porter Project assumed that the principal economic goal of a nation was to produce a high and rising standard of living for its citizens by productively employing the nation's resources. The Porter Project concluded that, as of 1990, the New Zealand economy had not 'upgraded' itself in terms of the sustained growth in productivity required to generate enough jobs and higher incomes to maintain the nation's standard of living. Instead, New

Zealand's poor productivity and compensation levels, rising unemployment, persistent inflation, increases in bankruptcies and insolvencies, declining terms of trade and increasing foreign debt indicated an economy that had deteriorated, making it more difficult to improve the standard of living and firms' international competitiveness (Crocombe et al, 1991).

The main reason for New Zealand's poor economic competitiveness and performance was attributed to its continued reliance on natural resource-based industries, i.e., those industries, particularly agriculture, that use natural resource endowment advantages to produce primary commodities that compete on cost efficiencies. The Porter Project pointed out that, as late as 1987, New Zealand earned 69 percent of export revenues from primary commodities while the OECD average was only 12 percent (Crocombe et al., 1991).

In contrast to New Zealand in 1990, the Porter Project proclaimed that a nation's firms and industries must not rely heavily on advantages based on factor endowments but that they must use change and innovation to continually create and recreate new competitive advantages. According to Professor Porter, New Zealand was 'frozen in a factor-driven economy, where exports are driven by natural resources ...' and, as a result, the nation had not yet developed the attitudes and institutions that it needed to push it forward through an investment-driven economy to one that was innovation-driven (McManus, 1990:19).

'As the global economy has become more integrated, possessing cheap land, labour, or even capital has become less of an advantage. Success in international trade has become more a function of the ability to develop and deploy technology and skills than of proximity to low-cost inputs. Innovation, in the broadest sense of the term, has become vital to success in international competition' (Crocombe et al., 1991:26).

The Porter Project concluded that outside the agriculture industry New Zealand had not developed the full home country diamond model. The nation had failed to develop 'clusters' of related and supporting industries around successful

industries (Crocombe et al., 1991). Porter (1990) observed that 'clusters' succeed because their high level of domestic competition, specialised infrastructure, research facilities and educational institutions and various industry associations promote rapid communication of information and generation of innovations in products, processes and services which provide industries with sustained international competitiveness. Since no nation can create an environment where all industries can be internationally competitive, the Porter Project raised an important question to New Zealand's Government and industry leaders. That is, which New Zealand industries can build and sustain international competitiveness and what must be done to ensure their success? (Crocombe et al., 1991).

The Porter Project criticised the predominantly laissez-faire approach the New Zealand Government had taken since implementing economic reforms beginning in 1984. However, most criticism was levelled at the Government for not following through privatisation and deregulation to ensure a competitive situation emerged, either through the process of selling government-owned assets or through anti-trust actions (Crocombe et al., 1991). Professor Porter acknowledged that as of 1990 the economic reforms had 'done some of the right things, but it's not systematic change and much of the privatisation of Rogernomics just reinforced the old monopolies ... [New Zealand was strongly encouraged to acquire] a national consensus on broad, systemic changes and a razor-sharp perspective on where the economy should be heading' (McManus, 1990:18).

It is beyond the scope of this chapter to provide a detailed critique of the Porter Project or the relevance of its recommendations. It is important, however, to acknowledge that Porter's studies on national competitiveness have been challenged by several academics (Cartwright, 1991, 1993; Grant, 1991b; Rugman and D'Cruz, 1991, 1993; Rugman, 1992; Spring, 1992; Daly, 1993; Narula, 1993). Most of these academic challenges support the diamond model's combining firm-, industry- and nation-specific factors and emphasising the

contribution their interaction makes towards creating competitive advantage. However, most of the challenges also address the diamond model's limitations when applied to certain national environments, and they elaborate on additional factors that make the model more applicable for those environments. Both academics and leaders of industries studied by Porter have expressed their concerns about the assumptions and methodology used in the studies on national competitiveness. Given the Porter Project's strong acceptance in New Zealand and the discussion it has generated since 1990, it is useful to briefly consider four of the main challenges and concerns.

First, Rugman and D'Cruz (1993:26) conclude that since Porter's home diamond model does not 'incorporate the true significance of multinational activity ... over 90 percent of the world's nations potentially cannot be modelled by the Porter diamond'. Rugman (1992:61) states that 'contrary to Porter's thinking, there is no particular reason why a multinational needs a home base'. Rugman (1992) acknowledges that the home country diamond model is appropriate for large triad nations, but considers it inappropriate for small, open economies that are highly interdependent with one or more triad markets.

Rugman and D'Cruz (1991) suggest that a more appropriate model for Canada would be a North American diamond that designs strategies for operating across both U.S. and Canadian diamonds. Porter (1991b) rejected this concept. As well, Rugman and D'Cruz (1993:25) state that Porter's (1990:13) argument that reliance on natural resources 'is as bad as reliance on unskilled labor or simple technology' is 'old fashioned and misguided' and contradicts Canada's successful multinational resource-based firms that have intangible firm-specific advantages in marketing and management skills.

Second, Cartwright (1993:58), who participated in the Porter Project, expresses concern about the Project's 'data collection process that biased towards identifying sources of competitive advantage in the home-base markets and against study of sources that arise from offshore operations'. Furthermore, the

diamond model was used to analyse industries, although 'some case study writers acknowledged phenomena that were apparently outside the diamond framework, or even disagreed with it, but the methodology did not provide mechanisms to include these observations in the final synthesis of findings' (Cartwright, 1993:59).

Cartwright (1993) questions the validity of the Porter Project's emphasis on the home country diamond model when several New Zealand industries are natural resource-based, with their value chains linked to immobile indigenous land resources and export-dependent since their output far exceeds domestic demand. Cartwright (1993) demonstrates that a multiple linked diamond model, the home-based model linked with five offshore variables, better explains the New Zealand context than does Porter's home country diamond model.

The results of Cartwright's (1991:7) application of the multiple linked diamond model to New Zealand 'casts serious doubt on the ability of the Porter diamond theory to account satisfactorily for the international competitiveness of land-based industries that must export a high proportion of their production'. Interpretation of Cartwright's (1993:68-69) results suggests that the variables that most strongly determine New Zealand industries' international competitiveness are:

1. Close working relationships within discerning off-shore customers,
2. Strength of rivalry in off-shore markets,
3. Capture of capabilities for advanced factor creation off-shore,
4. Commitment of firms to goals and structures to support international strategy, as distinct from home-based activities,
5. Efficient, quality-conscious, and responsive production in the home-base, with continuous innovation in the upstream value chain, and
6. Coordination of export activities to achieve economies of scale and scope and to ensure sufficient bargaining power in foreign markets.

Third, Spring (1992), the then Chairman of the New Zealand Dairy Board, disagrees with the Porter Project's recommendation that the New Zealand Dairy

Board move from single-seller status to a structure in which a number of individual firms compete in both New Zealand and offshore. Spring (1992:67) views this recommendation as 'dangerously flawed' since the international dairy market is 'tiny', and to succeed internationally the Board requires 'the combined and coordinated resources of the New Zealand industry to take on the top food companies in the world'.

Fourth, Grant (1991b) contends that although Porter (1990) made an ambitious attempt to answer the very important question, why do some social groups, economic institutions, and nations advance and prosper, 'the breadth and relevance of Porter's analysis have been achieved at the expense of precision and determinancy' (1991b:535). According to Grant (1991b), Porter's (1990) emphasis on determinants of international competitiveness located in the home-base environment goes counter to the prevailing view that multinationals increasingly disassociate from their home bases. Furthermore, some of the recommendations presented by Porter (1990) contradict Porter (1980) where the industrial organisation model portrays strategy as a quest for monopoly rents achieved through locating within industries and segments where competition is weak and by initiating industry structure changes that moderate competitive pressure (Grant, 1991b).

Despite these challenges and concerns, the Porter Project has played an important role in focusing New Zealand's industry leaders and government officials on various economic and systemic issues that substantially impact on the nation's ability to succeed as a decentralised, market-based and outward-oriented economy. The Porter Project was a timely contribution to the nation understanding where it was going in a global economy and how it could plan for the future (Birkes, 1997). The Porter Project's continued influence in New Zealand since 1990 has been best displayed by Tradenz's implementation of some of the Project's recommendations, which is discussed in Chapter 5.

Since 1990 Professor Porter has stayed informed of New Zealand's progress on upgrading its international competitiveness. In mid-1997 Professor Porter returned to New Zealand and commented that he sensed there was a lull in the nationwide commitment to New Zealand upgrading its competitiveness, and that he would be pleased and honored to participate in an audit based on the Porter Project (Green, 1997). Professor Porter stated that although New Zealand has dealt with some hard issues, 'in some ways the longer-term, more complex agenda is still in front of [New Zealand]: education reform, building clusters, making continuous progress towards internal competition ... science and technology agenda ... improvement in the investment climate ...' (French, 1997:6).

Professor Porter returned to New Zealand again in late 1998. During his two day visit, Professor Porter made presentations in Auckland and Wellington (HREF 4). In his presentations to business people and national and local government leaders Professor Porter stated that New Zealand needed to affirmatively approach the economic reform process by creating a powerful, positive vision, agreeing to strategic priorities and setting specific, measurable goals which would inspire everyone and create a real sense of purpose (Tradenz, 1998).

Professor Porter remarked that he believed New Zealand was at a 'reflective point' in history since significant macro-economic improvements had been made, however, there were some micro-economic issues still to be addressed (Head, 1998:1). Professor Porter's ideas and recommendations continue to have some influence on the economic development policies of both the Labour Party and the National Party (Gamlin, 1999). For this reason, industry leaders and Government officials will be listening with interest the next time Professor Porter visits to comment on efforts to upgrade the nation's international competitiveness.

Summary

This chapter briefly outlines the economic history of New Zealand which provides the context for the ITQ system having been accepted by the Government and the seafood industry in 1986. The economic and social changes that have taken place in New Zealand help explain why this radically new and untested fisheries management system gained broad acceptance and encountered little obstruction when the Government passed legislation to put the ITQ system into law. The climate for favouring market forces as the solution to economic and social issues strongly affected the options available for managing fisheries (Harding, 1991).

The mid- to late 1980s was perhaps the optimal time period for the implementation of the ITQ system while previous and subsequent political and legal environments in New Zealand may not have approved of the ITQ system. It is conceivable to conclude that New Zealand's ITQ system had around a ten year window of opportunity; the ITQ system would not have been approved prior to the start of economic reforms in 1984 or after the 1993 national election when the National Party began to slow down the economic reform process. By the early 1990s the Government most likely would have faced considerably more resistance to the implementation of the ITQ system than it faced in 1986 (Bess, 1999).

To understand this radical departure from previous fisheries management practice, it is useful to recall that in the mid-1980s New Zealand experienced a period of radical change after a long history of economic and social dependence on Britain dating back to the mid-1800s. New Zealand's early history was characterised by the nation's cultural and economic dependence on Britain until 1972, when Britain entered the European Community. At that time New Zealand was thrust into the international trade arena while its economy remained strongly dependent on exports of primary product commodities.

New Zealand's prolonged dependence on commodity exports and its continued use of central government controls propelled the Labour Government in 1984 to launch dramatic and sweeping economic reforms. The reform process restructured the public sector and forced the private sector to adjust to a market-based environment virtually free of government assistance and protection. During this period of rapid and extensive economic and social change New Zealand was revolutionised into a decentralised, market-based and outward-oriented economy. It was at this time that the Fisheries Amendment Bill was passed by Parliament and the ITQ system was implemented.

Beginning 1990, the National Government continued the economic reforms. Although the pace of reform during the 1990s lessened relative to the first phase, 1984 to 1990, the 1990s witnessed continuation of reforms beyond the financial sector and included reforms to employment relations, social assistance, education and health care. However, the introduction of the MMP system in 1996 led to a slowdown in the reform process, which was then curtailed by the new Labour and Alliance coalition government formed after the 1999 national election.

This chapter also addresses the topic of national competitiveness, which gained national importance in 1990 when Professors Michael Porter and Michael Enright undertook the Porter Project, a study of New Zealand's economic international competitiveness. Since then the ideas and recommendations of Professor Porter have played an important role in focusing New Zealand's industry leaders and Government officials on various economic and systemic issues that substantially impact on the nation's ability to succeed as a market-based, outward-oriented economy (HREF 5). The Porter Project included analysis of the seafood industry; its implications for the industry are outlined in Chapter 5.

Chapter 5

The New Zealand Seafood Industry

Introduction

The New Zealand seafood industry experienced several problems initially implementing the ITQ system. Disagreement existed over the level of consultation required by the industry and MAF, which made the task of setting annual TACCs a laborious process. Furthermore, the legislative framework of the time rendered the new management system difficult to operationalise. Delays on critical issues, such as compensation to the industry for initial reductions in TACCs, led the industry to file a \$150 million lawsuit against the Government in October 1989. The lawsuit was later suspended as negotiations improved with a change in Government and a new Minister of Agriculture and Fisheries (Fishing Industry Board, 1990).

Despite the problems encountered during the initial implementation of the ITQ system, the seafood industry experienced steady and impressive growth during the late 1980s and early 1990s. Growth was due primarily to the expansion of the deepwater fisheries.

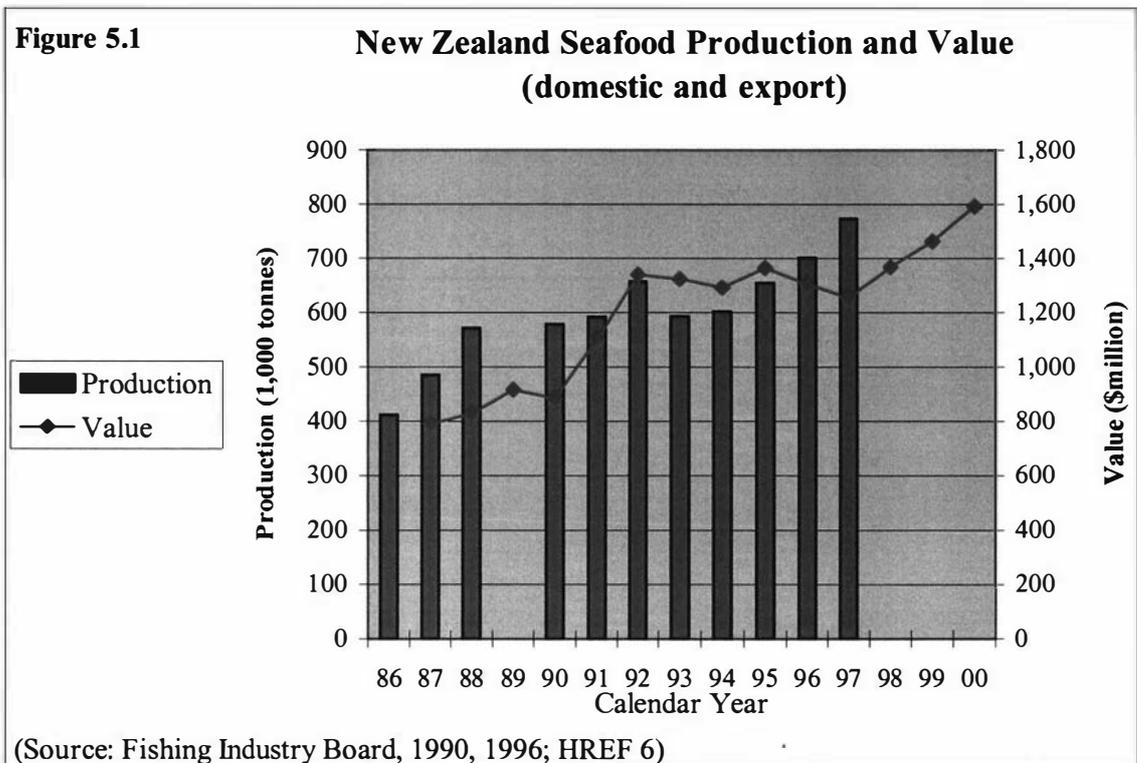
The first section of this chapter outlines various economic performance measurements of the seafood industry since the implementation of the ITQ system. This section compares changes in the seafood industry's overall production and value, overall exports by volume and value, main export species by value, overall exports by destination, value and volume of exports from the aquaculture sector, and limited data on overall industry financial performance. The second section outlines the changes in the composition of quota ownership, comparison of domestic versus charter vessels used within the EEZ, the composition of the domestic full-time fleet structure and the industry's employment profile. The next section follows on from the Chapter 4 discussion on the Porter Project and outlines its implications for the seafood industry, including a separate section on the Nelson seafood cluster.

Seafood Industry Economic Performance

During the last thirty years, New Zealand's relatively small seafood industry has grown from a predominately domestic supplier to one of the nation's leading export industries. During the 1990s, approximately ninety percent of seafood production was exported. The most significant growth period for the industry occurred after the implementation of the ITQ system. Given that New Zealand's seafood industry is a small player internationally, and it receives no government subsidies, it has to be competitive by keeping harvesting and processing unit costs low and maintaining activities that buffer it from the impact of movements in world prices and the inherent variability in fish stocks (Sharp, 1998).

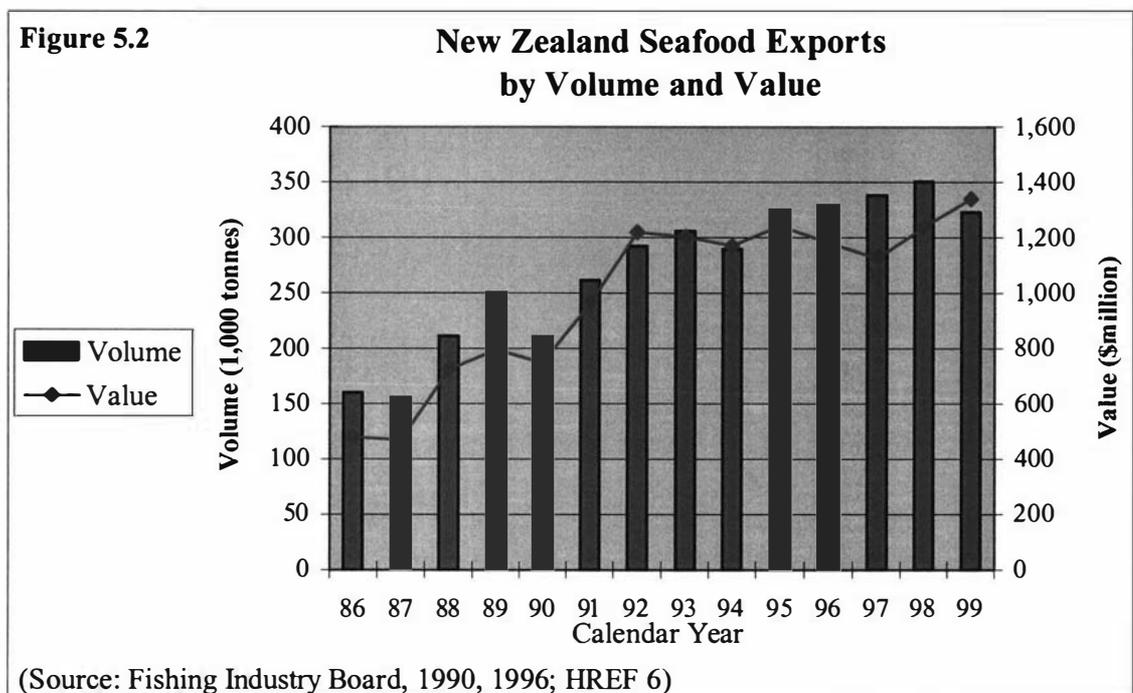
Figure 5.1 outlines the industry's substantial growth, primarily in the deepwater fisheries, after implementing the ITQ system. Figure 5.1 shows the production of seafood products, including both domestic and export sales, from 1986 to 1997, excluding 1989, and the value of products from 1987 to 2000. During the first three years of the ITQ system, 1986 to 1988, the industry experienced steady growth in production and moderate improvement in the value of seafood products. From 1987 to 1989, the value increased by 16 percent, reaching \$915

million by 1989. Production in 1986 was 412,000 tonnes, which increased 39 percent by 1988 to 571,000 tonnes. Much of the increased production from 1986 to 1988 was due to a substantial increase in the hoki quota and catch. The 1985/86 hoki quota was 150,000 tonnes, including an additional experimental quota of 30,000 tonnes. The hoki quota for the 1986/87 season was increased to 250,000 tonnes. The 1986/87 hoki quota was increased because of a large spawning aggregation found off the west coast of the South Island (MAF, 1986).



New Zealand seafood firms involved in the hoki fishery at that time relied heavily on joint venture and charter arrangements since the domestic fleet had insufficient capacity to catch the deepwater quotas. The increase in hoki quota for the 1986/87 season and subsequent increases in various deepwater quotas forced the industry to continue their reliance on foreign vessel catching capacity. The more recent shortage of white fish in the international market increased the value of hoki, which helped to raise the value of overall production from 1997 to 2000, totalling \$1.59 billion in 2000.

The abundance of New Zealand's fish stocks coupled with the nation having a relatively small population with low levels of seafood consumption per capita required seafood firms to export the bulk of their production. Exports of seafood have historically averaged ninety percent of overall production. During the first few years after implementing the ITQ system, the value and volume of seafood exports made impressive gains. Between 1986 and 1989 the value of seafood exports increased by an astonishing rate of 69.3 percent. By 1989 seafood export value reached \$795.5 million and the volume increased to 249,400 tonnes. Figure 5.2 outlines seafood exports by volume and value from 1986 to 1999.



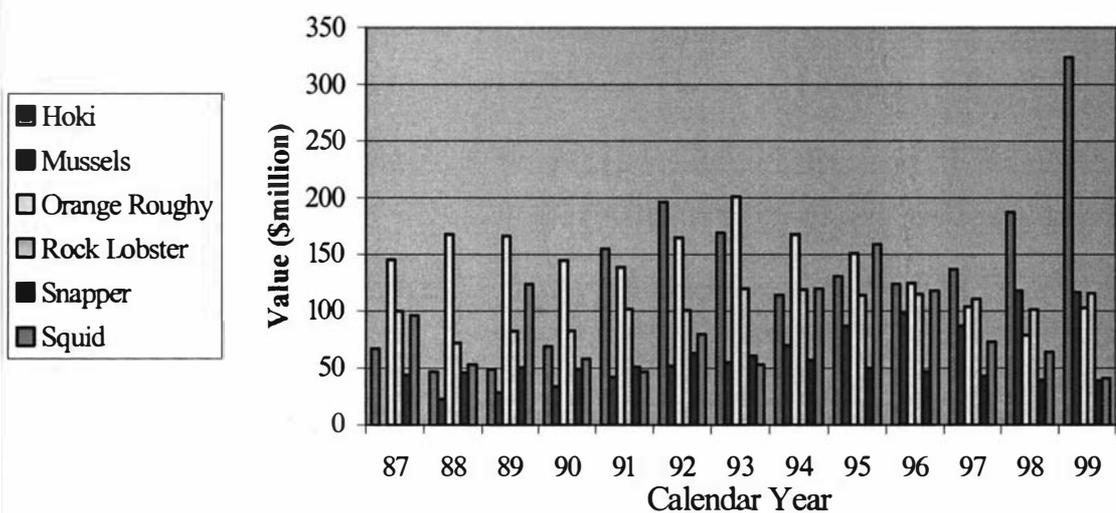
After a slight decline in the levels of production and value in 1990, the seafood industry experienced dramatic increases in both production and value in 1991 and 1992, reaching 592,900 tonnes of production valued at \$1.338 million in 1992. At this time seafood exports continued to rise at a surprising rate, with a 65.5 percent increase from 1990 to 1992, reaching \$1.219 million in 1992. The rise in export value was due primarily to firm international markets and increases in export volume and value adding activities (Fishing Industry Board, 1992).

Figure 5.3 outlines main export species by value from 1987 to 1999. During the period 1986 to 1989, the five main seafood export species were orange roughy, rock lobster, squid, snapper and hoki. The highest valued export species was orange roughy, which earned a high \$168 million in 1988. Squid was the second highest valued export, reaching \$123.7 million in 1989, which was a 233 percent increase over the 1988 level. Orange roughy exports had experienced a decline in value between 1989 and 1991. In 1991 hoki export value increased to \$155 million, and orange roughy exports were valued at \$139 million. By 1992 hoki exports improved to \$196 million, surpassing orange roughy exports valued at \$165 million. By 1992, the top five export earning species were hoki, orange roughy, rock lobster, snapper and squid. The squid fishery continued to experience uneven results from year to year, with export values from 1990 to 1992 well below the \$123.7 million value reached in 1989.

Greenshell™ mussels began as a relatively low export earning species, with an export value of \$23 million in 1988. By 1992 Greenshell™ mussels reached an export value of \$52 million. By 1998 Greenshell™ mussels became the second highest valued export at \$118 million.

Figure 5.3

New Zealand Main Export Species by Value



(Source: Fishing Industry Board, 1990, 1996; HREF 6)

Rock lobster's 1992 export value remained close to the 1990 level at \$101 million, and snapper export value increased to \$63 million. Squid export value improved to \$80 million in 1992 after having declined significantly during 1990 and 1991. Squid export value improved to \$159 million in 1995 before steadily declining to \$41 million in 1999.

After experiencing significant growth in overall exports between 1990 to 1992, beginning in 1993 the seafood industry launched a marketing strategy to reach \$2 billion in export value by 2000. This target was to be reached by increased revenue coming from a change in the overall product mix that would develop more value-added product forms and fillets and reduce the production of primary processed product forms, and targeting products towards markets where value could be maximised (Fishing Industry Board, 1993). The scenario developed by the seafood industry and Tradenz to meet the year 2000 export target was based on the following increases to industry activity bringing the existing \$1.2 billion export value up to \$2 billion:

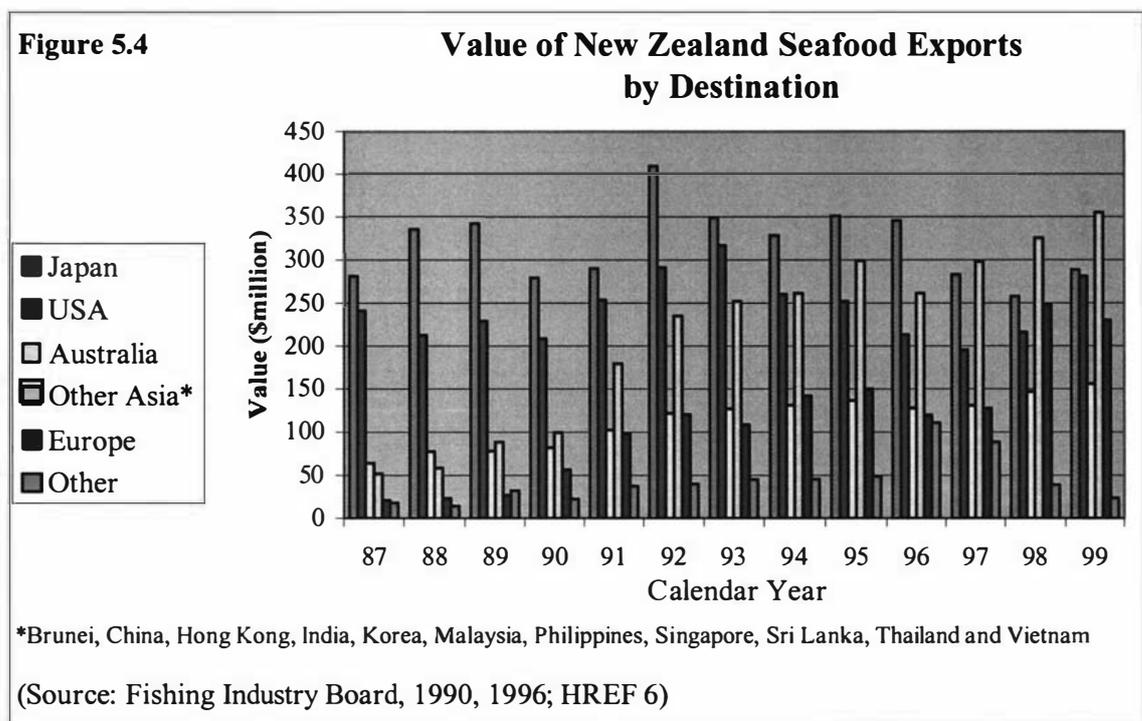
- further processing of seafood in New Zealand, \$300 million
- developing markets in Europe and East Asia, \$125 million
- developing aquaculture, \$200 million
- finding new species, and \$125 million
- increasing world prices. \$125 million

(Tradenz, 1993)

This strategy relied on significant growth in products destined for the Other Asian and European market sectors and less reliance on the Japanese market, which had a preference for non-value added products (Fishing Industry Board, 1993). Figure 5.4 outlines seafood exports by destination from 1987 to 1999.

Historically, Japan and the USA have been the main destinations for New Zealand seafood exports, with export values in 1989 reaching \$342.3 million and \$229.3 million respectively. In this same period, the seafood industry experienced growing market presence in the Australian and Other Asian sectors, with relatively little presence in the European sector. During the period 1990 to

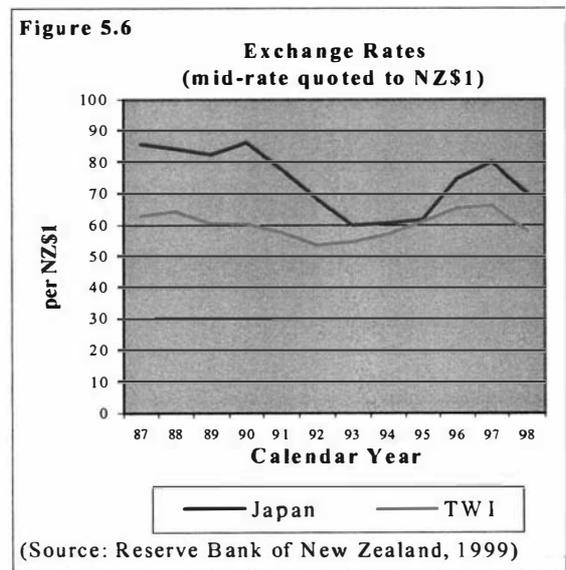
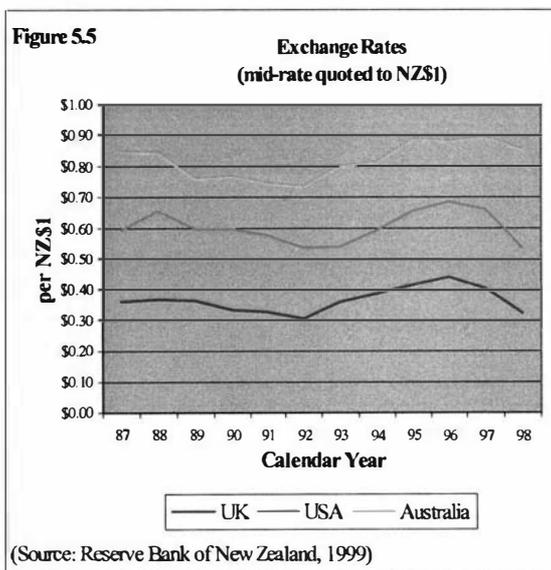
1992, Japan and the USA remained the main export destinations. In 1992 export value to Japan peaked at \$409.2 million, and export value to the USA reached \$291.1 million. In addition, there were significant increases in the value of exports to the Other Asian and European sectors, \$235.2 million and \$120.5 million respectively, and steady growth in export value to Australia which reached \$121.8 million.



During 1993 and 1994 the industry experienced a reduction in production and value relative to the 1992 levels. Production and value did not return to the 1992 levels until 1995. There was a corresponding levelling off of export volume and value during 1993 and 1994. Export volume increased 4 percent between 1995 and 1997. After reaching modest gains in 1995, totalling \$1.242 billion, export values continued to decline in 1996 and 1997. The 1997 export value lowered to \$1.125 billion, an 8 percent reduction from the 1992 export value. By 1996, it was apparent to the seafood industry that the target of \$2 billion in export value by 2000 would not be attainable (Fishing Industry Board, 1996). The 1998 export value increased to \$1.233 billion and in 1999 increased to \$1.335 billion.

For the industry to reach the 2000 target set in 1993, annual growth would need to have averaged 7 percent each year (Fishing Industry Board, 1996). The primary reasons for the industry's performance from 1993 to 1997, which erased any hope of achieving the 2000 target, were that (1) most fisheries experienced flat international market conditions; (2) the appreciating New Zealand currency exacerbated the poor trading conditions and reduced trade returns to New Zealand firms; (3) catch levels for some species had declined due to reductions in some TACCs; and (4) beginning in 1994 MAF introduced the cost recovery regime which doubled the charge on quota that had previously been paid through resource rentals (Fishing Industry Board, 1996).

Since most New Zealand seafood is exported, the exchange rate impacts on input costs and export prices. Figures 5.5 and 5.6 show that the New Zealand currency steadily depreciated in value against all major trading currencies until 1992-1993. In 1992 the New Zealand currency reached mid-rate quotes of US\$.5382, £.3060 and Aust\$.7324, and the trade weighted index (TWI) reached an historic low of 53.80. The value of the New Zealand currency depreciated relative to the Japanese yen until 1993 when it reached a mid-rate quote of ¥59.95. The relatively low value of the New Zealand currency assisted the seafood industry's growth in export value and volume between 1988 and 1992.



However, beginning 1993, the New Zealand currency began to appreciate steadily. By 1996 the currency had reached mid-year quotes of US\$.6872 and £.4406 and by 1997 reached Aust\$.8907 and ¥80.02, and the TWI climbed to 66.20. The impact of the appreciating New Zealand currency on the seafood industry was addressed at the 1996 Fishing Industry Association Conference by the FIA President, Vaughn Wilkinson (1996:12) when he stated:

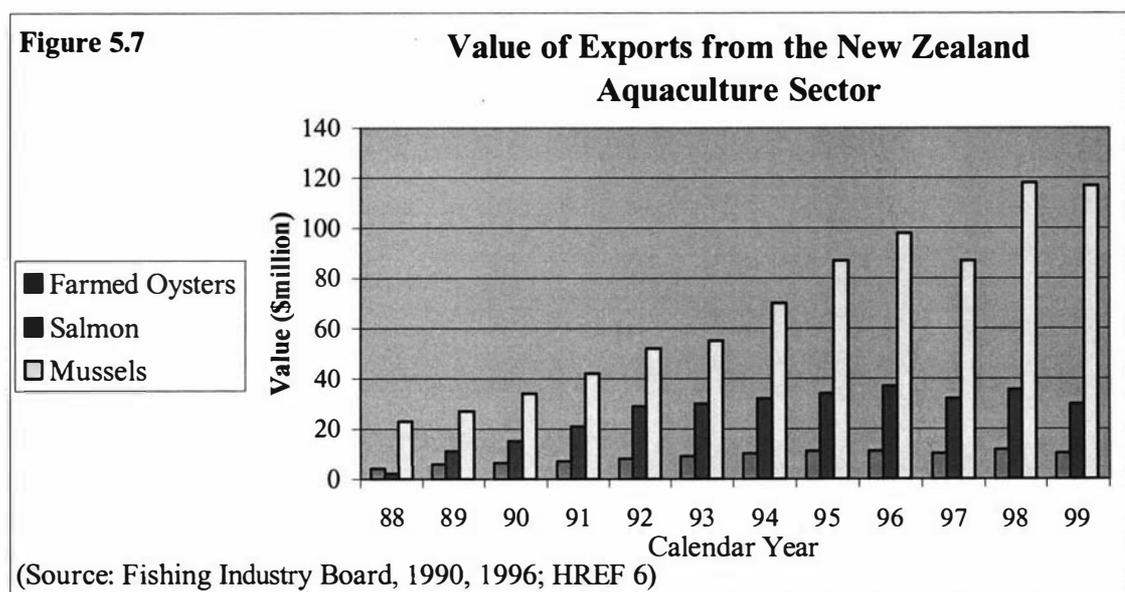
‘it should come as no surprise that the major challenge now facing the industry is to cope with the pressure that the harsh monetary environment is placing on our ability to economically perform in a highly competitive global seafood market. The seafood industry is almost entirely export orientated and, like other export tradeable sectors, we are at this time facing grim trading conditions’.

While at that time the seafood industry watched currency appreciation erode profitability at a much quicker rate than efficiency gains could compensate, it also faced paying a higher portion of the cost of fisheries management. MAF replaced a levy system of payment for services with a cost recovery regime implemented October 1994. At the 1996 FIA Conference, Mr. Wilkinson pointed out that the expected cost recovery charges and public interest contributions combined totalled approximately \$100 of charges for every tonne of fish caught. The industry participants unanimously viewed this level of cost as excessive. The seafood industry reasoned that if it must pay the cost of managing the fishery, then the industry must also have a strong voice in determining how the money was spent, especially by contesting the costs of the main cost drivers, such as fisheries research charges and the cost of MAF policy advice.

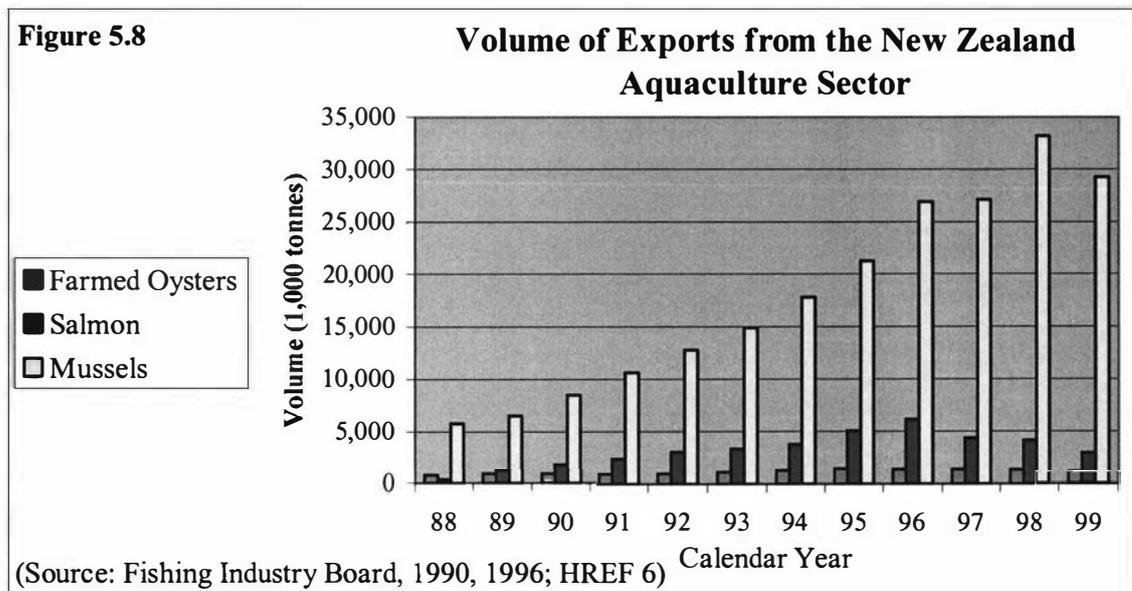
The combination of the flat international market conditions, the appreciating New Zealand currency, reductions in some TACCs, and the cost recovery regime led to a lower level of investment in value added activities and therefore less growth than had been predicted (Fishing Industry Board, 1996). As mentioned, during this time, the seafood industry diversified its marketing efforts by reducing reliance on the main export destinations, Japan and the USA, and

increasing exports to the Other Asia and European sectors. A change in the export product mix occurred since several of the main export species, particularly hoki, orange roughy and snapper, experienced considerable catch reductions. By 1997 the hoki export value was only 70 percent of the 1992 level. The 1997 orange roughy export value was 52 percent of the 1993 level, and the 1997 snapper export value was 68 percent of the 1992 level. The rock lobster export value, however, remained fairly constant during 1993 and 1994 and then began a slight decline in value beginning 1995.

The value and volume of exports from the aquaculture sector has continued to improve throughout the period 1988 to 1999. Figure 5.7 outlines the value of exports from the New Zealand aquaculture sector, and Figure 5.8 outlines the volume of aquaculture exports. Most of the growth in the aquaculture sector has been driven by the outstanding success of the Greenshell™ mussel, which has surpassed the rate of growth of all other New Zealand seafood exports. From 1988 to 1998 Greenshell™ mussel's export volume increased by 473 percent, and export value increased by 413 percent.



The export volume of New Zealand salmon also grew steadily during the period 1988 to 1996, but the export value grew at a lower rate. Salmon prices on world markets declined as record growth in farmed salmon, particularly from Norway and Chile, substantially increased availability (Fishing Industry Board, 1996). The decrease in New Zealand's salmon volume and value was also due to the merging of Southern Ocean Seafoods and Regal Salmon to form the New Zealand King Salmon Company. Chapter 9 discusses the worldwide salmon farming industry and the development of The New Zealand King Salmon Company, the largest domestic salmon farming operation. Farmed oysters increased in export value from \$4 million in 1988 to \$8 million in 1992 and then remained fairly constant at \$10-\$11 million from 1994 to 1999. The volume increased steadily from 734 tonnes in 1988 to a high of 1,436 tonnes in 1995.



The increases in export volume and value are attributable to the investments made over the previous years and collective efforts that have brought about several innovations in harvesting, processing, marketing and farm management techniques. For example, the Greenshell™ mussel sector has co-ordinated collective effort on issues such as the development of:

1. an environmental policy and code of practice that help ensure a high level of environmental protection and sustainability,
2. export market studies that assist industry players to enter or expand overseas markets,
3. a portfolio of research projects that ensures relevant research is carried out with industry support, and
4. expansion of the Greenshell trademark.

(Harte and Bess, 1999:3)

The Biotoxin Management Programme, which was a response to the first marine biotoxin outbreak during 1992/93, showed the prompt response by the industry and Government to ensure that domestic and international confidence remained high in the aquaculture sector (Fishing Industry Board, 1996).

From 1986 to 1992 the Fishing Industry Board and MAF commissioned the Department of Statistics to conduct an Annual Enterprise Survey of the seafood industry. These surveys provided a 'financial picture' of the industry's performance over the fishing year, detailing costs, assets and revenue for the catching and processing sectors. Both sectors were combined to avoid double counting.

From 1986 to 1992 the data were compiled for both the major quota owning firms and the non-major quota owners. Depending on the fishing year, the major quota owner category included the largest 8 to 19 vertically integrated seafood firms, representing approximately 70 to 90 percent control of the deepwater fisheries. The 1991/92 major quota owning firms controlled 65.1 percent of all available quota, 39.2 percent of inshore species and 74.2 percent of deepwater species at March 1994 (Fishing Industry Board, 1993).

Table 5.1 outlines the financial performance of the major quota owners. The non-major quota owner category included primarily owner/operators in the catching sector involved in the lower volume, higher value inshore fisheries (Fishing Industry Board, 1991).

Table 5.1 Financial Performance of the Major Quota Owners

	(\$million)					
	86/87	87/88	88/89	89/90	90/91	91/92
Total revenue	549.4	758.3	1,011.3	1,028.8	1,074.5	1,102.0
Total costs	466.6	725.0	937.1	942.8	947.0	994.3
Assets (book value)	264.0	520.6	545.6	599.3	941.5	726.7
Return on assets (%):						
before interest and tax	31.4	6.4	13.6	14.4	13.5	17.7
after interest and tax	11.1	0.8	5.6	10.8	6.6	11.5

(Source: Fishing Industry Board, 1988, 1989, 1990, 1991, 1992, 1993)

Table 5.2 outlines the financial performance of the non-major quota owners. It is difficult to compare one year's data to the next since the sample composition changed each year. This explains in part the significant fluctuation in recorded asset bases, at book value, from one year to the next. However, the 1990/91 assets for the non-major quota owners increased 210 percent over the 1989/90 asset value due to rock lobster being brought into the ITQ system in April 1990 (Fishing Industry Board, 1990). Both the major and non-major quota owner categories experienced strong growth in revenues, which led to significant increases in the value of quota, which are included in the value of assets (Fishing Industry Board, 1993).

Table 5.2 Financial Performance of the Non-major Quota Owners

	(\$million)					
	86/87	87/88	88/89	89/90	90/91	91/92
Total revenue	NA	55.5	84.6	635.9	723.8	862.8
Total costs	NA	48.6	64.8	569.6	678.8	778.4
Assets (book value)	NA	53.5	102.1	214.2	664.9	769.3
Return on assets (%):						
before interest and tax	NA	12.9	19.4	31.0	10.2	11.9
after interest and tax	NA	5.6	10.6	23.2	4.5	7.7

(Source: Fishing Industry Board, 1989, 1990, 1991, 1992, 1993)

Return on assets for both the major and the non-major quota owners continued to fluctuate from one year to the next, reflecting changes in asset values as well as international market conditions. The returns on assets after interest and tax for the major and non-major quota owners were 7.7 percent and 10.3 percent, respectively.

Unfortunately, financial performance data on the seafood industry is not available after 1993, when the Annual Enterprise Surveys ended. Compiling financial performance data for the industry is difficult since the vast majority of seafood firms are privately held. A less useful source of available industry data is the comparison of seafood exports to other export products. Table 5.3 shows that from 1995 to 1998 seafood exports have remained relatively constant at around 5 percent of overall exports.

Table 5.3 Comparison of New Zealand Seafood Exports to Other Export Products, 1995 to 1998.

(\$million)

Major Export Products	1995		1996		1997		1998	
	Exports	%	Exports	%	Exports	%	Exports	%
Dairy	2,758	14	3,539	17	2,998	15	3,953	18
Meat	2,613	12	2,655	13	2,655	13	2,893	13
Forestry	2,582	12	2,531	12	1,531	7	1,400	6
Wool	1,340	6	1,034	5	1,116	5	973	4
Seafood	1,118	5	1,118	5	1,147	6	1,233	5
Fruits	876	4	1,284	6	818	4	865	4
Others	9,638	47	8,560	42	10,284	50	11,174	50

(Source: HREF 6)

Industry Profile

Since the implementation of the ITQ system, the profile of the seafood industry has changed considerably. One of the most notable changes in the industry has been the consolidation of quota ownership since the ITQ system was introduced in 1986. As mentioned in Chapter 3, inshore quota was initially allocated on a provisional maximum assessment of quota (PMITQ) based on each qualifying

permit holder's catch history of the best two out of three years: 1981/82, 1982/83 and 1983/84. Deepwater quota was allocated according to permit holders' level of domestic investment, quantity of historical catch supplied to onshore processing, and consideration of the extent the investment was committed to processing deepwater species. Table 5.4 outlines quota ownership at 1986 compared with ownership at 1991, 1996 and 1999. The seafood firms listed in Table 5.4 include their subsidiaries, which by 1999 have increased significantly in response to the industry restructuring into QOCs (Bess, 1999).

Table 5.4 Quota Ownership at 1986 Compared with 1991, 1996 and 1999

Quota Owners	Dec 1986		April 1991		Aug 1996		June 1999	
	tonnes	%	tonnes	%	tonnes	%	tonnes	%
Fletcher Fishing Ltd	56,675	10.9						
Sealord Products Ltd	55,796	10.7	136,180	24.1	145,433	25.5	149,462	22.1
Sanford Ltd	49,412	9.5	93,972	16.6	115,298	20.2	141,243	20.9
Amaltal Fishing Co Ltd	25,204	4.8	58,117	10.3	56,118	9.8	62,333	9.2
Skeggs Investments Ltd	19,432	3.7						
Independent Fisheries Ltd	13,622	2.6	19,032	3.3	27,815	4.9	37,224	5.5
Wanganui Trawlers Ltd	12,273	2.4	17,073	3.0			1,358	0.2
Wattie Fishing Ltd	8,887	1.7						
South Island Deepwater Fishing Ltd	6,207	1.2	7,343	1.3				
Southfish Co-Operative Ltd	4,101	0.8	9,968	1.8	8,836	1.5	685	0.1
United Fisheries Ltd	1,149	0.2			19,397	3.4	15,048	2.2
Talleys Fisheries Ltd	83	0	7,836	1.4	11,950	2.1	16,536	2.4
Moana Pacific Quota Holding Ltd					7,189	1.3	7,568	1.1
Simunovich Fisheries Ltd			5,106	0.9	6,553	1.1	7,284	1.1
Vela Fishing Ltd			14,782	2.6	27,863	4.9	31,839	4.7
Crown	204,132	39.2	185,420	32.7	874	0.2	9,303	1.4
Aotearoa Fisheries Ltd			3,956	0.7				
Treaty of Waitangi Fisheries Commission					56,624	9.9	72,235	10.7
Ngai Tahu Fisheries Ltd					120	0	185	0
Other	63,927	12.3	7,439	1.3	87,319	15.2	124,681	18.4
Total TACC	520,900	100	566,224	100	571,389	100	676,984	100

(Source: Fishing Industry Board, 1990; Clement and Pfahlert, 1996; HREF 7)

The 1986 figures show that at the time the ITQ system was implemented, the Government held the largest portion of quota, holding 39.2 percent of total quota. Outside the Government's quota holdings, the top three quota holders were Fletcher Fishing Ltd, Sealord Products Ltd and Sanford Ltd, with 10.9 percent, 10.7 percent and 9.5 percent of overall quota holdings respectively.

The late 1980s and early 1990s was a period of consolidation in the industry. Some seafood firms with large quota holdings exited the industry while others purchased quota and other assets. These changes were a natural outcome of the large reductions in TACCs made during that time, particularly for the deepwater hoki and orange roughy fisheries (Fishing Industry Board, 1990). Another reason given for these changes has been described as the intentions by some seafood firms to concentrate on 'core business activities' (Reorganisation, 1991). During this time Fletcher Challenge sold Fletcher Fishing's deepwater quota to Sealord Products Ltd, and its inshore quota was sold to Moana Pacific, a firm within the Maori Development Corporation. Wilson Neill's subsidiary, Skeggs Seafood, sold its deepwater quota, three boats and a Nelson-based processing facility to Sanford Ltd. Goodman Fielder Wattie accepted a management buyout of Wattie Fishing's deepwater quota. The new owner, Vela Fishing, continued to have Norway's Aalesund Shipping and Japan's Taiyo companies harvest and process the catch at sea for direct export (Australasia, 1991).

These changes in quota holdings dramatically altered the industry profile. By 1991 Sealord Products Ltd held 136,180 tonnes of quota, 24.1 percent of the overall quota, Sanford Ltd held 93,972 tonnes of quota, 16.6 percent, and Amaltal Fishing Co Ltd/Talleys Fisheries Ltd. became the third largest non-government quota holder with 65,953 tonnes, 11.7 percent. Independent Fisheries Ltd, Wanganui Trawlers Ltd and Vela Fishing Ltd were sizeable quota holders with 3.3 percent, 3.0 percent and 2.6 percent of overall quota, respectively. The Government remained the largest quota holder with 185,420 tonnes, 32.7 percent of overall quota.

By 1996 Sealord Products Ltd's overall quota holdings increased to 145,433 tonnes, 25.5 percent, and Sanford Ltd's quota holdings increased to 115,298 tonnes, 20.2 percent, and Amaltal Fishing Co Ltd's quota holdings fell to 56,118 tonnes, 9.8 percent. This consolidation of quota ownership among the top three firms is mostly concentrated in the deepwater fisheries, which reflects the substantial investment necessary to efficiently harvest these fisheries (Sharp, 1998). By 1996 the Government had reduced its quota holdings to only 874 tonnes, 0.2 percent of overall quota. The Government's substantial quota holdings were sold on the open market and allocated to TOKM in accordance with the Treaty of Waitangi Settlement Act 1992. TOKM became the third largest quota holder with 56,624 tonnes, 9.9 percent of overall quota. Independent Fisheries Ltd, United Fisheries Ltd and Vela Fishing Ltd increased their quota holdings to 4.9 percent, 3.4 percent and 4.9 percent, respectively.

By 1999 the three largest quota owners remained unchanged. Sealord Products Ltd held 149,462 tonnes of quota, 22.1 percent of overall quota. Sanford Ltd held 141,243 tonnes of quota, 20.9 percent, and TOKM's quota holdings increased to 72,235 tonnes, 10.7 percent. Amaltal Fishing Co Ltd increased its quota holdings to 62,333 tonnes, 9.2 percent. Independent Fisheries Ltd increased its quota holdings to 37,224 tonnes, 5.5 percent. Vela Fishing Ltd increased its quota holdings to 31,839 tonnes, 4.7 percent, while United Fisheries reduced its quota holdings to 15,048 tonnes, 4.7 percent, and Talleys Fisheries Ltd increased its quota holdings to 16,536 tonnes, 2.4 percent.

As mentioned in Chapter 3, increasing the level of New Zealand involvement in harvesting and processing fisheries within the EEZ has been a stated objective of the Government and the seafood industry. However, the domestic fleet lacked the larger vessels and technology to fish deepwater fisheries. Initial expansion of the deepwater fisheries relied heavily on joint venture partnerships and charter arrangements. The United Nations Law of the Sea Convention requires New Zealand to allow foreign licensed vessels to fish within the EEZ in the event New Zealand-controlled vessels cannot catch the annual TACC. In 1986, 18 percent of

the catch from the EEZ was taken by foreign licensed vessels, and by 1993 New Zealand-controlled vessels, including joint ventures and charters, took 99.8 percent of the catch (Dynamic Year, 1993). As some New Zealand seafood firms expanded their efforts into the deepwater fisheries, they reduced their reliance on joint venture partnerships and charter arrangements and purchased their own deepwater vessels.

The 'New Zealandisation' of the fishing fleet increased dramatically since 1992 when some New Zealand firms made significant purchases of deepwater vessels. Amaltal Fishing Co Ltd. increased its deepwater fishing fleet to six vessels by purchasing the F/V *Amaltal Columbia*, a 1970 tonne, 60-metre factory trawler, its sister ship the F/V *Amaltal Atlantis*, and the F/V *Amaltal Mariner*, a 500 tonne, 37-metre fresh fish trawler. Sealord Group Ltd. increased its deepwater fishing fleet with the purchase of the *Aoraki*, a 3,000 tonne, 68-metre factory trawler and the *Rehua*, a 2,500 tonne, 66-metre factory trawler. Since 1990 Sanford Ltd. has increased its deepwater fleet to four factory trawlers, four fresh fish trawlers and two longliners. The addition of these larger vessels into the domestic fleet was needed to meet some firms' objective to further develop the deepwater fisheries and process product at sea to improve quality and add value.

Figure 5.9 outlines the total catch from the New Zealand EEZ in terms of catching effort by the domestic fleet compared with that of charter arrangements, which includes joint venture partnerships. The figure shows that the domestic fleet has continued to develop its catching capacity while seafood firms have reduced their reliance on foreign vessel catching capacity. Figure 5.9 also shows that since 1993 New Zealand seafood firms have kept fairly constant their use of joint venture partnerships and charter arrangements.

New Zealand seafood firms will continue to rely to some extent on foreign catching capacity to catch quota for seasonal fisheries. Some seasonal fisheries require specialised vessels, particularly squid, which must gain economies of scale to remain economically viable. Hence, New Zealand and some other coastal

nations continue to rely on vessels from Japan, Korea, Taiwan and other nations that travel from one EEZ to another harvesting most, and in some cases, all of the TACCs for some seasonal fisheries.

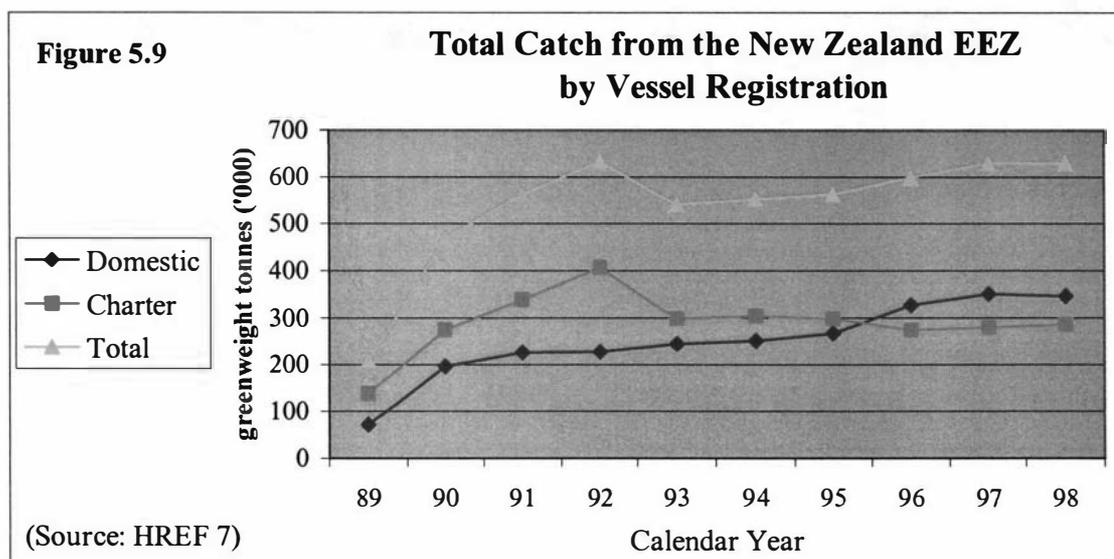


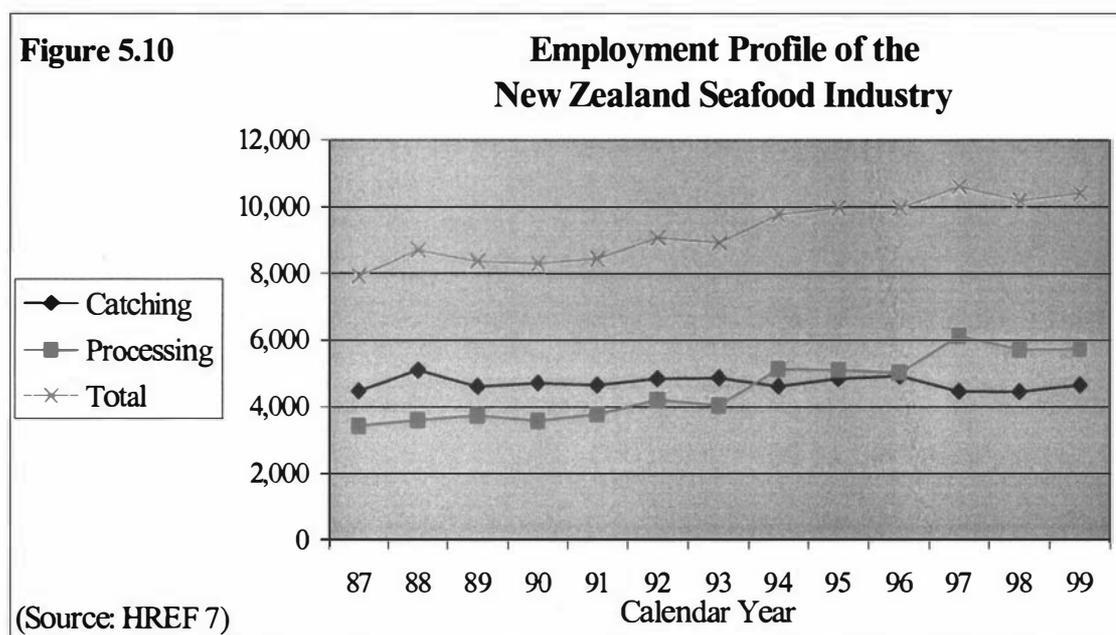
Table 5.5 outlines the domestic full-time fleet from 1987 to 1995. Data for 1988 and 1989 are not available. Full-time vessels are defined as those landing more than seven tonnes of finfish or two tonnes of rock lobster during a fishing season (Sharp, 1998). The number of vessels in the under-12 metre and 12-15 metre classifications has remained relatively stable, except for the 26 percent increase in the under-12 metre classification from 1994 to 1995. This increase was partially due to increased landings of non-quota species, which shifted a number of under-12 metre vessels into the full-time category (Sharp, 1998). From 1990 to 1995 the 15-18 metre and 18-30 metre classifications increased steadily. The most notable change in the domestic full-time fleet has been in the over-30 metre classification. This build up of larger vessels substantiates the objective of the Government and the seafood industry to increase the level of domestic involvement in harvesting and processing fisheries within the EEZ.

Table 5.5 Composition of New Zealand Domestic Full-time Fleet Structure

Vessel Size	87	88	89	90	91	92	93	94	95
<12 metres	1071			1158	950	958	1009	941	1185
12-15 metres	255			216	247	253	263	271	259
15-18 metres	77			71	115	122	130	131	131
18-30 metres	98			92	132	135	127	137	141
30+ metres	13			16	25	30	39	45	50
Total	1514	NA	NA	1553	1469	1498	1568	1525	1766

(Sources: Fishing Industry Board, 1990, 1996)

Figure 5.10 outlines the full-time equivalent (FTE) employment profile of the seafood industry by the catching and processing sectors. The catching sector experienced a gradual 10 percent increase in FTEs between 1987 and 1996, and then returned to the 1987 level during 1997 and 1998. This statistic first appears at odds with expected increased numbers of crew members required to operate the deepwater vessels that have been added to the domestic fleet.



There are two reasons for the relatively static employment in the catching sector. First, there has been a shift of employment from the small vessel to the large

vessel fleet. Second, several of the deepwater vessels added to the domestic fleet process at sea, placing most of the increased demand for employment at sea within the processing sector.

From 1987 to 1997 the processing sector increased by 79 percent. During this time several firms increased their demand for onshore processing employment due to their increased value added activities. The total seafood industry employment levels exceeded 10,000 FTEs for the first time in 1995. In 1996 the employment level dipped slightly below 10,000 FTEs, and subsequently has remained above 10,000 FTEs.

The increase in employment in both sectors was a result of the significant investment made by seafood firms in vessels capable of landing high quality product for further added value processing on shore and in the new on-shore processing facilities (Fishing Industry Board, 1996).

The Implications of the Porter Project

The seafood industry was analysed in the Porter Project, however, the industry analysis is only briefly summarised in Crocombe et al. (1991). At the time of the Porter Project the value of seafood exports totalled \$747.5 million, 5 percent of total New Zealand exports (Fishing Industry Board, 1991). The Porter Project viewed the seafood industry as another example of New Zealand's strong reliance on natural resource-based commodities that collectively fail to generate the high and increasing levels of income necessary to sustain a high national standard of living.

The seafood industry, like most New Zealand industries, rated poorly according to Porter's five-forces model. The Porter Project concluded that the seafood industry was structurally unattractive, with high buyer power, low supplier power, high availability of substitutes, medium barriers to entry and medium levels of competition (Crocombe et al., 1991:51). The Porter Project also concluded that the seafood industry's sources of competitive advantage were

based on available factor conditions, with the role of chance strongly influencing competitive success (Crocombe et al., 1991:96). Related and supporting industries were considered limited. Strategy, structure and rivalry consisted of four large and diverse seafood firms with each linked up with international firms to provide capital, develop offshore markets and provide vessels to harvest deep water species, while a group of smaller seafood firms targeted niche opportunities.

On a more positive note, Crocombe et al. (1991) acknowledge (1) the EEZ being the seventh largest in the world and being the foundation for the development of the seafood industry and (2) the Government's long-term protection of the resource by way of the ITQ system and its investment in research. Furthermore, during the 1980s when there had been intense domestic competition for ITQs and control of marine farming sites, the Government had played a critical role in managing the resource to ensure biological sustainability, implementing the ITQ system, setting up the Fishing Industry Board and imposing high hygiene standards which is helpful for marketing. A Tradenz report to the Porter Project identifies the industry's favourable and unfavourable factor conditions. The favourable factor conditions are as follows:

- A relatively large resource that, with prudent management, can be harvested at a high sustainable level,
- Several species have special properties and are unique to New Zealand (orange roughy, Greenshell™ mussels), and others are similar to favoured species that can command a price premium (snapper, squid, rock lobster),
- New Zealand has several strategically located and under-utilised ports,
- Weather conditions are moderate which is conducive to catching effort,
- The spawning behaviour of some New Zealand species (orange roughy and hoki) makes them relatively easy to catch,
- Several species (orange roughy and hoki) can be marketed counter seasonally in the northern hemisphere, and
- The relatively pollution free waters provide another marketing advantage.

(Robins, 1991)

Factor disadvantages include:

- Some species have short overlapping seasons which complicate harvesting,
- The distance from key markets (the USA and Japan) creates a cost disadvantage for fresh fish exports (salmon and snapper).

(Robins, 1991)

The Nelson Seafood Cluster

The Porter Project strongly recommended that 'Government policy, both at the national and local level, has an important role to play in cluster development' Crocombe (1991:176). The New Zealand Government's primary vehicle for promoting cluster development and other Porter Project recommendations has been Tradenz. As mentioned in Chapter 4, Tradenz sponsored the Porter Project and co-ordinated contributions from various government agencies. Tradenz was established by statute in 1989 to assist exporters to increase New Zealand's foreign exchange earnings. Since 1989 Tradenz has provided the New Zealand business sector with various types of assistance, which directly and indirectly supports the Porter Project's recommendations, including the promotion of clusters (Tradenz, 1992;1993) and export networks (Tradenz, 1997).

The Porter Project identified the Nelson region as an area whose seafood industry displayed some conditions of cluster development. It is understandable that the Nelson region would attract a concentration of competitive seafood firms and some related industries since it is located between the main offshore fishing grounds off the South Island's west coast, the Challenger Plateau off Taranaki and the Chatham Rise. Nelson is located between the Marlborough Sounds and Golden Bay where various types of marine farming occur, including Greenshell™ mussels, oysters, scallops and salmon.

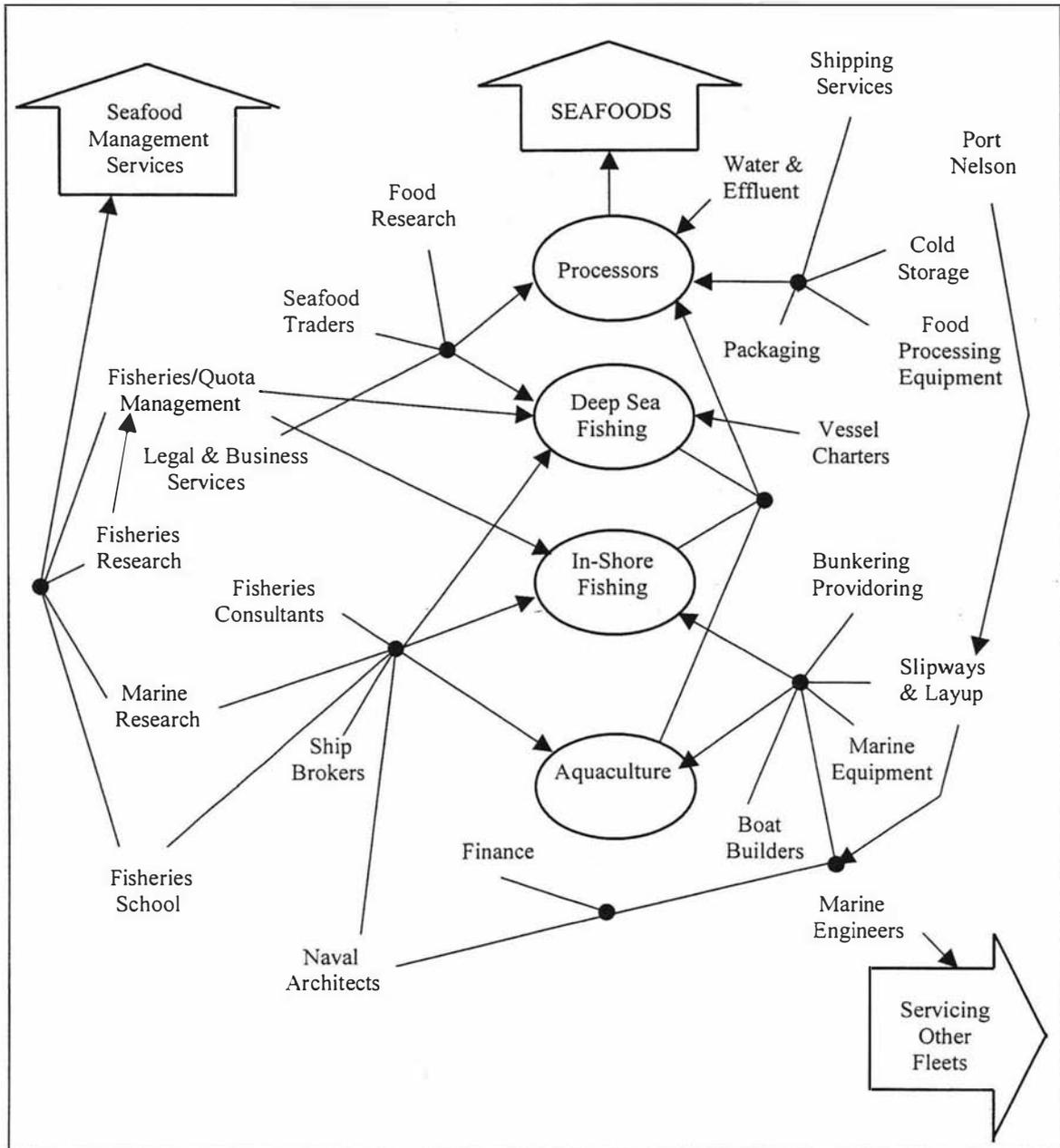
At the time of the Porter Project the Nelson/Marlborough/Westland area had approximately 35 fish and shellfish processing plants with total sales of \$188 million. Two of the top three seafood firms are based in the Nelson region, Sealord Products Ltd. and Amaltal Fishing Company/Talleys Fisheries Ltd., and

Auckland-based Sanford Ltd. has a Nelson-based processing plant. During the 1980s Nelson had experienced rapid development of its seafood industry and had become New Zealand's leading fishing port. At the time of the Porter Project, the three large Nelson-based seafood firms held 61.6 percent of overall quota (Robins, 1991).

In 1991 the Nelson Seafood Cluster Committee was formed to foster the development of the Nelson/Marlborough-based seafood industry and its supporting industries to increase seafood export earnings and provide regional employment. It was intended that the Cluster Committee would accomplish its goal by fostering closer links within the regional seafood industry and with related and supporting industries, including research and educational institutions (Cluster, 1992).

The Committee's vision for the Nelson seafood cluster was for it to be a 'centre of excellence' in industry education, specialised research, technology and consultancy expertise. The new and enlarged cluster of core and related and supporting industries would have the critical mass to sustain innovation and growth in the range of products and services provided and would support the seafood industry as a whole (Robins, 1991). Initial financial assistance was provided by the Nelson Bays Business Development Board and Tradenz, as well as several regional seafood-related firms.

The Cluster Committee's initial membership was concentrated primarily within the Nelson-based core seafood firms, including aquaculture, and the Nelson Marlborough Institute of Technology's School of Fisheries. The Cluster Committee strongly supported initiatives for the Government to establish a Crown Research Institute for the seafood industry in the Nelson region and the relocation of MAF's marine research facilities from the Greta Point location in Wellington to the Nelson region. Figure 5.11 outlines the clustering of the Nelson-based seafood industry and its related and supporting industries.

Figure 5.11 Nelson-based Seafood Cluster

(Source: BERL, 1998)

The core activities of the Nelson seafood cluster, aquaculture, inshore fishing, deep sea fishing and processing, are shown in the centre of Figure 5.11. The traditional servicing activities are shown to the right of the core activities. Some of these activities, particularly marine engineering and boatbuilding, have specialised sufficiently to generate their own export activities. The new intellectual property and management activities are shown to the left of the core

activities. Some of these activities, especially seafood and fisheries management services, are also becoming a source of exports (BERL, 1998).

Since 1991, the Nelson seafood cluster has experienced considerable development in fisheries management services, shore-based servicing of the fishing fleet and employment, particularly in seafood processing and wholesaling activities. Nelson-based seafood firms now hold approximately 70 percent of overall quota. In 1997 Nelson's concentration of seafood-based activity contributed over \$150 million annually to the local economy (Williams, 1997). The Nelson-based seafood industry has been one of the region's main cluster drivers, averaging 9.9 percent growth per annum during the period 1994 to 1997, and in 1997 generated 3,755 FTEs (BERL, 1998). By 2000 the Nelson-based seafood industry generated 5,440 FTEs, contributing \$382 million to the local economy, almost one-third of Nelson city's annual gross domestic product and employment (Fishing Worth, 2001).

Despite the Nelson seafood cluster's progress since 1991, the Cluster Committee has not led the development of the industry to the extent expected (BERL, 1998). This is in part explained by several factors:

1. Nelson has become a significant seafood industry base only during the last fifteen years, since the deep sea fisheries began to develop. It is understandable that individual seafood firms would concentrate first on their own international links for exports and have less focus on local collaboration (Williams, 1997). Furthermore, during the period 1993 to 1997 the seafood industry overall experienced volatile markets and currency conditions that led to a levelling off of seafood export value. During this period seafood firms had to focus on reducing costs and adjusting their target export markets to the detriment of exploring possible gains from collaborative efforts;
2. The Nelson Marlborough Institute of Technology's School of Fisheries continues to face strong competition from other polytechnics and private providers for students enrolled in programmes designed for the catching and processing sectors. This level of competition has hindered the School of Fisheries in becoming the nation's most advanced specialised seafood educational facility;

3. The former Minister of MAF, Hon Doug Kidd, expressed the view that the Government was not in a position to 'put a lot of funds into new research ...' (Cluster, 1992:1). The Cluster Committee's initiative for the Government to establish a Crown Research Institute for the seafood industry in the Nelson region did not eventuate;
4. MAF's marine research facilities did not relocate from Greta Point to the Nelson region. However, MAFQual, whose inspectors audit the seafood processing sector, outlined support it could offer to the Cluster Committee on issues that could benefit the industry as a whole 'whether the Cluster eventuates or not' and commented that 'research staff are reluctant to move from Greta Point because Nelson is seen as an academic backwater' (MAF, 1992b:5); and
5. Most strong national industry associations, including SeaFIC, have remained in Wellington (BERL, 1998).

The Nelson Seafood Cluster Committee has a greater potential role to play now that the industry has experienced significant growth in the last few years and firms' managers appear more inclined to consider the gains from inter-firm collective efforts. Furthermore, the Nelson seafood cluster has increased in size since several of the QOCs, that have come about from the industry restructuring, have located their main offices in the Nelson region. The further that fisheries management services are devolved from Wellington-based MFish to Nelson-based QOCs, and those firms that can service them, the more that the Nelson seafood cluster could develop a greater degree of regional collaboration and opportunities within the industry (BERL, 1998).

The Nelson Seafood Cluster Committee will continue to facilitate communication within the industry and lobby changes in Government policy that provide opportunities to progress relevant advanced factors identified previously by Tradenz (Arbuckle, 1998). Those factors include continued development of specialised electronic and fishing gear for the deepwater fisheries, a centre of excellence for fisheries training, and regionally-based research capabilities (Robins, 1991).

Summary

The first section of this chapter outlines various economic performance measurements of the seafood industry since the implementation of the ITQ system. This section demonstrates that the seafood industry experienced steady and impressive growth during the late 1980s and early 1990s, which was due primarily to the expansion of the deepwater fisheries. This section compares changes in the seafood industry's overall production and value, overall exports by volume and value, main export species by value, overall exports by destination, and value and volume of exports from the aquaculture sector.

During the 1990s, the largest growth opportunities have been in aquaculture. The value and volume of aquaculture exports, in particular the Greenshell™ mussels, have increased substantially and provide the best opportunity for expansion. Stock enhancement programmes also provide opportunities for further expansion of the aquaculture sector.

It is difficult to assess the seafood industry's financial performance since almost all the seafood firms are privately held, and publicly available information is very limited. From 1986 to 1992 the Fishing Industry Board and MAF commissioned the Department of Statistics to conduct an Annual Enterprise Survey of the seafood industry. These surveys provided a 'financial picture' of the industry's performance over the fishing year, detailing costs, assets and revenue for the catching and processing sectors. Unfortunately, these surveys ended in 1992. There has been a lack of comprehensive studies of the economic gains resulting from the implementation of the ITQ system (Anderson, 1996).

The second section outlines the changes in the industry profile since the ITQ system was implemented, including the industry consolidation that occurred during the late 1980s and early 1990s that brought about significant changes in the composition of quota ownership. The section also compares over time the domestic versus charter vessel arrangements, including joint venture

partnerships, used within the EEZ, the composition of the domestic full-time fleet structure and the industry's employment profile.

The third section follows on from the Chapter 4 discussion of the Porter Project and outlines its implications for the seafood industry. The Porter Project concluded that the seafood industry was structurally unattractive, with high buyer power, low supplier power, high availability of substitutes, medium barriers to entry and medium levels of competition. Furthermore, the seafood industry's sources of competitive advantage were based on available factor conditions, with the role of chance strongly influencing competitive success, and related and supporting industries were considered limited.

The last section briefly discusses the role Tradenz has played in implementing some of the Porter Project recommendations, including assessment of several seafood industry issues and promoting New Zealand's largest seafood cluster, the Nelson-region seafood industry. The Nelson Seafood Cluster Committee was formed in 1991 to foster closer links within the regional seafood industry and with related and supporting industries, including research and educational institutions. To date, the Committee has not led the development of the industry to the extent expected. However, as further fisheries management services are devolved from Wellington-based MFish to Nelson-based QOCs, the Cluster Committee could develop a greater degree of regional collaboration and opportunities within the industry.

Chapter 6

Addressing Maori Fishing Rights

Introduction

To fully understand New Zealand's seafood industry, it is imperative to comprehend the growing presence that Maori, New Zealand's indigenous people, have in the industry. Beginning in the late 1980s, Maori have received vast transfers of quota holdings and other assets that ensure they will have a continued and growing presence in the seafood industry. The assets transferred to Maori are the result of settlements to their claims that the Crown breached the Treaty of Waitangi 1840, considered the founding document of New Zealand as a nation. The Treaty of 1840 explicitly states that Maori have rights to their natural and cultural resources.

Maori have continued to object to the erosion of their rights by government actions and legislation subsequent to the Treaty of 1840, bringing numerous legal claims against the Crown which have mostly been, until recently, unsuccessful. The implementation of the Fisheries Amendment Act 1986, which introduced the ITQ system, prompted Treaty-based claims to large areas of fisheries. Many Maori objected to the ITQ system as it was seen to force their severance from the

ocean, raid their sea resources and sell their right to participate in fisheries while others were allowed access to their traditional fishing grounds. Some Maori have questioned why the ITQ system and its bureaucracy have replaced some of their traditions, conservation practices and their extensive knowledge of the sea (Wai-22, 1988). Beginning in the late 1980s several legislative changes have addressed Maori claims to fisheries resources in accordance with the Treaty of 1840.

This chapter explores Maori claims to fisheries resources, legislative changes enacted to settle those claims and claims that remain outstanding. In so doing, this chapter explores Maori views on resource use, which require consideration of Maori history, their social system and traditions, including fisheries management practices. It is important to place Maori fisheries claims in this broader context for two reasons: first, to better understand why Maori call themselves *tangata whenua* (people of the land) and what significance this has to their resource claims; second, to counter the longstanding misconception that Maori historically had limited involvement with the sea. This misconception conveniently accommodated the early Anglo-Commonwealth settlers' encroachment onto Maori traditional coastal and offshore fishing grounds. This misconception has continued to influence most of New Zealand's fisheries legislation.

Caution should be used, however, when making references to 'Maori' and their 'traditions'. Prior to their contact with Europeans, the indigenous people had no term for their collective identity. Following the arrival of the first Europeans, the indigenous people adopted the term 'Pakeha' to refer to those with strange and abnormally white skin. Conversely, they adopted the term 'Maori', meaning 'normal' or 'natural', to distinguish themselves from the abnormally white-skinned people (Walker, 1996). Henceforth, 'Maori' came to signify *tangata whenua*, with various *iwi* (tribal groupings) asserting varying degrees of *rangatiratanga* (self-determination) in respect to their distinct cultural and political identities and inter-relationships (Havemann, 1999). Caution is also needed when referring to Maori 'traditions'. Like the traditions of other peoples,

Maori traditions have continually changed, adapted and responded to new needs, challenges and ideas (Wai-22, 1988). This chapter makes reference to 'Maori' and their 'traditions' collectively to outline some similarities that help explain their claims to fisheries resources and the settlement of these claims.

This chapter begins with a section titled Indigenous Peoples' Rights, discussed in the context of colonisation. This section places the addressing of Maori fishing rights within the broader discussion on indigenous peoples' rights and perspectives. The following sections are: Maori Early History and Traditions, Maori Traditional Fisheries Management, Early Colonial History, Fisheries Management Legislation, Maori Fisheries Claims and Settlements, Outstanding Maori Fisheries Claims and Summary.

Indigenous Peoples' Rights

It is important to place Maori claims to fisheries resources within the wider arena of indigenous peoples' rights, since indigenous peoples worldwide now seek the survival of their cultures and control of their own destinies (Coates, 1998). 'Indigenous' or 'aboriginal' peoples are generally defined as 'the living descendants of preinvasion inhabitants of lands now dominated by others' (Anaya, 1996:3). During the last few decades, indigenous peoples have increased their political strength to (1) gain recognition of their cultures and heritage, (2) address the effects of having been economically dispossessed and disenfranchised from their traditions, languages and resources, and (3) reclaim what they have lost. This section briefly outlines indigenous peoples' efforts on the above three points.

In the eighteenth and nineteenth centuries, British and European nations increased their efforts to establish colonial settlements in what had become new migrant nations, including the United States, Canada, Australia and New Zealand. At the time that new migrant nations were first settled by colonising nations, a doctrine in international law stated that a change of sovereignty on

cession between colonists and indigenous peoples did not affect the property rights of the indigenous peoples (Kingsbury, 1989). Indigenous peoples, therefore, had rights to retain possession of their lands and to full sovereignty, and these rights could not be extinguished. Contrary to this doctrine, the practice of colonisation legitimised the pacification of indigenous peoples by a combination of genocide, wars and low-intensity armed conflict, mass population transfers, treaties ceding land while proclaiming friendship, paternalistic segregation, ethnocidal assimilation, and talk of post-assimilation self-government (Havemann, 1999). New Zealand's colonial history mirrors the experience of other new migrant nations.

According to Reeves (1998), the centuries of colonialism and its assumptions still cast a long shadow over indigenous peoples and impede attempts to reaffirm their human rights and their fundamental dignity. These impediments are often caused by nations' institutional and ideological intolerances towards indigenous peoples and their social systems (Quentin-Baxter, 1998). One example, as discussed in Chapter 2, is the common law principle underpinning the 'tragedy of the commons' (Gordon, 1954; Hardin, 1968), which is often used to support the application of property rights in the management of natural resources. Colonial societies in the new migrant nations attempted to avoid the social dilemmas outlined in the 'tragedy' by transplanting their preponderance towards state or private property rights to the new colonies, while giving little or no consideration to the suitability of common property rights or indigenous peoples' resource management practices. This transplantation occurred despite many indigenous societies throughout the world, including those of New Zealand, providing numerous examples of resource management practices based on institutional decision-making arrangements and cultural factors that had sustainably managed common resources for centuries (Pálsson, 1999).

To date, the new migrant nations have taken significant steps to recognise the losses that their indigenous peoples have endured and to address their outstanding

claims through political, legal and social channels. While some nations can be described as having decolonised their external relations, colonisation continues through structural inequities between indigenous peoples and their nations' dominant cultures (Fleras and Spoonly, 1999). The recognition of indigenous peoples' rights depends, in part, on the extent the members of the dominant cultures can identify and suspend the conditioning of their own cultural conditioning (Quentin-Baxter, 1998).

'... the ideas and emotions we must identify in ourselves are often held at levels of consciousness so deep that we are unaware of them. At the same time they exercise profound influence over what we see, how we see, and how we react' (Reisman, 1996: 25).

Since the early 1980s, however, there has been a remarkable upswelling in international activity concerning the position of indigenous peoples (Kingsbury, 1989). The primary means to collective expression of indigenous peoples' rights has been the United Nations (UN). In 1982 the UN Commission on Human Rights established a working group on Indigenous Populations. This working group was established to facilitate dialogue between governments and their indigenous peoples to review developments in the protection of their human rights and fundamental freedoms and to develop international standards on their rights. In 1993 the working group developed a Draft Declaration on the Rights of Indigenous Peoples, which consists of guidelines and principles based on established international human rights doctrines.

The Draft Declaration does not include a definition of 'indigenous peoples'. Article 8, however, mirrors the International Labour Organisation Convention 169 which states that 'indigenous peoples have the collective and individual right to maintain and develop their distinct identities and characteristics, including the right to identify themselves as indigenous and to be identified as such'.

The Draft Declaration's Article 3 has attracted the most controversy by stating 'indigenous peoples have the right to self-determination'. As would be expected, many UN member nations, including New Zealand, have voiced their concerns about the inclusion of the self-determination concept in the Draft Declaration without it being explained or qualified. Their main concern is that self-determination could threaten the preservation of their existing territories. Although the Draft Declaration does not exclude secession by indigenous peoples, the thrust of the Draft Declaration is that indigenous peoples will remain full members of their nations' societies (Quentin-Baxter, 1998), provided they are entitled to full and equal participation in the creation of government institutions, making them perpetually in control of their own destinies (Anaya, 1996).

It is of interest to note, however, that most UN member nations are parties to the UN's International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights. Both of these Covenants state in their first articles that 'all peoples have the right of self-determination'. However, when the same right to self-determination is applied to indigenous peoples, many of these member nations, including New Zealand, raise concerns and object that their indigenous peoples will be inclined to seek full, external secession (Quentin-Baxter, 1998).

The New Zealand government's position is that 'self-determination' could be included in the Draft Declaration 'if explained in a way which preserves and recognises the territorial integrity of states and their constitutional frameworks, where these meet current international human rights standards' (Graham, 1998:8). Most Maori would agree that 'self-determination' or 'self-government' could occur within the nation state of New Zealand, provided there was commitment to the ideal and effort to work it out in practice (Williams, 1998).

Indigenous peoples commonly agree that the concept of self-determination forms the basis for all other rights of indigenous peoples, including protection and

development of their cultural integrity and their rights to the land and sea (Quentin-Baxter, 1998). Articles 25-28 and 30 make references to indigenous peoples' having the right: to conserve, restore and protect their lands, territories and resources; to strengthen their spiritual and material relationships with them; to restitution for those lands, territories and resources that have been confiscated, used or damaged without their consent; and to fair and just compensation.

Indigenous peoples are also seeking recognition of their rights through other UN instruments such as the Convention on Biological Diversity 1992. This Convention recognises the diversity and interdependence of all living things, the dependence that humans have on this diversity, and the wealth of knowledge indigenous peoples have in managing the environment. The signatories to this Convention, which includes New Zealand, accept the obligation to include environmental protection with their social and economic developments, to ensure that biodiversity is managed sustainably, and to fairly and equitably share the benefits that arise from the utilisation of genetic resources (Te Puni Kokiri, 1994). Articles 24 and 29 state that indigenous peoples have the right to their traditional medicines and health practices, and they are entitled to the full ownership, control and protection of their cultural and intellectual property. These Articles are included as indigenous peoples have expressed concern that their knowledge has been commercially exploited without their agreement.

It is expected that the adoption of the Draft Declaration will provide considerable moral force for member nations to use it as a legal benchmark for government policies, however, UN member nations are not bound to adopt it in the same way they are required to adopt an international treaty. Various UN instruments, along with the International Decade for the World's Indigenous Peoples 1995-2004, help raise awareness of changes needed in addressing indigenous peoples' rights.

Maori Early History and Traditions

Prior to the arrival of the first inhabitants to New Zealand, the forests were dense and rich, and the flora had great diversity. The land-based plants evolved to a high level of specialisation and narrow habitat requirements. There were more than 200 species of birds, including the moa which lived in both the North and South Islands. Despite the abundant bird life, animal life was scarce. The only indigenous land mammal was the bat. Lizards and tuatara were the only reptiles. Sea mammals, such as seals, were numerous and widely distributed.

New Zealand was the last habitable region of the world to be settled by humans (Orbell, 1995). Most archeologists' estimates place the first human arrivals in New Zealand between 800 AD and 1100 AD, with it being unlikely that there were significant new arrivals after 1200 AD (Davidson, 1984). However, more recent analysis shows that humans may have first arrived around 2000 years ago, then left or died out, and resettled in greater numbers at around 1400 AD (Holdaway and Jacomb, 2000).

Maori commonly refer to an original homeland, *Hawaiki*, and their ancestors sailing in either single or double *waka* (large dugout canoes) to the new land they called *Aotearoa*, the land of the long white cloud. (Brailsford, 1989; Halbert, 1999). It has been speculated that some later arrivals came to this new land after fleeing unfavourable conditions in their homelands. The later arrivals either intermarried with the earlier inhabitants, or conquered them to produce new social formations (Walker, 1996). The various arrivals to *Aotearoa* over centuries, if not millenia, help explain differences among Maori in dialect and interpretation of traditions and the difficulties encountered when applying a pan-Maori perspective.

Like other indigenous peoples throughout the world, Maori have a sense of 'rootedness' in the land and sea which provides them with a way of seeing the natural world in its entirety and their inter-relatedness with the environment

(Ririnui and Memon, 1997). Since Maori consider everything in the world to be alive and related, they make no distinction between nature and human society. The natural world and human society are inseparable and have been since the beginning of time. Humans and all other life forms are indissolubly tied together through kinship (Orbell, 1995). Everything in the natural world is viewed as possessing its own *mauri* (life force), which is not to be altered to any great extent. Maori *tikanga* (customary values and practices) were developed to ensure that resource use did not disturb its *mauri*. Humans possess *mauri-ora* (higher order of *mauri*), which bestows on humans *kaitiakitanga* (responsibility towards other living things). *Kaitiakitanga* encompasses rules, beliefs and ethical obligations humans have to protect the integrity of resources for future generations (Ririnui and Memon, 1997).

Maori depict gods as the source of all knowledge. Ancestors carry knowledge through their *whakapapa* (genealogy) and transmit it to human descendants. The *whakapapa* begins with the Maori account of creation, the union of *Ranginui* and *Papatuanuku*. These first parents have a number of children, with *Tane* as the son who brings the world into existence by separating his parents. This separation thrusts *Ranginui* into the realms of space and time to become the sky, and *Papatuanuku* becomes the earth mother. *Tane* is attributed with having fathered the trees and birds before making the first woman from the soil of *Hawaiki*, thus making all humans belong to the land. These creation legends show how spiritual agents and the transcendental forces of *mana* (authority, power, prestige) pervade the Maori cosmos and personal interactions (Fleras and Spoonley, 1999).

Maori kinship-based society is hierarchically structured. *Whanau* (extended family) is led by the *kaumatua* (male elder) and the *kuia* (female elder). A collection of *whanau* make up a *hapu*, which is led by the *rangatira* (chief). A grouping of related *hapu* make up an *iwi* led by the *ariki* (paramount chief) (Walker, 1999). The concept of *iwi*, however, did not eventuate until the late nineteenth and early twentieth centuries (Orbell, 1995) when related *hapu* formed

iwi in response to warfare and population increases at that time (Walker, 1999). Prior to then, the *hapu* was responsible for landholdings, with each aspiring to claim a stretch of coastline, land for horticulture and interior forests for hunting and as sources of timber. Inland *hapu* sought to control the land around lakes and along riverbanks.

The fabled *waka* traditions differentiate *hapu* and *iwi* from one another by their identification with revered *waka* ancestors or their descendants (Walker, 1996). Even those who trace their *whakapapa* to having always lived in *Aotearoa* acknowledge ancestors whose origin was *Hawaiki* (Orbell, 1995). *Whakapapa* is the determinant of all *mana* rights to land, membership in a *whanau*, *hapu* and *iwi*, kinship roles and responsibilities to other kin, and one's place and status within society (Mahuika, 1998). To this day, the Maori ritual exchange of greetings includes references to being descendants of *waka* and to ancestral ties to the land (Norman, 1989).

The principle of reciprocity is fundamental to the Maori world view (Wai-22, 1988). The importance placed on reciprocity is evident in Maori traditional gift-exchange. Each transaction may have the appearance of being free and spontaneous, with donors giving in good grace of their own volition and without a requirement to reciprocate. However, a transaction implies a strict obligation to accept the gift, to give in return when the situation arises and to repay the gift with another of at least equal value. Failure to reciprocate in this way attracts certain penalties and even ostracism. The purpose of gift-giving in this manner was to effect a transfer to mutual advantage and to establish bonds and obligations between tribal groups (Wai-22, 1988).

Belich (1996) speculates that the first inhabitants viewed *Aotearoa* as a constellation of 'resource islands', offering them varied and abundant resources. These 'resource islands' were patches of useful land separated by patches of less useful land that was best accessed by sea. Belich proposes that these 'resource

islands' can be broken down into two trios by type of main activity. The first trio of 'islands' included: 'gathering islands' which provided inhabitants with plentiful wild, edible plants; 'wood islands' which provided timber and other flora used as raw materials; and 'fishing islands' which included marine fish, shellfish and crustaceans, as well as freshwater fish, including eels.

The second trio of 'resource islands' included: 'stone islands' which provided the materials to make tools, weapons, utensils and ornaments; 'garden islands' which were used to grow various crops such as kumara, gourd and taro in patches of fertile well-drained soil and gently sloped hills; and 'big game islands' which held numerous species of moa, particularly in the eastern South Island, and fur seal rookeries located in the Far North, Coromandel, both coasts of Cook Strait, and the bottom of the South Island. The abundance of fur seals and the relative ease with which they could be hunted made them a significant food source for early inhabitants. 'While abundance varied, and was not huge anywhere the whole year round, these three [resource] island types were quite widespread', and Maori travelled between these 'resource islands' most often by sea (Belich, 1996:42).

These resource islands sustained the growing Maori population until around the thirteenth century. By then the population had increased to approximately 25,000, placing increased pressure on resources, particularly fertile horticultural land. The pressure to feed the population with horticulture made coastal regions with good agricultural land especially prized and inevitably fought over. At this time there were developments of fortifications, or *pa* sites, made up of ditch-and-bank defences topped with massive palisades (Orbell, 1995).

'As food became increasingly scarce, Maori traditions tell of numerous accounts of tribal warfare over land. There are an estimated 4,000-6,000 *pa* sites in Aotearoa, with 98 percent of them associated with land used for horticulture, ... [and] warfare became the means to determining tribal boundaries and relations between tribes' (Walker, 1996:32).

By the fifteenth century, the larger species of moa had become extinct, and the number of fur seals had diminished, except for those at the bottom of the South Island and off-shore islands. Thus, fishing increased in importance, with over 120 species used as a food source, as well as numerous shellfish and freshwater fish (Wai-22, 1988).

Maori Traditional Fisheries Management

Maori involvement with fishing embraces a spiritual dimension common among Polynesian peoples. Fishing is included in the *Maui* account of the creation of *Aotearoa*. The South Island was *Maui's* canoe from which he hooked a fish which when brought to the surface became the North Island. Other examples include *Tangaroa* as the god and father of fish. Since fish belong to *Tangaroa* and they are his children, people are allowed to take them when they show respect for *Tangaroa* and his sea-home. *Io* (creator of all) nurtures *Tangaroa's* children in nurseries within bays, rock pools, estuaries and the blue waters. The harvesting of the waters honoured the precious gift of life (Brailsford, 1989). *Punga* is considered the father of the shark, whales and other marine mammals, and *Ru* is the father of lakes and rivers (Wai-22, 1988). The much-treasured *pounamu* (greenstone) is considered to have been originally a fish that had swum from the original homeland, *Hawaiki* (Orbell, 1995). This spiritual dimension to fishing empowers Maori with *mana atua* (prestige and power of the gods) (Ririnui and Memon, 1997).

The linking of fisheries management to the spiritual realm and the *hapu's* communally-based structure helped ensure that fisheries were managed sustainably. *Tikanga* (customary values and practices) and *kaitiaki* (guardianship of resources) maintained the long-term preservation of ecosystems and fish stocks by regulating access and use. In most cases, the property rights to fisheries resided in those with *mana moana* (sovereignty over freshwater and sea holdings), which was usually the *hapu* occupying adjacent land. Their territorial boundaries extended to inland waterways and out to sea. Because of fisheries'

links with the gods, and the strong reliance *hapu* had on fisheries as a food source, they were considered the *hapus' taonga* (treasure or a prized possession). The fisheries of each *hapu* had clearly defined areas with known access rights, and the knowledge of their *tauranga ika* (fishing grounds) was closely guarded and handed down through the generations (Ririnui and Memon, 1997).

As fisheries were common to particular *hapu*, they came under the traditional authority of the *rangatira* who had responsibility for sustaining the fisheries resources. The exercise of *rangatiratanga* (chieftainship) invoked prohibitions and enforcements such as *tapu* (spiritually based restrictions), thus having the power and influence of the gods. When *tapu* was placed on a fishery, restrictions and prohibitions were enforced to protect or control the fish stocks. It was understood that exploitative behaviour towards fisheries, such as breaching *tapu*, was a serious offence that could invoke the punishment of the gods. A less serious offence could result in offenders being subjected to *muru*, (plundering of offender's possessions by *whanau* or *hapu*) (Wai-22, 1988).

The early explorers and colonial settlers to *Aotearoa* expressed amazement at Maori fishing standards, their displayed ingenuity and knowledge of the fishing grounds, as well as the abundance of fish life (Wai-22, 1988). In 1769, Joseph Banks, on board Cook's ship *Endeavour*, wrote:

'... [The Maori] after having a little laugh at our seine, which was a common kings seine, shewd us one of theirs which was 5 fathom deep and its length we could only guess, as it was not stretchd out, but it could not from its bulk be less than 4 or 500 fathoms [700-900 metres]. Fishing seems to be the chief business of part of the countrey; about all their towns are abundance of netts laid upon small heaps like hay cocks and thatcd over and almost every house you go into has netts in its making' (Wai-22, 1988:42).

A reported observation, dated 1814, stated that Maori were well supplied and very industrious with their fishing. It also reported that Maori observed certain

fishing rights with limits to areas marked by stakes driven into the water. Several rows of stakes defined areas belonging to the different *hapu*, and trespassing instantly attracted retribution (Wai-22, 1988). Polack (1840: 275) wrote that ‘...the sea-side is often tapued by certain tribes who possess the sole right of fishing for shell-fish on the beach’. Best (1909:476), wrote ‘Thus in former times the Nai Turanga hapu of the Urewera had rights to the waters of the Tauranga river between Otara and Okehu ... [and] they had the fishing privileges of the stream’. Another report, dated 1869, described Maori fishing activity at around 1840:

‘They were very great consumers of fish ... The seas around their coasts swarmed with excellent fish and crayfish; the rocky and sandy shores abounded with good shellfish ... The rivers and lakes contained ... plenty of small fish and fine mussels and small crayfish; the marshes and swamps were full of large rich eels ... In seeking all of these, they knew the proper seasons when, as well as the best manner how, to take them ... Sometimes they would go in large canoes to the deep sea-fishing, to some well known shoal or rock, 5 or 10 miles from the shore and return with a quantity of large cod, snapper, and other prime fish; sometimes they would use very large drag nets, and enclose great numbers of grey mullet, dogfish, mackerel and other fish which swim in shoals; of which (especially of dogfish and of mackerel) they dried immense quantities for winter use. They would also fish from rocks with hook and line, and scoop nets; or singly, in the summer, in small canoes baited with mother-of-pearl shell, take plenty of kahawai; or with a chip of tawhai wood attached to a hook, as bait, they took the barracouta in large quantities. Very fine crayfish were taken in great numbers by diving, and sometimes by sinking baited wicker-traps. Heaps of this fish, with mussels, cockles, and other bivalves, were collected in the summer, and prepared and dried; and of eels also, and of several fresh water fishes, large quantities were taken in the summer, and dried for future use’ (Colenso, 1868:9).

There are several historical accounts of Maori involvement with inter-tribal trade. In 1838, it was concluded that Maori’s desire to trade was endemic and built into their way of life:

‘Few nations delight more in trading and bargaining than this people, a native fair or festival best illustrates this fact. To such an excess are the feelings of the people carried in bartering with each other that during war, though the belligerent parties seek for the annihilation of each other, yet at intervals a system of trade, as we have already stated is carried on, that can scarcely be credited by strangers to their customs ... Any persons having dealings with them are aware of their passion for commercial pursuits’ (Wai-22, 1988:xv).

Maori entered into trade with Pakeha with great enthusiasm and eagerly developed their own sailing boats and schooners, which led to their domination of the North Island coastal shipping trade. By the 1820s Maori were substantially involved in providing European ships and coastal whaling stations with provisions. By the 1830s, ships were carrying large quantities of Maori produce to Sydney, which continued well after the signing of the Treaty of 1840 (Wai-22, 1988). Maori domination of the sea was also evident in their widespread practice of claiming levies on boats entering ‘their’ harbours. However, after the Treaty of 1840, the Crown denied Maori the right to levy boats on the basis that the Treaty granted the Crown sovereignty over the harbours. Continual attempts by Maori to levy boats, which they believed to be affirmed by the Treaty of 1840, was a contributing factor to the wars in the Far North and the Waikato (Wai-22, 1988).

These historical accounts demonstrate that Maori utilised their fisheries resources and conducted trade amongst themselves and with settlers. Oral accounts of Maori traditional involvement in fishing have been passed down through generations and are well documented in the report on the Muriwhenua peoples’ fishing claim against the Crown, which is discussed in the Maori Fisheries Claims and Settlements section. The report on the Muriwhenua peoples’ claim demonstrates the traditional importance that fish and fishing has had for the tribes of the far north.

‘The Muriwhenua tribe’s libraries of their minds are replete with an enormous treasure trove of ancient practices, customs, beliefs and laws telling of the huge reliance upon the seas in days gone by. Several

hundred fishing grounds were named and identified in detail, up to 25 miles at sea, with descriptions given of their locations as fixed by cross bearings from the land, the fish species associated with each, and the times to fish there ... How could it be then that we have come to associate Maori fishing with the gathering of a few shellfish at the seashore? ... [while] one opinion, extant in [New Zealand] fishing laws for over 120 years, is that Maori traditional fishing has no commercial component. That is particularly at odds with Maori custom and with what the first European observers saw' (Wai-22, 1988:xiv).

Early Colonial History

The anarchic colonial settlement of New Zealand during the late 1700s and early 1800s led to cultural clashes between Maori traditions and those of the colonial settlers. These clashes caused New Zealand to form as a nation with two disparate traditions. In contrast to Maori emphasis on kinship, respect for ancestors, spirituality, and millennial connectedness to the natural world, the Anglo-Commonwealth settlers brought their concepts of modernity, the Westminster governmental system, scientific positivism, capitalism, and Christianity's monotheism (Walker, 1999). Settlers then viewed Maori as impediments to progress and the spread of civilisation (Reeves, 1998), believing the 'landscape could be tamed, and the savage domesticated and assimilated' (Walker, 1999:108).

Conflicts arose repeatedly between Pakeha and Maori over land and sea claims. Pakeha interactions with Maori resulted in the introduction of foreign diseases that devastated Maori's population. The introduction of muskets in the 1820s intensified warring between Maori factions, leading to further atrocities and devastation of their traditional society. By 1835, many Maori desired that the musket wars cease, and they turned to Christian missionaries, which further undermined their traditional society.

Some view the Treaty of 1840 as ensuring Maori tribes' territorial sovereignty due to the signing of the Declaration of Independence of the Confederation of the

United Tribes of New Zealand (Walker, 1999; Ward, 1999). The missionaries and the British Resident, James Busby, convened a meeting of northern tribes at Waitangi on 28 October 1835 to sign a Declaration of Independence. Initially 35 chiefs signed the Declaration, and later it was signed by more chiefs from the north and south. Article 1 of the Declaration declared the nation to be independent under the United Tribes of New Zealand. Article 2 declared that exclusive sovereign power resided in the hereditary chiefs of the tribes within the Confederation. Article 3 stated that the chiefs agreed to meet in congress at Waitangi each year 'to frame laws, dispense justice, preserve the peace, and regulate trade' (Walker, 1999:111). The 1835 Declaration of Independence has been viewed by some to be the fount of Maori national sovereignty recognised by the Crown. However, the Declaration of Independence lacked any functioning authority to express Maori national sovereignty, as sovereignty remained with individual chiefs who refused to subordinate their *mana* (authority derived from the gods) to the Confederation (Ward, 1999).

By the mid-1830s the British Government sought to regulate the extent of European settlement in New Zealand and to implement lessons learned from other colonies. The British Government concluded that Maori needed protection from the fate of all other indigenous peoples exposed to European colonisation (Ward, 1995). The British Government also recognised that settlers would eventually require self-government, and so it attempted to steer a course between the protection of Maori and settlers' growing demand for self-government by implementing an amalgamation policy to incorporate Maori into the settlers' framework of law and government (Ward and Hayward, 1999). The instructions to Governor Hobson from the British Colonial Office in 1840 were to ensure the permanent welfare of the tribes by progressively bringing them within British rule, instead of the tribes maintaining their own laws and customs. To avoid the eventual failure of 'reservations' used in Australia and North America and to preserve aboriginal lands, the British Government sought to recognise the land

occupied and possessed by Maori, and this recognition was embodied in the Treaty of Waitangi signed on 6 February 1840 (Ward, 1995).

At the time the Treaty of 1840 was signed, Maori were by no means weak, compliant or submissive. Maori claimed all their lands, not just their settlements and cultivations, and they were well armed, outnumbering Pakeha by thirty to one. They were intent on preserving their autonomy, and clearly retained control of the land and sea. Maori were hopeful that the Treaty of 1840 would lessen the threat of further French settlements and the anarchy that prevailed in New Zealand at the time (Ward and Hayward, 1999).

The Treaty of 1840 was signed initially by forty-three chiefs and then a total of 540 signatories (Walker, 1999). The Treaty of 1840 has two versions, an English-language version, which is recognised by the Crown as the founding document of New Zealand as a nation, and a Maori-language version, Te Tiriti o Waitangi, which Maori widely accept. Both versions of the Treaty of 1840 have three articles. Article 1 of the English-language version states that Maori ‘cede to Her Majesty the Queen of England absolutely and without reservation all the rights and powers of Sovereignty ...’ The Maori translation of this first article, however, uses the term *kawanatanga* (the right of *iwi* to self-government in their particular region). According to Walker (1999), this difference in translation, with the English version ceding sovereignty and the Maori version ceding governance, deceived the Maori signatories, causing the Treaty of 1840 to be the first step in the subversion of Maori sovereignty.

Article 2 of the English-language version states that the Queen of England guarantees Maori ‘the full exclusive and undisturbed possession of their Lands and Estates Forests Fisheries and other properties which they may collectively and individually possess ...’ This Article in the Maori version, however, guarantees Maori chiefs *tinio rangatiratanga* (unqualified exercise of their chieftainship over their lands, villages, fisheries and all their *taonga*). The

guarantee of *tinio rangatiratanga* contradicts Article 1 of the English-language version (Walker, 1999). Maori agreed to Article 1 upon the Crown's conditional promise to recognise the Article 2's guarantee of Maori's undisputed rights to their resources, lands, forests, fisheries, *taonga*, etc. (Mahuika, 1998).

As was common with nineteenth century treaties, Article 2 of the Treaty of 1840 included an exclusive pre-emptive clause that allowed the Crown to purchase Maori land should they be inclined to dispose of it 'at such prices as may be agreed upon ...', and the selling of Maori land to the Crown extinguished their title to the land. This type of exclusive pre-emption doctrine could be seen as paternalistic and designed to protect the indigineous peoples from the assumed immeasurable superiority of the Anglo-Commonwealth settlers (Hackshaw, 1989), leading to British imperialism and the eclipse of Maori by British sovereignty (Walker, 1996). Article 3 in both versions has the Queen of England extend to Maori 'royal protection and imparts to them all the Rights and Privileges of British Subjects'.

Soon after the Treaty was signed, the guarantee to Maori that they retain 'full exclusive and undisturbed possession of their Lands and Estates Forests Fisheries and other properties' was ignored by the colonial government, which was intent on accommodating the growth in colonial settlements by acquiring Maori land. This was done primarily by manipulation of the English-language version's pre-emptive clause to suit the interests of the settlers (Sorrenson, 1999).

The Land Claims Ordinance 1841 contradicted the Treaty of 1840 by determining that lands not occupied or used by Maori belonged to the Crown, as it had the right of pre-emption by cession. The Native Lands Act 1862 brought about the Land Court to individualise Maori land titles, breaking down Maori communally-based land ownership. After the land wars of the early 1860s, between the Government and Maori over confiscation of their land, the New Zealand Settlement Act 1863 led to a further confiscation of more than 3 million acres of

Maori land to pay for the Government's cost of war. The Native Reserves Act 1864 placed all remaining land reserved for Maori use under settler control. In 1865 the Native Land Court was established to determine ownership of Maori lands. However, the time-consuming, bureaucratic process led to many Maori selling their land instead of going through the Land Court.

Successive governments asserted the Crown's sovereignty by various means, in addition to extinguishing native title to land through the Native Land Court. Maori chiefs were bribed so they remained compliant. Military force was used to subdue and intimidate others. Other means used included the transmigration of settlers from the United Kingdom to gain numerical dominance, military invasion, confiscation of land, and political disempowerment. The erosion of Maori chiefs' land base disempowered them, forcing over 90 per cent of Maori to subsistence living on remnants of their traditional land (Walker, 1999). Thereafter Maori and Pakeha became binarily opposed to each other ethnically, socially and culturally, and this historical opposition remains (Walker, 1996).

As is evident, most, if not all, that was guaranteed to Maori by the Treaty of 1840 has been alienated from them (Mahuika, 1998). Since the signing of the Treaty Maori land holdings have diminished from around 66 million acres to around 3 million acres. By 1985 only 1800 Maori worked in the fishing industry; few owned vessels and licences, while most worked as labourers (Kelsey, 1990).

Fisheries Management Legislation

By 1792 a sealing industry thrived throughout *Aotearoa's* waters, and whaling became prosperous by the early 1800s, attracting whaling ships primarily from Australia, the United Kingdom and the United States. Maori fisheries management practices could not control the exploits of sealers and whalers, thus making such activities during the late 1700s until the mid-1800s a period characterised by a distinct lack of management of fish stocks. It is unlikely, however, that the exploits of sealers, whalers and the first European settlers

impacted heavily on Maori inshore fishing activities. Furthermore, for twenty-five years after the signing of the Treaty of 1840 there was little evidence that Maori viewed Pakeha fishing activities as a major concern (Wai-22, 1988). As outlined previously, initial relationships between Maori and Pakeha were relatively peaceful because Maori were keen on trade with settlers. By the 1870s, however, Maori views on Pakeha fishing activities had changed, as certain fisheries legislations severely restricted Maori fishing interests (Wai-22, 1988).

As discussed in Chapter 3, the history of New Zealand's fisheries management can be classified into three distinctly different regimes. From 1866 to 1962 a limited entry system existed consisting of a range of regulations to limit participation in fisheries. From 1963 to 1982, a regulated open entry system was in place that encouraged greater domestic participation in fisheries. Then, beginning in 1983, the QMS was implemented to address overcapitalisation that occurred during the previous regime, to rebuild overexploited inshore fisheries, and to enhance efficiencies for the industry, in part, through the allocation of ITQ.

These three fisheries management regimes have all operated with similar assumptions about Maori and their involvement in fishing. The first assumption is that Maori lacked their own fisheries management systems, hence there was a need for statutory management. This assumption was perpetuated by the lack of any national fisheries departments having responsibility for ascertaining the nature and extent of Maori fishing and any entitlements they may have had (Wai-22, 1988). The second assumption is that Maori fishing activity should be limited to subsistence use. However, this assumption fails to acknowledge Maori's well-documented early successes in large-scale fishing and trade.

The Oyster Fisheries Act 1866 was the first fisheries legislation. It addressed concern that oysters near Auckland and other major settlements showed signs of depletion. The 1866 Act provided for the leasing of oyster beds for commercial

purposes and artificial propagation, and for the protection of natural beds by enabling closures. It is of interest that less than one year before the passing of the 1866 Act, the House of Representatives had received information showing that Maori had supplied the Auckland settlement with thousands of kits of oysters (Wai-22, 1988). The 1866 Act had no provisions for Maori, and it did not apply to foreshore oysters until eight years later. Subsequently, the Government outlawed the commercial exploitation of oysters by Maori, and leased Maori oyster beds to Pakeha commercial interests. Furthermore, Maori were prohibited from selling oysters from the few oyster beds reserved for them, since these beds were to be for subsistence purposes only. From there on, fisheries legislation established that Maori interests in fisheries was non-commercial and could be provided for by the reservation of a few fishing grounds (Wai-22, 1988).

Only a few exceptions in fisheries legislation recognised Maori rights to fisheries resources. For example, the Fish Protection Act 1877 section 8 states 'nothing in this Act ... shall be deemed to repeal, alter or affect any provisions of the Treaty of Waitangi, or take away, annul, or abridge any of the rights of the aboriginal natives to any fishery secured to them thereunder'. The Sea Fisheries Amendment Act 1903 and the Fisheries Act 1908 acknowledged Maori fishing rights but made no specific reference to the Treaty of 1840 (Ririnui and Memon, 1997). These few examples of statutory recognition of Maori fishing rights were not honoured in practice. They were generally held to be ineffective due to no Maori fisheries having been recognised by statute (Quentin-Baxter, 1998).

Maori have taken a number of cases to New Zealand Courts over their fishing rights and claims to lakes, rivers and foreshores. Some of these cases were inclusive of Maori rights to land. Some cases resulted in the Crown promising Maori reserves. Of the few that were granted, most were reduced or taken out of Maori control. Some Maori fishing rights claims continued for years and eventually ended in Maori accepting what they could obtain while the Crown usually ceded very little (Wai-22, 1988). Although Maori often submitted

applications for fishing reserves restricted to personal consumption only, there is no evidence that any reserves were established, although the statutory provision for Maori marine reserves was in force from 1900 to 1962. 'It was only through a welter of Parliamentary petitions that some small areas were set aside, by special or under other legislation' (Wai-22, 1988:xvi). For over one hundred years, the New Zealand Courts interpreted and implemented fisheries legislation in ways that continued to erode Maori fishing rights, leaving them with limited involvement in the management of some fisheries, restricting their use to subsistence purposes or neglecting their claim to having any rights to fisheries resources.

Statutory recognition of Maori fishing rights was stated in the Fisheries Act 1983 section 88(2), 'nothing in this Act shall affect any Maori fishing rights'. However, the Fisheries Amendment Act 1986, which brought about the ITQ system, further marginalised Maori in fishing. The 1986 Act makes no reference to the 1983 Act section 88(2), or any other reference to Maori having Treaty-based fishing rights. Furthermore, the 1986 Act allocated ITQ to fishing firms and individuals that met the allocation criteria. Part-time fishers, many of whom were Maori, were excluded from the initial allocation.

The implementation of the ITQ system prompted Maori claims to large areas of fisheries. Many Maori viewed the ITQ system as a breach of the Treaty of 1840's second article that guaranteed Maori full, exclusive and undisturbed possession of their fisheries. The ITQ system was viewed by many Maori as severing them from the ocean, raiding their sea resources and selling their right to participate in fisheries while others were allowed access to their traditional fishing grounds. In so doing, the ITQ system and its bureaucracy replaced some Maori traditions, conservation practices and their extensive knowledge of the sea (Wai-22, 1988).

Beginning in the mid-1980s, Maori began to file Treaty-based claims to fisheries resources in response to the implementation of the ITQ system. The basis to

Maori claims is that they never relinquished their fishing rights, and that the Crown breached its Treaty of 1840 obligations. While the ITQ system initially prompted indigenous claims to large areas of fisheries, it proved to be an effective means of resolving some claims.

Maori Fisheries Claims and Settlements

The Government's intent to implement the ITQ system and resolve Treaty of 1840 grievances placed significant political pressure on the settlement of Maori fishing rights claims. The first Treaty-based claim in response to the ITQ system began in June 1985 by a collection of *iwi*, the Muriwhenua, of the far north of the North Island. The Muriwhenua claim and subsequent fisheries claims were filed with the Waitangi Tribunal.

The Waitangi Tribunal was established in 1975 with the passing of the Treaty of Waitangi Act 1975. The Waitangi Tribunal's functions are to assess the Crown's acts or omissions against the principles of the Treaty of 1840, assess whether inconsistencies in the Crown's acts or omissions have had a prejudicial effect on Maori, and how a prejudicial effect might be compensated and/or remedied. It should be noted that there has not been broad agreement on what the Treaty of 1840 principles actually are beyond the obligation of Treaty partners to act in good faith, and the Crown to consult with and involve Maori in decision-making under the Treaty's guarantee of *rangatiratanga* (Parliamentary Commissioner for the Environment, 1998).

The Waitangi Tribunal's report on the Muriwhenua claim concluded that numerous and serious breaches of the Treaty of 1840 had occurred, and the effects on the Muriwhenua people had been wide-ranging, costing them income, jobs, trade and opportunities to develop their own fisheries. Furthermore, their having to leave their traditional area to search for employment had severely impacted on their traditional ways. Influenced by steps taken in Canada and the United States, the Waitangi Tribunal's report stated that a new agreement

between the Crown and the Muriwhenua people was essential, and this new agreement had to assist the restoration of their tribal base and the development of their industrial capability (Wai-22, 1988).

The Muriwhenua claim and the Waitangi Tribunal's Muriwhenua Fishing Report provided the basis for injunctions against further ITQ allocations. In September 1987 the Muriwhenua claimants successfully petitioned the High Court for an injunction against further ITQ allocations, which had begun in 1986. Maori and the Crown entered into negotiations, interspersed with disputes, on how Maori fisheries might be given effect in light of the Treaty of 1840 promise of *tinō rangatiratanga*, as outlined in Article 2 of the Maori-language version, and the guarantee that Maori have full, exclusive and undisturbed possession of their fisheries, as outlined in Article 2 of the English-language version.

During protracted negotiations between Maori and the Crown, the Crown implemented an interim and without prejudice settlement. Although Maori negotiators objected to some aspects of this interim settlement, it was passed into law as the Maori Fisheries Act 1989. The 1989 Act outlined several contributions made by the Crown to Maori, including the transfer of 10 percent of existing total allowable commercial catch before 31 October 1992 to the new Maori Fisheries Commission. In order to meet this obligation, the Government actively traded in the open market to obtain ITQ. The 1989 Act also included a \$10 million payment made by the Crown to Maori. It is important to note that the 1989 Act included provisions for the Crown to recognise *tinō rangatiratanga* by enhancing Maori involvement in the control and management of fisheries.

The Maori Fisheries Commission was required to administer these settlement assets on behalf of Maori, which it did primarily through its commercial enterprise, Aotearoa Fisheries Ltd., and short-term ITQ lease arrangements. The Maori Fisheries Commission was also required to facilitate the entry of Maori into the business and activity of fishing, but it had no power to allocate assets to

Maori or develop a means of allocating assets. Maori made it clear, however, that their acceptance of 10 percent of ITQ did not represent the full settlement of their fisheries claims. The assets provided to Maori by the 1989 Act are known as the pre-settlement assets.

In August 1987 the Ngai Tahu people, who at the time of the Treaty of 1840 owned most of the South Island, filed a fisheries claim against the Crown. Ngai Tahu claimed (1) they had the right to full ownership of fisheries out to twelve miles off the coast of their traditional boundaries; (2) as a partner with the Crown in the Treaty of 1840 they were prepared to grant fifty percent of ITQ within this twelve mile zone to the Crown; and (3) they were prepared to accept ITQ outside the twelve mile zone as compensation for the Crown's stewardship of fisheries having resulted in serious depletion of fish stocks within the twelve mile zone (Wai-27, 1992).

After a series of claim hearings from August 1987 to September 1991, the Waitangi Tribunal concluded that (1) Ngai Tahu had never disposed of their exclusive right to sea fisheries; (2) the Crown had breached its Treaty of 1840 obligations to Ngai Tahu; (3) Ngai Tahu had an exclusive Treaty right to the sea fisheries up to twelve miles from their territorial boundaries; and (4) Ngai Tahu had a Treaty development right to a reasonable share of the sea fisheries within twelve to two hundred miles (Wai-27, 1992).

At the time negotiations took place on the Ngai Tahu claim, Sealord Products Ltd., New Zealand's largest seafood firm, was offered for sale, and this was seen as an opportunity to settle Maori fisheries claims. In 1992 the Deed of Settlement was signed between Maori and the Crown as the full and final settlement of all Maori commercial fisheries claims in accordance with the Treaty of 1840. The Treaty of Waitangi Settlement Act 1992 gave effect to the 1992 Deed of Settlement and repealed the Fisheries Act 1983 section 88(2). The 1992 Act resulted in the Crown agreeing to provide \$150 million for Maori to enter into a

50/50 joint venture with Brierley Investments Ltd. in the purchase of Sealord Products Ltd., and 20 percent of all new species brought within the ITQ system to be allocated to Maori. The assets allocated to Maori through the 1992 Act are known as the post-settlement assets. It should be noted that Maori did not unanimously support the 1992 Deed of Settlement, and a Court of Appeal injunction against the 1992 Deed was attempted.

Some of the main points of the 1992 Act include: (1) Maori non-commercial fishing rights remain subject to the Fisheries Act 1983, and hence remain in accordance with the Crown's obligations under the Treaty of 1840; (2) MFish is to consult and develop policies with Maori to recognise their use of and management practices for non-commercial fishing rights; and (3) regulations are to be developed that recognise and provide for Maori customary food gathering and their special relationship with places that have customary food gathering importance, such as *tauranga ika* (fishing grounds) and *mahinga mataitai* (sea reserves).

The 1992 Act brought about the reconstitution of the Maori Fisheries Commission as the Treaty of Waitangi Fisheries Commission Te Ohu Kai Moana (TOKM) to administer both pre and post-settlement assets. TOKM was empowered to devise, in consultation with Maori, a scheme to distribute the pre-settlement assets, valued in 1992 at around \$130 million, with a current value of around \$300 million (O'Regan, 1999). Since 1992 TOKM has held numerous meetings to consult with *iwi* about the method of allocating pre-settlement assets. The proposed optimum method of allocation has assets distributed to *iwi*, since *tikanga* has fisheries rights held collectively (TOKM, 1999).

It is intended that once the assets are allocated to *iwi*, they will have full discretion on how to use those assets to benefit their members. In November 1998 seventy-eight *iwi* received TOKM's *Report on the Proposed Method for Allocation of Pre-Settlement Assets*. To date, thirty-five *iwi* have accepted the

proposed allocation method while eighteen have rejected it, and others have expressed conditional acceptance, no response or no decision. There are proposed *iwi* mandate, representation and structural requirements to be agreed to before the allocation method is implemented (TOKM, 1999).

The proposed optimum pre-settlement allocation method is as follows: Inshore ITQ, fishstocks caught at depths to 300 metres, will be allocated according to *iwi* coastline adjacent to their *rohe* (traditional boundaries). Deepwater ITQ will be allocated so that half will use the coastline basis, and the other half will use a population basis, according to the 1996 Population Census data. The allocation of deepwater ITQ takes into account the Waitangi Tribunal's findings that Maori have a right to share in the development of deepwater fisheries (TOKM, 1999).

It is intended that other pre-settlement assets, such as shares in TOKM and cash holdings, will be allocated to *iwi* according to the volume of ITQ allocated to them and the *iwi* population basis, respectively (TOKM, 1999). It is expected that after the pre-settlement assets have been distributed to *iwi*, a new Maori Fisheries Act will set out a scheme for distributing the post-settlement assets.

Maori-owned ITQ totals 224,000 tonnes, approximately one-third of the total ITQ (O'Regan, 1999). The combined pre- and post-settlement assets from the Maori Fisheries Act 1989 and the Settlement Act 1992 ensure that Maori will continue to have a major influence in the development of the commercial fishing industry.

Fifty-nine *iwi*-operated fishing businesses have been established, and TOKM has provided 1200 students with scholarships for training and tertiary studies, which has contributed to Maori now making up twenty-two percent of the seafood industry workforce (TOKM, 2000). TOKM continues to enhance its financial position through its several subsidiaries and annual quota lease arrangements made directly to *iwi*-operated fishing businesses. One point of concern for some *iwi* is the implementation of traditional fisheries practices, as they encounter

difficulties incorporating their traditional practices within the confines of the ITQ system and its bureaucracy.

Outstanding Maori Fisheries Claims

As mentioned, the Treaty of Waitangi Settlement Act 1992 stated that Maori customary fishing rights remain, and new fisheries regulations are to recognise and provide for Maori customary food gathering and their special relationship with such places. In addition, the Fisheries Act 1996 included provisions for the recognition of *taiapure* (customary local fishery areas). It is expected that the development of these places will encourage more Maori to be involved in fisheries (Te Puni Kokiri, 1993).

Despite the government's inaction on this matter, to date several *mataitai* and *taiapure* have been established. However, the current management of *mataitai* and *taiapure* raises difficulties for local Maori authorities in expressing their traditional management practices. These difficulties demonstrate that the expression of *rangatiratanga* has been narrowly prescribed, perpetuating Maori's distrust of legislation for the protection of their customary rights (Ririnui and Memon, 1997).

In 1997, after a five year process of drafting national regulations for customary fishing rights, Ngai Tahu joined with Te Tau Ihu o te Waka a Maui, a confederation of eight *iwi* from the top of the South Island, to determine the South Island Customary Fishing Regulations. This joint effort includes five regional co-ordinators who work closely with MFish and honorary fisheries officers. The co-ordinators also work with those nominated by *tangata whenua* to specify conditions for customary take, ensure *iwi* have reliable databases to record customary take, assist with establishing *mataitai* and *rahui* (temporary closures). Most other *iwi* continue their unresolved discussions on customary rights and regulations directly with MFish (TOKM, 1997).

An issue of importance concerning customary rights is that the Treaty of Waitangi Settlement Act 1992 does not state the amount of fish to be taken. MFish has proposed that allowances for customary take be within the TAC while TOKM has recommended allowances be set at 10 to 20 percent of the TAC for most fish stocks. The determination of customary take remains unresolved (TOKM, 1998).

Coates (1998) reminds us that the recognition of indigenous peoples' rights should remain culturally focused, not legalistic, and that all members of a society, including government institutions, have the responsibility to be involved in progressing relationships based on trust and confidence. Maori customary rights are first and foremost about the expression of Maori culture through *tinorangatiratanga*. However, the concept of Maori fisheries without pecuniary gain is foreign to the Crown. In addition, the concepts of *tikanga* and *kaitiaki* connote a sense of co-operation, trust, spiritual-connectedness and sustainability of the ecosystem. Since the mid-1980s the Crown has focused on entirely different concepts as it has steadfastly reformed both public and private sectors with strong emphasis placed on competition, individualism and other market-driven forces.

To use Coates' (1998) terms, the process of addressing all issues surrounding Maori customary rights will require Pakeha and government institutions to see through different lenses and to reassess their assumptions about institutions and frameworks to a much greater extent than was required of them when addressing Maori commercial fishing rights, which fit conveniently within the newly formed government-supported ITQ system (Bess, 2001).

Summary

Prior to the arrival of Pakeha, Maori had a centuries-old relationship with the natural world, and their relationship with the sea permeated their way of seeing the world. Until the mid-1800s, Maori society remained strong and vibrant, and the practice of *tikanga* and *kaitiaki* ensured fisheries remained sustainable. After

the arrival of colonial settlers, the Treaty of 1840 was viewed as desirable for Maori-Pakeha relations. The Treaty was a relatively enlightened 'blueprint' that provided Maori with protection of their resources in exchange for the Crown having authority over New Zealand (Fleras and Spoonley, 1999). However, in practice, the Treaty of 1840 paved the way for British imperialism and sovereignty (Walker, 1999). The suppression of Maori culture and language, and their assimilation into Pakeha culture, led to numerous Maori losing the capacity to speak or think in Maori terms (Fleras and Spoonley, 1999).

The settlement of some Maori Treaty-based claims has brought about the reclamation of much of their traditional land and fisheries resources. Now that Maori commercial fisheries claims have been largely settled, the greater challenge for New Zealand is defining Maori customary rights and determining fishery regulations that secure these rights. Similar to Treaty-based rights, customary rights hinge on *tinio rangatiratanga* and the concept of *mana*. According to Walker (1999), Maori *mana* and *tinio rangatiratanga* may coexist with that of the Crown, provided there are discrete institutional frameworks that recognise and respect the legitimacy of this arrangement. This is what Maori believed they were guaranteed when signing the Treaty of 1840.

Like the settlement of Maori commercial fisheries claims, many legal and political arrangements have been made over the last few decades that provided quick solutions to the worsening of conditions for indigenous peoples. According to Coates (1998), the fundamental challenge now facing governments and non-indigenous peoples is whether they are committed to the sustainability of indigenous cultures and societies. The New Zealand Government still has before it the challenge of conceptualising the Maori world view and implementing its concepts into government policies and institutions beyond what has been regarded as tokenism to date. 'Without such a conceptualisation and without an open agreement on the goal, it is difficult to imagine indigenous organisations and governments creating lasting solutions' (Coates, 1998:88).

Chapter 7

Research Design and Methods

Introduction

The first section in this chapter outlines the research strategy and questions designed to identify the processes by which selected New Zealand seafood firms built strategic capabilities to gain and sustain a competitive advantage in the context of New Zealand's economic reforms and transformation of the fisheries management system. The research questions focus on the content of strategic capabilities, the contexts within which firms operate, and firms' capabilities building processes. This section explains why the study adopts the theory building approach with comparative case study and field research methods. The second section outlines a critical methodological consideration, that of gaining access to firms and industry-related organisations. The third section describes the data collection methods. The last section outlines the within-case and cross-case data analyses, the study's use of a qualitative data analysis software programme, and the types of data presentation used.

Research Strategy and Questions

This study was prompted by the researcher's lengthy involvement in the seafood industry and interest in the field of strategy. He was involved in the catching and processing sectors of the North Pacific seafood industry from 1981 to 1993. During this time he gained an understanding of various factors that potentially impact on firms' competitiveness. An interest in the field of strategy led him to follow the increasing focus during the last decade on sources of competitive advantage and new strategic concepts that more realistically reflect how firms evolve and change in highly competitive environments. The researcher noted that insufficient research had been done on firms' processes of building sources of competitive advantage (Hamel, 1993). Given particular factors unique to New Zealand, outlined below, the researcher concluded that a focus on the capabilities building process applied to selected seafood firms could provide rewarding empirical findings on the Resource Approach.

First, the establishment of the New Zealand ITQ system and the initial allocation of quota to some medium- and large-sized seafood firms, along with the allocation of property rights under the joint RMA 1991 and Fisheries Act 1983 regime, provided these firms with tremendous opportunities to become highly vertically integrated. The seafood firms that expanded their value chain activities, and strengthened the links between these activities, following the implementation of the ITQ system and the allocation of access rights to the coastal water column and seabed, were ideally suited to research on the capabilities building process.

Second, research of these seafood firms could provide useful insights into the Resource Approach since the firms compete in the highly competitive international seafood market. New Zealand's production of seafood far exceeds domestic demand, so seafood firms must compete to sell the majority of their production in highly competitive overseas environments. One key purpose of the Resource Approach is to explain and predict why some firms gain a competitive advantage in highly competitive environments.

Third, the Resource Approach provides intriguing theoretical models of sources of competitive advantage. However, as with any developing theory, this theoretical approach has shortcomings that strategy researchers must reconcile to enhance its relevance, rewards and acceptance by strategy practitioners. It was anticipated that some of the theory's shortcomings could be addressed by a study focusing on the capabilities building process over an extended period of time, the mid-1980s through the 1990s. The study's length counters the tendency in the literature to focus on a narrow period of time and provides more scope to assess the role of non-critical resources and the change in value of resources over time. Since little is known about how some firms use their capabilities to become successful, more can be learned about the relationship between capabilities and competitive advantage by delving into the history of firms (Helfat, 2000).

Finally, a focus on the capabilities building process has practical implications regarding gaining access to firms to collect relevant data. It was anticipated that prospective research participants would be hesitant to disclose information on firms' current or intended strategic capabilities due to their commercial sensitivity. The study's retrospective focus on firms' capabilities building processes since the mid-1980s would be more acceptable initially. If the research participants were asked to focus first on past processes, they would be more likely to participate. It was anticipated that this distinction in the study's focus would increase the likelihood of gaining the initial access to seafood firms needed to progress the study.

The study also takes into account contextual or environmental factors that have impacted on firms' capabilities building processes, especially those factors that remain outside management's direct control. The strategy literature concludes that consideration of the environmental context is important in determining the relationship between different resources and measures of firm performance (Miller and Shamsie, 1995), and that contextual considerations are vital to identifying the resources that may provide firms with sustainable competitive

advantage (Maijoor and Van Witteloostuijn, 1996). Furthermore, the literature shows that the Resource Approach is complemented by the Industrial Organisation's focus on industry-level analysis (Collis (1991). The literature emphasises that research applying the Resource Approach should consider contextual factors and be open to the prospect that firms may have various sources of competitive advantage, some of which might have origins outside the boundaries of the firm.

Several generalisations about firm-specific resources developed in the literature were used as *a priori* constructs to shape the study's research strategy and determine the most appropriate methodology and data collection methods. Miles and Huberman (1994) recommend this approach for case study research, as opposed to a pure grounded theory approach, which builds theory without first developing a conceptual base. The specifications of strategic capabilities constructs used initially in this study include: Hall's (1992, 1993) outline of how certain intangible resources sustain a firm's competitive advantage, as shown in Figure 1.3; Prahalad and Hamel's (1990) outline of competencies as the roots of competitiveness, as shown in Figure 1.4; and Barney's (1991, 1995) depiction of firm-specific resources and sustained competitive advantage, as shown in Figure 1.5. The study's focus on the capabilities building process, however, took a more grounded theory approach, since, as mentioned, the literature pays scant attention to processes acting as a source of competitive advantage.

The study adopts Eisenhardt's (1989) view that no construct, no matter how closely it may be related to the literature, is guaranteed a place in the theory generated by the study. According to Eisenhardt (1989), while researchers should formulate a research problem and some important variables, they should avoid making specific relationships between variables and theories as much as possible, especially at the outset of the research. The generalisations made from a theory building approach with case studies assert that the participants observed behaved as anyone would if placed in a similar situation.

'A field researcher rarely asks, "what percentage of persons in the populations would respond this way"? instead she or he says, "what I have found true of the people in this study is likely to be true of any people placed in this situation". Field researchers are like laboratory experimenters in this regard. Both assume that the environmental forces or situational constraints they have studied would affect most people the same way' (Kidder and Judd, 1986:170).

The study's approach to building theory on firms' strategic capabilities and their capabilities building processes is adapted from Eisenhardt's (1989) process of building theory from case study research. The theory building process followed in this study is outlined in Table 7.1. The theory building approach with case study research requires that both within-case and cross-case analyses be open to new patterns, themes and categories emerging from the data on each of the study's four case studies, which represent selected medium- and large-sized New Zealand seafood firms.

As outlined in Table 7.1, the theory building process with case studies overlaps the data collection and data analysis phases. Miles and Huberman (1994:50) recommend early and repeated analysis of case studies to help the researcher 'cycle back and forth between thinking about the existing data and generating strategies for collecting new, often better, data'. Comparison of emerging concepts and theory with the literature is important to ensure confidence in the research findings, provide deeper insights and sharpen the limits to the study's generalisability (Eisenhardt, 1989).

This study adopted the theory building approach with comparative case studies and field research methods for several reasons. First, as mentioned, relatively little research has been done on the capabilities building process. Eisenhardt (1989) concludes that the theory building process by way of case studies is most appropriate in the early stages of research on a topic or when a freshness in perspective is needed on a topic already researched.

Table 7.1 The Process of Building Theory from Comparative Case Studies and Field Research

Steps	Activities	Reason(s)
1. Getting Started	Definition of research questions Definition of <i>a priori</i> constructs Neither theory nor hypotheses	Focuses efforts Provides better grounding of construct measures Retains theoretical flexibility, constrains extraneous variation and sharpens external validity
2. Selecting Cases	Specified population Theoretical, not random, sampling	Focuses efforts on cases that replicate or extend theory by filling conceptual categories
3. Crafting Instruments and Protocols	Multiple data collection methods Qualitative and quantitative data combined	Strengthens grounding of theory by triangulation of evidence Synergistic view of evidence
4. Entering the Field	Overlap data collection and analysis, including field notes Flexible and opportunistic data collection methods	Speeds analyses and reveals helpful adjustments to data collection Allows researcher to take advantage of emergent themes and unique case features
5. Analysing Data	Within-case analysis Cross-case pattern search using divergent techniques	Gains familiarity with data and preliminary theory generation Forces researcher to look beyond initial impressions and focus evidence
6. Shaping Constructs and Verifying Relationships	Iterative tabulation of evidence for each construct Replication, not sampling, logic across cases Search evidence for “why” behind relationships	Sharpens construct definition, validity, and measurability Confirms, extends, and sharpens theory Builds internal validity
7. Enfolding Literature	Comparison with conflicting literature Comparison with similar literature	Builds internal validity, raises theoretical level, and sharpens construct definitions Sharpens generalisability, improves construct definition, and raises theoretical level
8. Reaching Closure	Theoretical saturation when possible	Ends process when marginal improvement becomes small

Adapted from Eisenhardt (1989)

The former situation describes the Resource Approach to date. As mentioned, less research has been done on the strategic capabilities building process. For this reason, it is more appropriate to build 'good theory that is parsimonious, testable and logically coherent that emerges at the end, not beginning, of the study' (Eisenhardt, 1989:548).

Second, the case study method is appropriate for researching processes within particular contexts, since it provides researchers a better understanding of events and dynamics over time in single settings, more than is possible with the survey method (Pettigrew, 1985; Eisenhardt, 1989). Yin (1994:3) states that a case study 'investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used'. The case study method is, therefore, most appropriate for researching processes over time, especially in changing environments such as that of New Zealand since the mid-1980s, which has been characterised as a period of radical change. This time period, more than most in New Zealand's history, blurs the 'boundaries between phenomenon and context', making the 'snapshot' measurements provided by surveys the least appropriate methodology for this type of study.

Third, comparative case studies are applicable to theory building research since they involve reconciliation of evidence across cases and types of data, as well as between cases and the literature, which 'increase the likelihood of creative reframing into a new theoretical vision' (Eisenhardt, 1989:546). The within-case analysis, which is central to the comparative case study method, provides the researcher an opportunity to become familiar with each case, and cross-case analysis improves the likelihood of developing accurate and reliable theory that has a close fit with the data.

Finally, due to the potential commercial sensitivity surrounding New Zealand seafood firms' efforts to build strategic capabilities, and the lack of publicly

available data on privately held seafood firms, the case study method provides the best likelihood of gaining access to firms to collect relevant data. It was apparent early on that interviewing firms' senior managers would be the most feasible method of collecting the required research data. The study also had strong reservations about the effectiveness and reliability of collecting data by way of survey questions.

It was critical that the study allocate considerable time in gaining the trust and confidence of firms' senior managers so that they would be willing to provide data most relevant to the study. It was determined that building trust and confidence with senior managers could be assisted by their understanding fully the purpose of the research, what it requested of them, and their rights as participants. Therefore, careful consideration went into planning initial contact with selected seafood firms. In short, gaining access to firms and industry-related organisations ultimately determined whether the study could continue, and hence succeed. Further description of these issues is included in the next section, *Access to Firms and Industry-related Organisations*.

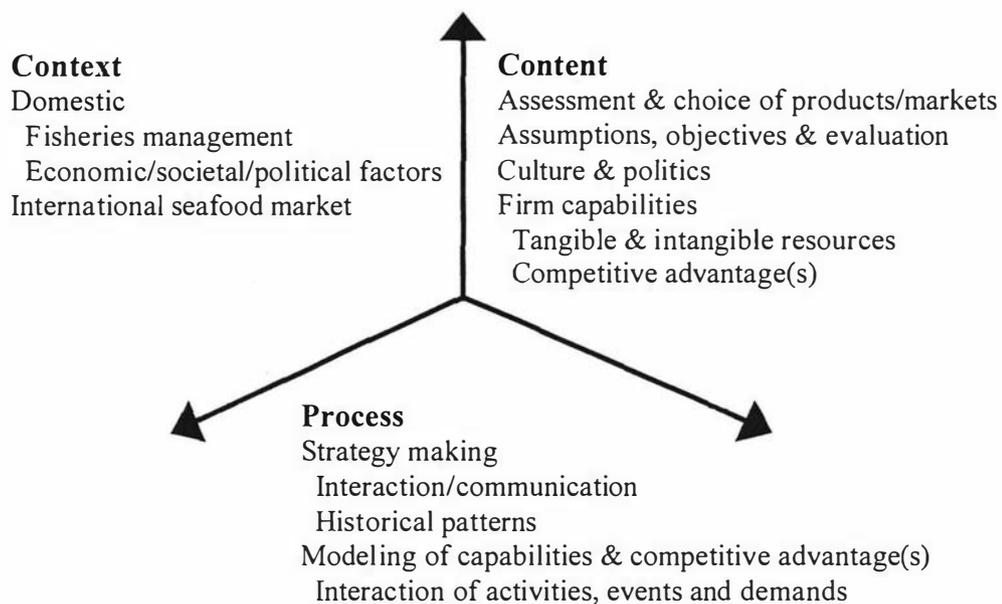
The study's focus on firm-specific capabilities and firms' capabilities building processes, as well as the contexts within which firms operate, has strong similarities to Pettigrew and Whipp's (1993) model on managing strategic change, which consists of three dimensions: context, content, and process. Like Pettigrew and Whipp's (1993) model, this study is designed around these three dimensions to understand more fully the capabilities building process, which captures strategic change and competition as holistically as possible. The inherent changes brought about by a firm's strategic capabilities building process should be regarded as a continuous process occurring in given contexts. Van de Ven (1992) reminds us to be clear about and consistent in our meaning of process.

At the outset, this study considered using Pettigrew and Whipp's (1993) definition of process as a sequence of events that describes how things change

over time. However, the data analysis revealed that the capabilities building process was less of a series of sequential steps and more of a pattern of inter-related activities, events and demands. For this reason, this study defines process as a continuous interaction between internal activities and external influences that impact on firms' building of strategic capabilities over time.

The overall design of this study is shown in Figure 7.1, which was adapted from Pettigrew and Whipp's (1993) basic model for managing strategic change. This study emphasises the link between building strategic capabilities and a firm's objectives in developing particular products and markets, altering Pettigrew and Whipp's model and subsuming the internal context within the content dimension.

Figure 7.1 Three Dimensions to Understanding the Building of Strategic Capabilities in Medium and Large-sized New Zealand Seafood Firms



(Source: adapted from Pettigrew and Whipp, 1993)

Since the focus of the study is the development of a relatively new theory of the firm, it is less appropriate to research predetermined hypotheses. A more appropriate approach is to ask a variety of 'what', 'how' and 'why' questions that

lead to new theory on firm-specific capabilities and firms' capabilities building processes. These types of questions lead to 'theoretical generalisation' as opposed to the 'how many' types of quantitative research questions that lead to 'statistical generalisations' (Yin, 1994).

The researcher anticipated that prospective research participants would be concerned about disclosing commercially sensitive information if the study focused on current and intended strategic capabilities. For this reason, the research questions and data collection methods were designed to focus on historical data so that subsequent write-ups would pose as little risk as possible to the confidentiality of firms' strategic intent, while also looking at the normative lessons that could benefit firms in the future. Five research questions focus this study on the three dimensions outlined in Figure 7.1. These questions have remained relatively intact throughout the study and have guided the data collection and data analysis phases.

1. What strategic capabilities have been operative in New Zealand seafood firms? [content]
2. Which capabilities provide a basis for sustaining competitive advantage? [content]
3. How have New Zealand seafood firms built strategic capabilities? [process]
4. What factors have facilitated or impeded the building of strategic capabilities? [context]
5. What changes in strategic capabilities need to occur for a seafood firm to obtain and sustain competitive advantages under similar situations? [lessons]

A sixth research question was included in the study's initial design. However, this question was eventually omitted from the study because it raised issues that proved too commercially sensitive for the research participants. This sixth question asked why New Zealand seafood firms operating in similar product

markets should display varied performances? It became apparent that most firms' senior managers felt uneasy about providing verification of their firms' performance over time. This uneasiness was most evident when some refused to grant the researcher's request for basic financial data, such as firms' annual sales revenue. The lack of access to comparable types of financial data across firms prevented this study from making any quantifiable comparison of firm performance. This point substantiates the researcher's initial concern that the study be designed to ensure participants' involvement would not jeopardise their firms in any way.

Access to Firms and Industry-related Organisations

As mentioned, the literature emphasises the importance of contextual factors when researching firms' sources of competitive advantage. For this reason, at an early stage the study focused on the New Zealand context, starting with seafood industry-related organisations. Six months into the study, these organisations were informed about the study, and their support was solicited. Initial support from these organisations was viewed as a precursor to gaining the participation of individual seafood firms in the study.

In September 1995, the industry-related organisations received letters introducing the study, its purpose and a summary proposal. The organisations contacted were the New Zealand Fishing Industry Board, New Zealand Trade Development Board's Meat and Seafood Division, Ministry of Commerce and Treaty of Waitangi Fisheries Commission. Following up on the letters of introduction, visits were made to each organisation to make personal contact, provide further information about the study and answer questions. All of the industry-related organisations expressed positive support for the study. They showed their support by providing industry information and/or recommending industry and firm-level contacts.

The most significant support for the study came from the Fishing Industry Board. After meetings with the Board's CEO and economist, the CEO provided a letter, dated 10 October 1995, that confirmed the Board would contribute funds towards travel costs sustained in the field research and would provide access to the Board's Information Resource Centre for any additional information on the seafood industry relevant to the study. Furthermore, the CEO provided an unsolicited letter, dated 10 October 1995, in support of the study to accompany background material sent to prospective research participants. The letter encouraged firms' participation in the study and commended the study's benefit to both prospective participants and the New Zealand seafood industry. This letter was very useful in securing the participation of particular seafood firms in the study.

This study used three criteria for selecting seafood firms as case studies. It should be noted, however, that the differences between qualitative and quantitative research methods are perhaps most pronounced in their accepted sampling methods. Samples for quantitative methods are selected according to probabilistic procedures while those for qualitative methods are selected purposefully, and can be done according to several acceptable methods (Patton, 1991). Building theory with case studies and field research relies on theoretical sampling that usually follows deliberate theoretical sampling plans to control extraneous variation and to help define the limits of generalising the research findings (Eisenhardt, 1989).

The study's first criterion for selecting seafood firms was to restrict selection to firms based in New Zealand. This way, the study would be able to assess the impact of contextual factors particular to the New Zealand environment, such as its ITQ system which is unique in the world. Second, selection was restricted to seafood firms considered medium to large in size. Firm size classification was determined by several variables, such as the extent of their quota holdings, estimated annual sales revenue, and processing and catching capacities. Small-sized seafood firms were omitted from the study. This decision was based on the

experience after gaining access to one small-sized firm early in the study. After one visit, it was determined that the firm's small scale of operation, its small number of managers and its dependence on domestic and commodity markets would lead to difficulties in making cross-case comparisons with more resource-endowed, highly vertically-integrated medium- and large-sized New Zealand seafood firms.

The third criterion for selection was that the overall makeup of case studies should represent participation in a cross-section of New Zealand's major fisheries, both ITQ and non-ITQ fisheries, which are categorised as deepwater, inshore and marine farming or aquaculture. The researcher concluded that since the marine farming sector had experienced the highest rate of growth of all industry sectors, it should have strong representation in the study. The relatively small number of medium- and large-sized seafood firms, approximately twelve in total, precluded selection based solely on firms being directly involved in all of New Zealand's main fisheries.

With input from several individuals knowledgeable about the New Zealand seafood industry, it was concluded that the above three criteria could be fulfilled by securing the participation of most of the following New Zealand seafood firms: Sealord Products Ltd., subsequently Sealord Group Ltd., Sanford Ltd., Talley's Fisheries Ltd., United Fisheries Ltd., Simunovich Fisheries, Independent Fisheries Ltd., Pacifica Seafoods Ltd., and Southern Ocean Seafoods Ltd., which later became the New Zealand King Salmon Company Ltd. Beginning November 1995, the study solicited the participation of these selected seafood firms.

Depending on the level of access to firms granted to the study, four or five case studies were determined as necessary to complete the study's cross-case comparisons. The prospect of including additional case studies was always present if needed to extend any emerging theory or to fill theoretical gaps. There are no acceptable criteria for determining the necessary number of cases.

Eisenhardt (1989) recommends that case studies should be added until the research reaches 'theoretical saturation'.

The selection of case studies did not include direct representation of Maori-operated seafood firms other than the solicitation of Sealord Group Ltd. which, under the Settlement Act 1992, had 50 percent of the firm allocated to Maori and administered by TOKM. In 1995 the only other medium- or large-sized seafood firm representing Maori interests was the Auckland-based Moana Pacific Fisheries. The study remained open to the prospect of requesting Moana Pacific, or other Maori fishing interests, to participate in the study. It was noted early on that the process of allocating quota to Maori, in accordance with the Maori Fisheries Act 1989 and the Settlement Act 1992, could have implications for existing seafood firms. For this reason, the allocation process was considered a contextual factor important to the study.

Initial contact with seafood firms consisted of a letter addressed to the firm's CEO, or equivalent position, which included an Information Sheet outlining Massey University's Human Ethics Committee's approval of the study in June 1995, the purpose of the study, what the study requested of participants, the rights of participants in the study, and contact and background information on the researcher, Chief Supervisor and Supervisor of the study. The initial contact also included a Consent Form and a brief Questionnaire that requested some background information on the prospective participant and some preliminary research data.

The initial contact material was designed to assure senior managers that the data collected would be confidential and that the study would not divulge commercially sensitive information. Understandably, confidentiality and use of collected research data were important issues for all prospective participants. Two firms' managers requested that the researcher sign a confidentiality agreement prior to gaining access to the firms. The timeframe for data collection

needed to be defined to assist managers' decision on whether to participate in the study. The initial contact letter requested that prospective participants agree to be interviewed on two or three occasions during on-site visits.

The Information Sheet sent to prospective participants included the following:

I would appreciate the opportunity to collect data on your company during on-site visits. I invite your participation in interviews of about one hour during each visit. As a willing participant you always have the right to decline answering any questions. With your consent, I will audio tape interviews. During interviews you will have control of the tape recorder, turning it off at your discretion.

Prior to the first interview, I would appreciate your completing the attached one page Questionnaire which asks some background and general questions. Please return your Questionnaire along with the Consent Form in the enclosed stamped envelope addressed confidentially to me at Massey University.

The data collected during the study will remain my property. Unless requested otherwise, the data may be used by me for various publications and future research. To fulfil the requirements of the PhD thesis final editorial control of this study must remain with me.

As a participant in the study you have the right to:

- refuse to answer any particular question, and to withdraw from the study at any time.
- ask any further questions about the study that occur to you during your participation.
- choose whether or not interviews are audio taped.
- turn off the tape recorder during interviews at your discretion.
- provide information on the understanding that it is completely confidential. You will remain anonymous, unless you request otherwise, making it impossible to identify you in any reports prepared from the study.
- be identified in reports, provided I have your consent in writing.
- deny your contribution to this study being used in future research conducted by me.
- an opportunity to correct errors of fact and to ensure that the study does not divulge commercially sensitive information.
- be given a summary of the study's findings when it is concluded.

The Consent Form included the following:

I have read the Information Sheet for this study and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I also understand that I have the right to withdraw from the study at any time and to decline to answer any particular questions. I can choose whether or not interviews are audio taped. If I agree to interviews being taped, I understand that I will have control of the tape recorder in use and may turn it off at any time if I wish.

I agree to provide information for this research on the understanding that it is completely confidential.

I understand that when the results of this study are published I will not be identified, unless I request in writing disclosures of my identity or other details.

I wish to participate in this study under the conditions set out in the Information Sheet.

I agree/do not agree to the interviews being audio taped.

The Questionnaire was designed to involve participants early on in the study, provide information to commence analysis of *a priori* constructs and formulate specific questions for initial interviews. The Questionnaire requested the following information from each research participant:

Years of experience with the organisation.

Previous positions held with the organisation.

Other industry experience.

Educational qualifications.

Professional training.

How would you define strategic capabilities?

Briefly, what factors account for your organisation's success?

Sealord Group Ltd., the largest New Zealand-based seafood firm, was the first firm solicited for participation in the study. It was assumed that confirmation of Sealord management's participation would benefit the study's solicitation of other firms' participation, if Sealord management agreed that other firms could be informed of Sealord's participation in the study. Furthermore, awareness of the new CEO's educational background led to the conclusion that he might be more inclined to appreciate the relevance of the study for his firm, and therefore agree to participate. Subsequently, Sealord's CEO agreed to his firm's participation and granted the study substantial access to the firm's managers and facilities.

The study then focused on securing the participation of the other selected seafood firms. Senior managers displayed varying degrees of initial willingness to participate in the study. Some managers were less than enthusiastic about the relevance of the study and its potential benefits for their firms. Senior managers from three firms mentioned time constraints as their reason for declining participation. Some industry participants forewarned that particular seafood firm managers might not appreciate the relevance and benefits of the study for their firms and the seafood industry. Stated and unstated reasons for non-participation are exemplified by one manager's reply, dated 17 November 1995, 'After perusing your Information Sheet, it has been decided that our Company is not really in a position to contribute much to your research, and that the costs to you and ourselves in time, etc., would be well in excess of any possible benefit. We will not, therefore, be participating in your programme, but wish you success in your research'.

Most senior managers expressed willingness to participate in the study. Support for the study is displayed in one firm's letter, dated 10 November 1995, 'I spoke with [the CEO] and he is happy for your visit to be in the week of [date], and for the hour-long appointments to be with those listed in your letter of 6 November'. The comments of several senior managers during initial interviews indicated that

the topic interested them. Most were familiar with some of the terms used for bundles of critical firm resources, especially the 'core competencies' term, and they expressed interest in learning more about the topic. Others commented on the researcher's North Pacific seafood industry experience. Some senior managers enjoyed talking about the North Pacific fishing environment, especially the Pacific halibut fishery during the 1980s and early 1990s, which is well known internationally among those associated with the seafood industry.

The combination of the study topic and the researcher's industry experience outside New Zealand made a significant impact on senior managers' appreciating the validity of the study and being willing to participate. This conclusion is supported by the view of an individual with longstanding involvement in the New Zealand seafood industry. He commented that perhaps the researcher's 'acceptance' into the New Zealand seafood industry for research purposes was due to his having industry experience without any 'political baggage' due to past association with any particular New Zealand seafood firm.

It is doubtful whether someone with a lengthy history in the New Zealand seafood industry would have been granted the same level of access to some seafood firms. Given the request for senior manager's time and access to facilities, it is conceivable that a researcher conducting this type of study, but lacking a thorough understanding of the seafood industry, would be denied access to most firms.

By December 1995 five medium- and large-sized seafood firms had agreed to participate in the study. However, the participation of one of these firms, Sanford Ltd., eventually ceased. After the researcher conducted an interview with the firm's Managing Director in July 1996, it was apparent that participation in the study was contingent upon the researcher agreeing to relatively limited access to the firm's senior managers and facilities. Because Sanford Ltd. is one of only two publicly-held seafood firms in New Zealand, the researcher viewed the firm's

Annual Reports, which provide substantial qualitative data in addition to financial data, as compensating for the limited access, relative to what was provided by the other participating firms. However, after conducting within-case analyses, it became apparent that the researcher's limited access to Sanford Ltd.'s senior managers complicated any cross-case analyses. For this reason, the firm's inclusion in the study ceased in 1997. The names of the four seafood firms that participated in this study, and their major fisheries, are outlined in Table 7.2.

The use of pseudonyms for the seafood firms in this study was not required as all firms approved disclosure of their participation. Furthermore, the use of pseudonyms would have been futile in concealing firms' participation from others in the seafood industry. The relatively small number of well-networked industry participants could identify particular firms from the study's subsequent publications that disclosed even general background information about firms. However, it was agreed that cited or referenced comments by individual research participants who requested anonymity in papers arising from the study would be referred to in this study as 'anonymous'.

Table 7.2 Case Names of Four Medium and Large-sized New Zealand Seafood Firms

Case names	Major Fisheries
Sealord Group Ltd.	Deepwater fisheries, marine farming (Greenshell™ mussels, pacific oysters)
Simunovich Fisheries	Deepwater and inshore fisheries
Pacifica Seafoods	Marine farming (Greenshell™ mussels, pacific oysters)
The New Zealand King Salmon Company (formerly Southern Ocean Seafoods Ltds.)	Marine farming (salmon)

Data Collection Methods

As noted by Eisenhardt (1989), multiple data collection methods are appropriate for building theory with case studies to (1) substantiate or disclaim factors identified early on in the review of related literature, (2) assist in identifying factors that emerge throughout the study, and (3) provide various means of triangulation to strengthen the grounding of theory in the evidence. Pettigrew (1990:277) states that ‘a triangulated methodology is used to gather different types of data which can be used as cross checks’. Patton (1991) suggests that triangulation procedures overcome some inherent biases in single-method, single-observer, single-theory studies.

The study had to be designed around the collection and analysis of qualitative data. Although the collection of quantitative financial data would have been useful to the study’s measurement of some constructs, as mentioned, the researcher anticipated senior managers’ reluctance to provide quantitative information on their privately held seafood firms. Some of the seafood firms in the study did provide limited quantitative data, which was used for the within-case analysis. However, this data had limited use for cross-case analyses due to inconsistencies in the type of data, variations in the timeframes involved, and commercial sensitivity.

The study uses various multiple-data collection methods, with most of the data consisting of senior managers’ comments during semi-structured interviews over a five-year period. This method is referred to as ‘sources triangulation’, in which data is obtained from more than one source and gathered by the same method (Patton, 1991). ‘Methods triangulation’, or checking the consistency of findings generated by different data-gathering methods, was also used and included several types of data, such as firms’ internal documents made available to the researcher, media articles, press releases and direct observations of facilities and fishing vessels during on-site visits. Most senior managers granted requests to tour their processing facilities and vessels. These observations assisted the

study's collection of evidence on firms' strategic capabilities and their capabilities building processes. There were also occasions to discuss informally issues with some firms' staff and line-supervisors during on-site visits. These various types of data were useful for cross-checking the sequence of events and confirming or contrasting comments made by senior managers during audiotaped interviews.

Because a firm's idiosyncratic processes and routines are often not well articulated or widely understood within a firm, the process of dialogue between participants and the researcher sometimes helped to clarify some of the firm's idiosyncracies and, therefore, identify sources of competitive advantage and the capabilities building process. The researcher's interview experience supports Sanchez and Heene's (1996) view that building theory and practice in line with the Resource Approach calls for much greater interaction between managers and researchers.

The initial on-site visits to most seafood firms occurred in December 1995. Follow-up visits occurred in April, July, September, November and December 1996. By the end of 1996, each seafood firm had been visited at least three times. After initial within-case analyses had been completed for each firm, another round of visits occurred in November and December 1998. The number of interviews conducted per visit varied from one to ten, averaging two interviews per visit. The number, frequency and interval between visits were mostly determined by the researcher's requests to revisit firms. At times, visits had to be rescheduled or cancelled due to managers' changing schedules, which prolonged the data collection phase. Even though by late 1998 the total number of visits to all firms exceeded the number originally agreed to, participants remained willing to participate in follow-up interviews.

After further firm visits in March, February and June 1999, it was anticipated that data collection would end by late 1999. However, collection continued beyond

this date, with visits in November 2000 and January and February 2001. Extending the data collection phase for this period of time was fortuitous for the study since some contextual factors that impacted on the seafood industry and particular seafood firms had changed significantly between 1997 and 1999. The later visits provided opportunities for senior managers to reflect on statements made during previous interviews, as well as to comment on the impact of some contextual factors on their firms. Thus, extending the data collection phase enhanced the study's design to consider firms' historical development.

Initial interviews were guided by prepared questions used to initiate discussion. The question list was organised around the study's three dimensions: content, context and process. Subsequent interviews generally switched to a semi-structured format, which was useful and appropriate for most managers.

While some senior managers remained guarded in their comments during interviews, most felt comfortable answering the semi-structured interview questions. Most managers became more at ease as repeated on-site visits and interviews occurred. The more frequent the contact made with participants, the more willing they were to comment and, at times, provide in written format commercially sensitive information. Some senior managers expressed appreciation for the opportunity to reply to the interview questions. Some stated that the interviews enabled them to reflect on strategic issues not considered for some time, and that the interviews helped to raise the same issues from new perspectives. Several managers felt at ease being interviewed and freely disclosed information and personal views about their firms. One manager commented, 'I hope that what [unnamed senior manager] meant by talking to you freely and openly meant opening up the books. I would not normally talk to outsiders in this way'.

For most managers it was appropriate that the interviews, at times, switched from semi-structured to a combination of highly structured and unstructured

interviews. The switch depended on the need to ask specific follow-up questions and on senior managers' willingness to take the initiative during interviews to 'update' the study since the last interview. The switch in interview structure and ongoing changes to the interview questions, depending on the situation, reflected the study's combining of data collection and data analysis phases.

The request to audiotape interviews was well accepted, with all top managers approving of this method. However, it was noted early on that some managers' comments did change once the tape recorder had been turned off. On occasion, after the audiotaped interview had ended, some managers became more informative, providing more comments that were qualified with 'don't quote me on this one'. For this reason, there was a need to remain receptive to continuing discussions with managers after the audiotaped interview, and managers' requests that selected comments not be quoted was respected. However, as the number of interviews increased, there were fewer occasions when senior managers held off making more informative comments until the tape recorder had been turned off. In all, the study audiotaped seventy-four interviews of one hour to one and one-half hours with firms' senior managers and those in management positions at industry-related organisations.

Eisenhardt (1989) reminds us that field research must be flexible and opportunistic so that the researcher can take advantage of emergent themes and the uniqueness of case studies. Opportunism played a significant role in the study's collection of research data. For example, in one interview, the CEO suggested that the researcher spend the next week visiting other facilities owned by the firm to interview other senior managers. In a second example, a CEO arranged for the researcher to spend the next day aboard a Greenshell™ mussel harvesting vessel in the Marlborough Sounds. This opportunity provided a better understanding of this specialised activity in the fastest growing sector of the seafood industry. Finally, a senior manager invited the researcher to attend some Mussel Industry Council meetings, which provided valuable data, contacts with

industry participants and subsequent interviews. The researcher was quick to seize these opportunities to collect substantially more data on some seafood firms and industry-related issues. These examples show that field research, when flexible, can take advantage of unique, unexpected and valuable data collection opportunities.

Data Analysis and Presentation

Historically, qualitative data analysis has been accompanied by practical, technical and methodological problems since it cannot be easily quantified (Fielding and Lee, 1995). As well, 'one cannot ordinarily follow how a researcher got from 3600 pages of field notes to the final conclusions, sprinkled with vivid quotes though they may be' (Miles and Huberman, 1984:16). To address some of the methodological problems associated with analysing qualitative data, several qualitative data analysis software programmes have been developed in recent years. Despite these software programmes' ability to enrich the interpretation of qualitative data, some concerns remain about their use. Burgess (1995) points out that these software programmes could potentially separate the researcher from the creative process, superimpose the logic of survey research onto qualitative data, and dictate the analysis, while issues of confidentiality become more acute. Despite these concerns, the use of qualitative data analysis software programmes has become widely accepted amongst researchers. However, Hesse-Biber (1995) adds that it is just as important for the researcher to assess his or her strengths and weaknesses as it is to assess the implications of using a software programme.

It was concluded that the study's volume of data and the complexity of analysing factors and constructs during the theory building process warranted the use of a qualitative data analysis software programme. The Non-numerical Unstructured Data Indexing Searching and Theorizing (NUD*IST) software programme was chosen for the study, as it was designed for the theory building approach, and also enables descriptive-interpretative approaches. NUD*IST provides the

capability to code and retrieve data, make connections between codes, develop higher-order classifications and categories, formulate propositions or assertions with an implied conceptual structure that fits the data, and/or to test such propositions to determine whether they apply to the data (Miles and Weitzman, 1994).

In agreement with Richards (1995), the study supports the use of NUD*IST for live, longitudinal studies and claims that the exploration and creative processes become freer and enhanced because NUD*IST makes the organisation of data easier. However, there was inherent difficulty in analysing large volumes of qualitative data, even with the assistance of a software programme. In the early stages of the analysis, as new patterns, themes and categories emerged from the data, several iterations had to occur in the coding of data and development of NUD*IST's nodes, which make up NUD*IST's upside-down tree structure for developing data into themes and patterns.

Once the basic structure of the within-case analysis had been developed, the researcher relied less on NUD*IST beyond its use as an indexing system. The researcher found that repeated reviews of audiotapes and transcripts provided a fuller understanding of the data needed for each firm's within-case analysis. Because the cross-case analysis was based entirely on the data contained within the case studies, which had been approved by the respective firms' senior managers, NUD*IST proved to have limited value for this last phase of analysis. The researcher's use of NUD*IST confirms Richards' (1995) reminder that data analysis is ultimately the responsibility of the researcher.

It is common to use visual data displays with a theory building approach using qualitative data. Data displays describe 'visual formats that present information systematically, so that the user can draw valid conclusions and take needed action' (Miles and Huberman, 1994:91). For this reason, the researcher considered the use of the Decision Explorer software programme, which, when

used in conjunction with NUD*IST, can place structured data into cognitive, conceptual maps that highlight links and relationships between constructs (Jenkins and Johnson, 1997). However, the researcher found that the conceptual mapping of the capabilities building process and the pattern in the process could be done on the word processing software used in the write-up.

As mentioned, actual data analysis began with the within-case analysis, which is a crucial first step in case study research involving multiple cases. Within-case analysis gives order to the large volume of data collected (Eisenhardt, 1989; Miles and Huberman, 1994). Analysing each case study as a stand-alone entity allows the researcher to become familiar enough with the data to observe emerging patterns and concepts. 'In addition, it gives investigators a rich familiarity with each case which, in turn, accelerates cross-case comparison' (Eisenhardt, 1989:540).

The within-case analysis began with the transcription of audiotaped interviews and completion of a Contact Summary Form for each transcript, as illustrated by Miles and Huberman (1994:54). The Contact Summary Forms were used to outline the following for each transcript: (1) the main points or themes; (2) anything else that was salient, interesting, illuminating or important; and (3) the new or remaining questions the study should consider for the next on-site contact.

The transcribed interviews, Contact Summary Forms and other sources of data collected during field research were compiled into records for each stand-alone case study. After each on-site visit, the within-case analysis continued with further sequencing, cross-checking and validating of the data. This iterative approach allowed the study to follow Miles and Huberman's (1994) advice that within-case analysis should include both variable and process-oriented approaches. A variable-oriented approach addresses the relationships among well-defined concepts or variables, and a process-oriented approach follows events in each case study's context over time. These dual approaches

accommodated the study's focus on firm-specific capabilities, using a variable-oriented approach, and firms' capabilities building processes, using a process-oriented approach.

The within-case analysis conducted early on confirmed the validity of the study's design along three dimensions (content of firm-specific resources, context within which firms operate and processes of building strategic capabilities). Several managers commented on the similarity between the study's design and the efforts they made to enhance their firms' competitiveness.

Concerning the content of firm resources, several senior managers confirmed that they viewed their firms' ITQ holdings and/or marine farm permits as the most critical resources in their firms' gaining an advantage in international markets. The consistency of these comments led the study to focus further on the topic of fisheries management, including fisheries science and property rights, as outlined in Chapters 2 and 3.

Senior managers made reference to several contextual factors that could impact on seafood firms' competitiveness, such as the seafood industry's restructuring along property rights holder organisations and the prospect of MFish devolving some fisheries management services to these organisations.

Concerning the process dimension, the study identified early on two critical steps in some firms' capabilities building processes. First, several senior managers linked their firms' vertically integrated operations to their international competitiveness, which then led the study to incorporate analysis of firm-specific resources into value chain analysis. Second, senior managers remarked that the interaction between firms' managers was a critical step in their capabilities building processes. They explained that since their firms were highly vertically integrated, managers had to interact so that a firm's collective actions were understood and shared by all of the key managers. This evidence substantiated the literature's focus on 'organizational cognition' or collective and creative

interactions of managers as a source of sustaining competitive advantage (Normann and Ramirez, 1993; Weick and Roberts, 1993; Nonaka, 1994; Helfat and Raubitschek, 2000).

The iterative approach to data collection and data analysis led to individual case records becoming lengthy and needing to be rewritten into a condensed, readable format. The rewriting of these case records also took an iterative approach and eventually became the narrative descriptions of each of the four case studies outlined in Chapters 8 to 11. Each firm received a copy of its respective case study to ensure that it accurately reflected managers' accounts of the firm, correct errors of fact and ensure that commercially sensitive information was not divulged. This quality check was in line with the study's agreement with participants, as outlined in the Information Sheet, and resulted in some minor changes being made to each case study.

Cross-case analysis is critical to theory building research as it enables the researcher to observe the data from divergent perspectives and to avoid drawing premature conclusions from within-case analysis (Eisenhardt, 1989). Furthermore, cross-case analysis enhances the generalisability of the study beyond particular case studies (Miles and Huberman, 1994). Structured cross-case analysis improves the likelihood of building accurate and reliable theory that fits with the data (Eisenhardt, 1989).

Cross-case analysis in this study took two approaches, a variable-oriented and a case-oriented approach, as outlined by Miles and Huberman (1994). The variable-oriented approach applied to cross-case analysis is similar to that described in within-case analysis, both of which are conceptual and theory-driven and focus on particular themes and their relationships. This approach applied to cross-case analysis grouped data into three categories: those contextual factors that impact on firms' operations directly and their competitiveness indirectly; firm-specific capabilities; and the more complex category, the capabilities

building process. Sifting through each case study using these structured categories revealed within-group similarities and across-group differences which enhanced the probability of capturing novel findings within the data (Eisenhardt, 1989).

The case-oriented approach advocates a replication logic. That is, it treats each case study as a series of experiments that confirm or disconfirm the emerging constructs. Yin (1994) states that the results of this type of approach are more like individual scientific experiments that are generalisable to theoretical propositions:

‘The case studies, like experiments, do not represent “samples,” and the investigator’s goal is to expand and generalize theories [analytic generalization] and not to enumerate frequencies [statistical generalization]’ (Yin 1994:10).

Case studies that confirm emergent relationships between constructs enhance confidence in their validity while those that disconfirm the relationships can often provide an opportunity to refine and extend the emerging theory (Eisenhardt, 1989). Miles and Huberman (1994) point out the desirability of integrating the variable-oriented and case-oriented approaches by writing up a series of cases using variables and then matrices and other displays to analyse each case in more depth. Integrating these two approaches is in line with Eisenhardt’s (1989) theory building approach, which analyses all cases simultaneously, not just sequentially (Miles and Huberman, 1994). The cross-case analysis’ iterative process led to constructs emerging that were then tested and verified with multiple sources of evidence from each case study. The study ended when the iterative process of comparing emerging theory with data and the literature ceased to provide further gains or insights.

Summary

This chapter begins with discussion on the study's research strategy and five research questions designed to identify the processes by which selected seafood firms built strategic capabilities to gain and sustain a competitive advantage in the context of New Zealand's economic reforms and transformation of the fisheries management system. These research questions focus on three dimensions, the content of strategic capabilities, the contexts within which firms operate, and firms' processes in building strategic capabilities. Since the data collected early on in the study validated these five questions, they remained relatively unchanged throughout the remainder of the study. The study uses a theory building approach, which includes *a priori* specifications of constructs on firm-specific resources provided by the literature. These constructs shaped the study's research strategy and the determination of the methodology and data collection methods. The study uses a more grounded theory approach to identifying relevant contextual factors and the capabilities building processes as the literature provides fewer concepts on these aspects of the study.

Gaining access to seafood firms and some industry-related organisations was a critical methodological consideration, which is discussed in the second section. Industry-related organisations provided support for the study, which was viewed as a precursor to gaining access to selected seafood firms for data collection. This section outlines the steps taken by the study to increase the probability that selected seafood firms would agree to participate in the study. This required careful consideration of top managers' concerns about requests for commercially sensitive information, confidentiality and use of research data.

The third section outlines the data collection methods, which include primarily semi-structured interviews and some highly structured and unstructured interviews of senior managers. Other types of data collected include internal firm documents, some archival data, press releases, media articles, field research observations and informal discussions. The multiple data collection methods

provided the study with substantial quantities of relevant and varied data to strengthen the grounding of theory by triangulation of evidence. The case study and field research methods have provided an insightful and adventurous approach to conducting research on seafood firms. The last section outlines the within-case and cross-case data analyses, the use of a qualitative data analysis software programme, and the types of data presentation used in subsequent chapters on the study's findings.

Chapter 8

Pacifica Fishing Group Ltd.

Introduction

This chapter outlines the development of the Pacifica Fishing Group Ltd., which has become New Zealand's largest independently-owned producer of Greenshell™ mussels. Together with its involvement in selected inshore fisheries, such as bluff oysters and rock and Karitane lobsters, Pacifica Fishing supplies a variety of seafood products to its domestic and numerous export markets. Pacifica Fishing has also developed a land-based paua rearing venture that produces pearls and paua meat and provides juvenile paua to other paua operations in New Zealand.

This chapter's first section briefly describes Pacifica Fishing's corporate entity, Skeggs Group Ltd. and the changes to its investment portfolio over the years. This section emphasises the Skeggs family's longstanding involvement in the New Zealand seafood industry and describes the interaction between the Skeggs Group's board of directors, division managers and Pacifica Fishing's general managers. The second section outlines the origins of Pacifica Fishing and its Mussel Marketing Plan (MMP). The third and fourth sections deal with Pacifica

Fishing's seafood processing and marine farm operations, respectively. The fifth section outlines the changes to Pacifica Fishing's organisational structure and also emphasises the 'friendly competition' that characterised the interaction among the firm's general managers, which contributed to its success with Greenshell™ mussels. The sixth section describes Pacifica Fishing's marketing operations, highlighting the interaction between the firm's management and marketing staff and customers. The chapter ends with a summary.

This chapter, along with Chapters 9 through 11, provides an overview of the selected seafood firms that participated in this study. These chapters form the basis for the identification of strategic capabilities and the formulation of the strategic capabilities building process in the selected seafood firms, as outlined in Chapters 12.

Skeggs Group Ltd.

The Pacifica Fishing Group Ltd. is part of Skeggs Group Ltd., which has as its core businesses the production, processing and marketing of food products and the supplying of domestic transport services. Skeggs Group Ltd. is a wholly-owned family company, which was founded by Sir Clifford Skeggs who began in the 1950s with a half share in a fishing boat based out of Dunedin. In the 1960s, he expanded the business into rock lobster and oyster fisheries. In the 1970s the business became involved in deepwater trawl fisheries. Sir Clifford Skeggs' efforts led to Skeggs Foods Ltd. becoming New Zealand's largest privately-owned seafood firm, having the fourth largest ITQ holdings.

In the mid-1980s Skeggs Foods Ltd. diversified into several unrelated businesses, including freight shipping, engineering, hotels and a small commuter airline, which formed the Skeggs Group Ltd. In 1989 the Skeggs Group divested of its seafood assets and retained other businesses it had acquired or built up while it continued to diversify into other businesses. In the early 1990s the Skeggs Group expanded into marine farming and processing, primarily Greenshell™ mussels,

vegetable and poultry processing and marketing services. The Skeggs Group built up a collection of six independently-run operating divisions, including engineering, tourism, food, transport, seafood and marketing, all based in the South Island.

The engineering division designed and manufactured a range of products, including special purpose machinery, tools, dies, alloy products, knitting machines and aluminium tables and chairs. The tourism division operated a 50-bed international resort hotel with restaurants and bars located in Wanaka. The food division, Food Processors Ltd., diversified into poultry processing and packaging, as well as deer and sheep farms and owned the Pacifica Venison Company, which processed and exported venison. By 1999 Skeggs Group had divested of its engineering and tourism divisions and much of the food division's operations. The food division operates vegetable processing and packaging for domestic and export markets.

The Christchurch-based marketing division had been set up in 1993 to provide the Skeggs Group with independent specialised marketing services to sell its various seafood and food products. However, when the Skeggs Group divested of much of the food division's operations, the marketing division's efforts focused on seafood products and relocated to Pacifica Fishing's headquarters in Nelson.

The Skeggs Group now has two main divisions, Pacifica Fishing and Pacifica Transport (B. Skeggs, personal communication, January 2001). The transport division provides multi-modal transport services and includes New Zealand's largest coastal shipping business, Pacifica Shipping Ltd. based in Lyttelton. Pacifica Shipping operates four roll-on roll-off ships that provide containerised and consignment freight shipping between Lyttelton, Dunedin, Nelson, Wellington, Tauranga, Timaru and Auckland. The transport division also operates overland door-to-door transport and express freight services, equipment hire and leases, chilled and frozen warehouse storage and stevedoring services.

The Skeggs Group is managed by a board of directors that included Sir Clifford Skeggs as the Chairman of the Board until his retirement in 1999. The board of directors includes three Skeggs family members, the Chief Executive Officer of Pacifica Transport and a Chairman of the Board who is independent of the Skeggs Group. The board of directors meets each month with division managers and their general managers. While the division managers and general managers have complete operational autonomy, they are required to submit regular reports to the board of directors.

Pacifica Fishing Group Ltd.

Skeggs Group's Pacifica Fishing division, which began in 1990, has been based upon the Skeggs family's combined experience of over 100 years in the New Zealand seafood industry. Pacifica Fishing's strategy has continually focused on the development of marine farming and selected inshore fisheries. This focused strategy was based on the Skeggs family's view that, at the time the ITQ system was implemented, ITQ for some deepwater species were overvalued due to overfishing, making catch levels at the time unsustainable. Most deepwater fisheries were viewed, therefore, as having low prospects for long-term profitability. For this reason, soon after the ITQ system was implemented, the Skeggs family divested of its ITQ in deepwater species, its deepwater vessels, and some of its inshore fishing vessels. At the time, the Skeggs family viewed its fishing vessels as 'redundant', because they no longer provided the access right to fish stocks, as did ITQ ownership (B. Govan, personal communication, December 1995).

The origin of Pacifica Fishing was, therefore, strongly influenced by the Skeggs family's longstanding view that deepwater fisheries could not sustain sufficient returns to warrant investment in these capital intensive fisheries, especially when Pacifica Fishing would need to purchase the 'overvalued' deepwater ITQ on the open market. The Skeggs Group's view of deepwater fisheries had some merit,

when considering, as outlined in Chapter 2, that some deepwater species, particularly orange roughy, have undergone significant reductions in TACCs.

The Skeggs Group's return to the seafood industry in 1990 focused on those sectors considered to have the best growth opportunities and long-term prospects for profitability, which were selected inshore fisheries and the marine farming sector, particularly Greenshell™ mussels. Pacifica Fishing set out to be New Zealand's largest Greenshell™ mussel exporter and the lowest cost producer by developing highly vertically-integrated marine farm operations (B. Skeggs, personal communication, December 1995).

Pacifica Fishing's management was well aware of the risks associated with its strategy of focusing the vast majority of its sales turnover on Greenshell™ mussels. These identified risks were biological, competitive and product supply-related. Pacifica Fishing has worked to reduce the potential impact of these risks by developing its MMP so that it can ensure provision of consistently high quality seafood products to its customers. The ways in which Pacifica Fishing implements its MMP to reduce these risks are addressed in subsequent sections.

Processing Operations

Pacifica Fishing's management remained selective in its acquisition of inshore ITQ holdings, and continuously assessed which ITQ holdings had the most attractive opportunities for profitability, while divesting of any holdings considered to have lower value and fewer opportunities for profitability. This selective approach to ITQ holdings has allowed Pacifica Fishing to have the same or similar gross profits with less investment in ITQ, while the sale of less profitable ITQ has freed up funds for investment in marine farming ventures (P. Moll, personal communication, July 1996). Pacifica Fishing's ITQ holdings remain almost exclusively in inshore species, including bluff oysters and the rock lobster fishery in the Kaikoura region.

Pacifica Fishing began building up its seafood processing capability with the purchase of a Christchurch facility. In 1991 Pacifica Fishing purchased another, but smaller, processing facility in Kaikoura from Virgo Seafoods. Pacifica Fishing also owns several inshore fishing vessels, although its Kaikoura and Christchurch processing facilities are also supplied with product from independent vessel operators.

In 1993 Pacifica Fishing purchased the Kiwi Company's Greenshell™ mussel processing facility in Rai Valley, located between Nelson and Blenheim. Pacifica Fishing then purchased a seafood processing facility in Dunedin, but in 1994 it was closed due to low profitability, and has been used subsequently as a cold storage facility. The Dunedin facility's seafood processing operation was transferred to Christchurch.

Pacifica Fishing's goal to become New Zealand's largest Greenshell™ mussel producer and lowest cost producer required substantial expansion and continued upgrading of its processing facilities. In 1995/96 the Rai Valley facility was expanded to accommodate the highest output of Pacifica Fishing's three processing facilities. The Rai Valley expansion included more storage and production capacity by adding an extra processing line, a bulk mussel store, a dry store and a container loading bay and container storage area. The expansion introduced into New Zealand the first Dutch-made automatic mussel opening equipment designed to reduce production costs. In 1995 the Christchurch processing facility underwent a \$1 million expansion of its Greenshell™ mussel processing operation, which more than doubled the annual production (B. Govan, personal communication, December 1995).

In 1997 the Kaikoura facility's relatively small mussel processing operation was closed due to the expansion of the Christchurch and Rai Valley facilities. The Kaikoura facility continues to operate as a depot to unload fresh product from vessels, including live lobster, which is transported directly to domestic and

export markets or to the Christchurch facility for processing (B. Skeggs, personal communication, December 1998).

Beginning 1999 the Kaikoura facility began a new venture operating a land-based paua farm. This venture includes a system for making paua pearls and processing paua meat. Pacifica Fishing owns ITQ for paua, and once the paua is caught in the wild, it is transferred to a land-based tank system. Pacifica Fishing also operates a paua breeding programme, with the research conducted in cooperation with the University of Canterbury's Kaikoura-based research facility. The paua breeding programme also supplies spat for other paua farming operations in New Zealand. Pacifica Fishing's Kaikoura facility is well-placed for this type of land-based paua venture, due to the pristine water that flows up from the Kaikoura trench. 'The paua venture could become a significant part of Pacifica Fishing's operations' (B. Skeggs, personal communication, January 2001).

All of Pacifica Fishing's processing facilities have been continually upgraded, including acquiring ISO 9000 accreditation for European markets and United States Food and Drug Administration approval for the US market. However, in April 1999 a fire burnt most of the Rai Valley facility. The Skeggs Group's board of directors decided not to rebuild the facility in Rai Valley, ceasing all operations at that location.

The Skeggs Group's board of directors decided the best option would be to consolidate all of the Greenshell™ mussel processing at the Christchurch location. Pacifica Fishing purchased land adjacent to the Christchurch processing facility, and late 2000 completed a further expansion of that facility. This expanded facility included all of the insights gained and techniques developed while the firm had operated three different facilities previously. The design of the newly expanded facility also included the latest technology in mussel cooking, grading, and packaging, thereby reducing the overall labour input and significantly increasing throughput. 'We believe that the Christchurch facility is

the most productive facility in New Zealand, creating a huge advantage for Pacifica Fishing' (B. Skeggs, personal communication, January 2001).

Marine Farm Operations

Pacifica Fishing has developed a high level of vertical integration in its operations by investing in marine farms in the Marlborough Sounds area that grow Greenshell™ mussels. Pacifica Fishing's expansion into marine farming has been based on its strategy to have direct control over all value chain activities. This way, Pacifica Fishing can better ensure it has sufficient product supply and quality to expand into profitable export markets (B. Skeggs, personal communication, December 1995). As mentioned, Pacifica Fishing's MMP was designed to reduce the impact of biological risks to its operations, the greatest risk being the prospect of another algae bloom or biotoxin outbreak, which in 1993 closed entirely the marine farming sector to harvesting product. Pacifica Fishing has reduced this risk by acquiring marine farm sites located throughout the Marlborough Sounds region. The geographical dispersion of its marine farms reduces the likely impact of another algae bloom, which occurred again in September 2000, and led to the closure of several but not all marine farms in the Marlborough Sounds. Pacifica Fishing's numerous sources of supply located throughout the Marlborough Sounds region also help ensure it has year-round continuity of supply of product.

In 1993 Pacifica Fishing entered into a partnership with the Marlborough Mussel Company, New Zealand's largest privately-owned marine farming operation. Pacifica Fishing purchased 40 percent of the Marlborough Mussel Company, which provided additional funds to expand its production base and purchase the most advanced technology and equipment. For example, the Marlborough Mussel Company purchased a satellite navigation system that maximises the placement of mooring blocks for mussel lines, thereby maximising the number of mussels placed in a given area.

The partnership between Pacifica Fishing and the Marlborough Mussel Company continued to benefit both firms until 1997 when Pacifica Fishing purchased the remainder of the Marlborough Mussel Company. Pacifica Fishing was interested in this acquisition to gain the added profitability from the growing sector, but more importantly, to gain 100 percent control of the product supply (B. Skeggs, personal communication, December 1998).

Pacifica Fishing's vertically-integrated Greenshell™ mussel operations allow it greater control over the quality of product, from the start of the growing process, the seeding of spat on mussel lines, and continuing through to determining when to harvest the mussels. This level of vertical integration allows Pacifica Fishing to grow product to the optimal specifications of its customers and to have the economies of scale and flexibility needed to increase production to meet growth in demand. Including its arrangements with contract growers, Pacifica Fishing has control of more than 80 Greenshell™ mussel farms in the Marlborough Sounds region, totalling 20 percent of the region's existing Greenshell™ mussel farms. Pacifica Fishing's Greenshell™ mussel farming operations also include six harvesting, mussel spat seeding and service vessels (B. Skeggs, personal communication, December 1998).

Pacifica Fishing's vertically-integrated operations provide it with a significant competitive advantage over other producers who must compete to purchase Greenshell™ mussels on the open market. No other Greenshell™ mussel operation, other than Sanford Ltd., has the ability to chose to the same extent where their mussels will be harvested. This point is significant when considering that Greenshell™ mussels harvested in one region of the Marlborough Sounds may not be of good quality while at the same time mussels from another region may have much better quality.

'If a Greenshell™ mussel producer only has marine farms in one region, and the quality is poor or the product is affected by a biotoxin outbreak, the producer may be forced to either process inferior quality

mussels or stop processing altogether' (B. Skeggs, personal communication, December 1995).

Organisational Structure

As mentioned, until 1999 Pacifica Fishing had three separate Greenshell™ mussel processing facilities. This structure allowed each facility to be managed separately, with each general manager having full responsibility for investment and financing of facilities, hiring staff, managing inventory levels, and designing product packaging. While the general managers were accountable for their facilities, as mentioned, they were required to submit regular reports to the Skeggs Group's Head Office, for discussion at monthly board of director meetings. The Head Office also provided the general managers with a small support team.

The level of independence the general managers had in managing their processing facilities facilitated open communication between them, engendering an environment of 'friendly competition'. The general managers kept in regular contact so that each knew about the other's problems, and problems got sorted out jointly. When the general managers were able to see what others were doing, they then attempted to outperform each other according to various performance measurements, such as product yields, labour and overhead recoveries, etc. (B. Skeggs, personal communication, December 1995).

This 'friendly competition' inclined general managers to always look for new ways to do the same things, as well as allowing them to work well together in a fairly relaxed work environment (B. Govan, personal communication, December 1995). The degree of autonomy each general manager had provided them with a sense of ownership in their processing facility, and a sense of pride in making operations successful for the Skeggs family (P. Moll, personal communication, July 1996).

The most significant advantage of this 'friendly competition' was that Pacifica Fishing had quite different and autonomous facilities to compare and learn from to increase efficiencies and reduce costs. As one facility improved, the others would eventually learn how to catch up (B. Skeggs, personal communication, December 1995).

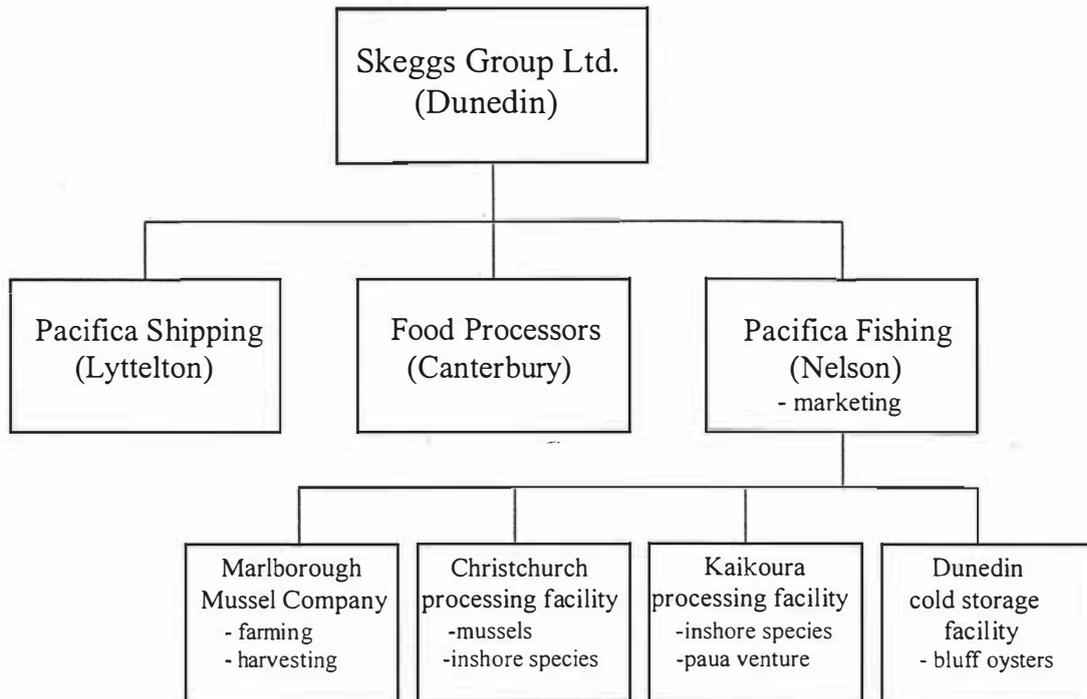
However, the 'friendly competition' among the general managers of the three processing facilities ceased when the Rai Valley facility burnt down, and the Kaikoura facility ceased production of Greenshell™ mussels. Pacifica Fishing's processing operations were amalgamated into the expanded Christchurch facility, which incorporated all the best ideas generated previously by the 'friendly competition' among the general managers. 'We chose to concentrate all of our efforts into one processing facility to become even more efficient, and this was seen as part of the organisation's evolution' (B. Skeggs, personal communication, January 2001).

The general managers' working environment is enhanced by the Skeggs Group's investment in accounting and information systems that provide the general managers with accurate accounting and regular reports so they know their sales and profitability positions at any point (B. Govan, personal communication, December 1995). The Skeggs Group continues to improve its cost accounting systems to increase the flow of more relevant information for better decision making. These system changes have led to overall improvements in operations and allow people in the Group's divisions to increase their understanding of what others do and what they can do to improve each division's performance (B. Skeggs, personal communication, December 1998).

Figure 8.1 outlines the structure of Skeggs Group Ltd. and its three divisions, Pacifica Shipping Ltd., Food Processors Ltd. and Pacifica Fishing Group Ltd. Since 2000, Pacifica Fishing's structure has consisted of its Nelson-based

headquarters, the newly expanded Christchurch processing facility, the Kaikoura and Dunedin facilities and the Marlborough Mussel Company.

Figure 8.1 The Structure of Skeggs Group Ltd.



(Source: Pacifica Fishing Ltd.)

An added benefit of Pacifica Fishing's structure and culture is that general managers are able to make decisions relatively quickly, while major issues are discussed during monthly meetings with the Skeggs Group's board of directors, division managers and general managers (B. Govan, personal communication, December 1995). Everyone keeps in regular contact, particularly through the monthly meetings, so that everyone knows about everyone else's problems. They are discussed mutually and get sorted out jointly and quickly (B. Skeggs, personal communication, December 1996).

The speed with which decisions are made and actions are taken is due in part to the organisation being rather lean, with relatively little support staff, and there

being an emphasis on getting things done (M. Hewitt, personal communication, July 1996). Compared to other Greenshell™ mussel suppliers, Pacifica Fishing is fortunate that it has a ‘slim structure with no organisational fat’, and it has been this way for some time (B. Skeggs, personal communication, December 1996).

Marketing Operations

As mentioned, the majority of Pacifica Fishing’s products are Greenshell™ mussels live chilled, frozen whole, frozen in the halfshell, individually quick frozen meat, smoked and marinated. The rock and Karitane lobsters are available live, whole cooked, whole raw and as frozen tails. Other value-added products include peppered mackerel, smoked salmon and smoked eel.

Historically, the general managers of the processing facilities have worked closely with the marketing staff to service existing markets and develop new markets. Until 1999, all sales of seafood products went through the Skeggs Group’s Marketing division, which also acted as a consultant and facilitator in virtually all of Pacifica Fishing’s market-related initiatives, including the use of promotional efforts at trade fairs and marketing efforts directed at hotels, restaurants and supermarkets. At the same time, the general managers retained substantial control over sales from their processing facilities (P. Moll, personal communication, July 1996).

‘Since a mussel is a mussel, Pacifica Fishing doesn’t tend to have the same problems between marketing and production that other types of companies would generally have. The only time Pacifica Fishing and the Marketing division had any great difficulties is when the market allowed us to only sell six containers of mussels, but the processing facilitates could provide ten containers’ (M. Hewitt, personal communication, July 1996).

Unfortunately, every New Zealand producer of Greenshell™ mussels mostly offers the same product and basically the same package. Historically, Greenshell™ mussel producers have competed against each other on price, which

has made particular markets highly reactive to small changes in prices. This situation results in a Greenshell™ mussel producer having low customer loyalty as customers switch from one producer of mussels to another when prices change between producers by as little as US\$.05 per kilo. (M. Hewitt, personal communication, July 1996).

Pacifica Fishing, however, works with the view that although they are selling what is essentially a commodity product, they work to sell more than a commodity, making them slightly better than their competitors (P. Moll, personal communication, July 1996). Pacifica Fishing accomplishes this, in part, by competing on delivery time. Pacifica Fishing's higher output relative to most other producers of Greenshell™ mussels allows it to ship product sooner than most of its competitors, therefore, providing the firm the ability to compete on delivery time (M. Hewitt, personal communication, July 1996).

Furthermore, Pacifica Fishing's marketing efforts have sought out particular markets and have identified the characteristics that appeal to those markets. For this purpose, Pacifica Fishing has established eight brands, including Tasman Green, Jade Green, Pacifica, Kiwi, Admiralty, Pelorus, Pacific and Virgo. Pacifica Fishing's growth in exports has used each of these brands to cater to particular markets. Hence, Pacifica Fishing's MMP utilises various brands and quality objectives to differentiate its Greenshell™ mussel products in what is essentially a commodity market (L. Montie, personal communication, December 1995).

Pacifica Fishing positions each of its leading brands as the 'mainstay' for growth and development in a particular market, which is then supported by a different brand for secondary niche markets. Pacifica Fishing has found this 'dual branding' process to be effective, especially in new markets where it is important to optimise distribution channels to ensure market share growth. For example, Pacifica Fishing has positioned its Jade Green brand as the primary brand in

China while its Kiwi brand is secondary and used to fill particular niche markets. Historically, each of Pacifica Fishing's processing facilities has had responsibility for providing the products and their brand and packaging for particular markets. However, beginning 1999, Pacifica Fishing has also offered custom packing of its halfshell frozen Greenshell™ mussels for some of its customers who purchase in larger volumes. Pacifica Fishing's willingness to custom pack its products has created more customer loyalty (B. Skeggs, personal communication, January 2001).

Historically, Pacifica Fishing's sales profile has had a fairly even split with approximately 30 percent of sales going to each of its major markets, the United States, Europe and Asia (B. Skeggs, personal communication, December 1998). Pacifica Fishing exports to more than 30 nations, including Australia, Japan, Hong Kong, Taiwan, China, the United States, some Middle East nations, South Africa, the United Kingdom and several continental European nations, primarily France, Germany, Spain and Italy. However, sales to China have declined significantly as local firms have commercially developed China's indigenous mussel and have supplied increasing volume for its domestic market. At the same time, the United States market has recognised the high quality of the Greenshell™ mussel. For this reason, Pacifica Fishing, like other New Zealand producers of Greenshell™ mussels, has focused more effort in the US market (B. Skeggs, personal communication, January 2001).

Pacifica Fishing builds customer loyalty not only by offering high quality branded products with reliable and consistent supply, but also by developing personal relationships with its customers (B. Govan, personal communication, December 1995). Pacifica Fishing's MMP has a policy of sending its marketing staff and the general managers to visit overseas customers at least twice per year. Pacifica Fishing's management believes strongly that general managers must understand their customers in order to successfully meet their requirements, and this can be accomplished best by the general managers seeing first-hand the

needs of their customers. The general managers would often identify opportunities that the Marketing division staff had overlooked, while both were better able to provide customers with on-the-spot answers to their questions. With the Marketing division staff and general managers focused entirely on serving customers' requirements, it was more likely that together they could recognise better ways to meet customers' needs (B. Skeggs, personal communication, December 1995). Pacifica Fishing has continued with its policy of making regular visits to its customers, however, the firm's customer base includes fewer customers who purchase in larger quantities (B. Skeggs, personal communication, January 2001).

Pacifica Fishing's customers are also encouraged to visit Pacifica's processing facilities and marine farm operations. During visits to overseas customers, an invitation is extended to them to visit New Zealand, with the Marlborough Sounds operations acting as an advertisement for the source of Pacifica Fishing's products. Many of Pacifica Fishing's customers take up this invitation, which further develops personal relationships and customer loyalty (L. Montie, personal communication, December 1995).

In 1995 Pacifica Fishing earned the Overall Excellence in Exporting category of the New Zealand Export Awards sponsored by Tradenz and Air New Zealand Cargo. This award recognised Pacifica Fishing's 350 percent growth rate during the previous three years and its resulting increase in foreign exchange earnings (Pacifica, 1995). Pacifica Fishing's export sales increased from \$25 million in 1994 to \$33 million in 1995, and exports of Greenshell™ mussels accounted for most of this increase. In 1993 exports of Greenshell™ mussels totalled \$2.9 million, which increased in 1995 to \$13.7 million. According to the Export Award judge, 'Pacifica displayed the kind of teamwork, commitment and discipline that we were looking for in what is the most closely fought and competitive category in the awards' (Export Award, 1995:30).

As mentioned, there are risks associated with Pacific Fishing's focus strategy that has the vast majority of its sales as frozen in the halfshell Greenshell™ mussels. This strong reliance on one particular product line, though branded for different markets and segments or custom packed, does not allow Pacifica Fishing the ability to offer its customers a broad range of products to complement their orders for Greenshell™ mussels (M. Hewitt, personal communication, July 1996). Furthermore, historically Pacifica Fishing has relied strongly on selling its Greenshell™ mussels to the food service sector, such as hotels and restaurants, while it continues to develop new products and packaging to diversify into new market segments (B. Skeggs, personal communication, April 1996).

For example, in 1996/97 Pacifica Fishing trialed supplying various bulk products to health food firms in the United States and China and products to the retail markets in the United States. However, Pacifica Fishing's management decided not to pursue these ventures further. Instead, management refocused on its core Greenshell™ mussel markets (B. Skeggs, personal communication, December 1998). While Pacifica Fishing looks for new market opportunities, the firm is adding as much value as possible to its frozen halfshell product (B. Skeggs, personal communication, January 2001).

In line with its MMP, Pacifica Fishing's efforts to develop new products and market segments are continually driven by what customers are saying and looking for. Pacifica Fishing continually looks for ways to reduce its prices and costs while talking with its customers about new innovative ideas and what it can do to improve its service to them (B. Skeggs, personal communication, December 1996). Because each Greenshell™ mussel producer's product is so similar, it is the people in the company and their dealings with customers that make the difference (M. Hewitt, personal communication, July 1996).

Summary

Pacifica Fishing is now New Zealand's largest privately-owned producer and exporter of Greenshell™ mussels. Pacifica Fishing's success is due to several factors, all of which build on its positioning for the long term in the marine farming sector by first securing marine farming property rights, which have increased in value many times over their initial investments (B. Govan, personal communication, December 1995). Other factors leading to Pacifica Fishing's success relate to coordinating its highly vertically-integrated operations that include marine farming, processing and marketing capabilities and its ability to re-organise its operations and continually seek out new opportunities.

Pacifica Fishing's marine farm operations now have the capability to increase production as markets demand. To do so requires at least 12 to 18 months for the product to be ready for harvesting. In the meantime, all other value chain activities must be developed to accommodate the increase in product output. Pacifica Fishing is now able to grow Greenshell™ mussels that suit its processing facilities' production capacity and their markets more readily than competitors (B. Skeggs, personal communication, December 1998).

The coordination of Pacifica Fishing's vertically-integrated operations by way of its general managers and their interaction with the marketing staff provide the basis for developing long-term relationships with customers, which enhance brand loyalty in what is essentially a commodity market. This factor has led to Pacifica Fishing developing a market-led approach to all its activities, supported by ongoing interaction between its marine farming, processing and marketing operations.

Chapter 9

The New Zealand King Salmon Company

Introduction

The Nelson-based New Zealand King Salmon Company is unique in the world in two ways. First, as its name states, The New Zealand King Salmon Company produces the most highly valued salmon, the pacific king or Chinook, which has proven more challenging to grow in farm sites outside New Zealand. Second, The New Zealand King Salmon Company has highly vertically-integrated operations for growing, processing and marketing its king salmon while the vast majority of the salmon farming industry worldwide is traditionally split into several value chain activities, with few vertically-integrated operations.

The New Zealand King Salmon Company's uniquely integrated operations ensure control of all its value chain activities, beginning with its research into optimal breeding stock at its Kaituna research facility, outside Blenheim, and continuing at its two hatcheries located at Tentburn, outside Christchurch, and at Takaka in the Golden Bay region. The Takaka hatchery, fed by the Waikoropupu Springs, allows the juvenile king salmon (smolt) to be reared in water reputed to be the

clearest in the world, with clarity measured to 62 metres. The New Zealand King Salmon Company's vertically-integrated operations continue with its Nelson-based processing facility and its in-house marketing capability, which utilises both direct selling and outside distributors.

This chapter outlines the development of The New Zealand King Salmon Company, which began in 1996 when Southern Ocean Seafoods Ltd. and Regal Salmon Ltd. merged. The chapter begins with a brief overview of the king or chinook salmon, emphasising its unique attributes and its introduction into New Zealand. The second section outlines the worldwide salmon industry and the dramatic increase in farmed salmon production since the mid-1980s.

The third and fourth sections briefly delineate the histories of Regal Salmon and Southern Ocean Seafoods. These sections place more emphasis on Southern Ocean Seafoods' historical development since it purchased the assets of Regal Salmon to form The New Zealand King Salmon Company. The fifth section outlines the reasons for the merger of the two firms. The sixth section briefly describes The New Zealand King Salmon Company. The following four sections outline its four-part strategy; Domestic Marketing Campaign, Development of Overseas Markets, Australian Market Access, and Improvements in Farming and Processing Operations. The final two sections are Post-merger Activity and the Summary. Throughout this chapter, emphasis is placed on the role played by the Malaysian-based Tiong Group with regard to Regal Salmon, Southern Ocean Seafoods and the formation of The New Zealand King Salmon Company, which continues to be the world's largest producer of farmed king salmon.

This chapter, along with Chapters 8, 10 and 11, provides an overview of the selected seafood firms that participated in this study. These four chapters form the basis for the identification of strategic capabilities and the formulation of the strategic capabilities building process in these seafood firms, as outlined in Chapter 12.

King Salmon (*Oncorhynchus tshawytscha*)

The king salmon is native to the entire west coast of North America, migrating up and down the coast from California to Alaska and into the Bering Sea. King salmon, like other salmonids, display great interpopulation variation in life history traits, morphology, behaviour and other characteristics (Quinn and Unwin, 1993). The oldest known age of king salmon is 7 years. Wild king salmon grow to around 35 kilograms and 1 metre in length at full maturity, while some stocks, particularly those originating in Alaska's Yukon and Kenai Rivers, grow in excess of 50 kilograms and 1.5 metres in length, making them the most prized salmon for sport fishing. The largest recorded king salmon weighed 126 pounds or 57 kilograms (HREF 8).

The king salmon is known for its high oil content and, together with its bright red coloured meat, is a valued and versatile fish for consumption in various ways, including fresh cooked, raw as sashimi or sushi, and as hot or cold smoked products. The king salmon's high oil content also makes it a valued source of omega 3 oil, which has been shown to provide some health benefits. Consumers have rated some of the farmed king salmon's attributes to be comparable to wild king salmon and superior to farmed Atlantic salmon (Sylvia, Morrissey, Graham and Garcia, 1995).

King salmon stock was first brought to New Zealand in the 1870s, but it appears no significant salmon runs were established (McDowall, 1990). Between 1901 and 1907, five consignments of king salmon ova were brought to New Zealand. These consignments originated from various hatcheries in California's Sacramento River basin, most likely Mill Creek, Battle Creek and the McCloud River (McDowall, 1994). The king salmon stocks from the Sacramento River basin were reared in a hatchery on the Hakataramea River, a tributary of the Waitaki River. The liberalisation of these salmon into the Waitaki River system led to self-sustaining populations in other major rivers on the South Island's east side. No subsequent introductions of king salmon occurred in New Zealand,

allowing the original Sacramento River basin stocks to develop free of any other hatchery influence (Quinn and Unwin, 1993).

New Zealand's acclimatised king salmon stocks are one of the very few successful transplants of any anadromous Pacific salmon, and the only one that is long standing, since about 1905. The presence of acclimatised king salmon in New Zealand is of great interest because of the fragility of king salmon stocks in North America, due mainly to the destruction of their natural habitat for spawning (McDowall, 1994). The isolation the New Zealand king salmon stocks have had for almost one century, and the relatively late introduction of brood stock enhancement programmes, make the New Zealand king salmon one of the most genetically consistent stocks in the world.

In 1983 the salmon farming industry began in New Zealand. The king salmon has been farmed predominantly, although there are limited stocks of farmed Atlantic and sockeye salmon that were introduced around 1900 (Boustead, 1993). The king salmon has adapted successfully to a farm environment in New Zealand, in part, because of disease-free coastal waters. New Zealand waters lack salmon pathogens, and bacterial, viral and ectoparasitic problems, which continually plague other nations' salmon farming industries, particularly those in Europe. Some of these common problems can potentially wipe out an entire salmon farming industry (M. Gillard, personal communication, December 1995). In New Zealand, however, the clean and disease-free coastal waters allow salmon to be reared in seacages without the use of antibiotics, therapeutants or bactericides. It is legitimately claimed that New Zealand produces the purest farmed salmon in the world.

International Salmon Farming Industry

The New Zealand King Salmon Company's annual harvest of king salmon exceeds 5,200 metric tonnes, which accounts for 87 percent of New Zealand's total production of farmed salmon and 36 percent of the total worldwide

production of farmed king salmon. Approximately 14,000 metric tonnes of king salmon are farmed annually worldwide. The king salmon, known to be difficult to rear in a farm environment, has the least annual production of all farmed salmon, and is only farmed in Canada, Chile and New Zealand. Table 9.1 shows the annual production of farmed king salmon in Canada, Chile and New Zealand from 1985 to 1996. Some data in Table 9.1 are omitted due to a lack of reliable sources, and some data may be inaccurate.

Table 9.1 Worldwide Production of Farmed King Salmon
(metric tonnes, round weight)

Nation	Calendar Year											
	85	86	87	88	89	90	91	92	93	94	95	96
Canada	54	87	949	3,550	9,049	10,396	14,245	13,409	8,295	7,148	8,347	8,347
Chile				3	11	389	1,059	667	859			
New Zealand	180	611	880	1,150	1,500	2,500	2,750	2,700	2,600	5,000	5,000	6,000
Total	234	698	1,829	4,703	10,560	13,285	18,054	16,776	11,754	12,148	13,347	14,347

(Source: HREF 9)

The annual production of farmed king salmon makes up less than 1 percent of the total annual farmed salmon production worldwide. By far the dominant salmon species for farm rearing is the Atlantic salmon, with annual harvest worldwide exceeding 540,000 metric tonnes (FEAP, 1999). Atlantic salmon are farmed in almost all nations involved in salmon farming, including Australia, the United States, Canada, Chile, Norway, Ireland, Faroe Islands, Iceland and the United Kingdom. Norway produces the largest amount of Atlantic salmon, reaching 400,000 metric tonnes in 1999 (Norway Record, 2000). There is also production of farmed Pacific coho or silver salmon in Canada, Japan and Chile. It is expected that worldwide farmed salmon production will continue to increase due to the decline in the costs of farm production and the average wild salmon harvests and increased demand for value-added salmon products (HREF 10). Table 9.2 outlines the annual farm production of all salmon species by nation from 1980 to 1996.

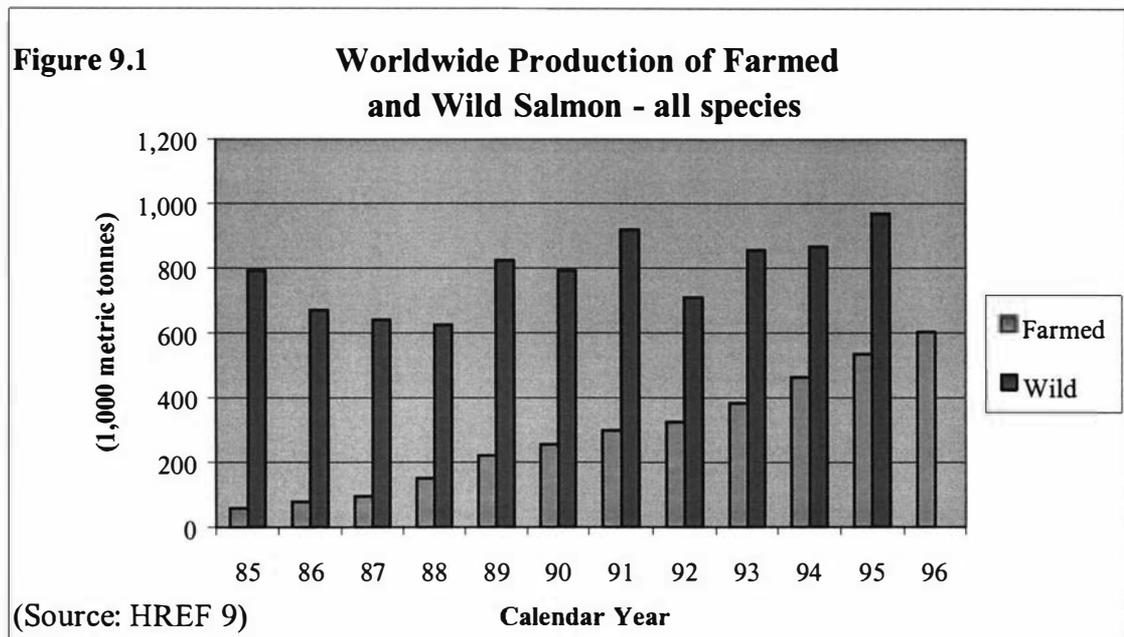
Table 9.2

Worldwide Production of Farmed Salmon – all species
(metric tonnes, round weight)

Nation	Calendar Year																
	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Australia	0	0	0	0	0	0	10	53	240	1,750	1,750	2,650	3,147	3,500	5,000	6,000	6,000
USA	0	0	0	0	23	68	136	800	1,700	1,539	2,082	4,704	10,000	13,000	14,000	17,000	17,000
Canada	11	21	38	68	223	470	1,038	3,129	9,805	16,750	21,167	26,979	27,042	35,049	38,424	39,908	41,574
Chile	0	0	0	0	0	500	1,144	1,862	4,240	8,834	22,924	32,923	45,897	55,218	73,000	106,000	130,000
Norway	4,143	8,422	10,266	17,000	25,936	31,177	46,523	48,891	81,653	116,633	115,289	121,457	127,057	164,283	207,000	249,000	295,000
Ireland	21	35	100	257	385	2,193	2,945	3,539	5,874	6,579	6,909	9,722	10,300	12,909	14,000	12,000	13,000
Faroe Is.	0	0	60	105	116	1,036	1,900	3,193	3,600	8,265	13,386	18,034	18,396	17,738	15,000	8,000	15,000
Iceland	5	20	30	50	50	366	484	780	1,626	1,893	3,344	3,417	3,221	3,501	3,000	3,000	3,000
UK	598	1,333	2,152	2,536	3,912	7,947	10,649	13,177	18,465	29,588	33,260	41,465	37,142	49,295	64,000	72,000	80,000
NZ						180	611	880	1,150	1,500	2,500	2,750	2,700	2,600	5,000	5,000	6,000
Japan						8,766	7,540	12,177	17,183	20,462	24,037	26,055	26,086	21,355	25,000	16,000	10,000
Other	0	30	40	45	153	6,124	5,654	6,077	4,850	6,973	7,768	7,225	6,470	4,520			
Total	4,778	9,861	12,686	20,061	30,798	58,827	78,634	94,558	150,386	220,766	254,416	297,381	317,458	382,968	463,424	533,908	616,574

(Source: HREF 9)

Figure 9.1 compares the annual harvest of all wild salmon species to the annual farm production of all salmon species from 1985 to 1996. The dramatic and continued increase in the volume of farmed salmon has caused periodic surpluses of salmon in international markets, resulting in lower prices for both wild and farmed salmon. The increased volume and improved quality of farmed salmon has allowed it to dominate world markets (Farmed Salmon, 1993).



Regal Salmon Ltd.

Regal Salmon Ltd. began in 1986 after Terry Shagin, former lawyer in the US entertainment industry, and Graeme Coates, marine biologist, sought financial backing for salmon farming ventures in the Marlborough Sounds and Stewart Island's Big Glory Bay. In 1987 the salmon farming venture diversified by purchasing 60 percent of the Marlborough winery Cellier Le Brun and entered into a joint venture with Mitsubishi Corporation to grow *wasabi*, a highly valued Japanese condiment, in the Marlborough Sounds (Regal Salmon, 1995). The salmon farming grew in volume and value until it experienced a \$940,000 loss in 1990, due primarily to a \$1.4 million abnormal loss on its salmon stocks at

Stewart Island caused by an algae bloom. Throughout the early 1990s the dramatic increase in farmed salmon worldwide depressed the price for Regal Salmon's farmed king salmon. At the same time, Regal Salmon experienced difficulties rearing salmon to the desired size for its markets, leading to a \$3.4 million loss for the year ending March 1993 and to debt levels increasing by 48 percent (Regal Flounders, 1994).

Despite Regal Salmon having perfected a technique for hot smoking salmon that was well received in Asian markets, and exporting the world's first organic salmon, carrying the New Zealand Biological Producers Council's Biogro™ label, its financial performance continued to erode. Regal Salmon was considered a possible takeover target, and Salmond Smith Biolab Ltd. was considered likely to make the bid since it was already involved in salmon farming, and had the capitalisation to complete a full takeover (Ripe for a Takeover, 1993). At the time, Salmond Smith Biolab Ltd. was one of New Zealand's most successful and diversified companies, consisting of four business groups; consumer, health and science, plastics and brushware and food. The food group consisted of the Palmerston North-based Prepared Foods and aquaculture ventures that were the origins of Southern Ocean Seafoods.

As expected, in July 1993, Salmond Smith Biolab Ltd. attempted a takeover of Regal Salmon, but its offer was rejected by Regal Salmon shareholders. In the weeks prior to the Salmond Smith Biolab bid of \$1.00 per share, Regal Salmon's shares had been valued at \$.68 (Thompson, 1994). The buying and selling of Regal Salmon shares just prior to Salmond Smith Biolab announcing its takeover bid brought accusations of insider trading, particularly in light of founder Terry Shagin's wife purchasing 79,500 shares one week prior to the announcement, and National Mutual Funds Management purchasing 500,000 shares the day after its analyst attended a meeting with Terry Shagin and one day before the announcement by Salmond Smith Biolab (Thompson, 1994). However, by 2 August 1993, Salmond Smith Biolab Ltd. withdrew notice of its offer to purchase

shares in Regal Salmon Ltd., which brought about a rapid reduction in Regal Salmon's share valuation.

When Regal Salmon's 1993 financial performance was announced, major shareholders expressed alarm, resulting in two members of Regal Salmon's board of directors, along with founder Terry Shagin, resigning (Regal Salmon, 1995). Subsequently, the Securities Commission investigated Regal Salmon and issued a 200-page report that noted shareholders' right to take legal action against former Regal directors, and concluded that the directors had practiced 'unwise' share trading. The Report also criticised the former Regal directors for their management of the company during 1992-93 and for the condition of Regal Salmon's published accounts during that time (Thompson, 1994).

Soon after Salmond Smith Biolab withdrew its notice of offer to purchase shares in Regal Salmon, foreign investors expressed interest. The Saudi Arabian Sheikh Suliman Olayan and his family's Comp petrol Pacific Ltd. purchased 24.9 percent of Regal Salmon shares. Comp petrol Pacific then gained approval from the New Zealand Overseas Investment Commission to purchase up to 49.9 percent of Regal Salmon. In March 1994 the Malaysian-based Tiong family's Naraya Ltd. purchased 7.86 percent of Regal Salmon's shares and later increased its holdings to 8.91 percent (Hutching, 1993).

Regal Salmon's poor financial performance continued, compounded by strong competition in the domestic market, adverse foreign exchange movements and restructuring costs, leading to a loss of \$15.3 million in 1994. Regal Salmon partially alleviated the situation by selling its stake in its wine assets and undertaking a \$17 million recapitalisation to eliminate debt. The shareholders approved the recapitalisation to be underwritten by the Tiong Group, allowing it to acquire a controlling 51 percent interest in Regal Salmon, while Salmond Smith Biolab retained control of the other 49 percent (Regal Salmon, 1995).

In March 1995, the Treaty of Waitangi Fisheries Commission (TOKM) made a quick move to purchase 40 percent of Salmond Smith Biolab, paying a premium over the current market price, and subsequently increasing its holdings in Salmond Smith Biolab to 43 percent. The TOKM acted quickly to avoid the risk of a 'blocking stake' being built up by other investors who might be prejudiced against Maori investing in Salmond Smith Biolab (Underhill, 1995). In September 1995, the Tiong Group gave notice of an offer for all the shares in Salmond Smith Biolab, with the proviso that it could sell Salmond Smith Biolab's oceanic, or non-aquaculture, assets to the TOKM. The Overseas Investment Commission approved Tiong Group's bid, but required the oceanic assets to be sold within one year, which led to the TOKM realising a \$10 million loss due to revaluation of the oceanic assets (Day, 1995). The sale of Regal Salmon's oceanic assets to the TOKM left its unprofitable aquaculture assets as a standalone unit with unfavourable future prospects.

Southern Ocean Seafoods Ltd.

Southern Ocean Seafood Ltd.'s origins began soon after the emergence of Salmond Smith Biolab Ltd. in 1986. In 1987 Salmond Smith Biolab's food group purchased 40 percent interest in Bubbling Springs Salmon Farm located at Takaka, which produced only smaller pan-sized king salmon. That same year a seacage licence at Bulwer in the Marlborough Sounds was acquired, as well as 50 percent holdings in the Marlborough Salmon Company, with two seacages at Hallum Cove and a hatchery at Kaituna. In 1988 the salmon farming venture purchased the remainder of Bubbling Springs Salmon Farm, and thereafter the venture was named Southern Ocean Salmon. That same year Southern Ocean Salmon further developed its Kaituna hatchery and entered a joint venture with the Marlborough Salmon Company in a salmon processing operation, Pacific Salmon Processors. In 1989 Southern Ocean Salmon purchased the remainder of the Marlborough Salmon Company and established a 'super' seacage at Bulwer.

In 1990 Southern Ocean Seafoods Ltd. was formed to coordinate all of Salmond Smith Biolab Ltd.'s seafood activities. As mentioned, until the TOKM's 1995 bid for shares in Salmond Smith Biolab, the food group included oceanic assets, such as processing facilities in the Chatham Islands, crayfish/scallop vessels, a marine engineering facility and ITQ holdings in crayfish, paua, blue cod, tarakihi, gurnard, monkfish, scallops and kina.

Southern Ocean Seafoods Ltd. then began a series of changes in farming operations to increase its annual production of king salmon. In 1990 Southern Ocean Seafoods terminated smolt rearing at the Kaituna hatchery and expanded smolt rearing at the Takaka hatchery. In 1991 the Hallum Cove seacage was closed, and the Bulwer seacage was expanded. As the scale of its operations increased, Southern Ocean Seafoods expanded processing by purchasing a facility in Nelson from the Skeggs Group Ltd. Starting 1992 the Kaituna hatchery facility was used as a salmon breed stock research and development facility, the Takaka smolt rearing operation was expanded to an equivalent annual production of 1,500 metric tonnes, and the first all-female stock was harvested, which provided more uniform-sized salmon.

In 1993 Salmond Smith Biolab viewed the future of salmon farming to be positive, setting a growth target of producing 2,500 metric tonnes of king salmon by 1997. This growth target required further expansion of the smolt rearing operation at Takaka, the commissioning of another seacage at Port Ligar and dockside facilities, and further development of the Seasmoke™ brand, which Salmond Smith Biolab had purchased from Angus McNeill Ltd. in late 1993. Development of the Seasmoke™ brand included the addition of a fish smoking facility to produce ready-to-eat products at the whole fish processing facility in Nelson. In 1994 another seacage was commissioned at Forsyth Bay in the Marlborough Sounds. However, by late 1994 Salmond Smith Biolab was forced to reassess its overall profit forecasts for Southern Ocean Seafoods.

While its operations grew throughout the late 1980s and early 1990s, Southern Ocean Seafoods experienced moderate financial success. As mentioned, attempts to farm king salmon elsewhere in the world had proved difficult. Southern Ocean Seafoods, like other New Zealand king salmon producers, lacked models for success in farming king salmon. As expected, Southern Ocean Seafoods experienced steep learning curves in the first few years of its king salmon operations. During that time, a number of farming innovations were attempted that in hindsight the company would no longer consider (M. Gillard, personal communication, December 1995).

No single factor in Southern Ocean Seafood's farming operations accounted for its initial success in farming king salmon. Instead, a series of learning experiences explained its success. For example, Southern Ocean Seafoods found a significant benefit in postponing the release of young salmon (fry), weighing 5 to 20 grams, into the seacages until they were much larger smolt, weighing around 200 grams. The delayed release of the young salmon, in combination with the disease-free Waikoropupu Springs water, made the first year mortality rate almost insignificant (M.Gillard, personal communication, December 1995).

Furthermore, Southern Ocean Seafoods learned the importance of using deeper seacages, locating seacages in areas with better water flow and temperatures, consistently monitoring for algae blooms and having contingency plans in the event one occurred, and improving the quality of the king salmon's diet. These and other factors have contributed to Southern Ocean Seafoods' enhanced farm operations and steady increase in king salmon production from year to year, starting with 30 metric tonnes in 1985 and increasing to 2,000 metric tonnes by 1995 (M. Gillard, personal communication, December 1995).

As mentioned, Southern Ocean Seafoods' financial position remained moderate throughout its early years, until it experienced a \$10.6 million loss in 1994 and a \$1.95 million loss in 1995. These losses occurred even though Southern Ocean

Seafoods reached its 1997 growth target of 2,500 metric tonnes production in 1995. In hindsight, Southern Ocean Seafoods probably implemented its growth strategy too quickly, leading to a mismatch between steadily increasing production and the firm's market position. This mismatch, in combination with unfavourable foreign exchange movements, caused Southern Ocean Seafoods' product supply to outstrip its ability to increase demand for its products and have positive returns. Southern Ocean Seafoods' two main products at that time were king salmon and paua, and both products suffered dramatically in the marketplace. In 1995 Southern Ocean Seafoods lost two thirds of its previous years return on paua, and returns on salmon fell by an average of 14 percent (P. Steere, personal communication, December 1995).

'During the mid-1990s the commodity salmon market was not doing its typical vagaries and cyclical swings, but was simply falling off a cliff in terms of the price. Even though king salmon is a premium product relative to other salmon species, it is difficult to gain a few percent more in price when the prices were already very depressed. That is why Southern Ocean Seafoods decided to take action to move away from the fresh salmon commodity market and into valued-added products such as smoked salmon' (P. Steere, personal communication, December 1995).

Southern Ocean Seafoods' increased product volume created a classic production push problem, requiring it to sell more fresh salmon in the Japanese market than it desired. In so doing, Southern Ocean Seafoods had to rely heavily on feedback from its overseas traders, which at times was less than realistic, and required the firm to be two steps removed from consumers (D. Everitt, personal communication, April 1996). For this reason, it had been difficult historically to gain any brand ownership in Japan since so much fish went into that market, depressing the price of all fish, including the price for premium king salmon. Southern Ocean Seafoods also sold some valued-added products, such as sashimi, in the Japanese market (D. Everitt, personal communication, December 1996).

Australia was Southern Ocean Seafoods' largest market outside Japan, but until July 1999, the Australian Government restricted the entry of salmon to only heat-treated product. Despite the Tasmanian farm salmon producers supplying most of the salmon in the Australian market, Southern Ocean Seafoods developed strong brand awareness for its smoked products on Australia's east coast (D. Everitt, personal communication, April 1996). Southern Ocean Seafoods also exported to China, Hong Kong, the Philippines, Malaysia, Singapore, the United States, Saudi Arabia and Europe.

As mentioned, in 1995 the TOKM purchased 43 percent of Salmond Smith Biolab Ltd. to gain access to Regal Salmon Ltd.'s oceanic assets. The TOKM was particularly interested in acquiring Regal Salmon's paua ITQ, but it had no interest in the aquaculture assets. In late 1995 the TOKM and the Tiong Group held 90 percent of Salmond Smith Biolab's shares. At that time, Salmond Smith Biolab ceased to operate as a listed company on the New Zealand Stock Exchange. The TOKM swapped its 43 percent holdings in Salmond Smith Biolab for most of Salmond Smith Biolab's oceanic assets.

The Tiong Group was then well positioned to combine Regal Salmon and Southern Ocean Seafoods' assets into the world's largest and fully integrated king salmon producer. The Tiong Group retained Regal Salmon as a cashed-up listed shell, Queen Charlotte Holdings, because of the \$18.6 million in tax losses that could be offset against future trading (Hutching, 1996).

Regal Salmon and Southern Ocean Seafoods Merger

As demonstrated previously, Regal Salmon and Southern Ocean Seafoods were remarkably similar firms, in terms of their histories and core activities. In the late 1980s both firms had been profitable and both had adopted growth strategies, investing heavily in their farm sites, and, to a lesser extent, in their processing and marketing activities. For example, the Salmond Smith Biolab CEO's decision to double Southern Ocean Seafoods' farm production severely impacted on its

capital, and in hindsight was detrimental to its ongoing viability (P. Steere, personal communication, December 1995).

At the time of the merger, Southern Ocean Seafoods was reasonably equipped to process salmon at its Nelson-based facility, which was superior to Regal Salmon's Picton-based facility. Regal Salmon's heavy investment in its farm operations and growth in production was successful due to its more advanced farm management techniques, relative to Southern Ocean Seafoods. However, Regal Salmon found it did not have sufficient profit and cash flow, which forced it to unload product, and in so doing severely impacted on its share valuation and long-term viability. In contrast, Southern Ocean Seafoods had reasonably strong brands, which continued to enhance the value of the firm, enabling it to develop value-added products rather than pursuing commodity sales (P. Steere, personal communication, December 1995).

'The purpose of the merger between Southern Ocean Seafoods and Regal Salmon was to rationalise two unprofitable activities into a platform for future profitability. At the time of the merger, Regal Salmon was insolvent, having had a 1995 loss of \$3.64 million while Southern Ocean Seafoods was unprofitable at the time, but not to the same extent. With the New Zealand seafood market very small, there is a lot of merit in bringing together the synergies of two similar firms. It did not make much sense to have two firms of similar size in a difficult marketplace go head-to-head when the competition was predominately from outside New Zealand. Hence, the merging of the two firms has been 10 years in the making since the firms started out, and it was only in the mid-1990s that common sense prevailed and egos were put to one side' (P. Steere, personal communication, December 1995).

The most significant advantage anticipated from the merger was the ability of the new firm's management to learn from the two firms' combined experience. It was anticipated that the combined managerial experience would lead to identifying synergies, allowing the new firm to glean the best of both firm's knowledge, rejecting what did not work and focusing on what did work, as everyone's shared

experience helped to bring about the new firm's success (D. Everitt, personal communication, April 1996).

Several synergistic advantages surfaced immediately. First, the newly formed firm could experience economies of scale by combining the two firms' farm operations. Both farming operations working together would provide opportunities for improved asset utilisation, cost savings and increased production. The two firms' combined annual production would exceed 5,000 metric tonnes, making the new firm the dominant salmon producer in New Zealand. The next largest New Zealand salmon producer being Big Glory Seafoods. Big Glory Seafoods began in 1981, and since then it had experienced substantial fluctuations in profitability and in its major shareholdings before it was delisted in 1990. At that time, it became a wholly-owned subsidiary of Sanford Seafoods Ltd., which produced less than 1,000 metric tonnes annually.

Second, the newly formed firm's increased volume of salmon could enhance the viability of operating two hatcheries, while reducing the possible effects of a flood or earthquake that could lead to substantial losses of foundation stock and cause a severe setback for future production. In fact, a flood did occur at the Takaka hatchery in January 1996, resulting in Southern Ocean Seafoods losing significant numbers of smolt. It should be noted, however, that the Tentburn hatchery was not comparable to the Takaka hatchery fed by the Waikoropupu Springs, and thus had higher salmon-rearing costs (P. Steere, personal communication, December 1995).

Third, the new firm would have a stronger domestic market position and more focused marketing capability through rationalising the two firms' brand strategies. The new firm's single focus would end the practice of both firms competing against each other in the marketplace. Combining the two firms' marketing capabilities into a unified capability would also diminish export

customers' ability to visit the major New Zealand salmon producers and 'play one off against the other' (P. Steere, personal communication, December 1995).

Last, the merger could enjoy the advantages associated with having the Tiong Group as owners. The Tiong Group's core business is forestry, a business that takes 20 to 30 years to mature. The Tiong Group was, therefore, able to bring a long-term perspective to the new firm and its change from a 'commodity player' to a 'value-added player'. The long-term perspective made it possible for the new firm to increase its value-added product lines from 40 percent of overall products to 60 percent, which requires a lot of time and effort (P. Steere, personal communication, April 1996).

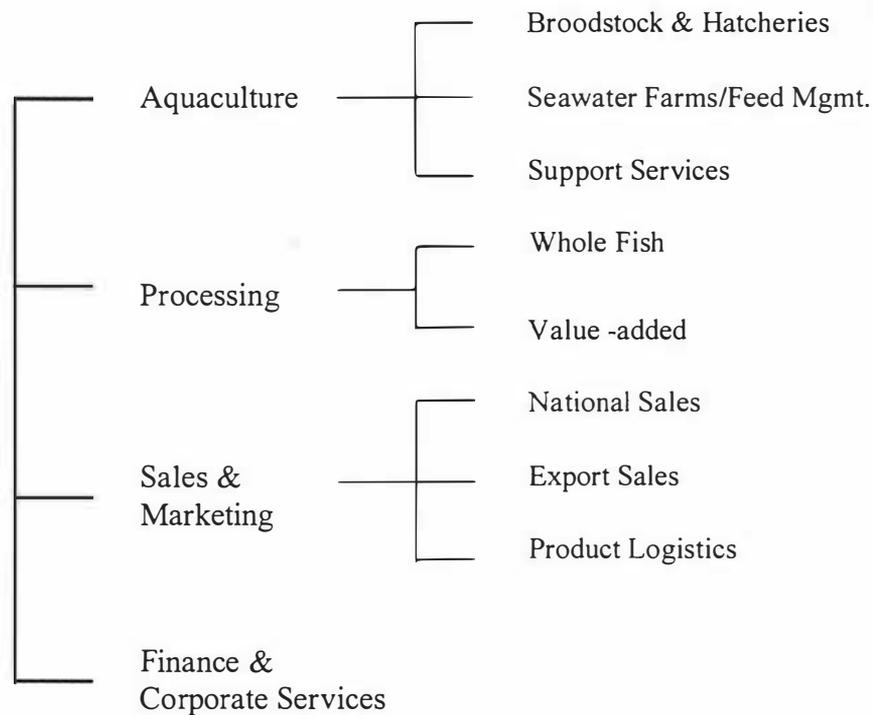
No doubt the above synergies appeared attractive to the Tiong Group in light of the continued downward pressure on salmon prices in international markets and the appreciating New Zealand currency during the mid-1990s. Merging Southern Ocean Seafoods and Regal Salmon was a rational response to the situation that both firms faced at that time (D. Everitt, personal communication, April 1996). The Tiong's Group's long-term perspective and patience was critical to the new firm developing into the world's largest viable, profitable king salmon producer.

The New Zealand King Salmon Company Ltd.

On 1 July 1996, Southern Ocean Seafoods Ltd. purchased the assets of Regal Salmon Ltd. and was renamed The New Zealand King Salmon Company Ltd., becoming a wholly-owned subsidiary of the Tiong Group's Karamea Holdings Ltd. The newly formed firm's management began the process of rationalising the two firms' operations and assets. Regal Salmon's Picton and Stewart Island offices were closed so that the new firm's Nelson-based headquarters could be staffed to handle almost all administrative functions, eliminating the previously duplicated administrative overheads. Regal Salmon's Picton-based processing facility was closed while the new firm retained Southern Ocean Seafoods' Nelson-based processing facilities for fresh chilled and smoked products, and

other products, like sashimi, that require separate facilities to ensure quality standards are met. The new firm adopted a functional structure reflecting its vertically-integrated operations. Figure 9.2 outlines the new firm's structure consisting of Aquaculture, Processing, Sales and Marketing, and Finance and Corporate Services.

Figure 9.2 The Structure of The New Zealand King Salmon Company



(Source: The New Zealand King Salmon Company)

The more difficult aspect of the merger was repositioning The New Zealand King Salmon Company differently to its two predecessors, which had developed quite distinctively different cultures. The New Zealand King Salmon Company's management wanted to move the new firm away from Regal Salmon's culture of 'disposing of fresh fish' on the commodity market and Southern Ocean Seafoods' culture of 'let's do everything as much as we can' (D. Everitt, personal communication, December 1998). Management worked to formulate the new firm's culture with a focus on those activities that provided a return, creating a

unified market focus throughout all of its operations (D. Everitt, personal communication, December 1998). However, this exercise in change management proved difficult to implement, resulting in learning experiences that affected everyone in the new firm (P. Steere, personal communication, December 1998).

The exercise of combining the two firms' personnel, who had previously competed against each other, was complicated by pressure from outside the firm, as well as management's own biases, to look after particular people while others were made redundant. The management understood that it would take some time for the newly formed firm to become a unified and cohesive firm, and this would not happen without changes made to virtually all levels and operations (P. Steere, personal communication, December 1998).

The management identified a need to enhance the skill base in just about every part of the new firm (D. Everitt, personal communication, December 1998). For example, the processing operation underwent a restructuring, with some new people put in line management positions. Although the existing skill base was quite high for the farm operations, the two previous firms' farm operations had had a strong sense of 'us and them' in relation to other operations. This attitude needed to change to accommodate the new firms' high level of vertical integration that required all operations to work together as a cohesive unit (D. Everitt, personal communication, December 1996). Changes were also made to the new firm's financial and accounting management and administration. The new firm's management worked very effectively to improve all of its basic financial functions, such as its hedging policy for foreign exchange coverage and cash management by moving more stock and improving its control on debtors (P. Steere, personal communication, December 1998). The marketing operations improved by acquiring staff with enhanced skills in account management, sales team management, and export marketing (D. Everitt, personal communication, December 1998).

These changes brought about an overall enhancement of the firm's skill base and ability to undertake a strategic planning process. Previously, both firms had lacked sufficiently skilled people to conduct robust planning processes. The higher valued input into the planning process after the merger benefited the new firm in many ways, especially its ability to improve demand forecasts. The end result was that the sales and profit margin forecasts were far more accurate; hence the firm was better able to reach stated targets and plan all other operations accordingly. Consequently, some of the inter-departmental conflict that had been characteristic of the two previous firms was reduced substantially (P. Steere, personal communication, December 1998).

The new firm's owners, the Tiong Group, remained removed from the new firm's operations and did not directly influence its strategic and marketing activities. The Tiong Group required projections on expected returns on investments in order to approve capital expansion. While they did not become directly involved with marketing, processing or farming operations, they were definitely interested in being informed in all areas (P. Steere, personal communication, December 1998).

An important outcome of the merger was that the new firm had far more customers, and, was therefore, less reliant on a few customers who were able to take a significant proportion of the firm's annual production. Due to the larger number of customers, the new firm was better able to impose minimum value and volume specifications for its sales. The larger orders allowed the new firm to negotiate better arrangements for its industrial purchases, because one or two customers no longer had absolute power as they had before (D. Everitt, personal communication, December 1996).

The new firm repositioned its existing brands and created The New Zealand King Salmon Company logo to be added to its packaging in an unobtrusive way, since it was the corporate umbrella brand. The 'Southern Ocean' brand was retained as

the 'price fighter' because it had been discounted so heavily in the past. The 'Seasmoke™' brand became the premier brand, and the 'Regal' brand became the flagship, medium-positioned brand.

The New Zealand King Salmon Company's larger customer base, greater volume of salmon production, and coordinated brand positioning allowed it to stake its future success on a turn-around strategy that targeted four main areas for improvement. First, the new firm adopted more of a brand ownership and consumer products approach to developing its domestic market, with plans for a major advertising campaign that was more than triple the previous combined expenditure on advertisement by the two previous firms (D. Everitt, personal communication, April 1996). This advertising campaign's purpose was to raise awareness of salmon as a healthy and easy-to-prepare meal that was value for money. The next area for development included the use of brand ownership to increase activity in traditional overseas markets, which included further development of value-added products, such as smoked salmon. The third, and related development, was to conduct a 'vigorous push' for access into the Australian market for nonheat-treated salmon which, at the time, was denied entry. The fourth development was to significantly reduce production costs by improving farming and processing operations (Fishing for Profitability, 1996).

Domestic Marketing Campaign

The new firm's management recognised the need to educate consumers to achieve significant growth in the domestic market. Consumers education would focus on the 'functionality' of salmon, including how easy and convenient it is to prepare; why it is a desirable product when compared to red meats, chicken and imported salmon; that it is not so expensive when measured by gram of edible protein; and the health benefits of king salmon's high level of omega 3 oil (D. Everitt, personal communication, April 1996).

Various marketing initiatives were considered, such as promoting king salmon along with 'regionalised' food and beverage promotions targeting both domestic and foreign tourists. The Marketing operation acknowledged that promoting king salmon together with wines from the top of the South Island was one initiative worth pursuing. Also considered were the use of one-off promotional opportunities, such as the America's Cup campaign in Auckland in 2000, to promote consumption of king salmon. However, the goal was to build demand for the long term by promoting king salmon as a product for day-to-day consumption, and targeting consumer activity in fish shops and supermarkets was considered the best way to accomplish this goal (D. Everitt, personal communication, April 1996).

The New Zealand King Salmon Company's board of directors approved up to \$1 million to be spent on developing the domestic market to double consumption of king salmon within 24 months, with a target of May-June 1998. The new firm's management intended to use the \$1 million advertising budget to increase the domestic demand from 1,000 metric tonnes to 1,400 metric tonnes in the first year, with the expectation that demand would increase by 20 to 35 percent during the next two years. The campaign was based on a similar one run in North America to achieve a one pound (450 grams) consumption per capita annual increase. New Zealand's annual consumption was a modest 200 grams, on average one to two meal-sized portions per year (D. Everitt, personal communication, April 1996). The advertising campaign would create the first branded fresh fish to be actively marketed in New Zealand (Regal Salmon, 1996).

The domestic advertising campaign was launched soon after the announcement of the new firm in July 1996. The campaign included television advertising, point of sale educational material, including recipes, magazine and newspaper advertisements and some radio advertising. All this promotional effort resulted in an immediate increase in sales, due to its focus on fish shops and supermarkets,

and, in part, from the almost instantaneous communication with and feedback from consumers (D. Everitt, personal communication, December 1998).

The new firm's strategy for the domestic market proved successful, growing from \$12 million in mid-1997 to an expected \$18 million by mid-2001. The only change the firm made to its domestic strategy was to focus on the value of the sales instead of volume. This change in focus was due to the firm requiring domestic sales to increase in value because of increased feed costs and the attractiveness of export markets as the New Zealand currency continued to devalue during the late 1990s. These conditions, along with established demand, allowed the firm to increase domestic prices for its products.

'The fact that we could raise value significantly over a relatively short time period meant that there was an established demand for our products. We were just shifting the demand curve to a point where we got the prices to much higher levels, and that was a very valid thing to do at that time' (D. Everitt, personal communication, January 2001).

Development of Overseas Markets

As mentioned, The New Zealand King Salmon Company's strategy included producing a higher percentage of value-added products with higher profit margins, such as smoked products. Prior to the merger, Southern Ocean Seafoods had developed its capacity to provide some value-added products, particularly smoked products using the Seasmoke™ brand. However, the volume of salmon required to meet customer orders for fresh salmon, at times, left insufficient volume of salmon available during offseason periods to continue the production of some valued-added products. The merger provided the new firm with the critical mass of salmon needed to meet fresh salmon demand while also developing domestic and value-added product markets. The Seasmoke™ brand was retained to further develop the value-added product markets. The fish smoking technology from the previous two firms was combined, providing

further flexibility of products, not necessarily increased productivity (D. Everitt, personal communication, April 1996).

However, until the firm's value-added production capability could cope with the higher volume of salmon available after the merger, the new firm was forced to continue air freighting fresh chilled whole salmon to the Japanese market, forgoing some higher profit margins in the meantime. It was expected that within three years, the domestic and value-added markets would consume significantly greater quantities of salmon, reducing the firm's reliance on the Japanese commodity fresh fish market. As mentioned, the Regal Salmon brand was retained for this purpose, as Regal Salmon had historically marketed fresh king salmon almost exclusively (D. Everitt, personal communication, April 1996).

The new firm had inherited Regal's largest customer, Mitsubishi Corporation, which Regal had been working with since 1988. The established relationship with Mitsubishi Corporation was important to the new firm, but required some changes in the way business was done. The new firm's managers made the needed changes in the working relationship so that Mitsubishi Corporation received the volume of king salmon it desired, while the new firm gained higher value for its salmon (D. Everitt, personal communication, December 1998).

'The New Zealand King Salmon Company has continued to have a good relationship with the Mitsubishi Corporation, while it has also succeeded in building some niche markets in Japan for its value-added products, some of which can only be sourced from this firm (D. Everitt, personal communication, January 2001).

Australian Market Access

Since 1975, the importation of fresh salmon into Australia had been banned, restricting salmon imports to those that were heat-treated. The Australian Government had consistently justified its ban on fresh salmon imports by stating concern over the threat of various foreign disease agents being introduced into its

wild and farmed fishstocks. A less commonly stated but obvious reason for continuation of the import restriction on fresh salmon was that any reduction in the restriction could put at risk Tasmania's salmon farming industry, with annual sales of around \$100 million.

However, by the mid-1990s, Australia began to experience pressure worldwide to open its markets to imported fresh salmon. At that time, Australia faced the prospect of the World Trade Organisation (WTO) setting up a panel to examine its ban on imported fresh salmon. The New Zealand King Salmon Company, along with Sanford Seafoods Ltd., encouraged the New Zealand Government to pressure the Australian Government to allow fresh salmon imports (Bell, 1996).

At the same time, the New Zealand MFish conducted an analysis of the risks posed to fish and aquatic animals by the importation of fresh salmon into New Zealand. The MFish report concluded that the existing ban on imported salmon was 'technically indefensible' under WTO rules governing exports, leaving New Zealand open to retaliatory action (Bell, 1996). The MFish approved the importation of gutted salmon with heads on and gills removed from Australia, Canada, the European Union and the United States, nations viewed as having in place proper disease monitoring and inspection systems (Reassessment, 1996).

In response to the growing pressure worldwide to lift its ban on imported fresh salmon, the Office of the Australian Chief Veterinary Officer conducted an import risk analysis to assess the risk of the establishment of diseases of concern due to proposed salmon imports from Canada, the United States and New Zealand. The Australian risk analysis became a lengthy process that eventually entered the WTO disputes resolution process (A. Macfarlane, personal communication, September 2000). In July 1999 the Australian Quarantine Inspection Service announced it would allow the importation of gilled and gutted fresh salmon from New Zealand only (Market Opened, 1999).

At that time, the Australian Government also announced its National Strategic Plan for Aquatic Animal Health, 'Aquaplan', to improve the productivity and sustainability of Australia's fisheries and aquaculture industries, and enhance its 'clean green' image to overseas markets. One initiative of the Aquaplan was to develop the Australian Aquatic Animal Disease Identification Field Guide to, in part, identify and assess the risk of diseases from all fish imported into Australia. The requirement to assess the risk of potential diseases from imported fish was placed on all nations exporting fish to Australia, excluding New Zealand, which was considered to have appropriate disease monitoring and inspection systems (HREF 11).

The lifting of Australia's 24-year ban on imported fresh salmon opened a potential \$12.5 million market for The New Zealand King Salmon Company (Market Open, 1999). However, soon after the Australian market was opened, the domestic salmon farming industry experienced rapid growth, targeting 16,000 metric tonnes. This rapid increase in supply caused severe competition based on price. In the midst of the price wars, The New Zealand King Salmon Company opted to retain some market share for fresh and frozen products, while continuing to experience demand for its sashimi and smoked products. The firm continues to market its products primarily on Australia's east coast. 'We are pleased that we have the Australian market, and it is a really important platform for us to build on' (D. Everitt, personal communication, January 2001).

Improvements to Farming and Processing Operations

The new firm's management anticipated expanding its farm operation capacity, but initially the more critical issue was reviewing how best to reduce overall operating costs, with the focus on reducing the lead time for salmon production from 3 to 4 years to around 28 months (P. Steere, personal communication, December 1998). One way to reduce the lead time for salmon production, which has been adopted subsequently by salmon farmers overseas, was the use of an all-female stock of salmon. A change to an all-female stock reduced the likelihood of

some salmon maturing earlier than others, which would then create mixed-sized salmon in the same seacage. The consequence of having mixed sizes was that, after two years, some salmon matured while still small in size, weighing around 700 grams, while others required more time to grow to a desirable market size. The change to an all-female stock led to the same aged fish reaching a much higher, uniform and desired weight for most markets, around 3.5 to 4 kilograms (M. Gillard, personal communication, December 1995).

The farm operation also introduced mid-growth grading, sorting out the large, medium and small-sized salmon, which was enhanced further by selective harvesting. Previously, Southern Ocean Seafoods' management had considered selective harvesting to be too expensive to undertake, but once implemented, the benefits were apparent and worthwhile. The combination of rearing an all-female stock, using selective harvesting, and implementing a breeding stock enhancement programme at the Kaituna research facility has led to the firm developing the optimal-size king salmon, which has brought about the most significant increases in the farm operation's productivity (P. Steere, personal communication, December 1998).

The New Zealand King Salmon Company also used its Kaituna research facility to research genetically engineered king salmon by providing them with a double dose of their own growth hormone. This experiment was intended to reduce the growth of king salmon to around 18 months (Smellie, 1999). However, news media coverage of the genetically modified salmon having physical deformities and a public relations firm having advised The New Zealand King Salmon Company to 'keep quiet about issues such as fish deformities', led to the Environmental Risk Management Authority (ERMA) assessing whether the experiment complied with new regulations (Modified Salmon, 1999:3). The new ERMA regulations addressed concern that the experiment could have allowed fertile eggs from deformed salmon to escape into the environment (GE Salmon, 2000).

Subsequently, The New Zealand King Salmon Company announced that it had killed and buried all of its genetically engineered fish, suspended its genetically modified research, and applied its research capability to its conventional selective breeding programme (Mutant Fish, 2000). The firm viewed its research of genetically modified salmon as only part of its efforts to produce larger and faster growing king salmon, and that the production of genetically modified salmon was not necessarily the end result the firm had intended.

‘We don’t want to sell genetically modified salmon. What we wanted was fast growing fish. Since we have gone through the genetically modified phase, we have actually discovered other ways that give us some of the steps towards that, but not necessarily as quick as the genetically modified approach. We will continue to strive for bigger, faster growing fish, and the solution might not be in the genetically modified approach. It might be in several animal husbandry practices, in feeding regimes or traditional animal breeding selection’ (D. Everitt, personal communication, January 2001).

The New Zealand King Salmon Company continues to enhance its understanding of the king salmon species through research undertaken in conjunction with Lincoln and Canterbury Universities, which have links with overseas aquaculture research foundations. The firm continues to work on improving its breeding stock, with improvements in this area potentially enhancing growth of the salmon by a further 10 to 15 percent.

Beginning 1997 the farm operations experienced significant problems with seals disturbing its seacages. To combat the seal intrusions and protect the salmon, nets were installed around the seacages. However, the nets alone were ineffective, and so the farm operations have had to make continual improvements in their efforts to combat the seals, including transporting seals by truck to the West Coast and South Otago. The efficiencies and payback of the sealproof protection were substantial, although it took some time for the results to come through (P. Steere, personal communication, December 1998).

After the merger, the overall cost of farm operations continued to decline for various reasons. Some new breed stock reached optimal market size in less time than previous stocks had. Farming costs were also lowered by improved feed technology and feed quality. Previously, Southern Ocean Seafoods had been using a compressed pellet, which was the industry norm. However, the new firm's in-house research concluded that the compressed pellet supplied locally was not performing to the expected Feed Conversion Ratio (FCR), the ratio of feed to weight of fish (Fish-feed, 2000). The firm changed to an extruded pellet, which has a higher oil content, potentially providing salmon with a higher energy diet and expected to result in an improved FCR. Historically, the firm's FCR had been almost double the international level, and the switch from the compressed pellet to an extruded pellet reputed to greatly improve farm productivity. In the meantime, the poor salmon growth rates caused by the locally-supplied compressed pellet had impacted on the financial performance of the firm (D. Everitt, personal communication, January 2001).

Rationalising and consolidating the number of farm sites also lowered farming costs. Management viewed this type of improvement as inevitable for the continuation of salmon farming in New Zealand.

'Even if the merger had not occurred it would have been sensible for the two firms [Regal Salmon and Southern Ocean Seafoods] to look at their farm sites and conclude that their cost per kilo of salmon could be reduced by consolidating the number of sites and running them more efficiently to gain economies of scale' (P. Steere, personal communication, December 1998).

At the same time, the new firm expanded its farm operations by commissioning the construction of a 'super' salmon seacage located at Queen Charlotte Sound. The new structure is 186 metres long and 56 metres wide and contains 12 suspended salmon nets. The new seacage accommodates an annual harvest of up

to 500,000 salmon, or 1.4 million kilograms of processed salmon, a substantial increase in the new firm's salmon production.

The merger's consolidation of processing all product at the Nelson-based facility led to lower processing costs per kilo of salmon. In addition, the new firm installed improved processing technology, which led to increased throughput and quality improvements, due to the salmon being handled more gently. The new firm's increased volume of salmon allowed its processing operation to adopt a process flow technique instead of a batch technique, which the previous firms had had to use due to lower and inconsistent volumes of salmon (P. Steere, personal communication, December 1998).

Post-merger Activity

The new firm's management acknowledged that they began their post-merger activity with rather ambitious budgets, requiring reassessment of their expectations for market growth and increased productivity. The first year after the merger, the new firm experienced a loss, which was mostly foreign-exchange related. The continued strengthening of the New Zealand currency during the mid- to late 1990s, outlined in Chapter 4, severely affected New Zealand's entire export sector. The New Zealand King Salmon Company's losses continued into 1997, but this time the losses were largely a result of the seal incursions and having the wrong sized salmon at the wrong time, which meant the new firm had to 'dump' more salmon on the commodity market than first anticipated.

During this time, the Tiong Group continued to support the new firm's management, but they were obviously concerned at the firm's capital base being eroded by ongoing losses (P. Steere, personal communication, December 1998). The Tiong Group could see well beyond the new firm's immediate poor financial results. 'They could see there was a future in what the firm was doing, and they were interested in the firm for the long term' (D. Everitt, personal communication, January 2001).

By 1998 the financial results of the merger were starting to improve. Domestic market sales increased a remarkable 30 percent between 1996 and 1998. Although management acknowledged that they had developed a strong brand domestically by 1998, they knew they had some way to go to reach their growth target for the domestic market (D. Everitt, personal communication, December 1998). The New Zealand King Salmon Company continues to experience increased demand for its products in several export markets, while the Australian market remains underutilised and has significant potential for the firm. During the last two years the firm has remained profitable with annual sales turnover around \$50 million. The firm continues to employ 280 to 320 people, with fluctuations due to the seasonality of demand and, to a lesser extent, product availability.

As the new firm's market and financial positions improved, management found they had to adjust their style of management, acknowledging the importance of personal development in a way that was rewarding for each person and for the firm overall (P. Steere, personal communication, December 1998). For example, the firm's February 1998 strategic planning session showed that it had accomplished its goal of including more people from 'below decks' in the planning process. Management was surprised by some of the feedback, however, the involvement and empowerment of others resulting from the new approach to the planning process proved very beneficial for the new firm (P. Steere, personal communication, December 1998).

'You can't run a company that has been under siege, as this one has been for the last two to five years, in the same way that you run a company that is becoming successful and will eventually become extremely successful and profitable. You have to go through an attitudinal shift. There are now more opportunities for development of the firm because it has the cash to do so, and the confidence, faith, and belief that the firm can be successful. So we are going through an interesting transition in the way we run and think about the business. The developments put in place have had a huge impact on people. The incredible thing that everyone has learned is that they are going to be

part of a very large and changing organisation, and that there will be some personal impact on everyone' (D. Everitt, personal communication, December 1998).

Since the merger, it has been apparent to the new firm's management that everyone has 'geared up a notch', with those who remained having 'risen to the occasion'. There has been quite a positive change in the mood of the entire staff and management (P. Steere, personal communication, December 1998). The success of the firm over the last five years is directly attributable to the work of some very good people (D. Everitt, personal communication, January 2001). At the same time, management acknowledges that it must continue to create the environment for everyone to develop themselves further while management improves its ability to coordinate all of the firm's operations as one cohesive unit.

The fact that The New Zealand King Salmon Company has no external source of salmon forces it to focus intently on its own farm operations, integrating its own production of salmon with all of its other value chain activities. The firm's geographical isolation from other sources of salmon, places it in a unique situation compared to other salmon producers throughout the world. This situation places substantial importance on the ability of the firm's management to coordinate all activities in this highly vertically-integrated firm. As The New Zealand King Salmon Company has increased its range of products, it remains limited by its farm operation's lead time to produce salmon, requiring at least two years for salmon to grow to the desired size for most markets. The firm's high degree of vertical integration inevitably causes some conflict between farm, processing and marketing operations. This inevitable conflict can only be diminished and resolved positively by a strong management group able to communicate to all concerned a long-term strategy that keeps all operations focused as a cohesive unit.

The firm's management acknowledge that one way to improve the coordination of all the firm's operations is by collecting more relevant and objective data,

especially data about its seacages, which can be improved with the use of camera technology. This data is critical to forecasting product availability and hence the demand for all other downstream activities. Management also acknowledge the need to determine better objective measurements of success for each of its operations. To address these issues, in 2001 the new firm underwent installation of an enhanced management information system designed to improve data collection and provide more useful analysis of each operation. The new management information system has been worthwhile, improving communication of relevant information throughout the firm's operations. In so doing, it has enhanced the firm's ability to conduct in-house research and development and management's ability to coordinate all operations into one cohesive and integrated unit. (D. Everitt, personal communication, January 2001).

At the same time, management acknowledge that the firm's future success depends on its ability to remain flexible and adaptable to the international market conditions. One significant market condition is the value of the New Zealand currency.

'I won't pre-judge how the firm's strategy might develop as the currency continues to strengthen, but our strategy is to remain flexible to the global conditions that we find ourselves in. We are in a much better position to do that now than we have ever been in the past, because we have a much more stable base of markets' (D. Everitt, personal communication, January 2001).

Summary

The merger of Southern Ocean Seafoods and Regal Salmon benefited the new firm by eliminating head-to-head competition between domestic producers of equal size, and by creating the critical mass in production needed to meet demand overseas for fresh salmon while developing fresh and value-added product markets. Now that the new firm controls over 80 percent of the New Zealand

salmon industry, it is positioned to make better use of advertising and promotions to further develop brand recognition in both domestic and international markets.

When The New Zealand King Salmon Company was first formed, there was some question whether its four-part strategy would bring about the desired turnaround, making the firm's strategy 'the last throw of the dice for the salmon industry in New Zealand' (P. Steere, personal communication, December 1998). If this strategy did not work, the new firm could go under, taking with it ninety percent of the New Zealand salmon industry. For this reason, the new firm had to position itself as 'The' New Zealand King Salmon Company, using all of the king salmon's positive attributes (P. Steere, personal communication, April 1996). To make the strategy work, the firm's new owner, the Tiong Group, agreed to a \$1 million advertising campaign to develop the domestic market. This substantial expenditure on advertising, carried out while The New Zealand King Salmon Company continued to lose money, demonstrated the owner's commitment to developing the new firm for the long term.

The New Zealand King Salmon Company has experienced a significant turnaround in its performance during the last two to three years. Its success is due to many factors, including management's enhanced ability to integrate all of the firm's operations. This integrated approach required educating each person about his or her role in bringing about the firm's success, and providing each person the opportunity to develop individual skills and abilities. Management accomplished this by adhering strictly to several guiding principles: an ongoing commitment to quality improvements; identification of the best use of the firm's resources; and involvement of everyone in the firm. It was apparent to management that the firm's improvements were accomplished by the determination of people who wanted to see it succeed. 'It was a great application by a great number of people, with most everyone in the new firm undergoing a lot of maturity in the process' (P. Steere, personal communication, December 1998).

Improvements in the firm's operations have resulted in it producing the right sized salmon at the right time for the right markets, which have led to the firm establishing and sustaining a brand image in both domestic and international markets, commanding a premium price for its products even in the Japanese market, arguably the most competitive fish market in the world (P. Steere, personal communication, December 1998). The firm's growing success, however, has led to a new problem. Some overseas salmon producers mislabel their product as premium king salmon. This type of illegal attempt to mimic the New Zealand King Salmon Company's success acknowledges its ongoing success in international markets.

Chapter 10

Simunovich Fisheries Ltd.

Introduction

This chapter outlines the workings of Simunovich Fisheries Ltd., a medium-sized family-owned seafood firm based at Auckland's Viaduct Basin. Simunovich Fisheries has become a highly vertically-integrated seafood firm with a strong presence in several deepwater and inshore fisheries. Beginning in 1998, Simunovich Fisheries has expanded into some Australian fisheries, and it continues to have a presence in Croatia through its subsidiary, Bracanka Group. Simunovich Fisheries supplies a variety of seafood products to longstanding overseas customers and to its restaurant, The Kermadec Ocean Fresh Restaurant, which is also located at the Auckland Viaduct Basin. The Kermadec Restaurant was developed to place the firm in the hospitality industry and consequently provide Simunovich Fisheries with insights into optimum delivery of high quality seafood products to its customers. These customers then provide Simunovich Fisheries' products to their customers, the end users, who cater to white tablecloth restaurants throughout the world. The insights gained from The

Kermadec Restaurant are used to improve all facets of Simunovich Fisheries' catching and processing operations.

The first section briefly outlines Simunovich Fisheries' historical background, beginning with the immigration of Ivan Simunovich to New Zealand from Yugoslavia. The second section outlines Simunovich Fisheries' organisational structure, which includes a profile of the firm's senior managers. The third section describes the interaction among the senior managers, which is considered to be one of the firm's strong competitive advantages. The fourth section outlines the firm's fishing operations, and especially the relationship between senior managers and the skippers of Simunovich vessels, who are considered 'middle management'. The fifth section describes The Kermadec Ocean Fresh Restaurant and the way the restaurant benefits the firm's overall understanding of the end users of its seafood products. The sixth section outlines the firm's marketing operations and the strong emphasis senior management places on meeting the needs of its longstanding export customers. The seventh section describes the firm's foreign operations. The chapter ends with a summary.

This chapter, along with Chapters 8, 9 and 11, provides an overview of the selected seafood firms that participated in this study. These chapters form the basis for the identification of strategic capabilities and the formulation of the strategic capabilities building process in the selected seafood firms since the implementation of the ITQ system, as outlined in Chapter 12.

Historical Background

Simunovich Fisheries is privately owned by the Simunovich family. The firm's origins began in 1966, when Ivan Simunovich immigrated from what is now Croatia. Upon arrival in New Zealand Ivan Simunovich worked for a fishing firm. He then opened his own retail fish shop in Auckland. The fish shop was very successful; however, in time it began to experience problems securing supplies of fresh fish. In 1970 Ivan Simunovich entered a partnership to build a

fishing vessel, *Saint Peter*, to ensure the fish shop had ample supplies of fish. Shortly thereafter, he bought out the partner, and continued to run the F/V *Saint Peter* himself. In 1971 he entered into another fishing vessel partnership, and in time he bought out this partner. He progressively bought more fishing vessels and sold fish from his vessels through his own fish shop as well as through fish wholesalers. Ivan Simunovich's acquiring fishing vessels, while also retaining the retail fish shop, eventually led to the establishment of the family-owned fishing company, Simunovich Fisheries.

The early 1980s were a difficult time for Simunovich Fisheries. In 1982 the firm expanded by purchasing a seafood processing facility located at the Auckland Viaduct Basin, across from where the Americas Cup 2000 boats were berthed. 'At that time we basically had to sell or expand. We caught a lot of fish, but prices were very low. We were struggling to pay the bills. We had an offer on the boats to sell them or we could buy the processing facility and expand the business, and we ended up buying the facility' (P. Simunovich, personal communication, July 1996).

The processing facility required substantial investment since the original facility had been built in the 1930s. Ivan Simunovich rebuilt the site to include a relatively small, efficient processing facility which included wetfish, chilled fish and frozen fish processing, as well as a cold storage facility on site. The on-shore processing facility currently employs a workforce of around 40 people, being long-term employees and some having been employed since the facility was purchased. In addition to the 70 metres of berthage around its on-shore processing facility, Simunovich Fisheries also has another 100 metres of berthage across the Viaduct Basin, where its marine workshops service the entire fleet of Simunovich vessels. Simunovich Fisheries still operates the original fish shop Ivan Simunovich began in 1966.

When the ITQ system was implemented in 1986, Simunovich Fisheries received quota for several species, including orange roughy, hoki, squid, and jack mackerel. The firm expanded further into non-ITQ fisheries, particularly the scampi fishery, purchasing two prawn trawlers from Australia and subsequently expanding its involvement by purchasing larger freezer trawlers. With this level of involvement, Simunovich Fisheries has become the dominant player in the New Zealand scampi fishery.

The Viaduct Basin site is used as the firm's headquarters, and the processing facility is supplied entirely by Simunovich fishing vessels. The fleet allows Simunovich Fisheries to catch all of its ITQ, as well as its non-ITQ catch. The fleet consists of seven freezer trawlers, seven ice trawlers, one longline vessel, and a recently acquired 65-metre purse seiner, added to catch skipjack tuna on the high seas. Simunovich Fisheries is the smallest New Zealand seafood firm with a full processing-at-sea fillet vessel, which operates as an alternative processing facility to its on-shore facility. The fillet vessel is a 60-metre Norwegian-built trawler used to process hoki and orange roughy, and features the same construction design as the other substantial freezer fillet trawlers owned by Sealord Group Ltd., Sanford Ltd. and Amatal Fishing Company Ltd.

Simunovich Fisheries' investment in processing facilities and fishing vessels allows it to operate a highly vertically-integrated operation. 'We see it [vertical integration] as a continual process. The synergies are stronger and the economic gain is greater by us managing all of the steps from catching to landing, processing, marketing and distribution' (V. Wilkinson, personal communication, July 1996). The firm's success is shown by rapid growth in sales revenue during the 1990s, growth which has been driven primarily by its involvement in the scampi fishery.

Many participants in the New Zealand seafood industry view Simunovich Fisheries as one of the more successful medium-sized seafood firms. 'For reasons

probably not well understood by others, Simunovich Fisheries is seen to succeed in what it does' (V. Wilkinson, personal communication, July 1996). Industry participants also agree that Simunovich Fisheries succeeds in keeping a low profile. The main reason for adopting a low profile domestically is that all but 5 percent of Simunovich Fisheries' products are exported. Hence, senior managers see little value in creating a high profile domestically. In fact, they deliberately underplay Simunovich Fisheries' successes and adopt an 'element of humility'. However, Simunovich Fisheries does publicise and 'blow its trumpets on its worth and quality' to overseas customers and when opportunities arise. 'We are comfortable with that approach' (V. Wilkinson, personal communication, July 1996).

Organisational Structure

Since the mid-1990s Ivan Simunovich has remained semi-retired, spending part of the year in Croatia. 'Ivan does not have much involvement in the day-to-day management of the company, although he keeps a keen interest in what is going on' (M. Cvitanovich, personal communication, September 1996). Ivan's son, Peter Simunovich, is responsible for much of the day-to-day management, including the management of fishing vessels, the overall fishing operations and the firm's financial planning. His responsibilities reflect his ongoing interest in and passion for fishing. Most of his life has been involved with fishing, starting off with cutting up fish and cooking fish and chips in the Simunovich Fisheries' fish shop, and then working on the fishing vessels. After completing university studies he became involved in the management of the firm. Ivan's daughter, Donna Simunovich, is responsible for the firm's office administration.

As Simunovich Fisheries expanded throughout the 1980s, it became apparent that its senior managers needed to have a broad range of skills and expertise. For example, the managers realised that if they had better understood the deep sea quota allocations in 1983 and the implementation of the ITQ system in 1986, they might have benefited more from these changes in fisheries management policies.

By the late 1980s, Simunovich Fisheries decided it needed someone who could address such external environmental changes and anticipate their potential impact on the firm. Peter Simunovich acknowledges that a seafood firm requires more than just fishing skills to succeed. 'You also have to understand the bureaucracy, and you must have the expertise to deal with it in order to coordinate all the activities in your business, no matter what the bureaucracy may throw at you' (P. Simunovich, personal communication, November 2000).

In 1988 Vaughn Wilkinson joined Simunovich Fisheries for this purpose. Vaughn Wilkinson had been a regional manager for MFish, and prior to that he had worked as an oceanographer and a university research fellow. Vaughn Wilkinson's responsibilities at Simunovich Fisheries include involvement in industry-related and fisheries policy issues and the interface with the 'outside world', mostly with other seafood firms and industry organisations, the Government and the media.

Because of Vaughn Wilkinson's extensive understanding of fisheries science and policy issues, he was President of the Fishing Industry Association (FIA) until the FIA, along with some other industry organisations, ceased to exist after the 1996 industry restructuring, as outlined in Chapter 5. Vaughn Wilkinson views the seafood industry as not being overly complex or driven by 'magic'. 'The industry is strongly influenced by Government policy, which limits the control of particular seafood companies, and so success comes by understanding better the envelope within which a company operates' (V. Wilkinson, personal communication, July 1996).

'New Zealand seafood companies must spend a lot of resources on managing the Government, and this is necessary because Government decision making in fisheries is extremely politicised. You can't fault people for putting a lot of resources into what is needed to protect their interests, and that is what the industry does very well. If Government fisheries policies are going to effect our company, then I

am going to be there to hopefully influence those effects and their outcomes' (V. Wilkinson, personal communication, November 1998).

In 1990 Michael Cvitanovich joined Simunovich Fisheries. He initially had a substantial history with the firm as an independent broker in the areas of marketing, production and logistics. Beginning in the early 1980s he developed a number of the Simunovich Fisheries' key marketing arrangements, such as exports of fresh chilled seafood. Michael Cvitanovich's responsibilities at Simunovich Fisheries have changed and evolved as the firm has grown and become more professional in managing a number of strategic issues (M. Cvitanovich, personal communication, July 1996). He is presently responsible for production, coordination of all marketing strategies, including new product development, and management of foreign exchange and interest rate risks. 'Managing currency and interest rate risks have become critical areas of our business success' (M. Cvitanovich, personal communication, November 1998).

Simunovich Fisheries' senior management consists of Peter Simunovich, Vaughn Wilkinson and Michael Cvitanovich. As outlined above, the various senior management responsibilities have been divided up among the three managers, with each focusing on his area of expertise and interest.

'We have split up the jobs that have to be done, because all of us cannot be at the same place at the same time. This requires some of us, particularly Michael, to travel a lot overseas. I cannot be in Wellington while also looking after the fishing vessels and the overseas customers' (P. Simunovich, personal communication, July 1996).

Simunovich Fisheries has retained the pride of the family-oriented culture instilled by Ivan Simunovich. 'This is evident in people working hard to demonstrate the will to be successful, and it rubs off on everyone' (M. Cvitanovich, personal communication, July 1996). 'Our measure of success is against the character of the business we want to create. Simunovich Fisheries is

far more than a hard driven, market-oriented company' (V. Wilkinson, personal communication, September 1996). Simunovich Fisheries' senior managers remain focused on long-term outcomes and success, and this is reflected in their relationships with suppliers, employees and customers. 'We always look out for the raining days, and so we keep staff levels as lean as we can. At times we press people a little bit harder, but we have the view to keep them through thick and thin' (V. Wilkinson, personal communication, November 2000).

Simunovich Fisheries has a loyal workforce that allows most of the day-to-day operations to occur without much need for senior managers to instruct the various middle managers (P. Simunovich, personal communication, July 1996). 'We don't have written production plans. We tend to have discussions with those involved, and they are expected to pick-up on what we want to achieve without strong written direction' (V. Wilkinson, personal communication, September 1996). Increasing reliance has been placed on the middle management to step in and provide more input and take more responsibility (M. Cvitanovich, personal communication, November 2000). Promising middle managers have been delegated more responsibility for developing new opportunities, in addition to the day-to-day management of the vessels and other operations (P. Simunovich, personal communication, November 2000).

Managerial Interaction

The specialist knowledge that each senior manager brings to the firm is vastly different. The differences complement each other, enhancing each senior manager's understanding of issues, and, therefore, his overall interaction and decision making processes. 'There are clear areas of particular interest for each senior manager, and they are communicated to the others so that very little escapes the notice of each one' (M. Cvitanovich, personal communication, September 1996).

‘We can very easily and quickly swap a few ideas about what improvements we can make and how we can amalgamate the information that each one has. From that we are able to quickly identify opportunities or risks and modify our thinking accordingly’ (M. Cvitanovich, personal communication, November 1998).

The interaction among the three senior managers is considered to be one of the competitive advantages Simunovich Fisheries has over other seafood firms. Their interaction has been strongly influenced by Ivan Simunovich who has encouraged them to come together and ‘extend themselves and to be controversial’ so that they reach better outcomes in their decision making. For this reason, ‘each one of the senior managers has a degree of independence, drive and aspirations to see progress, and the interaction between us just seems to work’ (M. Cvitanovich, personal communication, September 1996). ‘There is definitely a synergy and an outcome stronger than any of the three individuals’ (V. Wilkinson, personal communication, September 1996).

‘We are characteristically frank and open about where we come from in terms of our individual perspectives and approaches to the issues, but ordinarily we think much the same about the general context in terms of what we want to achieve without stating any particular goals or objectives. It is a matter of all three of us throwing everything we can contribute to the decision, and the benefits of that are that we tend to view ourselves as having different skills and backgrounds, while recognising that all of us are equals’ (V. Wilkinson, personal communication, November 1998).

The senior managers believe that this type of interaction requires ‘no consciousness of self, no one taking ideas to heart, and no one hesitating to reconsider previously held views or no one unwilling to adopt completely different views’ (V. Wilkinson, personal communication, September 1996). ‘For this to work, it is critical that we get past our egos and work together as friends on a team, and trust that each one of us is doing his part’ (P. Simunovich, personal communication, September 1996). ‘There is a sense of camaraderie, a

sense of humour and a strength of purpose that we can collectively make our ideas into a better outcome than pushing them along individually' (V. Wilkinson, personal communication, November 1998). The senior managers are expected, therefore, to have a lot of personal pride and satisfaction in contributing to the firm's success. 'We bring a high degree of passion in the way we go about our business' (M. Cvitanovich, personal communication, November 1998). 'The three of us have a good sense of unity and integrity' (P. Simunovich, personal communication, November 2000).

The senior managers approach strategic decisions by meeting periodically to discuss issues until reaching a consensus on the final decision. They do not follow a formalised strategic decision making process, tending to use instead an 'unwritten protocol' (M. Cvitanovich, personal communication, July 1996).

'We are not structured strategic decision makers in that we sit down and plan out to the nth degree and write reports and contemplate processes, programmes and timelines. What we do is rake over any one of our own ideas, and we do this dynamically together, and there is no doubt in my mind that it is a more robust process. We have nothing on paper. Everybody has a free and equivalent view. It is a given that decision making has nothing to do with the individual, because it is incumbent upon all three of us to rake any idea over as hard as we can, because in many instances we cannot afford to make bad decisions. So, the sense of a real commitment to viable outcomes makes you probe and prod and go around the idea from all angles and critique it, and then clearly communicate it amongst us. We do this so much that we rarely have circumstances of misunderstanding each other. The decision making is not ad hoc in anyway, but it is not structured in the sense of being documented, and I think this gives us an edge; it lets us decide things fast. The risk is that we can make big mistakes quickly, so we must rake over all of our decisions to the best of our ability' (V. Wilkinson, personal communication, November 1998).

After the senior managers have discussed and deliberated on an important issue, they reach the best solution given their understanding at that time. Then they go away and think about the solution for a while, and after a few days they come

back together and reconsider their previously stated points of view. Strategic decisions are finally made when a consensus is reached among the three managers, with no decision ever made while one or more remains in disagreement. 'That has never happened and I hope that it never will' (P. Simunovich, personal communication, July 1996).

'Since the three members of senior management, Vaughn, Michael and myself, have done the whole gambit of fishing from cooking to fisheries science, it is no surprise that we sometimes disagree quite strongly. However, all of us care a hell a lot about the company, and we, therefore, reach a level where the three of us respect each other's views and respect each other's skills, and believe in what each other does. Without that level of respect for each other the company could not work' (P. Simunovich, personal communication, July 1996).

The mutual respect of the three managers is demonstrated in the support that they provide one another. The senior managers understand this level of support to be critical because Simunovich Fisheries is a relatively small seafood firm that has a relatively 'tall poppy' position in the seafood industry. The firm has a strong presence in some fisheries, about 80 percent of the scampi fishery, and Vaughan Wilkinson has been outspoken on several industry-related issues. Therefore, the senior managers believe they must be very protective of each other.

'It is really important to me that we work well together, trust each other, rely on each other, cover for each other when someone is away, and have a home as a haven to come back to. I feel it is important that all of us feel secure on the home front' (P. Simunovich, personal communication, September 1996).

Because of the variety of specialist issues that each senior manager must attend to, they must make decisions occasionally without reference to each other. 'When that occurs we will go back and get retrospective group approval. However, we do not make decisions that are opposed to group decisions, and no one steps out of that demarcation' (M. Cvitanovich, personal communication, November

1998). When the senior managers work separately, they keep each other informed of what they are doing, and there is an implicit trust that each one is doing what needs to be done. 'We keep the positive momentum going' (P. Simunovich, personal communication, November 1998).

'Although there is a sense of people going away and doing things with more autonomy than previously, there is still a broad overview understanding of what everybody is doing, and there is still a consensual approach to decision making' (P. Simunovich, personal communication, November 2000).

At the same time, the senior managers readily utilise professional advice if they cannot generate the information required. 'We don't ever assume that we can know everything, but we need to be smart about who we can rely upon and the management of the knowledge they can provide us' (V. Wilkinson, personal communication, September 1996).

The senior managers approach strategic decisions from the point of view that Simunovich Fisheries is first and foremost a 'fishing company'. Strategic decisions are, therefore, placed within the context of the entire firm, with consideration of its capabilities to catch and process seafood products and market those products to overseas customers.

'When we see an opportunity we go for it and grab it, and we can change tack in five minutes, and I want to keep it that way. This ability is really important because this is not a corporation, it is a family business, and at the end of the day that is our one advantage. We process the fish that we catch, and we sell our own fish. We are a fishing company, and everything else that we do supports that' (P. Simunovich, personal communication, July 1996).

The senior managers acknowledge they approach opportunities with a high degree of critical self-examination. This includes outlining Simunovich Fisheries' strengths and weaknesses, which leads them to ask how the firm could capitalise

or maximise a particular opportunity and how it might fit with the firm's intended direction for growth. However, once a decision is made, the senior managers do not engage in further 'self-examination'.

'I have the view that you treat everyday as an opportunity and something comes through. You never know where your opportunities will come from. We do not indulge in a lot of study or examination after that. We take the view that that is what we have decided and now we do it, and we back ourselves until we succeed. Sometimes we get it wrong, and it is important to know when that happens' (V. Wilkinson, personal communication, July 1996).

The senior managers have ongoing involvement in the firm's various operations. Their involvement is reflected in Simunovich Fisheries' headquarters being located at the waterfront directly above the processing facility and in close proximity to its fishing vessels. After senior managers have settled on the strategic direction they want, they include others in discussions, using the middle management to propagate the decision making process, but not to necessarily reformulate the decisions made (V. Wilkinson, personal communication, September 1996).

However, the senior managers acknowledge they have insufficient time to 'extract' their thinking and communicate it to the firm's middle managers (M. Cvitanovich, July 1996). For this reason, they seek continually to improve the flow of communication to the middle managers and throughout the entire firm. Examples include installation of a new accounting system to improve budgeting and cashflow management, development of an information systems management department, an Internet site, and an e-mail system that extends to all fishing vessels. 'We now have reasonably good communication systems, and they are improving all the time' (P. Simunovich, personal communication, July 1996). 'The information systems have helped greatly to better inform the middle management, and in some ways it has given us some useful bottom-up feedback as well' (P. Simunovich, personal communication, September 1996). Simunovich

Fisheries has had to continually reassess its information systems needs with the various middle managers, including skippers, which has brought better levels of understanding and confidence for everyone (M. Cvitanovich, September 1996).

Fishing Operations

Peter Simunovich believes that Simunovich Fisheries manages its fishermen better than other seafood firms. His particular approach towards managing fishermen, and the firm overall, is based on the advice of a Japanese associate to 'never produce a fish you would not eat yourself, and never send a crewmember where you would not live yourself. That is the fundamental way I operate the company' (P. Simunovich, personal communication, July 1996).

'We manage fishermen a touch better, more hands on, much more involved, making them feel a part of the company, not an evil necessity. They are as important as a shop manager is to Kmart, because if they don't do things right, the whole business is going to fall down, no matter how well management might advertise, no matter how well everything else is done' (P. Simunovich, personal communication, July 1996).

Peter Simunovich believes that Simunovich Fisheries gives fishermen more autonomy and responsibility, as well as guidance, which provides benefits for the firm. 'We never have a shortage of good skippers or good crewmembers. They are always waiting, while other companies seem to be short of them' (P. Simunovich, personal communication, July 1996). 'If you take out the skippers, there is no need for anyone else to be here. We treat all the people at Simunovich Fisheries very nicely, and that shows in their willingness to stay with us' (M. Cvitanovich, personal communication, July 1996).

'We have an open door policy with the skippers, they can call us wherever we are anytime to discuss any issue, and they know they will have our attention. They know they can say anything they like without any fear' (V. Wilkinson, personal communication, September 1996).

Unlike most other seafood firms, Simunovich Fisheries refers to its skippers as 'middle managers'. 'We definitely try to empower our skippers, giving them the ability to know the whole situation and to make the best decisions and therefore catch the most fish' (P. Simunovich, personal communication, July 1996). Another benefit of Simunovich Fisheries' relationship with and support for its skippers is that they have gained a reputation for being good at catching fish.

'Our reputation for catching fish is not because we have better electronics on the boats or better winches or better nets. We see the crew as important as the hardware on the boats. It is as important to get the right guy for the job as it is to get the right machine' (P. Simunovich, personal communication, July 1996).

This attention to placement of key individuals on the fishing vessels allows Simunovich Fisheries to regard each vessel as a business center running a production unit. 'We treat the skippers as capable and experienced, and we rely on them by leaving them to perform' (V. Wilkinson, personal communication, September 1996). The approach Simunovich Fisheries takes toward its skippers and fishermen substantially reduces a number of risks that are inherent in any seafood firm (M. Cvitanovich, personal communication, July 1996).

Because of the success of Simunovich Fisheries' fishing vessels, they are followed by others, both within and outside New Zealand's exclusive economic zone. Where other seafood firms' vessels have learned from Simunovich vessels, they have been equally successful, even in the scampi fishery where Simunovich Fisheries remains the dominant player. However, Simunovich Fisheries has made it difficult for other seafood firms to replicate its success in catching and processing scampi.

'We did not want anyone to see how we caught and processed scampi, and so we did not sell any domestically, even to restaurants. It went quietly overseas. We had it absolutely to ourselves for three years. Because other companies had tried and failed already, there was a

natural nervousness about new entrants coming into that fishery' (P. Simunovich, personal communication, July 1996).

Simunovich Fisheries' success in the scampi fishery is also due to its application of systems to ensure it produces the highest quality product. Responsibility for consistently high quality products has been devolved down through the entire firm by way of a tracking system that identifies each box of scampi. Records are kept on which boat each box was packed on, the date it was packed, what position in terms of latitude and longitude it was caught, and exactly who put the scampi in the box.

'It has taken us awhile to get our quality systems that responsive, but now we can devolve responsibility all the way from the guy packing the scampi on the boat to the guy in the restaurant who actually puts it on your plate in front of you. I think that is an important part of the business' (P. Simunovich, personal communication, July 1996).

The fact that the scampi is frozen at sea, properly graded and placed in aesthetically appealing two- and five-kilogram boxes creates an image of quality that customers value (V. Wilkinson, personal communication, July 1996). Such high quality assurance systems applied to catching and processing frozen-at-sea scampi has allowed Simunovich Fisheries to sustain its dominant position in that fishery.

The Kermadec Restaurant

Ivan and Peter Simunovich and Vaughn Wilkinson developed the idea to expand Simunovich Fisheries' success in high quality seafood by establishing a restaurant. The initial idea was that the restaurant would involve Simunovich Fisheries in the hospitality industry by specialising in seafood dishes and combining a fish store, brasserie and café (V. Wilkinson, personal communication, July 1996).

'The establishment of the restaurant was to remind Simunovich Fisheries what it is, a gourmet seafood company since most of the company's products go to white tablecloth restaurants and the higher end of the market. The restaurant reminds us what the chef in a restaurant wants in a box of fish. We continually look at what a chef wants, such as the box of fish being able to fit into a freezer, the box being easy to open, and a whole pile of various things that go well beyond the cost of the product and those sorts of things' (P. Simunovich, personal communication, July 1996).

Simunovich Fisheries employed Brian Richards to design the restaurant. He was chosen because of his extensive experience with Auckland-based restaurants located harbourside. With his expertise, Simunovich Fisheries set out to design and create a seafood restaurant that would become known throughout the Pacific Basin for its ambience and dedication to seafood, while ensuring that it uniquely represented New Zealand and the Pacific region and catered to a wide range of dining styles. To achieve this result, the restaurant's design reflected the joint efforts of several artists and craftspeople (Stevens, 1995).

In early 1994 the project was completed in time for Whitbread around-the-world yachts arriving in Auckland to tie up in front of the restaurant, as it is located at Auckland's Viaduct Basin, just 200 metres from Simunovich Fisheries' processing facility. The restaurant was named The Kermadec Ocean Fresh Restaurant after the Kermadec Islands located halfway between New Zealand and Tonga. The Kermadec Islands are the tips of large submerged volcanoes with archaeological and ecological similarities to New Zealand.

'The Kermadec's branding is inspired by the Pacific Ocean setting out to capture, in a myriad of details, the spirit of this great ocean and the cultures within it. This started with the name. The criteria was that it had to be memorable, easy to pronounce and resonated with that ocean imagery' (Location, 1994:4).

The Kermadec Restaurant includes various dining areas and bars with each one having a distinctively different atmosphere. There are two dining rooms, the

Pacific and Ocean Dawn Rooms. There are two authentic Japanese Tatami Rooms, with both offering selected Japanese-style dishes. There are two bars, the Trench Bar and the Raoul Bar, as well as The Kermadec Brasserie and Bar.

The Kermadec Ocean Fresh Restaurant received an award in the 1995 New Zealand Institute of Architects Resene National Awards for Architecture. The judges' overall opinion was that The Kermadec Restaurant was 'an ambitious project which serves to interpret the South Pacific theme in a fresh, stimulating way, reflecting the collaborative efforts of the architect and a diverse group of artists and craftspeople' (Stevens, 1995:12).

Marketing Operations

Simunovich Fisheries has longstanding customers in the United States, Japan and Australia, providing them with various deepwater and inshore seafood products, particularly orange roughy and scampi, as well as hoki, squid, jack mackerel, tuna and scallops. In addition, Simunovich Fisheries' Croatian-based subsidiary markets the firm's seafood as well as some New Zealand meat products into eastern and western Europe. The Croatian-based subsidiary is outlined in the next section, Overseas Operations.

Simunovich Fisheries acknowledges that its competitive advantage is based primarily on a thorough understanding of fishing operations. 'The collective experiences of the senior managers and our fishermen make for an intuitive understanding of where to catch fish' (P. Simunovich, personal communication, July 1996). Other competitive advantages flow on from the first advantage, and include the firm's ability to handle seafood products in a manner that pleases customers. The senior managers consider that they have always been very responsive to their customers' needs, as is evident from the firm having traditionally worked with a few longstanding overseas customers. 'We have good customer relations. We have had some customers for up to 15 years. We are a reliable supplier, and we are in the relationship for the long term' (P.

Simunovich, personal communication, November 2000). In so doing, Simunovich Fisheries concentrates on upholding its reputation of conducting business in a fair manner for the long term (M. Cvitanovich, personal communication, July 1996). Customers are viewed first and foremost as the reason for the firm's success, and customers are seen as an extension of the firm's overall vertically-integrated operations.

'We have always treated our customers as part of our community or family of interest. We look after them and they look after us. I am not sure what creates the chemistry of a longstanding relationship between ourselves and our customers, but we do have a number of longstanding customers in different marketplaces, and they all have quite different approaches to doing business. If there is one thing that is the same about them they are the type of people you can generally transact business with by word, and rely on that word and trust the outcome' (V. Wilkinson, personal communication, July 1996).

Simunovich Fisheries takes great pride in its Simu brand because it is part of the family name. The brand is 100 percent quality guaranteed. 'Simunovich Fisheries' quality philosophy is that the product is going to be right the first time, otherwise it can be returned for a refund' (P. Simunovich, personal communication, July 1996). The firm has marketed its seafood products on its consistently high quality standards, and so there is little perceived need to implement ISO quality assurance programmes.

'I am not opposed to ISO standards. I just think that they take away the ability to maneuver and change quickly, and I think that they could just be documentation of consistently poor products. We have product and quality standards, and we have significant documentation on processing all of our species. They are internal documents developed by us, and because of that they are very easily changed and easily modified for improvement. In saying that, we certainly have to meet the US FDA requirements, which is easy for us to do' (P. Simunovich, personal communication, July 1996).

Simunovich Fisheries has been moving beyond the initial image of a 'fishing company' focused on the catching process, although this image is still portrayed in the pictures of trawlers full of fish and fishermen covered in fish displayed in the firm's headquarters. 'We want fish to be part of the dining experience, along with the wine and conversation. That is where we want to pitch it' (P. Simunovich, personal communication, November 1996). The senior managers have taken steps to portray Simunovich Fisheries in this way, making its seafood products more appealing to its end customers, the white tablecloth restaurants.

'We don't want to show off dead fish, and the actual killing of fish. We want to get away from that sort of imagery. That intermediary aspect of the operation is really unpleasant and irrelevant for how we want to portray the company. We want to see cooked meals in our advertising. We want to try to position ourselves as part of the dining experience, and the Kermadec Restaurant brings a bit of brand image into the company. The restaurant reminds us that when we catch and process fish, we are providing seafood for people to eat. I know that sounds obvious, but sometimes you can actually forget that. The focus for us is not tonnage of fish caught but the actual meal-size portions of seafood that you eat for dinner' (P. Simunovich, personal communication, July 1996).

Simunovich Fisheries understands that customers appreciate knowing something about the seafood experience when preparing seafood themselves or when dining out. For this reason, some advertisements will contain fishing or culinary imagery. For example, one advertisement informs customers that Simunovich Fisheries has the first female skipper of a deep-sea trawler in New Zealand. The advertisement features the female skipper and the chef of The Kermadec Restaurant. 'We have brought into the advertisement a sense of the ocean, the vessels, and the end result being the seafood on the plate in the restaurant' (P. Simunovich, personal communication, July 1996).

Simunovich Fisheries does not attempt to substantially alter the form of its seafood products, hence the senior managers do not consider the firm to be

producing 'value-added' products. Adding value only describes the production of products that meet the specifications and product quality that customers demand. 'We try to produce the commodity fillet to tight controlled specifications. That is about as close to value-added that we would get' (V. Wilkinson, personal communication, July 1996). Similarly, the firm's scampi products are considered valuable because they have the highest quality possible by having been frozen and properly graded and packed at sea.

'We try to improve the value chain by trying to target as close to the end consumer as possible. We produce fillets so that they can go straight to the end consumer market, and the scampi packs are designed to go directly into the hospitality industry, especially restaurants. We keep meeting the demands of the buyer of our products' (V. Wilkinson, personal communication, July 1996).

However, Simunovich Fisheries acknowledges it could improve its ability to meet customers' demands by expanding its range of products. 'I think we can be very good at increasing our range of products and in doing so further develop our brand image' (P. Simunovich, personal communication, July 1996). Simunovich Fisheries considered entering the aquaculture sector to ensure supply of some high value, low volume products. These products were viewed as enhancing the firm's range of products and its ability to cater to the hospitality industry, particularly the white tablecloth restaurants, by providing more variety to the dining experience (P. Simunovich, personal communication, September 1996). However, the senior managers acknowledged that they had waited too long to gain a competitive position in that sector. Instead of entering the aquaculture sector, the senior managers decided it best that aquaculture products be outsourced from existing suppliers (V. Wilkinson, personal communication, November 1998).

While Simunovich Fisheries can rightly claim success in marketing its products, management continually looks for ways to improve all value chain activities to

enhance the firm's ability to meet customer needs. The senior managers accomplish this by taking a 'hands on' approach to managing the firm, which they believe few other seafood firms do to the same extent. Their approach includes them having ongoing knowledge of how the firm is operating at each point in the value chain. They know what the fishing vessels are capable of doing each day, when a catch will arrive at the dock, what the processing facility is doing and the problems it faces, and the activities of the marketplace and the distribution systems.

'We can have this approach because we have a pretty flat structure, allowing us to have the strategic and tactical knowledge to identify opportunities for improvement. We always have the sense of looking for further improvements, and we push ourselves to find those opportunities. The size of the company allows us that flexibility and improved ability to know what is going on. We have a strong sense of our own purpose and destiny that keeps in perspective what we can cope with and manage' (P. Simunovich, personal communication, July 1996).

To ensure that Simunovich Fisheries continues to meet customer requirements, ongoing interaction and travel occurs between the firm and its overseas customers. Not only do the senior managers travel overseas, but the processing facility managers and skippers also travel abroad so they can meet customers and determine their requirements firsthand.

'We were the first ones to have processing managers and skippers visit overseas customers. To me, it seems to be an unnecessary bureaucracy when you stick someone between the guy making the fillet and the guy using it. Common sense shows that you should stick these people together. We are trying to get everyone involved, and in some ways the Kermadec Restaurant has helped a lot of our fishermen see the end result of what they are doing, while the people in the restaurant see where the fish comes from' (P. Simunovich, personal communication, July 1996).

The ongoing visits to customers and end users have strengthened and improved customer relations over time. However, as customers' requirements have changed, Simunovich Fisheries has had to be flexible in its ability to produce consistently high quality seafood products. The firm has had to add some steps in its processing operations, including those at sea. These added steps have helped to ensure that Simunovich Fisheries consistently improves its customer relationships and its reliability in providing high quality products for the long term. 'If you don't make your products more saleable in this way, you don't have a customer' (M. Cvitanovich, personal communication, November 2000).

Overseas Operations

As mentioned, in the 1980s, when the New Zealand seafood industry was undergoing significant changes in fisheries management policies, Simunovich Fisheries understood the value of anticipating how such changes could impact on the firm, and this is reflected in the organisation's structure. Subsequently, like others in the seafood industry, Simunovich Fisheries understands that the New Zealand seafood industry has few opportunities for growth.

'The sun is up, and the New Zealand seafood industry is probably close to its zenith for the day. It will rise a little bit more, but what may eventuate in the industry is a very strong management base that will look for seafood opportunities elsewhere in the world. So, the growth in seafood companies may not come domestically. Growth will come by New Zealand seafood companies recognising that they can play a fairly competitive role in the international arena' (V. Wilkinson, personal communication, July 1996).

This understanding, along with the expectation of decreases in some species' TACCs, has prompted Simunovich Fisheries to continually look for opportunities outside New Zealand (P. Simunovich, personal communication, November 1998). 'We seem to have a proliferation of ideas and business opportunities. The hard part is saying no to some opportunities' (P. Simunovich, September 1996). 'I still believe that with a solid quota base in New Zealand and a reasonable

management infrastructure, there are a lot of opportunities' (V. Wilkinson, personal communication, November 2000).

Simunovich Fisheries first expanded abroad by setting up a Croatian-based subsidiary, Bracanka Group, a trading enterprise started by Ivan Simunovich. Simunovich Fisheries' senior managers view Croatia as offering several emerging opportunities around natural attributes attractive for tourism, high levels of seafood consumption and close proximity to European markets. Croatia is a place that Simunovich Fisheries will always have some involvement in because of the Simunovich family roots (V. Wilkinson, personal communication, November 1998). Bracanka Group initially consisted of a retailing operation with convenient-type stores, a wholesaling and distribution business, and a fish canning facility with an existing fishing operation. Subsequently, Bracanka Group has added a joint venture with an Australian-based firm to catch northern bluefin tuna by purse seine and then rear them in sea cages located in bays within Croatian waters, with the end product air freighted to Tokyo (P. Simunovich, personal communication, November 1998).

Bracanka Group also diversified into the distribution of New Zealand lamb, beef and veal. This venture entailed marketing New Zealand beef and sheep products in Croatia and Bosnia and along the Adriatic coast. This initiative could eventually include sales into the European Union, the United States and Canadian markets (M. Cvitanovich, personal communication, July 1996). Simunovich Fisheries decided to diversify in this way because of the view that the New Zealand meat industry was well positioned to compete in the world, and the firm already had in place the marketing systems to handle these products (M. Cvitanovich, personal communication, September 1996).

However, Bracanka Group has suffered a substantial downturn, the combined causes being the Croatian-based management and the country experiencing an overall economic downturn. 'The Croatian economy is in very poor shape,

causing us to realign our thinking about what we are doing there. We are strategically downscaling our operations there while driving a recovery programme from New Zealand' (M. Cvitanovich, personal communication, November 1998). 'There is the realisation that Simunovich Fisheries made some good decisions and some mistakes in Croatia, and we can accept that' (M. Cvitanovich, personal communication, November 2000).

'A relatively small company like Simunovich Fisheries must learn from the opportunities that succeed less than we had hoped by looking at the issues, the critical turning points that changed our focus and the steps we took in the face of those realisations. We must measure very well those things we have ceased to continue against those that we did very well' (V. Wilkinson, personal communication, November 1998).

In late 1996 Simunovich Fisheries entered a joint venture with a South African firm to catch and process orange roughy off the coast of Africa. This joint venture involved the purchase of a freezer trawler and the development of a firm to manage the necessary fishing licenses and the vessel's operations. The joint venture's orange roughy catch was marketed by Simunovich Fisheries to its existing customers. Although Simunovich Fisheries could have done the entire operation itself, the senior managers believed they could succeed better by having a partner on location.

'We saw the potential for catching fish in Africa, and saw this joint venture as the best arrangement for the long term. We contributed the fishing expertise and fishing capacity, and the partner brought the ability to manage the resource and the shore-side management' (P. Simunovich, personal communication, November 1996).

Further investment was made in the venture by purchasing a second and newer freezer trawler. Subsequently, Simunovich Fisheries began to experience some problems with the partner and eventually decided to end its involvement in the joint venture. The main reason for ending the joint venture was that 'the local

competition for the access rights to the orange roughy fishery occurred much quicker than first anticipated' (P. Simunovich, personal communication, November 1998). Subsequently, Simunovich Fisheries entered a contractual arrangement to catch orange roughy in African waters for another firm. It also conducted some exploratory fishing in Angolan waters; however, the decision was reached to end the firm's involvement in Africa. The final decision to pull out of Africa was based primarily on the logistical difficulties of managing operations halfway around the world.

'If we had found more orange roughy in Angola or Namibia, we would have stayed. We were not interested in developing other viable fisheries in that part of the world. The lesson learned in pursuing that type of opportunity was to not underestimate the amount of time and effort required to manage the logistics. I think what we did we did well. We caught a lot of fish, we made a good return contract catching, we did the exploration we wanted to do in Angola, and we had a safe return of the vessel, while running everything from Auckland. But the fishing vessel we had working there has a better future for us working in Australia on some investments we can make there' (V. Wilkinson, personal communication, November 1998).

At that time Simunovich Fisheries expanded into Australia's hoki fishery by purchasing quota and upgrading the fishing vessels it used in that fishery. 'We have had the view for some time that Australia offered some opportunities, so we have started to focus there a bit more' (V. Wilkinson, personal communication, November 1998). Because New Zealand's fisheries are viewed to be at their 'saturation level', with little opportunity for growth, Australia remains the main focus for Simunovich Fisheries' expansion (P. Simunovich, personal communication, November 1998).

'Simunovich Fisheries' expansion into Australia is a good example of how quick we are on our feet. This move simply replaces hoki quota that we were unable to attain here, at a lower price with better yields. It adds strength to our business by adding to our existing New Zealand quota. It is like fishing in another neighborhood taking another two or

three days to get there. It is quite a simple operation that could add a lot of pluses for us. We have the product mix and timing to our advantage' (M. Cvitanovich, personal communication, November 1998).

Simunovich Fisheries' expansion into Australia allows it to increase the utilisation of its fishing vessels, with its freezer trawler spending at least two months there catching hoki, which has been necessary because of the reduction in the New Zealand orange roughy TACC (M. Cvitanovich, personal communication, November 2000). Simunovich Fisheries has continued to increase its presence in Australia by entering a joint venture in the southern bluefin tuna fishery, by purchasing fishing licenses, by being allocated toothfish quota, and by obtaining exploratory rights to some new fishing areas, which could potentially lead to receiving quota. In addition, Simunovich Fisheries has entered into an arrangement with Sealord Group Ltd. in Australia to market some of its products.

'We will continue to pursue opportunities in Australia, in both the deepwater and the inshore fisheries. We have three vessels working in Australia, and we continue to buy up fishing licenses. We simply get much more bang for our buck in Australia, and there are more opportunities. We are short of catching capacity now, so as we develop new fisheries in Australia we will get more vessels' (P. Simunovich, personal communication, November 2000).

Summary

Simunovich Fisheries has consistently expanded operations to become one of New Zealand's most successful medium-sized seafood firms. The firm's success is based on its thorough understanding of its fishing operations. Based on success in the catching sector, Simunovich Fisheries has become a highly vertically-integrated firm. The successful coordination of the firm's value chain results in the production of branded, high quality seafood products that consistently meet longstanding customers' requirements. 'The overriding success factor for

Simunovich Fisheries has been its high quality standards' (M. Cvitanovich, personal communication, September 1996).

Simunovich Fisheries' success also depends on the retention of the family-oriented culture first created by Ivan Simunovich. He has strongly influenced the firm's senior managers to 'extend themselves and to be controversial' to improve the outcomes of their decisions. Ivan's influence, along with that of the senior managers, has instilled in employees a sense of pride and commitment to the firm's success. Simunovich Fisheries acknowledges that its commitment brings about success only when it remains focused on sustaining and building relationships with its longstanding overseas customers. For this reason, the firm's senior managers, as well as its processing managers and skippers, make regular visits to customers and the end users of its seafood products. These ongoing visits, along with involvement in The Kermadec Restaurant, continue to improve the firm's catching, processing and marketing operations, and strengthen and improve its customer relationships.

'The reality is that we will make our best gains by tailoring our products to the customers' demands. We see ourselves as part of their community of interest, and that we are secondary to the customer. They are right because they write the cheques' (V. Wilkinson, personal communication, July 1996).

Simunovich Fisheries also has a keen understanding of the political and legal confines within which it operates, both within New Zealand and internationally. For this reason, the firm allocates the resources necessary to ensure its success domestically while continually looking abroad for new opportunities. This effort has led to Simunovich Fisheries having a growing presence in some Australian fisheries.

'The company demonstrates a high degree of consistency in how it operates and how it goes about its business. We are recognised for our expertise in terms of fishing and the consistency in how we approach

each part of the business. We seek consistency in our market sales and a level of efficiency that others would perceive to be an advantage. We can act with confidence and rely on our reputation' (M. Cvitanovich, personal communication, November 1998).

Chapter 11

Sealord Group Ltd.

Introduction

This chapter outlines the workings of Sealord Group Ltd., which began in the 1960s and has become Australasia's largest seafood firm. Most of Sealord's growth occurred during the 1990s, after it adopted a vertical integration strategy to produce value-added products. Sealord becoming a vertically-integrated seafood firm required substantial investments in fishing quota, a modern fleet of fishing vessels that included state-of-the-art, processing-at-sea capabilities, the redesign of its on-shore processing facilities to produce various value-added products, several fishing and processing joint ventures throughout the world, the world's largest Greenshell™ mussel processing facility, and a network of marketing offices worldwide. Sealord's growth worldwide has been largely driven by its ability to replicate its successes in several value chain activities, especially building long-term customer relationships. When Sealord's customer relationships become well-established, they minimise the threat of direct competition while also attracting new customers who desire similar relationships.

This chapter's first section reviews the history of Sealord, including its purchase by the Treaty of Waitangi Fisheries Commission (TOKM) and Brierley Investments Ltd. (BIL), a Singapore-based investment company. Section two describes Sealord's organisational restructuring into individual business units, beginning 1994. At that time, the new Chief Executive Officer, Phil Lough, implemented the new structure and a three-part strategy to reach a growth target of \$1 billion in annual sales within 10 years. The third section examines the business unit's planning process, the firm-wide five-year strategic planning process, and the firm's strategic approach toward information systems. Section four discusses the Business Development unit designed to perform several roles, including seeking out domestic and overseas business opportunities and providing leadership in the management of New Zealand's fisheries. The fifth section describes Sealord's fishing operations, including its domestic fleet and other vessels involved in the firm's joint venture and foreign chapter arrangements. The sixth section outlines Sealord's Processing Operations unit and its facilities in Nelson, Dunedin, China, Namibia and Europe. Section seven discusses Sealord Shellfish Ltd., a wholly-owned subsidiary that began in 1989 and has subsequently experienced tremendous growth in volume and value of its products. The eighth section describes the Marketing unit, Sealord's four principal markets, and the unit's network of overseas offices. The ninth section examines Sealord's responsiveness to customers' requirements and includes some examples. The tenth section describes Sealord's change in ownership in 2001 to a new partnership between the TOKM and Nippon Suisan Kaisha Ltd. (Nissui). The chapter ends with a summary.

This chapter, along with Chapters 8 through 10, provides an overview of the selected seafood firms that participated in this study. These four chapters form the basis for the identification of strategic capabilities and the formulation of the strategic capabilities building process in these seafood firms, as outlined in Chapter 12.

Historical Background

The origins of the Nelson-based Sealord Group Ltd. date back to the 1960s when the firm was known as Sealord Products. During the 1960s and early 1970s Sealord Products operated a processing facility supplied by a small fleet of deepwater vessels and foreign charter arrangements. In 1976 the firm became Sealord Products Ltd., a fully-owned subsidiary of Carter Holt Harvey Ltd. (CHH). CHH is a New Zealand-registered company whose core businesses include forestry and wood products, pulp and paper, packaging and the manufacturing of specialty building-related products.

When the New Zealand Government introduced the Territorial Sea and Exclusive Economic Zone Act 1977, the ownership of Sealord was restructured with CHH owning 76 percent and the remaining 24 percent held by the Japan-based Hohsui Corporation (Carter Holt Harvey, 1992). When the ITQ system was introduced in 1986, Sealord received quota totaling 55,796 tonnes, commensurate with the deepwater catch histories of its own fishing fleet and its joint venture and foreign charter arrangements (Clement and Pfahlert, 1996). In 1990 CHH purchased Hohsui's 24 percent shareholding in Sealord, making it once again a fully-owned subsidiary (Carter Holt Harvey, 1992).

That same year Sealord acquired the deepwater fishing operations of Fletcher Fishing Ltd., a wholly-owned subsidiary of Fletcher Challenge Ltd. This \$139 million acquisition included the transfer of 118,000 tonnes of deepwater quota, primarily orange roughy and hoki quota, and a Dunedin-based processing facility. Sealord's existing quota holdings plus the quota acquired from Fletcher Fishing made Sealord New Zealand's largest seafood firm. The combined quota holdings led to a doubling of Sealord's annual exports to \$300 million (Fishing Interests, 1990).

In 1990 CHH began a restructuring programme and it was eventually decided that retaining ownership of Sealord was not a long-term option for two reasons. First,

CHH's management sought to refocus on the firm's core forestry-related businesses. Second, a change in shareholding in CHH caused it to exceed the foreign ownership limitations under the provisions of the Fisheries Act 1986. CHH initially intended to divest of Sealord by way of a public float, however this was successfully challenged in court.

In late 1992 CHH's shareholders approved the sale of shares in Sealord and the quota holdings of its subsidiary, Fish Packers Ltd., for an estimated \$350 million to a 50/50 joint venture, Te Ika Paewai Ltd., between the Maori Fishing Commission, which preceded the TOKM, and BIL. BIL's use of foreign-owned banks to provide acquisition financing, in exchange for an undisclosed amount of equity, breached the foreign ownership limitations. However, the New Zealand Overseas Investment Commission and the Ministry of Agriculture and Fisheries (MAF) approved the arrangement.

As outlined in Chapter 6, the purchase of Sealord resulted from the Treaty of Waitangi Settlement Act 1992 as part of the full and final settlement of all Maori commercial fisheries claims in accordance with the Treaty of Waitangi 1840. Maori shares in Sealord were held by the new TOKM set up in accordance with the 1992 Settlement Act. The TOKM and BIL held equal shares in Te Ika Paewai Ltd., with a TOKM representative having chaired the Sealord Board of Directors for the first three years. Thereafter, the joint venture agreement had the chairmanship alternate between BIL and the TOKM every three years.

At the time Sealord was sold to Te Ika Paewai Ltd., the firm remained the largest New Zealand quota holder, holding 26 percent of total TACC equal to 151,000 tonnes. At that time, Sealord held the largest quota in all major deepwater species, except orange roughy, where Sanford Seafoods Ltd. had marginally higher quota holdings. Sealord's quota holdings for the year 1991/92 are outlined in Table 11.1.

Table 11.1 Sealord Product Ltd. Quota Holdings – 1991/92
(in greenweight tonnes)

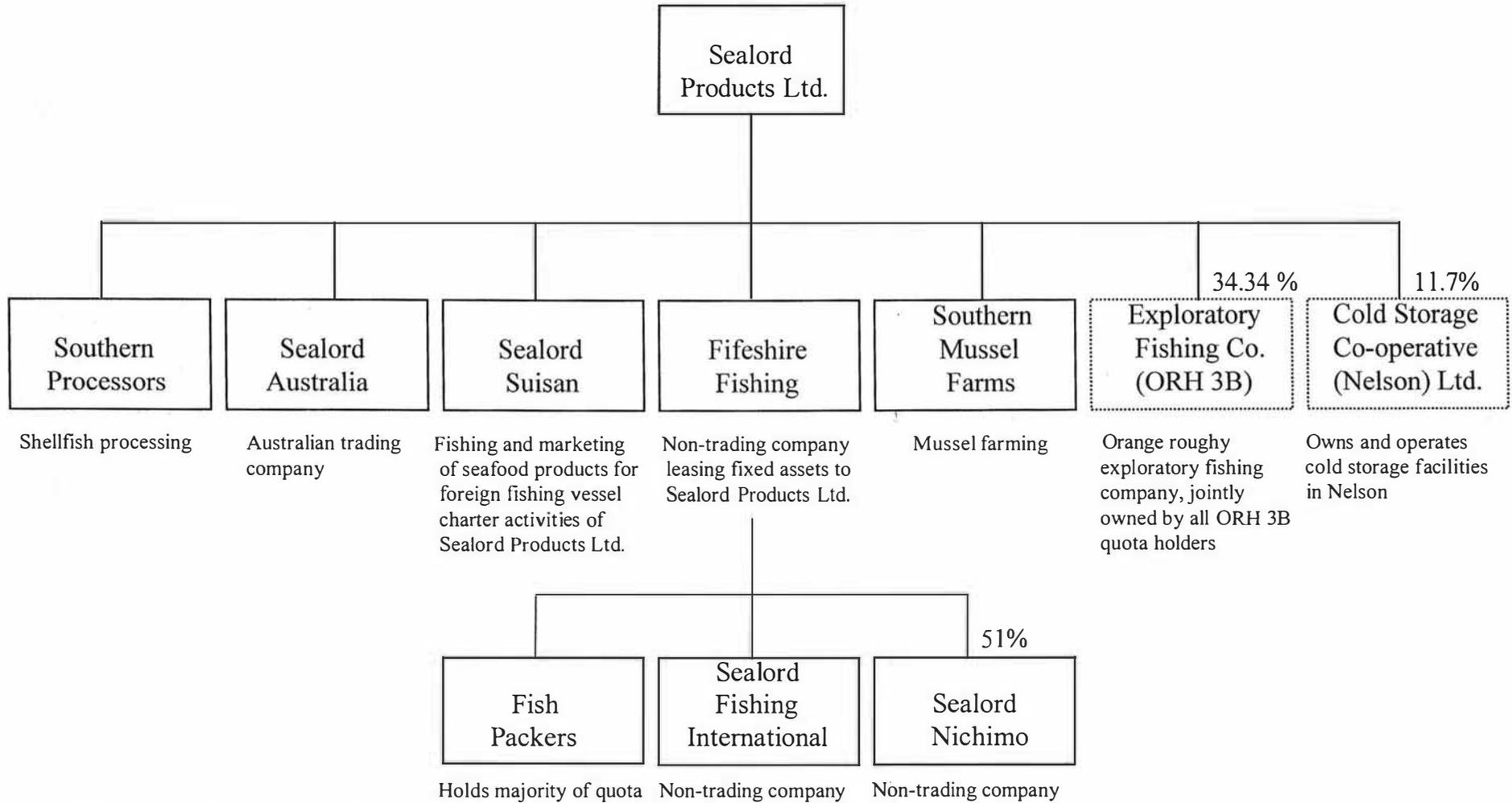
Species	ITQ	(% of TACC)
Hoki	69,299	34
Orange Roughy	11,182	29
Oreo Dories	7,481	30
Ling	6,307	32
Squid	33,780	20
Other	22,951	n/a
Total	151,000	26

(Source: Carter Holt Harvey, 1992)

By 1992 Sealord had become a highly vertically-integrated seafood firm, operating both processing facilities in Dunedin and Nelson. By then the Nelson-based facility was the largest seafood processing facility in Australasia, processing wetfish and valued-added products, and operating a canning plant and a waste disposal fishmeal plant. The majority of Sealord's investments in vessels and processing facilities focused on its hoki and orange roughy quota, its two largest quota holdings. Sealord had been one of the first firms to establish the profitable United States market for orange roughy. The Sealord fleet consisted of seven fishing vessels: three fresh fish trawlers, one freezer trawler, two freezer longliners and one purse seiner. Sealord also contracted quota out to domestic charter vessels, and Sealord Suisan managed the foreign joint venture and charter arrangements.

Sealord also owned and operated Southern Processors Ltd., a Nelson-based facility that processed Greenshell™ mussels, canned paua (abalone) and other products, discussed in a subsequent section. In 1992 Southern Processors processed 4,000 greenweight tonnes of Greenshell™ mussels and 800.

Figure 11.1 1992 Structure of Sealord Products Ltd.



(Source: Carter Holt Harvey, 1992)

greenweight tonnes of paua (Carter Holt Harvey, 1992). Figure 11.1 outlines Sealord's legal structure and describes its operations at the time it was sold to the TOKM and BIL

In 1991/92 orange roughy exports accounted for 18 percent of Sealord's total sales, valued at \$45 million (Carter Holt Harvey, 1992). Sealord invested the revenue stream from orange roughy exports in developing hoki into a viable export product. To a limited extent, Sealord had exported its hoki catch by requiring buyers of its highly-prized orange roughy to also purchase rations of hoki. Until the late 1980s hoki was considered a low grade, commodity whitefish suitable only as cat food, surimi or lunch box products in the Japanese consumer market. Because Sealord held the largest percentage of hoki quota in New Zealand, it was motivated more than any other seafood firm to put substantial effort and investment into the development of hoki products.

Upon his appointment as Sealord's Chief Executive Officer in 1986, Dr. Brian Rhoades began expanding the firm's catching and processing capacities, basing the firm's future success on its movement into added-value hoki and other seafood products and away from reliance on international commodity markets (Sales Boost, 1992). Retail supermarkets and those in the food service industry, particularly hotels and restaurant chains, were identified as potential key customers for Sealord's value-added products. These types of customers in the United States, Europe, Japan and Australia valued most 'consistency of supply, size, price and quality', which Sealord undertook to meet with fixed-term contracts (Market Lure, 1992).

The development of value-added hoki products included the input of food technologists, marketing representatives and major customers. Their combined efforts, along with a \$5 million investment in plant and state-of-the-art processing technology, led Sealord to develop ready-to-cook hoki, as well as oreo dory fillet products that were coated with breadcrumbs, battered or sauced at a cost

competitive on an international scale (Sales Boost, 1992). Once Sealord concentrated on customer needs, it found that demand for hoki outstripped supply (Market Lure, 1992).

In 1991/92 Sealord's sales totaled \$246 million, and hoki made up 43.8 percent of total sales, valued at \$108 million (Carter Holt Harvey, 1992). Between 1989 and 1992 Sealord's efforts to develop value-added hoki products drove an industry-wide increase in hoki export volume and value and the return per tonne of quota, as outlined in Table 11.2. Between 1989 and 1992 export volume of hoki increased 86 percent, and the export value increased 466 percent. The financial return per tonne of hoki quota doubled between 1989 and 1991 and then decreased 37 percent in 1992, due to a surplus of whitefish in the international commodity market caused by the former Soviet Union and Eastern Bloc nations supplying whitefish at reduced prices to acquire foreign currencies.

Table 11.2 Total Exports of Hoki by Volume, Value and Return 1989 to 1992

Year	Export Volume (tonnes)	Export Value (\$millions)	Return per tonne
1989	30,733	48.9	\$1,592
1990	33,961	69.0	\$2,032
1991	49,202	156.0	\$3,176
1992	57,299	233.0	\$1,992

(Source: Fishing Industry Board, 1993)

Sealord continued to expand its vertically-integrated operations and seek out new ways to meet customers' requirements. In late 1992, Sealord became New Zealand's first seafood firm to be granted ISO 9001 quality certification, which applied to its Nelson-based wetfish processing facility (Quality, 1993). In 1994 Sealord's Southern Processors also received ISO 9001 certification, prompted initially by quality and hygiene systems introduced to meet new MAF listeria

standards (Quality, 1994). In 1993 Sealord opened a squid processing plant in Dunedin (Squid, 1993), and by 1994 Sealord's fleet had increased to a total of ten, including seven trawlers, two longliners and a purse seiner (Stevens, 1994).

In April 1994 Dr. Rhoades was replaced as CEO by Phil Lough, who came to Sealord after 20 years with the New Zealand Dairy Board. His last position at the Board was as Deputy Chief Executive Officer, in charge of the Board's cream products, services, external policy, public affairs, and corporate investment divisions. He also had substantial experience in international food sales, having been responsible for the Board's interests in Europe, Scandinavia, Africa and the former Soviet Union. Mr. Lough had had postings with the Board in London and Tehran, and had been instrumental in setting up the Board's Middle Eastern business (Clayton, 1994).

Organisational Structure

At the outset, Mr. Lough made known his intention to increase Sealord's annual sales from \$350 million to \$1 billion within ten years (Target Growth, 1994). The sales target was approached with a three-part strategy. First, Sealord would increase its profitability by reducing costs and placing increased emphasis on quality and yields from its catches (TOKM, 1994). It was well recognised that Sealord had a very strong competitive advantage by virtue of its large quota base with a reasonably good mix of species (J. Mace, personal communication, December 1995). Mr. Lough approached the first part to the strategy by initiating analyses of Sealord's investments in quota holdings, particularly hoki, to determine their profitability.

'The first thing that we had to prove was that we could make money out of hoki. That required the first major analysis that we did through the business, and luckily it showed that we could. So, we set about doing that. If the analysis had not shown that we could make money on hoki, we probably would have disposed of that quota holding. At the time it was not making money, and yet it was the biggest investment

the company had' (P. Lough, personal communication, December 1995).

All value chain activities were analysed to reduce costs and increase profitability while ensuring the firm continued to meet customers' requirements. Mr. Lough expressed the view that Sealord had only recently emerged from being a 'resource-focused' firm to a 'consumer-focused' or 'seafood' firm. A 'resource-focused' or 'fishing' firm focused on the catching sector while a 'consumer-focused' or 'seafood' firm had vertically-integrated operations. According to Mr. Lough, a 'consumer-focused' firm retained control over all value chain activities to add value to its catch and then marketed its value-added products in ways that satisfied customers' needs around the world (Target Growth, 1994).

Part two of the new strategy involved enhancing marketing capability to sell Sealord's value-added products to several nations through more direct involvement in product marketing (TOKM, 1994). A network of overseas marketing offices were established to serve the firm's principal markets (Audio Monitor, 1994a). Mr. Lough viewed the overseas offices as balancing the firm's risks and providing 'a competitive edge by having our own people in some of our key international markets' (TOKM, 1994). The second part of the strategy complemented Mr. Lough's view that Sealord would become a vertically-integrated, consumer-focused seafood firm.

'The two things that we determined we needed to own were the quota base and the customer. All the other activities between the quota and the customer, like fishing and processing and transportation, etc., we would not necessarily have to own. We could use all sorts of strategies for achieving those activities, but the two things that were absolutely critical to a successful vertical integration strategy were that we had to own both ends of the value chain, the quota and the customer. And so, we had to make quite an investment in the marketing end. A lot of work went into developing the customer base, identifying which areas of the world we were going to deal in, which sector of business we were going to focus on, which customer base within that would be our

future, and then we had to make it happen' (P. Lough, personal communication, December 1995).

The third part to the new strategy introduced increased accountability by restructuring the key areas of the firm into individual business units (TOKM, 1994). Mr. Lough viewed this restructuring as 'a logical step in the company's growth' (Audio Monitor, 1994b:1), which would then provide a platform for managing future growth (Restructuring, 1994).

'By the time I came along Sealord had experienced quite a fast growth phase, and it had done so without significant restructuring. There was no clear business unit structure. The first thing I had to do was identify what the game plan was going to be for the business, what we could turn it into, and then from that derive a structure that would facilitate that, and then get the right people around me to make it happen' (P. Lough, personal communication, December 1995).

Since the majority of Sealord's assets consisted of quota, restructuring into accountable business units introduced the management of particular species and the firm's investment in those species (P. Lough, personal communication, December 1995). Species management included the concept of 'cascading', referring to the range of products Sealord could produce from each species, from the high-valued prime cuts to the byproducts, including fishmeal. The goal of cascading is to 'squeeze out all the value in a species while minimising the cost of the resources used to create the value' (G. Borrie, personal communication, December 1995).

Restructuring required some key appointments, including species managers and some key managers. Most appointments were made internally because Sealord managers mostly held the needed skills and experience. However, a few of the new key management appointments were filled with some of Mr. Lough's former colleagues at the New Zealand Dairy Board, who also brought much needed

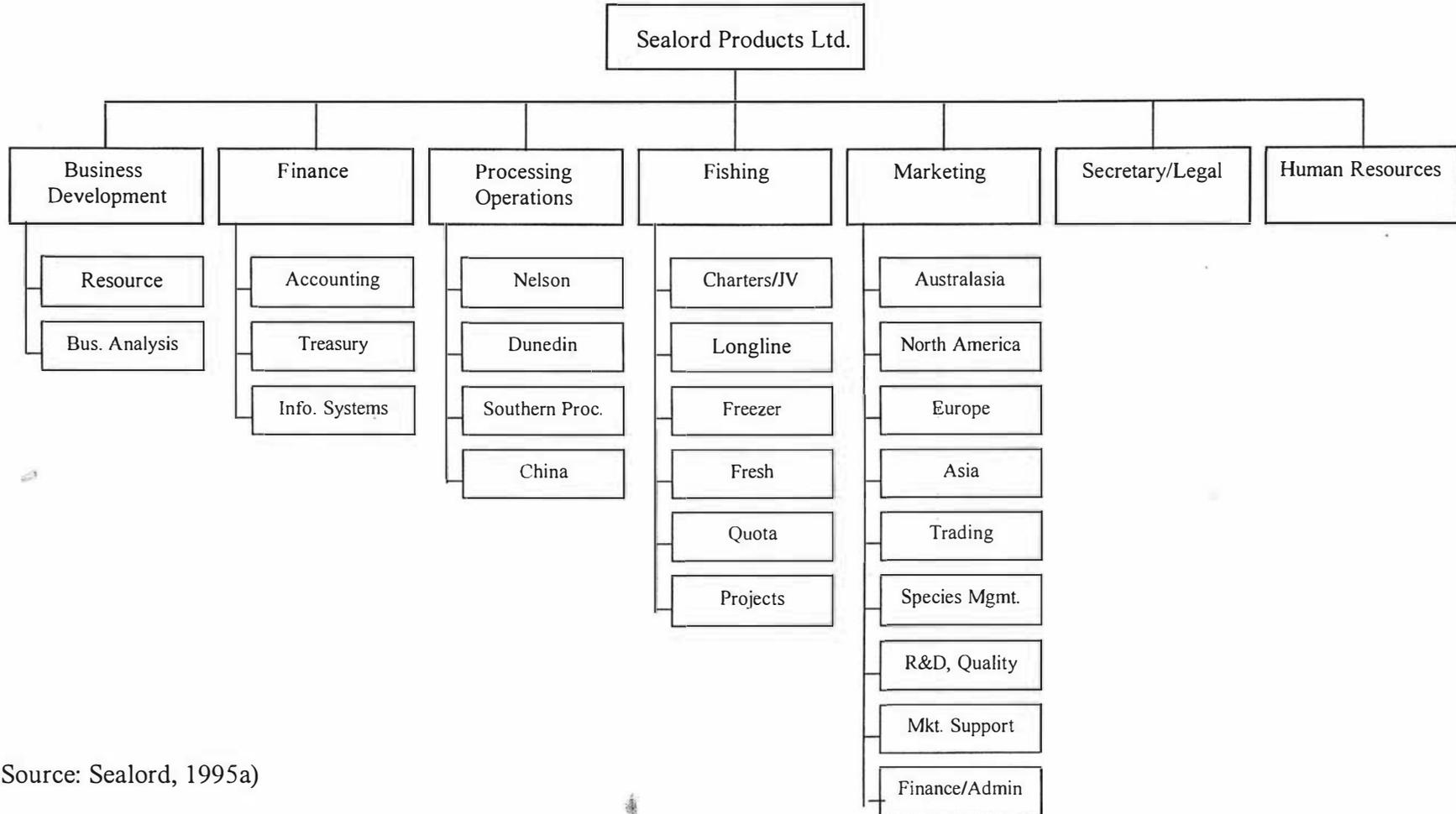
international experience. Sealord's new organisational structure, as of February 1995, is outlined in Figure 11.2.

The main structural changes included the addition of several overseas offices and a species management function within the Marketing Unit. Previously, Sealord lacked a focus on species management, which caused some coordination problems among the marketing staff, and all marketing activity took place from Nelson, with occasional visits made to overseas markets (P. McGuinness, personal communication, March 2001). The new structure also reflected changes made after 1992 when Sealord ceased to be a division of CHH. As a stand-alone firm, Sealord needed to set up a number of corporate skill areas that had previously come from CHH (T. Horne, personal communication, December 1995).

Sealord's new structure depicts its commitment to being a highly vertically-integrated, consumer-focused firm having a total of 31 key business units, support functions and subsidiary companies, combining the primary and supporting activities that traditionally make up the entire value chain. Sealord's new structure emphasises the importance of seven key business units; Business Development, Finance, Processing Operations, Fishing, Marketing, Secretary/Legal, and Human Resources. Subsequent sections of this chapter outline these business units, excluding the Finance and Secretary/Legal units. Sealord's key business units support what Mr. Lough considers to be the firm's five core businesses: the Shellfish business that encompasses only New Zealand production of mostly aquaculture products; the Frozen-at-sea business that converts the catch into market-ready products as customers require, with no further processing required; the Reprocessing business which processes fresh fish into consumer and frozen products; the Marketing business with a global network of offices; and the International business that includes fishing operations throughout the world (P. Lough, personal communication, December 1998).

Figure 11.2

1995 Structure of Sealord Products Ltd.



(Source: Sealord, 1995a)

The 1995 restructuring into business units, and subsequent developments, led to recognition that the firm's name should be changed. In November 1996 Sealord Products Ltd. became Sealord Group Ltd. At that time Mr. Lough explained that the Sealord Group was working well by having developed several new products, having enhanced its research and quality programmes, and having invested \$85 million in vessels over the last five years (Name Change, 1996).

Human Resources

Early on Mr. Lough made known the value he placed on the Sealord staff's skills and experience by stating that the firm's scarcest resource was its staff, and that the firm's future growth depended upon the staff and the firm's ability to attract skilled and experienced people.

'New Zealand is not a good hunting ground for skilled, internationally hardened marketing people or people who understand how to run a multinational business. There are very few companies that do that. So, you have to get a few of them yourself, and you have to grow them as well' (P. Lough, personal communication, December 1995).

Efforts to further develop staff and management have led to established links with several training and educational institutions. Sealord has also developed a programme to identify key managers and to prioritise the skills they need and how best to develop them. 'Sealord has always had a policy of promoting from within where there is a person capable of doing the job' (I. Lister, personal communication, December 1995). Sealord's emphasis on developing its staff and management is driven by the view that 'if you want a truly sustained competitive advantage you must have a spirit within your business that wants to succeed. People must want to succeed, and they must think they are capable of succeeding' (N. Murphy, personal communication, April 1996).

However, in 1996, some of the newly formed business units reduced staff numbers due in part to changes in the business environment, particularly the

appreciation of the New Zealand currency beginning 1993, as outlined in Chapter 5. Sealord, like other seafood firms, watched the currency's appreciation erode profitability at a much quicker rate than efficiency gains could compensate.

At that time Sealord faced 'compounding negative cycles' of low international fish prices, reduced catch rates, and the appreciating New Zealand currency. 'All of these were compounding and quite serious cycles' (P. Lough, personal communication, December 1998). Their combined effect left Sealord with lower levels of investment and the need to reduce operating costs. 'In this kind of environment Sealord has little choice but to cease capital expenditure, restructure the business to take costs out, including reducing the number of people' (P. Lough, personal communication, December 1996).

'Sealord's fishing, processing and marketing activities had shown strong productivity gains. ... But like all New Zealand exporters, the high and rising exchange rate has made our New Zealand cost base very high. That is seriously eroding our margins. ... About 45 administration staff and middle management positions are likely to be surplus under the revised structure. ... To ensure we remain internationally competitive we must be leaner and more efficient' (Sealord, 1996c).

Staff numbers were cut in 1996 and then again in early 1998, after an 'efficiency review' resulted in 130 staff from engineering, finance and administration, human resources, logistics and information systems being made redundant (Jobs, 1998).

However, by late 1998, Sealord began to experience improved operations due to compounding positive cycles. Improved operations included higher catch rates, which led to reduced processing costs, increased international fish prices and depreciation of the New Zealand currency. 'All of these issues have led to increased profitability, and quite positive movements taking place within the firm

so that it is growing quite fast in the areas it is good at' (P. Lough, personal communication, December 1998).

Strategic Planning

Each of Sealord's key business units is managed by General Managers, and they meet regularly to discuss matters of strategic importance and to receive final approval on substantive issues for each unit. The restructuring of Sealord into business units was driven by the view that 'there is no point in having a vertically-integrated firm unless each part of that vertical integration, each single component, is the best that it can possibly be. Each component has to be world class, otherwise drop that part out and contract out those services' (N. Murphy, personal communication, April 1996). Thus, the General Managers are held accountable for the performance of their units and assessed against financial and non-financial key strategic objectives. The strategic objectives are outlined in each business unit's plan, along with a mission statement, situation analysis, guiding principles, and specific strategies used to attain the unit's objectives for the upcoming period.

Mr. Lough introduced the business unit planning process to provide staff with plans for a 'clear direction' while also encouraging them to demonstrate innovation and initiative in finding the best way to operate each business unit so that Sealord enhanced its 'multinational dimension' (P. Lough, personal communication, December 1995).

'In ten years Sealord will be a world leader in the international seafood business. I see the growth potential is really quite dramatic. We will source, as we currently do now, product from many countries in the world. We will process and market our products in many countries in the world. Once we have the fundamentals right in New Zealand, we will start to leverage our skill base. We are already buying product out of Europe and processing it somewhere else, and then marketing it in some other part of the world. We are buying product in North America, looking to process it in China and marketing it in Asia. We are buying product in Africa, processing it somewhere else and

marketing it in another country. And so we are increasingly getting a multinational dimension' (P. Lough, personal communication, December 1995).

Mr. Lough's emphasis on business units driven by innovation and new initiatives applies equally to all aspects of Sealord's operations, including the selection of suppliers of inputs and services, with the resulting partnerships being based on 'win-win' arrangements.

'Basically we identify those key areas of our business that are vital to our future, and we try and identify whether we will do those ourselves or find a partner that brings in the skills to better manage that, or a bit of both. So, we have entered into various strategic alliances, making it clear that it is their function to innovate on our behalf to add value and take costs out. We have done this in a number of areas where we have identified partners to work with, such as banks, insurance companies, marketing partners, distribution companies. We pick people where there is a long-term win-win approach, so we have got to pick the organisation based on its culture. If they don't beat to the same drum, then there is a problem. There is a lot of pre-selection criteria that goes into these partnerships' (P. Lough, personal communication, December 1996).

The business unit plans were also implemented to link Sealord's medium-term objectives to a new five-year strategic planning process integrated throughout the firm. In February 1996 Sealord produced its first five-year strategic plan, Plan 2000, which outlined the firm's overall growth objectives and key performance indicators (KPIs) to be achieved by 1999/2000. Plan 2000 detailed Sealord's situation analysis, its quota requirements, several critical success factors, financial statements and commentary, and the business unit plans. The five-year plan is reviewed each year and altered to reflect changes in business units and firm-wide issues of strategic importance. The five-year plan begins with Sealord's strategic vision:

‘Sealord will become an internationally recognised seafood leader operating with world’s best practice standards. A strong, vertically integrated, growth oriented business providing superior returns, it will build strategic alliances in the priority areas of its business. Sealord’s principal business will be in supply to the food service sector and in building strong brand share positions in the retail segment of selected markets.

Sealord will be an exciting and challenging place to work, where performance and innovation will be recognised and individuals are encouraged to reach their potential.

An innovative offshore marketing network based in Asia, North America, Europe and Australia will service customers from efficient processing facilities based in New Zealand and offshore. Sealord will own fishing quota and build strong links to other sources of supply of fish. It will harvest its own resources in a sustainable and efficient manner.

Sealord’s core business will be in profitably linking its branded and food service strengths with its supply sources.

Sealord will know its products and its markets and customer needs better than its competitors. It will satisfy those needs through that knowledge, high quality products, service, reliability, supply and innovation’ (Sealord, 1996a).

The planning process improved as it continued due to efforts to keep it simple, keep the strategies flexible and continually communicate the vision driving the process. With the planning process becoming more efficient and useful throughout Sealord, people began to observe the relevance and resulting benefits for themselves and their business units. ‘The key to the planning process succeeding was getting it to be iterative and having continuity over time’ (P. McGuinness, personal communication, April 1996).

‘The strategies are alive all the time, and we continually test them out and look for better ways, because the world is changing so fast. Because the business is changing, we have to change our KPIs accordingly, otherwise we would find that we are measuring the wrong thing. The strategic plans have to be living documents. There is no such thing as a rigid plan’ (P. Lough, personal communication, December 1996).

A monthly forecasting system was added, becoming the 'cornerstone of the planning process'. Previously, the business unit's plan had been reviewed each year. 'We are getting a 12-month plan every month as part of our normal management systems. The investment made in information systems development has worked very well, providing much better information, which is tied into the offshore offices' (P. Lough, personal communication, December 1998).

The adoption of a strategic view towards the firm's information systems, and the eagerness to develop these systems into a strategic competitive advantage improved the information available to Sealord's managers.

'The real focus is to develop the information systems to better support the planning process, improved communication, quality management and how the system makes it easier for the customer to do business with Sealord' (A. Dean, personal communication, April 1996).

Mr. Lough acknowledged that Sealord needed to enhance its information systems capability so management could resolve several potential sources of conflict, such as the costing and pricing of fish stocks sourced from around the world, and the use of multi-site processing facilities that added varying levels of value to final products. As Sealord improved its capability to meet customer requirements on a global scale, greater demands were placed on its information systems to link customer requirements with sources of supply in a timely fashion and in accordance with quality and user expectations (A. Dean, personal communication, December 1995). Sealord's focus on managing the overall supply chain led to the adoption of a Materials Resource Planning system (MRP II) and the development of an Integrated Seafood Information System (ISIS) to improve communication between business units and their communication with customers and suppliers (Sealord, 1996b).

'Nelson is no longer the center of the world with a fountain of fish coming out of it. There is now a matrix of transactions between

various business units around the world. This change has required a major shift in thinking about information needs' (A. Dean, personal communication, December 1995).

Business Development

Sealord's growth target of \$1 billion in annual sales requires the continual optimisation of the firm's New Zealand-based operations while also developing new overseas business opportunities. Due to the aggregated quota limits placed on ITQ ownership, Sealord cannot meet its growth target without significant expansion overseas. The Business Development unit was created to fulfill three primary objectives.

The first objective is to diversify the firm's resource base, both domestically and internationally, to reduce risk and to potentially gain control of other fisheries resources. 'The key thing with any development is to have some degree of continuity of fishing rights, not necessarily exclusive, but there must be continuity in accessing a portion of the resource' (J. Mace, personal communication, April 1996). As mentioned, Sealord has secured its maximum aggregated limit of New Zealand ITQ for most deepwater species, holding over 22 percent of the total TACC. Sealord has acquired quota holdings to reflect market demand for its products and to ensure high utilisation of its deepwater fishing fleet. Table 11.3 summarises Sealord's major quota holdings relative to the total TACC as of 31 January 2000.

Sealord's pursuit of opportunities overseas has led to the development of joint ventures that secure the firm's access to several fisheries in foreign waters. For example, Sealord's Namibian-based joint venture, discussed in the next section, resulted in the discovery and establishment of commercially viable stocks of prime deepwater species. As well as providing secured access to some deepwater fish stocks, the venture also enables Sealord to work with the Namibian

Government in mapping Namibia's deepwater resources to ensure the fisheries are well managed (HREF 12).

Table 11.3 Sealord Group Ltd. Quota Holdings as of 31 January 2000
(in greenweight tonnes)

Product	Total TACC	Sealord ITQ
Hoki	250,010	75,719
Orange Roughy	20,355	6,041
Squid	127,332	29,590
Oreo Dories	23,943	6,403
Ling	22,113	5,678
Hake	13,997	3,790
Silver Warehou	9,512	1,759
Gemfish	1,590	179
Barracoutta	32,421	5,161
Jack Mackerel	60,546	9,837
Red Cod	16,066	1,080
Blue Warehou	4,512	632
Others	87,970	2,460
Total	670,367	148,328
% Total	100%	22.13%

(Source: HREF 12)

The second objective, related to the first, involves the Business Development unit assisting Sealord's various business units to increase the firm's overall turnover, sales and profit. 'Through the work done by the Business Development unit Sealord has grown substantially beyond its New Zealand-based businesses' (P. Lough, personal communication, December 1998).

As a third objective, the Business Development unit acts as Sealord's major interface with Government over legislative and resource issues (J. Mace, personal communication, December 1995). As outlined in Chapters 3 and 5, the seafood industry has historically provided considerable input into the fisheries policy decision-making process. Such involvement has required considerable time and effort from the seafood industry and individual seafood firms. While the industry

and individual firms continue to allocate resources to improve and reform some parts of the fisheries management policies, 'the ITQ system in particular remains a model that other countries look at with some envy' (P. Lough, personal communication, December 1998).

The third objective also requires the Business Development unit to ensure that Sealord's fleet complies with the relevant fisheries laws and regulations. The unit communicates any changes in fishing laws and requirements to all the skippers within the fleet and provides the necessary training and auditing functions to ensure full compliance (S. Bishop, personal communication, March 1999).

'Sealord does its best to ensure compliance with fisheries laws and that its practices help ensure the sustainability of the fisheries resources so we can guarantee our markets that in four or five years we can still produce the same amount of fish' (S. Bishop, personal communication, March 1999).

Fishing Operations

As displayed in Figure 11.2, Sealord's Fishing unit includes a number of groups responsible for the various types of vessels, as well as specialists to manage the quota administration, vessel projects and the servicing of vessels. The Fishing unit is separated as follows: freezer trawlers, fresh trawlers, longliners, joint ventures, charter arrangements, and several support functions such as marine engineering, vessel management and services, wharf management, and net sheds (G. Borrie, personal communication, December 1995).

Like the other key business units, the Fishing unit is required to be internationally competitive. The Fishing unit's 'vision is to be a highly efficient and profitable business with a modern and technically advanced fleet which can deliver fish and fish products to the company's various international markets and factories in an internationally competitive manner' (Business Unit, 1994:67). The unit enhances its effectiveness by way of detailed plans for each group of vessels and individual

vessels. The plans outline the vessels' catch, cost of bycatch, operating costs, overheads, and capital expenditure requirements (G. Borrie, personal communication, December 1995).

As outlined in Chapter 5, Sealord, along with the other large New Zealand seafood firms, has continued to 'New Zealandise' their fishing fleets by acquiring larger and more modern vessels, which then reduces their reliance on foreign joint venture and charter arrangements. Newer domestic vessels have been necessary to meet the seafood firms' objective to further develop deepwater fisheries and produce processed-at-sea, value-added products.

Sealord's fully-owned New Zealand-based fleet has decreased from ten vessels in 1994 to six vessels in 2000. Some of the vessels that Sealord owned previously have been sold to its overseas joint ventures. Sealord's domestic fleet includes the F/V *Janas*, a 46.5-metre longliner, the F/V *Otakou*, a 42-metre fresh fish trawler, the F/V *Taimania*, a 42-metre fresh fish trawler, the F/V *Thomas Harrison*, a 42.5-metre fresh fish trawler, the F/V *Rehua*, a 66-metre factory freezer trawler, and the F/V *Aoraki*, a 67.5-metre factory freezer trawler.

The substantial upgrade of Sealord's freezer trawler fleet began in 1994 with the acquisition of the F/V *Aoraki*. At the time it was acquired, the *Aoraki* was considered the biggest trawler in the New Zealand fleet, having the largest processing capability. The two processing decks, totaling 900 square metres, are used to process value-added hoki, southern blue whiting, orange roughy and other species. The vessel is capable of processing up to 70 tonnes of market-ready fillets per day and 15 tonnes of fishmeal from waste products (Stevens, 1994).

In 1997 Sealord substantially increased the flexibility of its freezer trawler fleet by acquiring the F/V *Rehua* for \$28 million. This vessel is considered 'a new generation freezer trawler, particularly its hull design and sea keeping characteristics ... [and with] the very latest technology and the highest standard of fittings ... without equal in the New Zealand fleet' (Rehua, 1997:10). The

Rehua, a frozen fillet trawler, was designed specifically for New Zealand fishing and port conditions. The processing capacity of 40 tonnes of catch per day is also able to be expanded (Rehua, 1997).

Sealord continues to reassess the optimal makeup of its domestic fleet, while upgrading its vessels so they operate most effectively. Examples of ongoing vessel upgrading include the installation of the Scanmar Gear Monitoring System on Sealord trawl vessels (Scanmar, 1997), and installation of the latest technology sounder and sonar equipment (Simrad, 1999).

As mentioned, Sealord partially owns and operates additional vessels in its joint venture arrangements. In 1994 Sealord expanded its fishing operations into Namibia by developing a joint venture company, Gendor Fishing, with shareholders General Development Corporation of Namibia and Dori Namibia (African Fishing, 1994). The venture concentrated on developing Namibia's deepwater fisheries, primarily orange roughy, using two of Sealord's trawlers sold to Gendor Fishing (Namibia, 1995). The venture was attractive initially because of the nation's deepwater fisheries resource, which is comparable to New Zealand's. Sealord considers itself to be in an ideal position as Namibia develops its deepwater fisheries and intends to have a long-term presence there (J. Mace, personal communication, April 1996). After Gendor Fishing became well established, it was floated on the Namibian stock exchange to further increase its vitality and growth (P. Lough, personal communication, December 1998). Gendor Fishing will be listed on the Johannesburg, South Africa stock exchange (HREF 13).

In 1997 Sealord entered the Australian-based Petuna fishing and processing joint venture arrangement. In conjunction with this arrangement Sealord has become Australia's largest deepwater quota holder, with most being hoki quota.

In 1998 Sealord began a joint venture with a Norwegian-based investment company to catch primarily hoki in New Zealand. The joint venture, similar to a

long-term charter arrangement, utilises the F/V *Aorere*, the sister ship of the F/V *Rehua*, which is owned by the Norwegian partner. Like the *Rehua*, the *Aorere* is a 66-metre factory freezer trawler with a processing capacity of 40 tonnes per day. Sealord's contribution to the venture includes a crew of 50, quota for deepwater species and access to the fisheries (Aorere, 1998).

Sealord initially utilised the F/V *Pakura*, an 86-metre freezer factory trawler, in a joint venture with Nippon Suisan Kaisha, the largest fishing firm in the world (Pakura, 1994). Subsequently, the *Pakura* has been decommissioned in this joint venture (Moran, 1999), and utilised in a new joint venture investment in the Chilean fishing company, Friosur (Clark, 2000).

Sealord recently embarked on a 50/50 joint venture, Yuken, with the Argentine-based fishing firm Pesel Group. The venture secured Sealord's position in several fisheries in Argentine waters, including squid, hake and a hoki resource similar in size to New Zealand's. Sealord's contribution to this venture included the purchase of four fishing vessels and five fishing permits (Argentine Fish Deal, 2000). Mr. Lough expects the Yuken venture to have an annual turnover of \$30 million in its first year, eventually increasing to \$60 million annually. Mr. Lough explained that Sealord had numerous opportunities in the northern and southern hemispheres, and within the next year the firm would launch more overseas ventures similar to Yuken (Further Ventures, 2000).

Sealord continues to utilise the catching capacity of foreign-registered vessels by way of joint ventures and charter arrangements. These arrangements utilise up to 20 fishing vessels from various nations, including Japan, Russia, Ukraine, Norway, Poland and China. In 1995 Sealord's domestic fleet caught approximately 45 percent of its quota, charter arrangements caught 50 percent and joint ventures caught the remaining 5 percent. It is unlikely that Sealord will catch beyond 60 to 70 percent of its quota due to the seasonality of some fisheries (G. Borrie, personal communication, December 1995).

As outlined in Chapter 5, New Zealand seafood firms will continue to rely on foreign-registered vessels' catching capacity in seasonal fisheries, particularly squid. If utilised only within New Zealand, these specialised vessels could not gain the level of economies of scale needed to be economically viable. Hence, New Zealand and many other coastal nations continue to rely on vessels from several nations that travel from one EEZ to another harvesting seasonal fisheries.

Sealord's arrangements with foreign-registered vessels also allows it to further develop non-ITQ fisheries. For example, Sealord's involvement in the southern blue whiting fishery was historically by way of foreign-registered vessels with their own crews. To develop the southern blue whiting fishery in a manner similar to the hoki fishery, Sealord entered a charter arrangement using the F/V *American Express*, a 90-metre factory freezer trawler. This arrangement provides Sealord further involvement in that fishery while using its own crew along with a 30-member American crew (Jobs Gained, 1999).

Processing Operations

Sealord's Processing Operations unit is divided into four groups: Nelson, Dunedin, China, and Southern Processors, renamed Sealord Shellfish and discussed in the next section. As mentioned, Mr. Lough views Sealord's 'ownership' of quota and customers as critical to the firm's success, while several alternative arrangements could be used for the firm's catching and processing activities. The Processing Operations unit must, therefore, operate competitively to ensure that Sealord processes its quota base into value-added products that meet customer requirements worldwide.

The processing capabilities Sealord developed prior to 1994 have been upgraded to include more flexibility in producing value-added products. Increased flexibility allows the Processing Operations unit to switch production from one product to another while meeting quality standards, labour productivity and product yield targets at a cost that is internationally competitive. At the same

time, the unit continually seeks out new processing technologies and opportunities to process Sealord's products at other locations in the world. Through these changes the Processing Operations unit has come to play a critical role in Sealord's success as a vertically-integrated, consumer-focused seafood firm. To ensure that customers' needs are correctly interpreted and their product specifications are consistently met, the Processing Operations and Marketing units have ongoing exchanges (R. Tocker, personal communication, December 1995).

Between December 1994 and May 1995 Sealord spent in excess of \$5 million upgrading and expanding its Nelson-based processing facility to improve labour productivity and product yields, reducing annual operating costs by \$7 to \$7.5 million (R. Tocker, personal communication, December 1995). The Nelson-based facility has over 1,200 employees who process about 70 percent of Sealord's wetfish catch. Mr. Lough explains that 'Sealord had to make its operations more flexible to cope with the seasonal peaks in various fisheries and customer demand' (Upgrade, 1995). The Nelson facility now has the desired range of flexibility due to the re-design of its factories and its multi-skilled workforce (R. Tocker, personal communication, December 1995).

The Nelson facility has one processing factory designated exclusively for hoki. This factory was upgraded in anticipation of major changes in the supply of global whitefish that changed the profitability of some hoki products (Sealord, 1998). Design flexibility allows hoki production to switch between any number of products, requiring only a subtle change in processing lines (R. Tocker, personal communication, December 1995). Research conducted by the Nelson-based Crop & Food Research Institute has resulted in a new rapid chilling technology, enabling Sealord and other hoki processors to produce premium hoki products year-round, something unheard of previously (Hoki Research, 1999). Sealord's Nelson-based facility has also installed computer-controlled waterjet cutters that cut portions to programmed weights and thicknesses (Sealord, 2000).

The Nelson facility has a multi-species factory which processes primarily orange roughy and oreo dories, a fish cannery, and an area that handles fresh fish orders, particularly for snapper, gurnard, red cod, ling and mackerel. The facility also has an area for value-added hoki and oreo dory products that are breaded, sauced or marinated (R. Tocker, personal communication, December 1995).

The Dunedin-based processing facility employs 300 people and processes around 30 percent of Sealord's wetfish catch. While the Dunedin facility underwent a review similar to that of Nelson, it had remained a high productivity plant with reasonably low overheads, and therefore it did not require significant capital investment (R. Tocker, personal communication, December 1995). The Dunedin facility processes hoki, orange roughy, oreo dories and squid. In line with the Nelson facility and Sealord Shellfish having received ISO 9001 quality certification in 1992 and 1993 respectively, the Dunedin-based facility received ISO 9001 certification in early 1995, while also having implemented a Total Quality Management system. Sealord then became the first multi-site seafood firm to have all of its land-based processing facilities certified to ISO 9001 standards (Quality, 1995).

In 1994 Sealord purchased a processing facility in England, renamed AKB Sealord, to process value-added products. This purchase was part of Sealord's plan to expand into Europe and build alliances with major customers (European Plant, 1994).

Since 1992 Sealord has been involved in processing frozen hoki and squid, caught from its foreign charter arrangements, with the Shenzhen Allied Aquatic Development Corporation in the Guangdong province of China, close to Hong Kong (Sealord, 1994). Shenzhen has been an attractive arrangement for Sealord as it provides a cost-effective route through to some markets because of the differential labour costs (R. Tocker, personal communication, December 1995). Sealord continues to increase supplies of product caught in various parts of the

world to be processed at the Shenzen facility, which is then marketed through Sealord's network of marketing offices (P. Lough, personal communication, December 1998). Since 1995 the Namibian-based joint venture, Gendor Fishing, has operated an on-shore processing facility in Walvis Bay, Namibia (African Fishing, 1996).

Sealord now processes product through twelve factories in five nations, with not all the factories owned by Sealord. The firm's philosophy to 'very carefully select its alliance partners has worked very well. We haven't lost an alliance partner yet' (P. Lough, personal communication, December 1998).

Sealord Shellfish

During the 1980s Sealord identified expansion into aquaculture, particularly Greenshell™ mussels, as an attractive way to broaden its resource base beyond the deepwater fisheries. Sealord had only had some involvement in paua processing and marketing. In 1989 Sealord purchased the assets of Southern Crown Aquaculture Ltd., which produced primarily canned paua. These assets included marine farm licences in the Marlborough Sounds region, paua quota and a small Nelson-based processing facility. The assets became a wholly-owned subsidiary of Sealord and were renamed Southern Processors Ltd. (J. Hannah, personal communication, December 1995).

In 1991 Southern Processors expanded its processing operations at the original site to include a new facility dedicated to processing Greenshell™ mussels (Mussel Exports, 1991). The 1991 expansion substantially increased the volume and value of Southern Processors' output, increasing annual total sales from \$4 million in 1989 to \$26 million in 1994 (Sealord, 1994). Southern Processors increased its annual production of Greenshell™ mussels from 300 greenweight tonnes in 1989 to over 5,000 greenweight tonnes in 1995, employing 90 full-time staff (Mussels, 1996). However, an analysis in 1994 revealed that the facility was

insufficient to meet Southern Processors' long-term objectives for increased efficiencies and growth in throughput.

In 1995 Southern Processors commissioned the construction of a new \$8 million facility located next to the original facility. The new facility was designed to produce annually 15,000 greenweight tonnes of Greenshell™ mussel, with the potential to expand annual production to 20,000 greenweight tonnes (R. Tocker, personal communication, December 1995). With this new facility and a change of name from Southern Processors to Sealord Shellfish, the subsidiary set out to be the leader of the Greenshell™ mussel industry worldwide (J. Hannah, personal communication, April 1996). Sealord Shellfish has the largest Greenshell™ mussel factory in the world (Sealord Shellfish, 1999).

Sealord Shellfish produces around 320 greenweight tonnes per week of Greenshell™ mussels, predominately frozen half shell, as well as frozen meat, frozen whole, frozen uncooked, frozen blanched, vacuum packed, marinated, smoked and mussel chowder. Other processing includes canned paua, frozen scallops, chilled and frozen, and dredge oysters, chilled and frozen and half shell. Until 1999 Sealord Shellfish was involved in processing Pacific oysters supplied by its former joint venture arrangement with Okiwi Bay Oysters. Over 95 percent of Sealord Shellfish's products are exported through Sealord's network of marketing offices to over 20 nations, targeting a range of customers in the retail and food service sectors, both commercial and private (Sealord Shellfish, 1999).

Sealord Shellfish employs 180 full-time staff, including its own food technologists, mechanical engineers, marine biologists and quality assurance experts. As mentioned, Sealord Shellfish received ISO 9001 quality certification in 1994 (Quality, 1994). Sealord Shellfish also implements several quality systems supported by a Hazard Analysis Critical Control Points programme to assess hazards, develop control systems and establish preventative measures. Sealord Shellfish's marine farm sites participate in the National Biotoxin

Programme, and also conducts its own monitoring programme, which have ensured no product recalls due to biotoxins (Sealord Shellfish, 1999).

While Sealord Shellfish continues to source some of its raw material products from independent suppliers, it has ownership of several marine farm licences, 100 percent of Southern Mussel Farms Ltd. and 50 percent of Elaine Bay Aquaculture Ltd. Sealord Shellfish is also involved in a joint venture, Tasman Mussels Ltd, with Sea Investments Ltd. and Southern Crown Aquaculture Ltd.

In 1999 Tasman Mussels Ltd. received approval from the Tasman District Council for its application for a 478-hectare spat-catching operation in Tasman Bay with a ten-year consent. This approval of the resource consent has been appealed, and the appeal has not been heard in court due to a related and current Environment Court hearing (J. Hannah, personal communication, February 2001). If the appeal process concerning the resource consent and the required fisheries permit process have outcomes favourable for the Tasman Mussels Ltd., it will have a spat-catching operation that could boost Greenshell™ mussel exports by \$30 million annually (Spat-catching, 1999).

Sealord Shellfish views its Tasman Mussels Ltd. spat-catching operation as necessary to secure a consistent supply of spat. Sealord Shellfish has also noted that in the future it might apply for use of part of the spat-catching site for marine farming (Spat-catching Site, 1999). This additional source of mussel spat is especially important for Sealord Shellfish's long-term viability due to the ban in effect since mid-2000 on the transfer of spat from the Kaitaia region, which supplies around 80 to 90 percent of the sector's annual spat requirements. The ban on the transfer of mussel spat from Kaitaia was enforced in response to the recent biotoxin outbreak along the West Coast and substantial parts of the East Coast of the North Island.

'This ban underlines the importance of having other spat catching opportunities, and Sealord Shellfish has developed several

contingency measures to offset the resulting problems caused by the non-availability of Kaitaia spat' (J. Hannah, personal communication, February 2001).

One other measure developed by Sealord Shellfish to reduce its reliance on the availability of wild spat was to enter into a joint venture in March 2000 with New Zealand Oysters Ltd. This joint venture, Shellfish Culture New Zealand Ltd., intends to develop a pilot Greenshell™ mussel hatchery operation to provide a continuous supply of spat and use selective breeding to improve the performance characteristics of mussels, such as growth rates, yields and colour. It is anticipated that within a few years the Greenshell™ mussel sector may have 3 or 4 mussel similar hatcheries to reduce its overall dependence on wild spat and avoid the long-term effects of another ban on the transfer of spat (J. Hannah, personal communication, February 2001).

Sealord has subsequently announced its intention to expand its aquaculture operations with further expansion of Greenshell™ mussel operations and entrance into fishing farming (Clark, 2001).

'It is almost inevitable that part of Sealord's growth will come from aquaculture. The one proviso is whether the Government and/or regional councils will make available sufficient coastal water space for this development to take place' (J. Hannah, personal communication, February 2001).

Marketing Operations

Sealord's security of supply to fisheries resources, combined with its fishing, processing and marketing capabilities ensure it remains a vertically-integrated, consumer-focused seafood firm that is internationally competitive. Sealord offers a range of seafood products, including orange roughy, hoki, oreo dories, squid, ling, hake, silver warehou, gemfish, barracoutta, jack mackerel, red cod, blue warehou, as well as the products produced by Sealord Shellfish. Over 90 percent

of Sealord's products are exported to serve the needs of retail supermarkets and the food service sector, particularly hotels, restaurants and institutions in 33 nations. The four principal markets are North America, Europe, Asia and Australasia. Sealord's market research concluded that locating people directly inside these markets would provide the best possible service (N. Murphy, personal communication, December 1995).

'I think that once you put the right calibre people in the field, and you make sure that the lines of communication are open and unblocked and go directly back into the catching and processing sectors of the business, then opportunities will continue to present themselves. So the key thing is having the right people in the field and the communication lines being unbureaucratized' (N. Murphy, personal communication, December 1995).

For this reason, Sealord designed its Marketing unit to include a global network of marketing offices located in Chicago, Tokyo, Hong Kong, Sydney, Brisbane, London, Cape Town, and more recently in Spain and Korea.

'Sealord's development of the global network will deliver better results than the firm is capable of delivering now, and that is really just a stage of evolution' (N. Murphy, personal communication, December 1995).

The Australian market, served by offices in Sydney and Brisbane, is Sealord's longest established market and the first to have an overseas office. The Australian offices serve several restaurants and hotels, such as the Sydney Tower and Doyle's, the Regent Hotels in Sydney and Melbourne and the Parklane Hotel in Sydney (Sealord, 1994). Sealord's sales in Australia consist primarily of hoki, orange roughy, oreo dories and Greenshell™ mussels (Sealord, 1995b).

The New Zealand market, once served by the Sydney office, now has all of its activity originating from Auckland. This was necessary to ensure all marketing activity in New Zealand reflected the local market. Sealord's domestic marketing

uses primarily the 'middle ground' brand Captain's Choice, which includes a range of frozen fish, including orange roughy (Flagship Brand, 1996). Sealord has high market share in key categories, with domestic sales of over \$20 million during 1994/95 (Sealord, 1995b).

The North American market, served by the Chicago office, has become well established due to Sealord having entered a long-term supply relationship with Shoney's restaurant chain, which also owns other restaurant chains such as Captain D's, Perkin's Family Restaurants and Long John Silver. Sealord's restaurant chain supply relationships provide optimal channels for increased volume of value-added hoki products. The North American market has historically been the most profitable for Sealord because of the continued strong demand for orange roughy (Sealord, 1994).

Sealord's Asian market is rapidly expanding, serving customers in Japan, Korea, The People's' Republic of China, Taiwan, Hong Kong, Malaysia, Singapore and Indonesia. Sealord supplies the Asian market primarily with breaded hoki products, skin-on hoki fillets, paua and Greenshell™ mussels. These products originate from various sources, including Sealord's New Zealand-based facilities, the Shenzhen processing facility, and joint venture and charter arrangements with some Japanese and Chinese firms (Sealord, 1995b).

During the early 1990s the European market was identified as potentially the most important and competitive in the world (Sealord, 1994). Sealord's European marketing office has, therefore, been 'changing the way the firm does business by moving away from a product disposal operation to one that genuinely identifies good quality customers and services their needs' (N. Murphy, personal communication, December 1995). By 1995 Sealord built up an impressive level of sales in Europe by 'servicing the requirements of a few customers', particularly large supermarket chains, such as Sainsbury, Waitros, and Asda (Steeman, 1995:6). Sealord's ability to serve the European market has been

greatly enhanced with its investment in AKB Sealord. Sealord provides various products to the European market, including hoki, squid, hake, ling, scallops and Greenshell™ mussels (Sealord, 1995b). A reduction in European tariffs on hoki and squid helped to increase Sealord's European sales from \$41 million in 1996/97 to \$135 million in 1998/99, accounting for 27 percent of the firm's total sales (Bumper Year, 1999).

Sealord also buys seafood supplied by other firms worldwide and markets these additional supplies through its marketing offices. 'We don't necessarily catch and process everything that we market. Some products are purchased and marketed directly' (P. Lough, personal communication, December 1998).

In 1996 Sealord changed its company logo. A blue pennant shape reflects Sealord's maritime roots with an aqua triangle representing the firm's place in the Pacific. The pennant replaces the Spanish galleon logo, however, the galleon is still used for the Asian market, where Sealord is known as the 'boat brand' (Flagship Brand, 1996:8).

Customer Responsiveness

The mandate for Sealord's network of marketing offices is to understand their markets better than their competitors by identifying the product and service attributes most important to each of Sealord's customers. The approach adopted by the Marketing unit is to link Sealord's supply of products with its customers by adding value in ways that provide the most benefit for its customers.

'Since Sealord is one of the few vertically integrated seafood firms in the world, in part due to the ITQ system, the firm has opportunities for meeting customer requirements not readily available to nonvertically integrated firms. When you understand what customers are seeking, you realise they are not purchasing just seafood. They are purchasing various attributes, such as confidence, reliability, technical backup, a quality assurance regime, consistency, functionality, and so on. We recognised that we are not in the fish business, we are in the business

of supplying those attributes, and that is why we have to have somebody in our markets spotting those attributes and then making sure our development programmes back here satisfy those attributes' (P. Lough, personal communication, December 1995).

Sealord's highly vertically-integrated operations, from secured access to fisheries resources through to its marketing efforts, differentiate it from most other seafood firms in the world, most of which are unwilling or unable to take the necessary risks to put their firms together in the same way that Sealord has (N. Murphy, personal communication, December 1995). Customers are interested in Sealord for two reasons. First, they are impressed with Sealord's quota base and the security of supply it provides. Second, Sealord can develop products and deliver them in the presentation and form that customers appreciate and value (N. Murphy, personal communication, April 1996).

'I prefer to define value adding as trying to add value to the customer's business rather than trying to add value to our business. If you add value to the customer's business, then you will share that value rather than just making the product more complicated by adding more things to it and calling it added value. Adding value is when you are close enough to the customer to add real value to his business, and that can be accomplished in a number of ways' (N. Murphy, personal communication, December 1995).

When the Marketing unit understands a market and how the customers fit within that market, the next step is to decide which customers Sealord would like to work with. 'The trick is finding customers who make sense to us, and we have a list a things by which we rank them' (N. Murphy, personal communication, April 1996). The Marketing unit also competes by offering better after-sales service, and feedback supports the view that customer relationships have greatly improved (N. Murphy, personal communication, April 1996).

'The selling of the customer relationship is a big part of our business. The customers are telling us that we are unique. We do business

differently than anyone else. We are absolutely on the right track. We are exactly where customers want us to be, and demand has never been better. For example, we have as a customer a large US-based restaurant chain. We spent some time working with their restaurants and understanding their problems and determining what could be done. They had their managers in the back of the restaurants cutting up fish, because fish is the most expensive ingredient they handle, and the managers were the ones to handle that task. So the managers never got out in the front of the restaurants to meet the customers and look after that part of the business. We developed some forms of seafood which were already pre-cut and ready to go. It cost a lot more, but they got rid of their managers having to be at the back of the restaurant. Now their sales from all restaurants have expanded quite substantially, and we get more value for what we supply. We now have 100 percent of that customers' requirements signed up, and they are needing more and more of our products' (P. Lough, personal communication, December 1996).

The above example demonstrates the way Sealord's Marketing unit gains a competitive advantage by creating close relationships with its customers, thoroughly understanding their requirements and working to the best of their ability to meet those requirements. The desired result is to have such close relationships with customers, through ongoing interaction and 'intimate communication', that Sealord and its customers 'hook together' their planning and inventories to the extent that customers would be hesitant to consider alternative arrangements with competitors (N. Murphy, personal communication, April 1996).

Sealord has achieved this result with the large US-based restaurant chain mentioned above by having entered into a joint arrangement with its MRP II system. This arrangement enables Sealord to substantially reduce inventory levels, improve the utilisation of labour and facilities, and, most importantly, improve its service to the customer. Once this level of interaction is achieved between Sealord and its customers, 'it is very hard for a competitor to come after that and say, hey I have got a better deal for you' (N. Murphy, personal communication, April 1996).

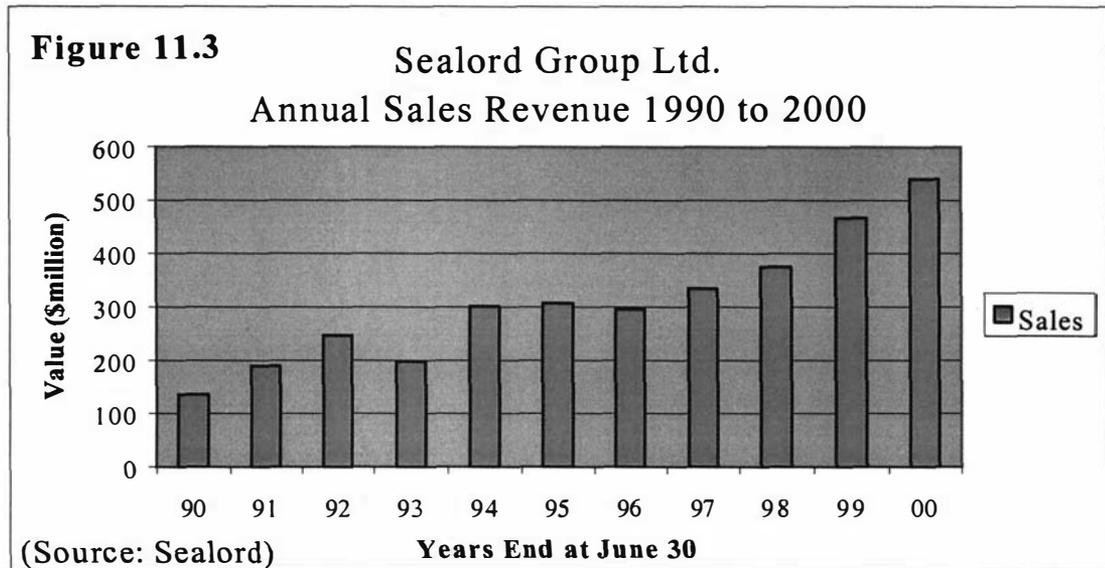
Another example of the Marketing unit building close relationships with customers is by way of a joint venture with Nippon Suisan Kaisha Ltd. (Nissui), a Japanese firm with a range of food products and seafood interests in 18 nations, involving fishing, processing, marketing and joint ventures. Nissui had been a shareholder in Sealord from 1973 to 1990. Nissui's representatives worked with Sealord to create a niche in the Japanese market for hoki fry, or kirimi, and kirimi bites, made from small pieces of prime hoki. The kirimi products have been very successful, attracting a premium price in Japan (Hoki Kirimi, 1998). 'The hoki products have continued to do well, with demand much higher than Sealord's ability to supply' (P. Lough, personal communication, December 1998). Consumer testing in New Zealand has shown that there is a market for the hoki fry-style frozen products (Hoki Fry, 1999).

Sealord's success with kirimi first required staff to spend over one year perfecting the special cutting skills required. These same cutting skills had been developed in Japan over several generations (HREF 12). Once the hoki is cut it is then battered and covered with breadcrumbs before it is frozen. This process required Sealord to enter another joint venture with Gisborne-based crumb manufacturer Walter Findlay Ltd., which opened a factory on Sealord's Nelson site to coat the kirimi product with the required 'wet' splinter-shape crumb (Sealord Bakery, 1997).

'The kirimi products are a good example of Sealord using its strengths to differentiate itself in ways that others cannot hope to follow. This project required planning and strength, and I think that is the sort of thing that we can do and other people can't' (N. Murphy, personal communication, December 1995).

Sealord's efforts to become a vertically-integrated, consumer-focused seafood firm have led to a series of successes in meeting customers' requirements around the world. Sealord's ongoing success is displayed in its growth in sales over the last few years. Figure 11.3 shows Sealord's annual sales revenue from 1990 to

2000. During this decade Sealord's sales have increased by 297 percent, with most of the increase having occurred since 1996.



New Ownership

In February 2000 BIL announced that it sought buyers of its half share of Sealord. Upon hearing this announcement, over 40 firms worldwide initially vied for BIL's share of Sealord (Foreign Companies, 2000). These firms included South Africa's largest frozen food company, Irvin and Johnson, and South African-based fishing company, Sea Harvest. Another overseas contender was Nissui, the Japanese firm with longstanding ties with Sealord.

However, the Fisheries Act 1986 restricts foreign-based firm ownership in New Zealand fishing quota to 24.9 percent, unless an exemption is given by the New Zealand Overseas Investment Commission. The New Zealand Government rejected all the bids by the foreign-based firms (Overseas Bids, 2000). Domestic interest in purchasing BIL's half share of Sealord consisted of the New Zealand Seafood Investments Ltd., a consortium including Sanford Seafoods Ltd., Amatal Fishing Company Ltd. and the Hamilton-based Tainui Trust. The joint venture between the TOKM and BIL, however, provides the TOKM with the pre-emptive

right to buy BIL's half share of Sealord for the same amount as offered by a preferred bidder.

In December 2000 Sealord announced an agreement signed by the TOKM and Nissui to collectively purchase BIL's half share of Sealord for just under \$208 million. This unique arrangement does not breach the foreign ownership limitations on quota ownership since the TOKM owns 100 percent of Sealord's quota, and the TOKM and Nissui have 50/50 ownership of the operating company. Under this arrangement, Sealord operates by contracting the use of the TOKM's quota base (Clark, 2001).

Mr. Lough supported the TOKM/Nissui partnership, stating it was a 'win-win situation for everybody' that would ensure Sealord's continued growth (Clark, 2000). TOKM Chairman, Shane Jones, stated that the TOKM's partnership with Nissui could lead to 700 new and additional jobs over the next five years while both partners increased their investment in Sealord's production of value-added products and aquaculture ventures and opened more export markets for its high-value seafood products (HREF 12).

Summary

Sealord has changed dramatically since it began in the 1960s. Growth in product volume and value has made it Australasia's largest seafood firm and one of the ten largest in the world. Most of this growth occurred during the 1990s, after Sealord adopted a vertical integration strategy to produce value-added products that truly add value for its customers.

Sealord's becoming a vertically-integrated, customer-focused seafood firm has required substantial investments in fishing quota, a modern fleet of fishing vessels that include state-of-the-art, processing-at-sea capabilities, the redesign of on-shore processing facilities to produce various value-added products, several fishing and processing joint ventures throughout the world, the world's largest

Greenshell™ mussel processing facility, and a network of marketing offices worldwide.

The integration of Sealord's value chain activities has been aided by planning processes at the business unit-level and integrated firm-wide by way of a five-year strategic planning process. Sealord's development of an Integrated Seafood Information System, along with investment in a MRP II system, provide numerous benefits for the business unit and firm-wide planning processes, as well as communication between Sealord's business units, suppliers and customers throughout the world.

Sealord's growth worldwide has been largely driven by its ability to replicate its successes in particular value chain activities, especially the Marketing unit's ability to build customer relationships. The Marketing unit understands that its customers are purchasing more than fish. They also desire a range of attributes, such as confidence, reliability, technical backup, and assurance of quality. Sealord works to fully understand the attributes valued by its customers and then sets out to consistently meet them, resulting in added value for the customers' businesses that provides benefits for Sealord. When these customer relationships become well-established, they minimise Sealord's threat of direct competition while also attracting new customers who desire similar relationships.

Sealord's ability to build customer relationships has brought success in exporting more than 90 percent of its products to over 30 nations. Sealord's new ownership arrangement is expected to provide the support and investment needed to ensure Sealord remains one of the largest and most successful seafood firms in the world.

Chapter 12

The Process of Building Strategic Capabilities

Introduction

The case studies in the previous four chapters provide insights into seafood firms' highly vertically-integrated operations, which span all value chain activities from catching and harvesting to interactions with key customers. Based on these insights, this chapter identifies the strategic capabilities that the seafood firms have secured, developed and deployed to reduce their reliance on commodity trading and enhance their international competitiveness by offering value-added products and superior customer service.

This chapter answers four of the study's five research questions by comparing and interpreting the data in the case studies. The answers identify particular tangible and intangible resources operative in the highly vertically-integrated seafood firms and the process by which these resources were built into sources of competitive advantage.

The first section, Strategic Capabilities, compares and contrasts the strategic management literature with this chapter's identification of firm-specific resources. The next five sections describe each of the five strategic capabilities that collectively reflect the seafood firms' highly vertically-integrated operations. Titled *Managerial Capability*, *Marketing Capability*, *Property Rights*, *Catching/harvesting and Processing Operations*, and *Inter-firm Cooperation*, these sections answer the study's first two research questions:

1. What strategic capabilities have been operative in New Zealand seafood firms?
2. Which strategic capabilities provide a basis for sustaining competitive advantage?

The sixth section, The Building Process: A Framework for Seafood Firms, answers the study's third and fourth research questions:

3. How have New Zealand seafood firms built strategic capabilities?
4. What factors have facilitated or impeded the building of strategic capabilities?

This section is divided into four parts. Part 1 outlines the pattern this study identifies in the strategic capabilities building process. The pattern is less a series of sequential steps and more a continuous interaction of interrelated activities, events and demands. Part 2 delineates the strategic capabilities building process as an open system displayed with an adaptation of Sanchez and Heene's (1996) systems model. Part 3 discusses vertical integration in imperfect markets and why seafood firms in this study have opted to pursue a vertical integration strategy. Included is an outline of the highly vertically-integrated operations of the seafood firms in this study using Barney's (1991, 1995) VRIO framework. Part 4 compares this study to a study of selected Norwegian seafood processing firms and also compares ITQ-type systems in New Zealand, Norway and Iceland. The chapter ends with a summary.

Strategic Capabilities

This section compares and contrasts the strategic management literature with the strategic capabilities identified in this study. The Resource Approach argues that firms can be conceptualised as bundles of heterogeneous resources. When these resources are valuable, rare, inimitable and nonsubstitutable, they can provide firms with sustainable competitive advantages 'by implementing fresh value-creating strategies that cannot be easily duplicated by competing firms' (Eisenhardt and Martin, 2000:1105). However, 'the value of an individual resource is likely to be at least partially contingent upon the presence (or absence) of other resources; that is, it may be a system of resources that matters, not individual resources taken separately' (Foss et al., 1996:8).

The results of this study confirm several key concepts of the Resource Approach, including the difficulty in identifying the role that particular firm-specific resources have in a firm's performance and the systemic nature of generating sources of competitive advantage. The study concludes that the strategic capabilities building process is predominantly systemic, utilising and combining several firm-specific resources to develop simultaneously sources of advantage so that firms can compete successfully in the highly competitive international seafood market.

The systemic nature of the strategic capabilities building process requires the seafood firms in this study to build up intangible processes and routines that link all of their value chain activities. This study defines processes and routines as those heterogeneous procedures, patterns of behaviour, belief systems and cultural attributes that collectively make up a firm's identity and guide its overall operations. Processes and routines are dynamic and, therefore, change with the acquisition and integration of new knowledge about a firm's operations, its products and those external environmental forces that impact on the firm.

The seafood firms in this study create competitive advantage according to their managers' abilities to utilise the capabilities building process to build processes and routines that integrate various types of knowledge in ways that reconfigure and link up value chain activities to create the products and services that consistently meet customers' key buying criteria. One of this study's primary contributions to the field of strategy is in providing a fuller understanding of the interactions between knowledge, firm-specific resources and the strategic links between and across value chain activities that provide firms with sustainable competitive advantage.

This study demonstrates the need for a more inclusive understanding of firm-specific resources than many of the contributions to the Resource Approach have provided to date. While these contributions place less emphasis on firms' tangible resources as sources of competitive advantage, this study notes that some tangible resources, particularly property rights-based resources, are a critical source of competitive advantage. This study concludes that property rights-based resources form the basis from which New Zealand seafood firms develop other firm-specific resources that, in combination, become sustainable sources of competitive advantage.

In the New Zealand seafood industry, as in most other natural resource-based industries, security of tenure in access to the fisheries resource provides firms with opportunities for vertical integration that in turn create unique ways for them to compete in the international seafood market. The seafood firm managers noted that the security of supply of the fisheries resource initially attracts customers to their firms, which then provides the firms with opportunities to build enduring customer relationships. The building up of customer relationships requires seafood firms to invest in upstream value chain activities, such as specialised catching/harvesting ventures and processing equipment and training to produce products valued by their customers.

Lastly, in line with Miller and Shamsie (1995) and Maijoor and Van Witteloostuijn (1996), this study contends that contextual considerations are vital in identifying those resources that individually and collectively act as sources of sustainable competitive advantage. For example, seafood firms' ITQ holdings came about in 1986 when New Zealand made radical changes to the fisheries management system. This point supports the view that external environmental forces do influence the development of industries and firms. This study's other primary contribution to the field of strategy is in providing a fuller understanding of how certain external environmental forces influence firms' development of resources and strategic capabilities.

The next five sections outline the strategic capabilities identified in this study, which include two types of intangible resources, *Managerial Capability* and *Marketing Capability*, two types of tangible resources, *Property Rights* and *Catching/harvesting and Processing Operations*, and one capability, referred to as *Inter-firm Cooperation*, which is a combination of both tangible and intangible resources. These five strategic capabilities are described in Table 12.1.

Managerial Capability

The highly vertically-integrated structure of the seafood firms in this study requires them to focus on each value chain activity and the best possible links between them. Focusing on the entire value chain activity system, and determining multiple linkages between different stages of the vertical chain requires highly developed coordination and integration (Porter, 1996).

The importance placed on a firm's coordinating and linking of value chain activities is embodied in the first strategic capability, *Managerial Capability*. *Managerial Capability* is defined as a quality exhibited by a highly vertically-integrated seafood firm that (1) integrates various types of knowledge in ways that link up all value chain activities to fully exploit the competitive potential of its resource base and (2) responds to new opportunities and lessens the potential

impact of external environmental forces on the firm's ability to succeed in particular markets. In this way firms operate as 'open systems', coordinating and integrating the demands and requirements of customers and knowledge about external environmental forces into value chain activities to ensure the delivery of high-quality products and related services that are preferred by customers.

Table 12.1 Strategic Capabilities in Medium and Large-sized New Zealand Seafood Firms

<i>Managerial Capability</i>	Managers' ability to acquire, create and deploy firm-specific resources, coordinate all value chain activities, and adapt and respond to external forces so that market objectives are reached.	Intangible Resource
<i>Marketing Capability</i>	Success in particular markets by building long-term customer relationships based on: - thoroughly understanding customers' product and service requirements; - consistently meeting customers' requirements; - maintaining ongoing communication, including reciprocal visits with customers.	Intangible Resource
<i>Property Rights</i>	Secure tenure in individual transferable quota (ITQ) and Fisheries Act 1983 fisheries permits/ RMA 1991 coastal permits for the aquaculture sector.	Tangible Resources
<i>Catching/ harvesting & Processing Operations</i>	Efficient and effective use of property right holdings (ITQ, marine farm licenses and permits) with catching/harvesting vessels and processing operations to consistently meet customers' requirements.	Tangible Resources
<i>Inter-firm Cooperation</i>	Development of business relationships between firms to reduce costs and enhance product/service offerings. Involvement in joint arrangements that: - improve the quality and data and data analysis of the fisheries resource; - promote conservation and enhancement of the fisheries resource; - promote development of the region/seafood cluster; - improve conflict resolution between user groups and user groups and the Government. Application of joint research and enhancement programmes;	Intangible & Tangible Resources

Managerial Capability has similarities to Sanchez and Heene's (1997) definition of strategic logic, except that *Managerial Capability* places greater emphasis on a systemic orientation, highlighting the importance of creating the best possible links between firms' value chain activities. *Managerial Capability* also resembles McGrath et al.'s (1995) concept of comprehension, which emphasises processes that link elements of individual 'know-how and skills' so that group members comprehend complex systems and respond accordingly.

When firms operate in rapidly changing environments, managers' abilities to integrate, build and reconfigure capabilities become the primary source of competitive advantage (Eisenhardt and Martin, 2000). For this reason, *Managerial Capability* is most similar to Helfat and Raubitschek's (2000:962) coevolution, whereby knowledge, capabilities and 'the strategic linkage of products up, down and across vertical chains' provide firms with competitive advantage. *Managerial Capability*, like coevolution, views knowledge as supporting firms' value chain activities and products, and in turn arises from further experience in producing and selling products.

Managerial Capability has two integrating and coordinating aspects, both described below. The first concerns the more specialist and typically tacit knowledge managers utilise to enhance their firms' value chain activities and the links between them. The second aspect concerns the specialised knowledge of external environmental forces that managers acquire and reconfigure as new opportunities that enhance their firm's success in chosen markets.

1. Integration of Knowledge – Value Chain Activities

Most of the managers in this study expressed the view that their firms succeed, while some excel, at integrating and coordinating their value chain activities. These firms display varying degrees of ability to coordinate and integrate all value chain activities. Differences in ability are explained by such factors as the breadth of scope of their operations, the range of products offered and the

duration of their efforts to enhance competitiveness in this way. The firms have displayed periods of 're-igniting' their efforts to develop a coordination and integration capability, usually in response to external environmental forces that have caused organisational crises and resulted in restructuring efforts. Whether a firm has a particular capability is often a matter of degree that changes over time (Winter, 2000).

Pacifica Fishing Group Ltd.'s structure and systems keep managers informed about all value chain activities so that operations remain highly integrated for the primary purpose of reducing costs. In-depth knowledge about each operation would be expected in this firm, given the Skeggs family's longstanding experience in the seafood industry and the firm's stated purpose to become New Zealand's largest privately-owned and lowest cost producer of Greenshell™ mussels. Managers maintain a high level of knowledge about operations by way of 'friendly competition', regular meetings with the Skeggs Group Ltd.'s Board of Directors, and an improved accounting information system. Ongoing interactions and shared information allow senior managers to learn from each other how best to reduce costs and increase efficiencies while fostering a sense of 'ownership' and 'pride' in the firm's successes.

The New Zealand King Salmon Company's highly vertically-integrated operations are unique compared to the majority of the worldwide salmon farming industry. The lack of alternative sources of supply of raw material is an added challenge for the firm. Because king salmon take 3 to 4 years to reach optimal market size, the firm must thoroughly understand each stage in the salmon's lifecycle so that all downstream value chain activities can be planned and successfully met in a timely manner. As mentioned, the unfavourable international trading conditions for salmon in the mid-1990s prompted management to reposition the firm's products away from the fresh salmon commodity market into value-added product markets. The combination of increasing the volume of value-added products and entering new markets

required the firm to fully understand and carefully integrate all value chain activities.

At the same time, the merger of the previous two firms into one new firm provided managers with an opportunity to carefully assess how best to combine the assets and operations of both firms. The merger 'gleaned' the best of both firms' knowledge and the synergies in operations. The new firm is committed to a highly vertically-integrated structure with all operations working together as a cohesive unit. This commitment brought about improvements in the firm's skill base, management style and strategic planning process, enhancing the firm's integration of knowledge about all value chain activities, as evidenced by the reduction in production costs and simultaneous development of a wider range and increased volume of value-added products.

Simunovich Fisheries Ltd. integrates its value chain activities by first dividing responsibility for them among its three senior managers. The specialist knowledge held by the senior managers is shared through their interaction, which they consider to be one of the firm's competitive advantages. The senior managers believe that their frank and open interactions and consensus approach to decision making leads to a sense of camaraderie, humour and a strength of purpose among them that results in better outcomes for the firm. Their interaction, in combination with ongoing involvement in various operations, assists them, as well as middle managers and fishing vessel skippers, to maintain a thorough overall understanding of the firm. The senior managers' intimate knowledge of all operations helps them assess how new opportunities can fit within existing operations.

Sealord Group Ltd.'s highly vertically-integrated operations and consumer-oriented focus was enhanced with the appointment of a new CEO in 1994. At that time, a three-part strategy was implemented to reduce costs, increase quality and yields and enhance the firm's *Marketing Capability*. Restructuring Sealord Group

into business units focused each value chain activity on meeting world-class standards by integrating ongoing innovations and new initiatives into each activity, and General Managers are held accountable for the performance of each unit. Similar world-class standards are used to select Sealord Group's suppliers of inputs and services and joint venture partners, resulting in 'win-win' arrangements. The relative size and breadth of Sealord Group's operations and commitment to high standards require managers to maintain knowledge about all value chain activities and how best to link them.

2. Integration of Knowledge – External Environmental Forces

This study identifies the New Zealand Government's economic policies, issues and policies related to foreign market access, and fisheries management policies and legislation, including settlement of Treaty-based claims to fisheries resources, as key external environmental forces that have the greatest potential impact on seafood firms' ability to meet their objectives in particular markets.

Because the New Zealand Government adopted radical economic reforms at the same time that it implemented the ITQ system, which was also considered radical at the time, seafood firms have had to adapt to dramatic and ongoing changes to the business environment. Starting in the mid-1980s the New Zealand Government implemented radical economic reforms to introduce greater levels of competition in the public and private sectors, which brought about the closure of inefficient, uncompetitive firms, industries and Government businesses. At the same time, the Government refocused its efforts to improve the nation's economic performance, including support for regional-level sources of competitiveness, or 'clusters' of related and supporting industries. At that time the seafood industry was viewed as one of the best prospects for growth in the value and volume of exports.

The New Zealand Government continues its involvement in several bilateral, regional and international trade agreements that largely determine New Zealand

exporters' access to other nations' markets. For this reason, seafood firms individually and collectively lobby and advise the Government on several market-access development initiatives. Changes to the Government's fisheries management policies concerning compliance and cost recovery regimes have also prompted seafood industry participants to have a vested interest in policy outcomes. The uncertainty surrounding their outcomes continues to add some operational risk for seafood firms.

The seafood industry has historically provided considerable input into various Government policy processes, requiring seafood firms to expend considerable time and effort in influencing the outcomes of policy processes. Further effort has then been needed to adapt to outcomes that have been, at times, radical departures from historical policies and practices. This study contends that seafood firms should carefully consider the varied ways in which the Government has influenced the seafood industry and its participants, how it continues to do so, and how seafood firms can best influence their future by way of involvement in Government policy processes.

In the late 1980s Simunovich Fisheries Ltd. concluded that it needed senior managers with skills and expertise to address external environmental changes and to anticipate their potential impact on the firm. A senior manager was employed to be involved with industry-related and fisheries management policy-related issues and to be the interface with other seafood firms, industry organisations, the Government and the media. Sealord Group Ltd. took a similar approach, most evident in the 1994 restructuring, which created the Business Development unit. One of the objectives of the unit is to act as Sealord Group's major interface with the Government over legislative and resource issues.

Similarly, Pacifica Fishing Group Ltd. and The New Zealand King Salmon Company allocate senior management time for industry-related and fisheries management-related issues. These firms have been involved in various issues by

way of their membership in industry organisations. The New Zealand King Salmon Company, along with Pacifica Fishing Group and Sealord Shellfish Ltd., have recently made submissions to the Government concerning the determination of access rights to coastal water space and the seabed at the top of the South Island. In addition, The New Zealand King Salmon Company was involved with the New Zealand Government's influencing the Australian Government's removal of barriers to the importation of non-heat treated salmon products.

Marketing Capability

This study identifies a second and related intangible resource, *Marketing Capability*. *Marketing Capability* drives the development and deployment of all other firm-specific resources so that the firm successfully competes in the international seafood market. In line with Kay (1993a, 1993b), the purpose of a firm's *Marketing Capability* is to apply specific capabilities and resources to appropriate markets in ways that provide sustainable and appropriable benefits for the firm. A firm's *Marketing Capability*, therefore, drives the shaping and reshaping of its resources into unique combinations to serve ever-changing customer needs.

All of the senior managers in this study stated their firms have built up their *Marketing Capability* on the assurance of product supply provided to them by security of tenure in property rights. Once seafood firms attract customers with this type of assurance, the firms have the opportunity to build long-term customer relationships by putting time and effort into thoroughly understanding customers' requirements and how best to meet them. The senior managers acknowledged that this level of involvement with customers for the long term requires ongoing interaction, including reciprocal visits between seafood firms and their customers' overseas locations. The senior managers consistently placed significant emphasis on this approach to enhancing their *Marketing Capability* in order to position their products away from low-value, low-price commodity markets and towards markets for higher quality and higher valued products.

Pacifica Fishing Group Ltd. meets the particular requirements of its various customers despite its primary product offering, half-shell frozen Greenshell™ mussels, being sold in commodity-type markets. Pacifica Fishing Group has built up a reputation among its customers for competing on quality, delivery time and, if requested, the capability to custom package half-shell frozen Greenshell™ mussels to customers' labelling specifications. Pacifica Fishing Group continues to enhance its customer relations by remaining committed to its longstanding practice of reciprocal visits with its customers.

The New Zealand King Salmon Company Ltd. has reduced its reliance on the Japanese commodity frozen salmon market by increasing the mix of its value-added products, particularly smoked salmon and sashimi, as well as increasing the volume of fresh salmon air-freighted to overseas markets. The firm also enhances overseas sales by making regular visits to customers, particularly the Mitsubishi Corporation and others who purchase the firm's value-added products. As well, ongoing visits to domestic customers, in combination with education-based advertising campaigns, continue to develop the firm's domestic market.

Simunovich Fisheries approaches its seafood products with a commitment to high quality standards while choosing not to substantially alter products by adding so called 'value-added' attributes. This is most evident in the firm's success in the lucrative scampi and orange roughy markets where its products meet very high quality standards. Simunovich Fisheries continues to meet customers' requirements while treating them as part of its 'community or family of interests'. The senior managers travel overseas, as do the processing facility managers and skippers so they can understand firsthand the customers' requirements. In addition, the Kermadec Restaurant helps to keep the entire firm focused on its primary market, the white tablecloth restaurants around the world. Regular visits to the Kermadec Restaurant by the firm's fishers help them to understand the end result of their efforts, providing valuable insights that enhance all value chain activities.

The build up of Sealord Group Ltd.'s *Marketing Capability* is evident in its efforts to become an internationally competitive, consumer-focused seafood firm catering to four principal markets. The 'selling' of the customer relationship is a significant part of Sealord Group's success. Sealord Group's network of overseas marketing offices allows the Marketing unit to identify the product and service attributes most important to each customer and then develop products in the presentation and form that customers value. Sealord Group's desired outcome is to have close relationships with its customers, through ongoing interaction and 'intimate communication,' so that they are 'hooked together' through their planning processes and inventories to such an extent that customers would be hesitant to consider alternative arrangements with competitors.

Property Rights

The third strategic capability identified in this study is secure tenure in access to the fisheries resource, referred to as *Property Rights*. The security of tenure in access to the fisheries resource provides New Zealand seafood firms with opportunities to create sources of competitive advantage through vertical integration. Thus, Property Rights form the basis to seafood firms' competitiveness.

Because New Zealand's ITQ system remains unique in the world, with Iceland being the only other nation with a comprehensive ITQ system, New Zealand seafood firms have a level of security of resource supply unavailable to most of their overseas competitors. Most overseas seafood firms operate in fisheries management regimes that lack the same level of access and tenure in property rights provided by the New Zealand system. While 5 to 10 percent of world total catches are managed by some type of vessel catch quotas (Gissurarson, 1999), it is likely that New Zealand's comprehensive ITQ system will continue to provide seafood firms with a unique and highly valued secure tenure in access to the fisheries resource.

The senior managers in this study consistently stated that ITQ is critical to their firms' success in the international seafood market. For example, Sealord Group Ltd.'s senior managers expressed the view that the security of tenure in ITQ is a competitive advantage because it avoids the 'vagaries' of the market for raw materials, and that the firm's ITQ holdings are the primary reason customers are attracted to the firm. Similarly, the senior managers at Simunovich Fisheries Ltd. emphasised that ITQ is the reason that the firm competes successfully overseas. Senior managers view the firm's ITQ holdings, along with its management structure, as providing ample opportunities for growth of the firm.

It is of interest to note that Sealord Group Ltd. and Simunovich Fisheries Ltd. also participate in overseas fishing operations, particularly in Australian and West African waters. The attractiveness of these overseas operations is due, in part, to the Australian and Namibian Governments providing, or intending to provide, ITQ-type systems for some fisheries. Hence, both Sealord Group and Simunovich Fisheries have continued to expand their fishing operations in these nations. Sealord Group has become Australia's largest deepwater quota holder, and Simunovich Fisheries views Australia as its main opportunity for overseas expansion. Furthermore, Sealord Group intends to have a long-term presence in Namibia as it continues to develop its deepwater fisheries, while Simunovich Fisheries opted to cease its involvement in West African fisheries.

Similarly, the seafood firms in this study that are involved in non-ITQ fisheries, particularly GreenshellTM mussels and farm-reared king salmon, have built up their operations based on the relative security of tenure in property rights under the joint RMA 1991 and Fisheries Act 1983 regime. The joint management regime provides varying duration in tenure in property rights, which fall well short of ITQ's perpetuity and transferability characteristics.

Despite these shortcomings, the joint regime provides participants with sufficient security of tenure and incentives to invest in growth opportunities. Their

substantial investments, many of which reflect collective efforts, have led to the development of several innovations in harvesting, processing, and marine farm management techniques. These investments in innovations, combined with relative security of tenure in property rights, have brought about the development of highly vertically-integrated operations, exemplified by Sealord Shellfish Ltd., Pacifica Fishing Group Ltd. and The New Zealand King Salmon Company Ltd.

The New Zealand King Salmon Company combined the resources of the former Regal Salmon Ltd. and Southern Ocean Seafood Ltd. into one viable operation to produce several competitively priced, unique products from their disease-free king salmon farming operation. The firm could not have pursued its vertical integration strategy without the security of tenure in rights to the coastal water space needed for its seacages in the Marlborough Sounds.

Similarly, Pacifica Fishing Group Ltd. and Sealord Shellfish Ltd. have used their security of access to coastal water space and the seabed to pursue their aquaculture operations so that they have control over each stage in the growth and harvest of their raw materials, increasing their ability to consistently meet customers' requirements and overall market demand.

Catching/harvesting and Processing Operations

The fourth strategic capability identified in this study is seafood firms' *Catching/harvesting and Processing Operations*. Seafood firms' utilisation of secure *Property Rights* to access the fisheries resource leads to a build up of other tangible resources. Consistency and flexibility in the operation of these tangible resources are critical to firms building up their *Marketing Capability*. The investments these firms make in catching and harvesting capacity and processing reduces operating costs and improves the quality of their products and overall value for customers.

After the introduction of the ITQ system a period of consolidation occurred in the seafood industry. Some participants expanded their operations by increasing and altering the makeup of their ITQ holdings to better suit their strategic direction and customer requirements. This led to some seafood firms making substantial capital investments in specialised fishing vessels and gear and processing equipment. ITQ's transferability provides quota owners with the opportunity to adjust fishing capacity to the amount that they expect to take, or vice versa, thereby minimising the cost of taking a given catch, while perpetuity provides increased incentives for long-term investment in a fishery (Hannesson, 1992).

Although Sealord Group Ltd. had substantial investments in fishing vessels prior to the implementation of the ITQ system, it has made investments in more technologically advanced vessels and specialised fishing gear. While Sealord Group Ltd. has reduced its wholly-owned fishing fleet to six vessels, it continues to partially own and operate other vessels through its joint venture arrangements. Sealord Group has also made substantial upgrades to its processing-at-sea capability, as well as to its onshore processing facilities, both domestic and overseas, to include more flexibility in producing value-added products and coping with multiple species and seasonal peaks. The improvements to Sealord Group's fishing and processing capabilities have also required a corresponding upgrade of its employees' skill base.

Simunovich Fisheries continues to operate an extensive fleet of various sizes of fishing vessels, which supplies entirely the firm's Viaduct Basin processing facility. Simunovich Fisheries has also enhanced processing capability by upgrading its onshore processing facility and investing in a 60-metre processing-at-sea frozen fillet vessel.

In order for Pacifica Group Ltd. to attain its goal of becoming the largest privately-owned and lowest cost producer of Greenshell™ mussels, it had to make substantial investments in acquiring and upgrading its processing facilities

in Christchurch, Rai Valley and Kaikoura and in its harvesting, mussel spat seeding and service vessels.

The New Zealand King Salmon Company Ltd. consolidated the resources of two firms to increase overall production and to produce a range of value-added products from its disease-free farm reared king salmon operations. These changes required the firm to make additional investments in aquaculture and processing operations and the skill levels of its employees.

Inter-firm Cooperation

The fifth and last strategic capability identified in this study is referred to as *Inter-firm Cooperation*. This potential source of competitive advantage comprises tangible and intangible resources brought together through seafood firms' efforts to create shared activities or operations that result in mutual benefit. Seafood firms have only begun to develop *Inter-firm Cooperation* relative to its potential as a source of advantage. *Inter-firm Cooperation* continues to emerge among the seafood firms as they explore more facets of the 'entrepreneurial' and 'creative' attributes within the co-management concept outlined in Chapter 2.

One reason for the slow development of *Inter-firm Cooperation* among the seafood firms is their preference for first establishing their own highly vertically-integrated operations. It should be expected that firms would initially concentrate on developing their own value chain activities and investigating how they are best linked before considering the prospect of involvement in *Inter-firm Cooperation*. The concentration on individual firm activities appears to have been strongest upon the initial allocation of quota or the acquisition of property rights for aquaculture ventures. After seafood firms have spent several years developing their property rights into highly vertically-integrated operations, they appear then to be able to contemplate alternative ways of expanding and/or complementing their operations by way of *Inter-firm Cooperation*.

More reasons exist currently for seafood firms to consider inter-firm cooperative efforts, such as increased competitive pressures and the acknowledged benefits of past co-operative efforts. Some New Zealand seafood firms have been involved in inter-firm cooperative arrangements that have brought about mutual benefits, including success in stock enhancement programmes (Arbuckle, 2000). Furthermore, as members of the Mussel Industry Council, Pacifica Fishing Group and Sealord Shellfish Ltd. have participated in collective efforts to develop several innovations in Greenshell™ mussel harvesting, processing, marketing and farm management techniques.

Other evidence of *Inter-firm Cooperation* pertains to some firms' expanding their operations overseas. The New Zealand King Salmon Company has a longstanding arrangement with Mitsubishi Corporation for marketing its products in Japan. Simunovich Fisheries is continuing its catching and processing joint venture in Western Australia. Sealord Group's network of marketing offices is selling a growing amount of seafood products accessed from other seafood firms, both within and outside New Zealand. For example, Simunovich Fisheries has an arrangement with Sealord Group's Australian-based marketing office to sell some of its catch from Australian waters.

One opportunity for seafood firms enhancing *Inter-firm Cooperation* is by way of developing business arrangements with various iwi or other Maori groups. Maori-owned ITQ equals around one-third of all ITQ (O'Regan, 1999), and Maori make up 22 percent of the workforce in the seafood industry (TOKM, 2000). When TOKM allocates the pre- and settlement assets to iwi, opportunities will likely arise for existing seafood firms to develop joint ventures and other business arrangements with Maori.

It is expected that New Zealand seafood firms will continue to pursue mutually beneficial arrangements with domestic and overseas firms to further reduce costs and enhance product value and delivery, thereby increasing their competitiveness

in the international seafood market. The security of access to the fisheries resource and potential involvement in some fisheries management services provide individual seafood firms with opportunities to enhance their competitiveness by reconfiguring value chain activities from harvesting to marketing.

New Zealand seafood firms have already demonstrated evidence of their potential for *Inter-firm Cooperation*. In addition to the recent successes in the aquaculture sector, the seafood industry's 1996 restructuring into QOCs should be seen as the first step towards quota-holding firms adopting more co-operative efforts. These firms have the potential to develop a range of mutually beneficial ventures that would bring seafood firms together in 'entrepreneurial' and 'creative' ways. To use Barney's (1991, 1995) VRIO model, this potential may prove to be a new source of competitive advantage with imperfect imitability and substitutability.

The second research question asks which strategic capabilities provide a basis for sustaining competitive advantage. As mentioned, seafood firms' competitive advantage is largely based on the security of tenure in access to the fisheries resource provided by the New Zealand ITQ system and, to a lesser extent, the joint management regime for the aquaculture sector. The security of supply to the end product, brought about by secure property rights, is what initially attracts customers to the firm. In addition, a seafood firm's commitment to enduring customer relationships also enhances its competitiveness in the highly competitive international seafood market. Lastly, the mutual benefits resulting from *Inter-firm Cooperation* potentially form the basis to competitiveness that seafood firms have only begun to explore.

However, it is the linking up of the *Marketing Capability*, *Property Rights* and *Catching/harvesting and Processing Operations* by way of *Managerial Capability* that ultimately sustains firms' competitiveness. *Managerial Capability* integrates knowledge and other strategic capabilities to support the links between

value chain activities, continually creating new knowledge about processes and routines, customer relationships and other external environmental forces that in turn benefits the production and selling of products.

The Building Process: A Framework for Seafood Firms

This section outlines the process by which New Zealand seafood firms built strategic capabilities as sources of competitive advantage. In so doing, this section answers the study's third and fourth research questions: how have New Zealand seafood firms built strategic capabilities, and what factors have facilitated or impeded the building of strategic capabilities?

1. The Pattern in the Process

This study reveals that the capabilities building process is less a series of sequential steps and more a pattern of interrelated activities, events and demands placed on the firms. Even though process is defined as a continuous interaction between internal activities and external influences over time, this study identifies an initial sequencing of steps in the process, beginning with firms securing access to the fisheries resource. The pattern is outlined in Figure 12.1.

Figure 12.1 The Pattern in the Process of Building Strategic Capabilities

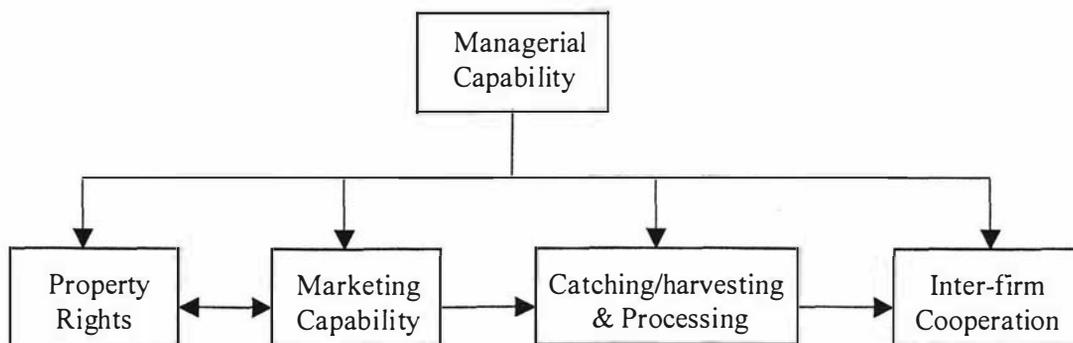


Figure 12.1 demonstrates that seafood firms first secure holdings in *Property Rights*, because they are the precursor to firms' build up of all other strategic

capabilities. All of the seafood firms in this study show that their competitiveness is based fundamentally on the security of tenure in access to the fisheries resource by way of ITQ holdings and/or coastal and marine farming permits. Once seafood firms gain secure access to the fisheries resource by way of the initial allocation of ITQ, and subsequent open market trading of ITQ and/or the application process for coastal and marine farming permits, they focus on matching the level of product output provided by *Property Rights* with their customer requirements and overall market conditions. Thus, seafood firms build a strong relationship between *Property Rights* and their *Marketing Capability*, as shown by the arrows linking these two strategic capabilities.

As customer requirements and market conditions change, seafood firms reassess and alter their holdings in *Property Rights*. Investment or divestment of ITQ occurs with relatively low transaction costs because of its transferability through the established ITQ market. Holdings in coastal and marine farming permits, however, are more difficult to alter because they lack divisibility and ease of transfer of ownership. Holdings in coastal and marine farming permits are more easily altered by owners varying the level of direct investment in their development or by lease arrangements.

This study concludes that the strongest relationship among particular strategic capabilities exists between firms' *Property Rights* and *Marketing Capability*. Pacifica Fishing Group Ltd. demonstrates this relationship by its management's continuous assessment of which ITQ holdings are most attractive for their markets and opportunities for higher profitability, and by the firm's investment in the Marlborough Mussel Company so that it can meet market demand by having 100 percent control of the supply of Greenshell™ mussels.

The New Zealand King Salmon Company Ltd. is heavily reliant upon a strong relationship between its *Property Rights* and *Marketing Capability* because of the firm's geographical isolation from alternative sources of salmon and the time

required to grow salmon to a desirable market size. For these reasons, when the firm was newly established it focused on creating a unified market focus throughout all of its operations.

Sealord Group Ltd. emphasises the *Property Rights-Marketing Capability* relationship by determining that the two operations the firm must 'own' in order to succeed are ITQ holdings and the customers. The senior managers concluded that the firm does not need to own any of the operations in between ITQ and its customers. Although the firm remains highly vertically integrated, all of its operations must meet world-class standards, otherwise external sources of supply are considered.

Simunovich Fisheries Ltd. also demonstrates a strong relationship between *Property Rights* and *Marketing Capability* by way of its 'fishing company' approach to tailoring products to meet customers' demands and by viewing itself as part of its customers' 'community of interests'.

Once these two strategic capabilities were established, all of the seafood firms in this study built up their vertically integrated structures by investing substantially in *Catching/harvesting and Processing Operations*. The security of tenure in access to the fisheries resource provides seafood firms with incentives to make ongoing investments in specialised fishing/harvesting vessels and gear and marine farms considered valuable for ensuring supply and meeting quality standards. Investments in processing facilities ensure that products are processed efficiently and reliably, and innovations developed within the firms and by way of their inter-firm cooperative efforts are incorporated into firms' processes and routines.

Success in linking up seafood firms' *Catching/harvesting and Processing Operations* with *Property Rights* and *Marketing Capability* requires a build up of the most valuable, rare and costly to imitate of all strategic capabilities, *Managerial Capability*. Although seafood firms' *Marketing Capability* drives

resource allocations, it is the *Managerial Capability* that strategically links all other resources together, as demonstrated in Figure 12.1.

Managerial Capability is the most difficult strategic capability for firms to build up because it depends on senior managers' comprehension of overall operations, from catching/harvesting to meeting customer requirements, and the best possible links between them. In addition, well-developed managerial skills are required to comprehend how external environmental forces can facilitate or impede firms' efforts to succeed in particular markets.

The requirement for seafood firms in this study to successfully build up a *Managerial Capability* is exemplified by Simunovich Fisheries Ltd., whose three senior managers take a 'hands on' approach to managing the firm, which they believe few other seafood firms do to the same extent. Their involvement with the firm's various operations provides them with ongoing knowledge of how the firm is operating at each point in the value chain. However, Simunovich Fisheries Ltd. readily acknowledges the limitations of its senior managers and their willingness to use external consultants to aid their understanding of particular aspects of the firm, and emphasises the need to manage the knowledge that consultants provide them.

Similarly, Sealord Group Ltd.'s concept of 'cascading' demonstrates the firm's focus on understanding all value chain activities to produce the greatest value from each species while minimising the cost of the resources used to create the value.

This study identifies *Inter-firm Cooperation* as the last strategic capability to be built up. The seafood firms have used *Inter-firm Cooperation* primarily as a mechanism for expanding particular value chain activities while firms have retained control over all of their operations. For example, Sealord Group Ltd. and Simunovich Fisheries Ltd. have used *Inter-firm Cooperation* predominantly to expand overseas to gain greater access to the fisheries resource. Sealord Group

has also used inter-firm cooperative arrangements abroad to secure alternative processing facilities. As well, The New Zealand King Salmon Company has had a longstanding marketing arrangement with Mitsubishi Corporation to gain greater access to the Japanese market.

To date, there have been few examples of domestic *Inter-firm Cooperation* beyond two firms in this study having been involved in the collective efforts of the Mussel Industry Council and the New Zealand Aquaculture Council. However, it should be remembered that, at times, all the seafood firms have demonstrated cooperative efforts to influence the outcome of the Government's decision-making processes in relation to issues and policies related to foreign market access and fisheries management.

2. The Process as an Open System

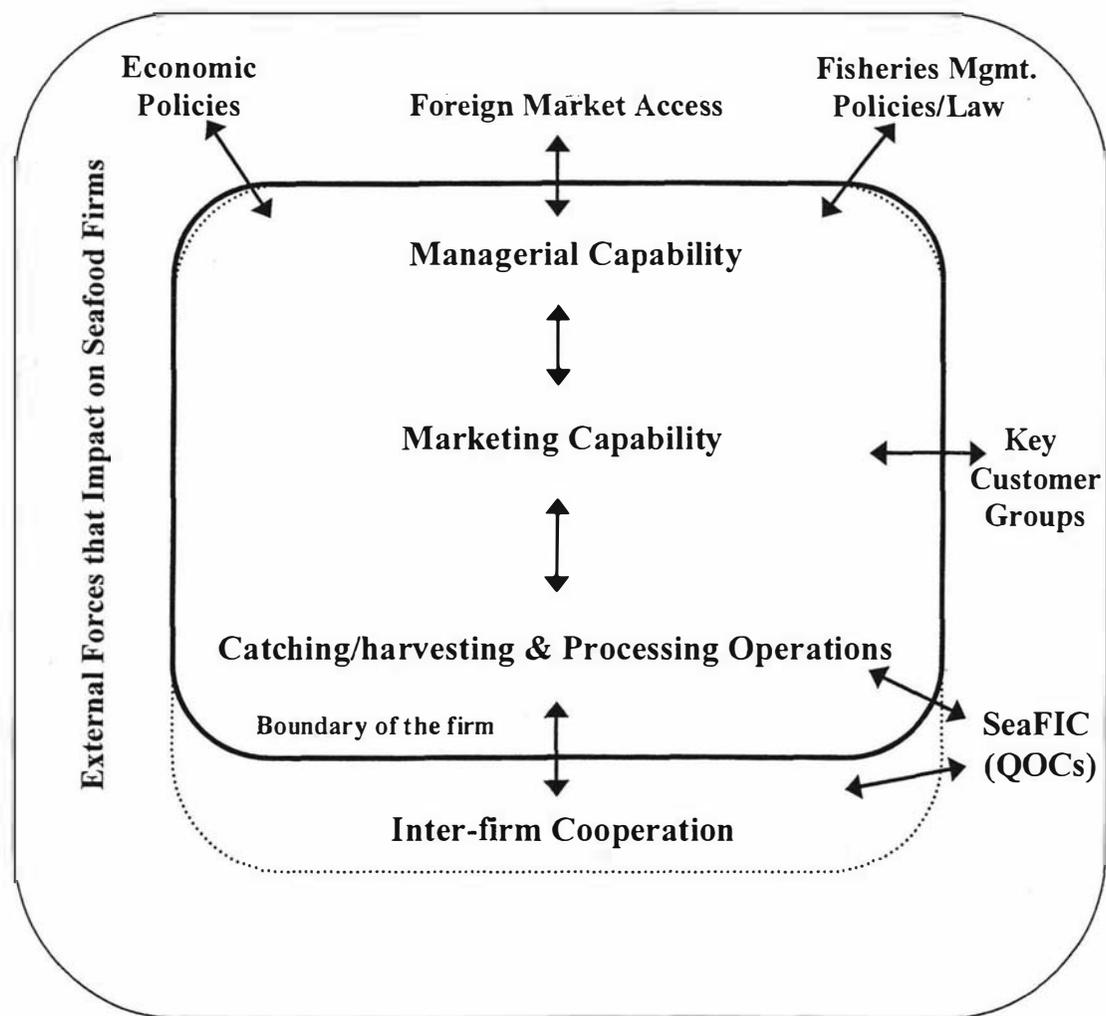
New Zealand seafood firms' coordination of their value chain activities utilises the advantages provided by secure *Property Rights* to the fisheries resource. Such efforts to coordinate all activities requires the seafood firms to operate as open systems which coordinate the demands and requirements of customers while assessing external environmental forces.

This systemic approach to managing highly vertically-integrated seafood firms emphasises the integration of knowledge about the external forces, which is then integrated, or embedded, into internal processes and routines to improve coordination of all activities. As firms respond to these external environmental forces they change, and often change effects the firms' ability to acquire and create new knowledge, which leads to an evolution of capabilities (Helfat, 2000).

Figure 12.2 outlines the systemic nature of the capabilities building process as New Zealand seafood firms manage their vertically integrated operations while adapting and responding to external environmental forces.

The outer area in Figure 12.2 represents the external environmental forces that impact on seafood firm operations. External forces include the New Zealand Government’s economic policies, issues and policies related to foreign market access and fisheries management policies and legislation. Internationally, seafood firms continue to encounter barriers to accessing foreign markets, which provide incentives for seafood firms to take collective action to lobby the Government, as well as take individual actions by way of pursuing joint ventures with partners in the host nations.

Figure 12.2 New Zealand Seafood Firms Operating as an Open System



(Source: adapted from Sanchez and Heene, 1996)

Key customer groups, other seafood firms and industry organisations, represented by SeaFIC and QOCs, are also included in Figure 12.2 as those identified external forces that facilitate or impede seafood firms' building of strategic capabilities.

The continuous inside line represents the boundary of the seafood firm. Within the boundary are the firm-specific strategic capabilities, with *Property Rights* subsumed within *Managerial Capability*, which represents a firm's ability to acquire, create and deploy tangible and intangible resources while coordinating all value chain activities and adapting and responding to external forces.

Marketing Capability focuses on how best to build long-term customer relationships, which then drive the development and deployment of all other strategic capabilities to ensure customer requirements are consistently met.

The *Catching/harvesting and Processing Capability* emphasises the efficient and effective utilisation of firms' secure *Property Rights* to the fisheries resource.

Inter-firm Cooperation represents seafood firms' development of business relationships with other firms and their pursuit of mutual benefits through collective efforts to develop innovations in harvesting, processing, marketing and farm management techniques, as well as involvement in fisheries management-related issues, including research and enhancement programmes. This emerging strategic capability has the most potential to provide new sources of competitive advantage for participants.

The two-way arrows between firms' strategic capabilities represent the processes and routines that link up and coordinate all of their internal and external activities. It is the combination of all the value chain activities and their links that explain how the New Zealand seafood firms in this study have built strategic capabilities to succeed in the highly competitive international seafood market. Their success is based first and foremost on the secure tenure in rights to the

fisheries resource, which provides them with incentives to invest in all downstream activities, including the building of a *Marketing Capability* to ensure enduring customer relationships that are beneficial for the firms. In so doing, seafood firms must act as open systems learning about those external environmental forces that can either facilitate or impede the building of strategic capabilities.

3. Vertical Integration

The answers to the fourth research questions addressed in this chapter require consideration of the seafood firms' opting to develop highly vertically-integrated operations instead of being involved in particular value chain activities. For this reason, it is useful to discuss the vertical integration strategy in imperfect markets.

Vertical integration is commonly used in industries that experience market imperfections in the delivery of, or inputs into, firms' value chain activities. According to the Economic Approach the choice between developing particular value chain activities within the firm or acquiring them through external sources depends on cost and availability. The Economic Approach views vertical integration as desirable when firms can use market imperfections to create competitive advantages through cost savings due to internal control and coordination and by reducing uncertainty in the supply of critical inputs (Porter, 1980).

The Resource Approach views vertical integration as a means of differentiating a firm from its competitors through the makeup of its resource base. The heterogeneity and immobility of a firm's collective resources and capabilities, in combination with the firm's ability to exploit them, provide opportunities to create a competitive advantage that is difficult for competitors to imitate or substitute. The Resource Approach, therefore, views vertical integration as a complex and costly means of creating a competitive advantage.

The firms in this study demonstrate the use of vertical integration that reflects both the Economic and Resource Approaches. The seafood firms have vertically integrated their activities to reduce costs and uncertainty in the supply of critical inputs, particularly security of supply of the fisheries resource, as well as a means of differentiating their products. All of the seafood firms' managers expressed the view that vertical integration is critical to their firms' competitiveness, and that vertical integration has a positive impact on performance.

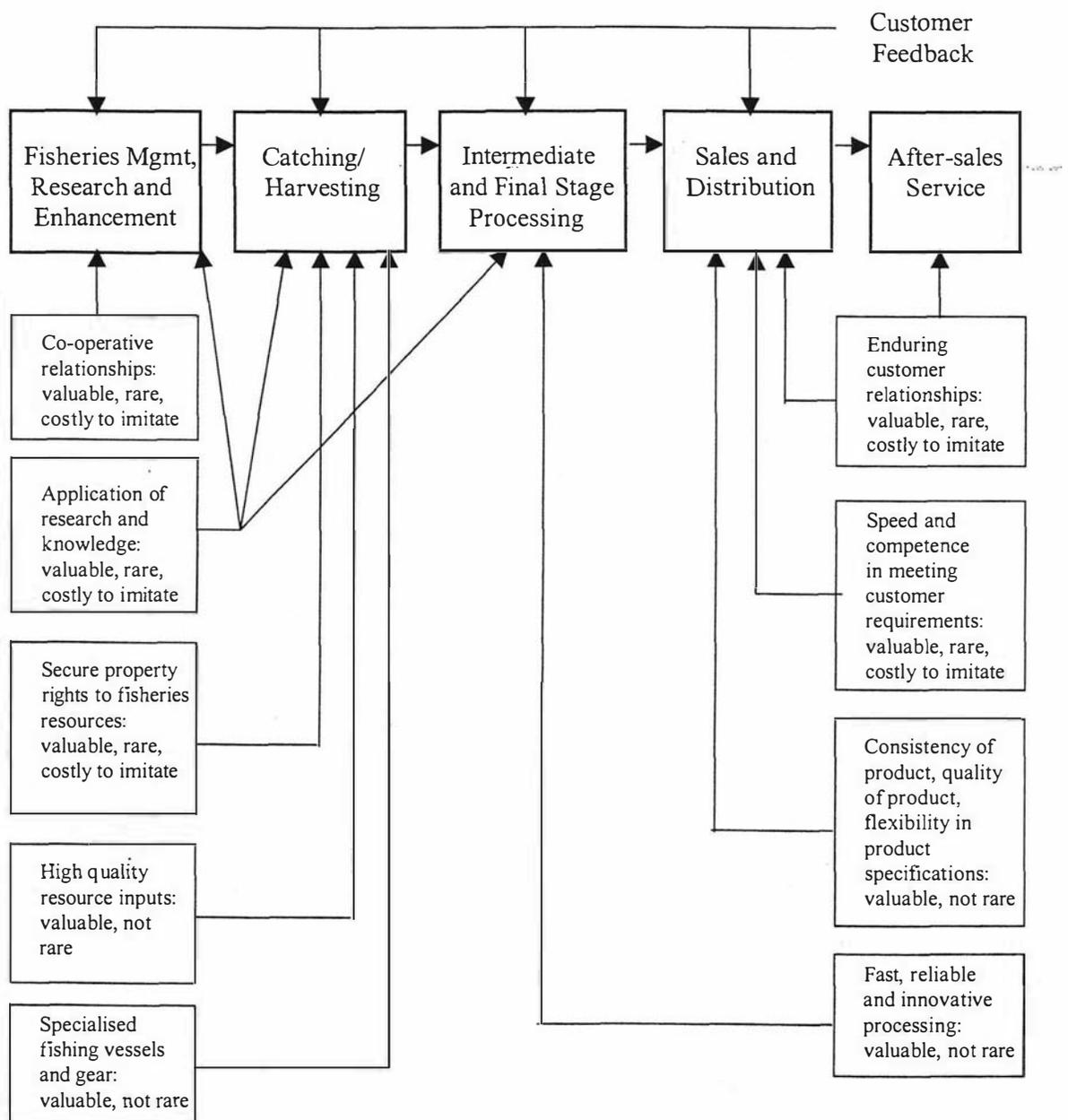
This commonly shared view of vertical integration may be explained, in part, by the relatively limited availability of some critical inputs in the domestic market and the geographical isolation of New Zealand-based seafood firms from other input markets. Notwithstanding these considerations, none of the seafood firms have opted to reverse their vertical integration strategies or entirely outsource any particular value chain activity.

The primary reason that seafood firms in this study have opted to develop highly vertically-integrated operations instead of being involved in one or a few particular value chain activities stems from New Zealand having implemented the ITQ system, with its focus first and foremost on the establishment of security of tenure in access rights to the fisheries resource. No doubt, the security of tenure in provided to ITQ owners has also influenced the Government's view on the expected duration of tenure in rights to coastal space and the seabed for those participating in the aquaculture sector.

The seafood firms' continued commitment to highly vertically-integrated activities would be expected because typically 'complete and total departures from pre-existing capabilities are difficult if not impossible' (Helfat, 2000:958). While all firms in this study remain highly vertically integrated, Sealord Group Ltd. and, to a lesser extent, Simunovich Fisheries Ltd. have reinforced their vertical integration through foreign joint venture arrangements that contribute raw materials and some downstream activities.

New Zealand seafood firms' pursuit of new ways to extract greater value from the fisheries resource explains why they have built up various strategic capabilities into highly vertically-integrated operations. The vertical integration within New Zealand seafood firms have pursued can best be analysed with Barney's (1991, 1995) VRIO framework, as outlined in Figure 12.3.

Figure 12.3 Value Chain and VRIO Frameworks Applied to a Vertically Integrated New Zealand Seafood Firm



The value chain starts with firms' involvement in some fisheries management functions, such as research and stock enhancement programmes. Seafood firms' involvement to date in these functions, along with the expectation that they will have increasing responsibility by way of their respective QOCs and non-QOC organisations, warrants inclusion of this initial stage in the value chain.

As mentioned, seafood firms' collective involvement in fisheries management functions has the potential to further develop *Inter-firm Cooperation* into new sources of competitive advantage that are, to use Barney's (1991, 1995) terms, valuable, rare and costly to imitate by competitors. This is possible because there are few examples in the world where participants in developed fisheries have demonstrated successful cooperation to the extent that some New Zealand seafood firms have.

Figure 12.3 demonstrates the importance that *Property Rights* have for seafood firms establishing value chain activities and the links between them. According to the VRIO framework, secure *Property Rights* are considered valuable, rare and costly for competitors to imitate, for two reasons. First, firms that received the initial allocations of ITQ and access rights to the water column and the sea bed for aquaculture ventures have higher barriers to imitation, since these allocated *Property Rights* were not purchased at market rates, as would be required of would-be competitors. Second, as mentioned, security of tenure in rights to the fisheries resource remains rare elsewhere in the world, providing New Zealand seafood firms with a competitive advantage.

Secure *Property Rights* provide these seafood firms with options for when, where and how to catch/harvest the fisheries resource, adjusted for sustainability measures and management of other non-ITQ fisheries. Secure *Property Rights* provide ITQ owners and participants in the aquaculture sector with appropriate incentives to invest in specialised fishing/harvesting vessels and gear that reflect the expected return on investment. In these highly vertically-integrated seafood

firms, investment in vessels, gear and marine farms are considered valuable for the purpose of ensuring supply and meeting quality standards, but these investments are not rare or costly to imitate because they generally lack uniqueness and supply limitations.

Seafood firms have also made substantial capital investments in processing facilities to ensure that product is processed quickly and reliably, and that processes incorporate innovations developed within the firms and by way of their inter-firm cooperative efforts. The ability to process product quickly and reliably is valuable to seafood firms, but it is not considered rare or costly to imitate.

Some in-house innovations, however, have increased the value and speed of processing while increasing the difficulty and cost competitors have in imitating the processes. At the same time, some seafood firms have developed consistency of product and quality while improving flexibility in meeting varied product specifications. Again, this ability is potentially of great value in meeting customer requirements. However, it is not rare since competitors can imitate this ability at similar cost.

Some seafood firms' sales and distribution activities have developed speed and competence in meeting customer requirements, not only in terms of product requirements but also in terms of agreed delivery times and locations. This activity is considered valuable, rare and costly to imitate since it is linked back to secure *Property Rights* to the fisheries resource and the linking up of all downstream value chain activities. As mentioned, upstream value chain activities are further enhanced with the application of appropriate and relevant research and enhancement programmes undertaken in collaboration with various research institutes both in New Zealand and abroad.

The combining of these various tangible and intangible resources provide New Zealand seafood firms with the ability to build enduring customer relationships, which are valuable, rare and costly to imitate. Several managers in the seafood

firms note that their customer bases remain fairly constant as firms consistently meet their requirements for products, delivery and service and after-sales service. In so doing, seafood firm managers have built up relationships over the years, improving these links with reciprocal visits to each others' locations to understand better customer needs and how to meet them. Customer feedback has been vitally important in aligning all upstream activities and has the potential to influence the start of the value chain, beginning with research projects and stock enhancement programmes.

4. Comparison of Similar ITQ-type Systems

This study's conclusion that secure tenure in *Property Rights* is the basis to seafood firms' competitiveness warrants discussion of the role that *Property Rights* has in seafood firms building highly vertically-integrated operations. For this reason, it is useful to compare this study to a study of Norwegian seafood processing firms and compare similar ITQ-type systems in New Zealand, Norway and Iceland.

Isaksen and Dreyer's (2000) study of vertical integration in the Norwegian seafood processing industry provides some useful comparisons with this study. Isaksen and Dreyer examine the economic effect of Norwegian seafood processing firms vertically integrating backwards towards the catching sector and processing firms' motives for vertically integrating. The economic effect of vertical integration is measured by way of firm-specific financial information from annual surveys of the processing firms. It should be noted that these firms operate in an environment characterised by 'vast fluctuations in supply of a critical input [fish]' (Isaksen and Dreyer, 2000:4).

Isaksen and Dreyer's regression analysis demonstrates a weak or almost no correlation between profitability in the seafood processing sector and backward vertical integration towards the catching sector. Those processing firms that have vertically integrated backwards by purchasing vessels displayed the 'worst

outcome' in terms of return on total capital. Although the Norwegian study demonstrates that vertical integration had little direct positive impact on firm performance, the majority, 85 percent, of seafood firm managers interviewed in the study stated their preference for backward vertical integration to lessen their firms' exposure to the imperfect raw material market. Like their New Zealand counterparts, the Norwegian seafood processing firms' managers had 'a central motive to integrate vertically towards vessels to assure the supply of the most important raw material, fish' (Isaksen and Dreyer, 2000:7).

In an earlier study, Dreyer (1998) applies Barney's (1991, 1995) VRIO framework to the Norwegian seafood processing firms. The application of Barney's VRIO framework is appropriate in Dreyer's study because the seafood firms studied are heterogeneous with regard to the degree of their vertical integration. Institutional makeup of the Norwegian IVQ system has resulted in some seafood firms having ownership in fishing vessels while the vast majority do not. Dreyer's study assumed that these heterogeneous seafood firms would be characterised by their different capabilities, which when applied to a specific setting, result in firms displaying differences in performance.

Dreyer asserts that seafood firms' ability to 'adapt' to 'environmental uncertainty' is a determinate of their competitive position. It follows that those Norwegian seafood processing firms that 'survive' exposure to 'large environmental fluctuations' should demonstrate a greater level of 'flexibility'. Dreyer defines 'flexibility' as a measure of firms' adaptation to 'environmental uncertainty' and assesses it against five 'factors of uncertainty': raw materials, product volume, product mix, gross margins and profitability.

The results of a logistic regression model based on these five 'factors of uncertainty' and four corresponding types of 'flexibility' (volume, labour, product and financial) indicate that 'flexibility is a valuable capability among the Norwegian fish processors in the period studied [1977 to 1995]' (Dreyer,

1998:346). According to Dreyer, the 'surviving' firms demonstrate greater rates of 'flexibility' than the 'failures' who exit the industry, and the 'survivors' do not appear to suffer from productivity losses, despite their relatively high 'flexibility' rating. The results of a test that ranks the different types of 'flexibility' in terms of their importance for firm survival concludes that financial, followed by volume and product, are the most important types. A similar test on 'factors of uncertainty' concludes that profitability, followed by raw materials and product mix are the 'factors' that impact most on firms' ability to survive in highly fluctuating environments.

The view that the Norwegian IVQ system has become too rigid, cumbersome and inefficient (Hersoug et al., 1999) might infer that the IVQ system is ineffective in mitigating the negative impact caused by 'large environmental fluctuations'. In light of the 'environmental uncertainty' facing Norwegian seafood processing firms, it is of little surprise that Dreyer concludes successful seafood firms are characterised by a greater ability to adapt to 'uncertainty' by building different types of 'flexibility'. Dreyer's study not only emphasises the dynamic nature of seafood firms but also the role that management has in responding to 'factors of uncertainty', which characterise most sectors of the worldwide seafood industry.

New Zealand seafood firms encounter similar 'factors of uncertainty', with these factors being inter-related, so that one influences the level of impact that other factors may have on seafood firms. However, New Zealand's ITQ system, and the joint management regime for aquaculture ventures, provide seafood firms with relatively low levels of uncertainty in access to raw materials, which has a corresponding positive impact on product volume and mix. Any mitigation of uncertainty in the supply of the fisheries resource by way of secure *Property Rights* improves seafood firms' ability to mitigate the effect of other 'factors of uncertainty' in downstream activities.

Since the inception of the Icelandic comprehensive ITQ system, the total number of quota owners has decreased, and ITQ ownership has become concentrated among a few large vertically integrated firms (Pálsson, 1999). Almost all of the largest Icelandic seafood firms have become publicly traded corporations so that 'the ITQs are in the hands of fewer fishing firms, but those fishing firms are in the hands of many more people than before' (Gissurarson, 1999:12).

However, caution should be used when making any comparison of the economic consequences that the Norwegian IVQ, the Icelandic ITQ and the New Zealand ITQ systems may have on their respective seafood firms. Such caution is advisable because of the lack of available quantitative data on the performance and operations of New Zealand seafood firms. While publicly traded Icelandic seafood firms must disclose their financial statements, and Norwegian seafood firms are required to disclose financial and production data through an annual survey, 'Driftsundersøkelsen i Fiskeindustrien', New Zealand seafood firms, other than one closely-held, publicly traded firm, are not required to disclose quantitative data to the public, and very little data is released. This discrepancy in accessible quantitative data between Icelandic, Norwegian, and New Zealand seafood firms obstructs efforts to undertake economic and financial comparisons.

What is of value in the above comparison is that all three nations' fisheries management systems provide individual seafood firms with incentives to vertically integrate, with Norway's IVQ system's institutional restrictions providing the least secure private property rights, resulting in few highly vertically-integrated seafood firms. At the same time, because New Zealand's ITQ has characteristics closest to the ideal private property right, as outlined in Chapter 2, New Zealand seafood firms have more secure tenure in access to the fisheries resource, therefore, the greater incentives to vertically integrate relative to most overseas competitors. This comparison substantiates the view that the New Zealand ITQ system, and to a lesser extent the joint management regime for aquaculture, provide New Zealand seafood firms with relatively secure *Property*

Rights upon which to invest in vertically integrated operations to succeed in the highly competitive international seafood market.

Summary

The chapter describes how New Zealand seafood firms have built up and deployed resources into strategic capabilities based on the importance of sustainably managing fisheries and security of tenure in access to the fisheries resource. It follows that once secure access to the fisheries resource has been established, New Zealand seafood firms will in time pursue new opportunities to reduce their offerings of lower valued commodity products by extracting increased value from the fisheries resource. Seafood firms have developed highly vertically-integrated structures that link up several strategic capabilities, including *Property Rights*, *Harvesting/catching and Processing Operations*, *Marketing Capability* and the rarest and most valued, *Managerial Capability*. Now that the seafood firms have established themselves in the highly competitive international seafood market, the next challenge is to explore new ways of undertaking *Inter-firm Cooperation* to sustain their competitiveness.

This study identifies a pattern in the capabilities building process, which is less a series of sequential steps and more a continuous interaction among interrelated activities, events and demands. However, the pattern does follow a sequencing of steps, beginning with securing access to the fisheries resource. The capabilities building process is systemic as seafood firms manage their vertically integrated operations while adapting and responding to external environmental forces. Comparison of ITQ-type systems demonstrates that the quality of private property right characteristics has implications for seafood firms developing vertically integrated operations. The security of tenure in access to the fisheries resource provided by the New Zealand ITQ system allows seafood firms opportunities to create sources of competitive advantage through vertical integration to a greater level than is provided to their overseas competitors that operate under different management systems with less security of tenure in access rights.

Chapter 13

Conclusion

Introduction

The previous chapter provides insights into the concepts of strategic capabilities and the capabilities building process that have emerged from this study. These concepts highlight the simultaneous interaction of various tangible and intangible resources that provide sources of competitive advantage for seafood firms operating in the highly competitive international seafood market. Also identified are those external environmental factors that can impede or facilitate seafood firms' international competitiveness.

This final chapter outlines recommendations on how New Zealand seafood firms can sustain their international competitiveness. The chapter answers the fifth and last research question:

5. What changes in strategic capabilities need to occur for a seafood firm to obtain and sustain competitive advantage?

In recognition of the systemic nature of the capabilities building process, the answers to this last research question are aimed at all those directly and indirectly

involved with New Zealand seafood firms. It is intended that the relevance of the strategic capabilities and the capabilities building process concepts, as presented in this study, will be considered by a wide spectrum of individuals and Government and non-Government organisations so they understand better how individual and collective actions can facilitate or impede firms' capabilities building processes. For this reason, answers to the last question overlap with those of the fourth research question concerning factors that have facilitated or impeded the build up of strategic capabilities.

This chapter has two sections. The first section outlines the study's recommendations for Government policies and legislation for the capabilities building process. The second section outlines implications and advice for seafood firms' senior managers concerning the need to find new ways to enhance comprehension of a firm's operations and how they are linked and to communicate these links throughout the firm. Both sections link the implications and advice to previous chapters so they are understood within a historical context. The sections also provide some direction for future research.

Although the four seafood firms in this study have built up heterogeneous resources that differentiate them from other New Zealand-based seafood firms, they operate in the same macro-environment. Thus, the insights provided in this and the previous chapter should be generalisable to other seafood firms of similar size and levels of vertical integration. It is expected that the study will also provide a more comprehensive understanding of firm-level competitiveness that has broader application to firms in other industries, particularly other natural resource-based industries.

Recommendations for Government Policy and Legislation

The history of fishing in New Zealand involves continuous challenge and change. The management of fisheries has undergone significant and, at times, radical changes. Over the years, New Zealand fisheries have been managed under very different and sometimes conflicting types of management regimes. Now that

the ITQ system has been operative for 15 years, the property rights it established remain secure and irreversible. The ITQ system clearly has the support of Government which has frequently held the system up as the principal example of successful application of private property rights to fisheries management and as one of the most innovative approaches to managing wild fish stocks

In the span of time considered in this study the New Zealand seafood industry has experienced dramatic growth in volume and value, unparalleled levels of investment and generally improved fish availability due to developments in stock assessments and implementation of rebuilding strategies. This growth is directly attributable to seafood firms having had the security of tenure in property rights provided by the ITQ system and the legislation regulating the aquaculture sector. Secure access to the fisheries resource warranted substantial capital investments in world-class fishing vessels, marine farm ventures and technologies and processing facilities, both at-sea and onshore. Investments made in these tangible resources have created highly vertically-integrated seafood firms intent on substituting reliance on low-grade, low-priced products sold in commodity markets with the production of high quality and high value products.

However, this study raises issues for the future competitiveness of New Zealand seafood firms. The policy-related issues raised in this study stem from the role the Government adopts towards economic and business development. Consideration of the impact Government policies can have on the competitiveness of individual firms and industries is exemplified in the intent behind the radical economic reforms beginning in 1984. The Government's intent was to revitalise the nation by removing subsidies and distortions while encouraging economic growth, efficiency, and competition in a price stable environment. The result has been that participants in the seafood industry, as well as other export sectors, have had to adjust to rapid increases in competition within domestic markets for the sale of end products and the purchase of input factors of production.

Government policies have also impacted on firm- and industry-level competitiveness through implementation of macro-economic policies, which have caused extreme fluctuations in the value of the New Zealand currency during the mid- to late 1980s and again in the mid- to late 1990s. During the 1990s, for example, the New Zealand currency steadily appreciated in value, forcing seafood firms to reassess their build up of import-dependent resources while increasing their focus on cost reductions. Similarly, the subsequent rapid depreciation of the New Zealand currency caused some firms to experience significant reductions in their financial performance due to outstanding forward currency exchange coverage that was in place at the time. However, the rapid currency depreciation also helped to boost export market opportunities and overall earnings.

These examples of Government-induced impacts on firm- and industry-level competitiveness confirm the view that the insights provided by the Economic Approach's consideration of external environmental forces complement those of the Resource Approach (Grant, 1991a; Collis, 1991). These examples also provide an insight into the relevance of national competitiveness when assessing individual firm- and industry-level competitiveness.

In light of the widespread use of national subsidies and protectionist policies available to several overseas competitors in the international seafood market, it should be noted that the New Zealand Government's deliberate intent not to subsidise or protect industries or firms has required seafood firms to take an active role, both individually and collectively, to enhance their international competitiveness. The question for seafood firm managers, Government policy makers and industry analysts is whether any changes to Government legislation and policies could further enhance the competitiveness of individual seafood firms.

It is commonly recognised within the seafood industry that the full economic and biological potential of New Zealand's fisheries has yet to be realised. The

underlying mood within the seafood industry is one of confidence in the future, and there is general agreement that more commercial species should be managed under the ITQ system. The main reason for the seafood industry confidence is that at every major crisis point the ITQ system has emerged stronger and better specified. The system has taken most of the last 15 years to outgrow its experimental and tentative status, keeping in mind that upon its introduction, ITQ was a radical departure from other fisheries management systems throughout the world.

Given that secure tenure in property rights plays a critical role in seafood firms' competitiveness, this study contends that Government policies should be based on this important aspect of competitiveness. Secure tenure in property rights provides firms with incentives to develop highly vertically-integrated operations which, in some contexts, equip firms with opportunities to compete internationally that may not be available to competitors.

This reminder raises concern about Government legislation and policies that underpin the ITQ system and the joint management regime for the aquaculture sector. Those seafood firms involved in ITQ fisheries want consistency and continuity in legislative protection of their property rights, while those involved in non-ITQ fisheries want the Government to provide them with more security of tenure in access to the fisheries resource in a way that is integrated with ITQ fisheries, thereby avoiding spatial conflicts between ITQ and non-ITQ fisheries.

The Fisheries Act 1996 defines the role of central government in fisheries as providing for the 'utilisation of fisheries resources while ensuring sustainability'. In practice, this should include:

- Establishing the rules and regulations that enable successful and sustainable fishing activity,
- Ensuring that property rights are clear, appropriate and enforceable,
- Transferring management responsibilities to property rights holders,

- Co-ordinating collection and provision of information to fisheries stakeholders, and
- Ensuring the effectiveness of management frameworks and systems.
(Bess and Harte, 2000)

While the Government has taken steps toward fulfilling this role, further action is needed. Fundamental to the future success of the seafood industry is the establishment by Government of clearly defined and appropriate rights and responsibilities for marine farmers in a way that is compatible with the rights of ITQ owners. Failure to further develop the ITQ system and reform aquaculture legislation may incline fishers to adopt short-term perspectives towards fisheries management. As Jentoft et al. (1998) suggest, fishers do not easily accept government intervention, especially when the intervention does not make sense in the way they see their problems, know their fishery, and have learned to understand the marine environment.

Early in 2001 MFish committed resources to fully implement the ITQ system and announced its intention to introduce most of the remaining commercially valued species into the system over the following three years. Although marine farming has not come under the ITQ system, there is growing recognition that its integration with ITQ fisheries must be improved. Recent government and stakeholder initiatives to better define and manage marine farming rights have been welcomed by the commercial sector. Starting mid-2000, MFish began reforming the management of aquaculture, working closely with the Ministry for the Environment, *tangata whenua* (people of the land), TOKM, the New Zealand Aquaculture Council, SeaFIC and regional councils (MFish, 2001).

Furthermore, MFish intends to implement fisheries plans as a way to specify medium- to long-term management objectives for a fishery and as a way to bring stakeholders together to explore options for mutually beneficial outcomes (MFish, 2001). Fisheries plans involve the Government-supported initiative for

co-management principles, even though the term 'co-management' appears less acceptable to Government policy makers.

The time is right for further development of the New Zealand fisheries management system by adopting co-management principles. As noted previously, a potentially highly valued source of firm- and sector-level competitiveness could arise with legislative changes that provide legitimacy to the co-operative efforts of the seafood firms by way of their industry organisations, such as QOCs. Only the Government, through legislative and policy instruments, can define and legitimise power-sharing and decision-making arrangements that legally establish and defend property rights holders' security of tenure in access to the fisheries resource (Pomeroy and Berkes, 1997). MFish's intention to implement fisheries plans appears to be the legislative instrument for this purpose.

It is expected that New Zealand's scientists, government officials, seafood industry and environmentalists will continue to work together to evaluate high-level specifications for management procedures that will lead to further enhancement of sustainable fish stocks. This approach may also provide new ways of harvesting fish stocks that will reduce harvest and compliance costs. Other potential benefits could arise through shared marketing efforts. If the implementation of co-management principles can bring about these outcomes, it would contribute towards enhancing the competitiveness and performance of individual firms and sectors of the industry.

However, the seafood industry must assure the Government that property rights holders' organisations and systems provide for sustainability of their fisheries. Property rights holders' organisations need to be relatively free to structure their arrangements so that they can best contribute to the development of management frameworks that provide for and deliver the utilisation of the fisheries resource while ensuring sustainability. In so doing, both marine farmers and ITQ owners can develop management frameworks that efficiently utilise their fisheries in

ways that reduce potential conflicts between fisheries and provide a consistent basis for resolving conflicts when they arise (Bess and Harte, 2000).

Co-management is a dynamic and interactive process that evolves and changes over time in response to a variety of factors. It is time-consuming, and the process requires long-term government support and commitment that should ultimately lead to management approaches that are efficient, equitable, empowering and sustainable (Hauck and Sowman, 2001). The success of New Zealand's marine farming sector has already demonstrated that for co-management to work, the focus of collective efforts must remain on innovation, integration and sustainable resource use.

Similarly, the concepts of *tikanga* (customary values and practice) and *kaitiaki* (guardianship of resources) connote a sense of co-operation, trust and sustainability of the ecosystem, as well as spiritual connectedness to the environment, which continues to elude many Pakeha in the seafood industry. As well, the Government has yet to fully grasp the way Maori view resource use, including customary rights. The Government still has before it the challenge of conceptualising the Maori world view and implementing it into government policies and institutions. If the Maori world view can be grasped by Government officials and policy makers, there will be a reassessment of assumptions about fisheries institutions and frameworks beyond what was required when addressing Maori commercial fishing rights during the 1980s. This challenge before the Government will continue to mount as Maori gain a greater level of involvement in the seafood industry and society at large.

Changes in the Government's outlook towards the use and management of the fisheries resource could well provide the incentives needed for seafood firms to explore new ways to build inter-firm cooperative arrangements. The unleashing of further creative and entrepreneurial efforts among seafood firms could lead to reconfigurations of value chain activities that enhance individual and collective competitiveness. Although it is easy to recommend that the Government and

seafood firms and their industry organisations take steps to create an environment that encourages further *Inter-firm Cooperation*, potential areas for conflict persist. While this study highlights the unique level of cooperative efforts that has occurred within certain sectors of the seafood industry, it should be remembered that distrust remains high between some industry participants and between some participants and MFish.

Further conflicts may arise should some seafood firms' managers feel pressured to agree and contribute to their sectors' cooperative efforts when they are not convinced their contributions will provide firm-level benefits in the near or distant future. For this reason, the Government could also provide various types of assistance and service for property rights holders' organisations, such as coordinating a formal administrative structure and holding forums to maintain constructive interaction between various stakeholders.

Firm-level Implications and Advice

This study contends that seafood industry participants should continue to influence Government policies and legislation to provide legitimacy for their cooperative efforts. In so doing, seafood industry participants should understand the potential mutual benefits resulting from further cooperative efforts, which inclines them to acknowledge the limitations caused by continued inter-firm competition and, on occasion, antagonism that deliberately hinders firms from reaching their objectives.

This study advises seafood firm managers to give further consideration to the conditions under which inter-firm cooperative efforts can provide their firms with further opportunities to mitigate 'factors of uncertainty', thus increasing the probability that individual firms and entire sectors of the industry can survive potentially large fluctuations in environmental conditions. Inter-firm cooperative efforts can assist individual firms to avoid operating in a state of 'competitive isolation' that could potentially lead to their demise.

Furthermore, to better understand the economic benefits and incentives created by New Zealand's fisheries management system, it is recommended that the seafood industry and MFish undertake comparative studies with other nations that have implemented ITQ-type management systems, particularly Norway and Iceland, and Australia because some New Zealand-based seafood firms are expanding into Australian fisheries. Similar cross-national studies with other coastal nations involved in aquaculture should also take place. Cross-national comparative studies could provide new insights into the sustainability of the fisheries resource, economic and strategic insights into the resource requirements for successful vertical integration, as well as a clearer understanding of how macro-economic policies can impede or facilitate firm-level competitiveness.

The lack of access to firm-specific financial data on New Zealand seafood firms makes it impossible currently to undertake quantitative comparative studies on variations in firm-level performance. While all of the seafood firms in this study have their own measures or indicators of success, until further data is made available any attempts at comparative studies will be based solely on senior managers' accounts of their respective firms' performances, with no means to objectively verify their accounts. This study advises that seafood industry organisations seek ways to improve the quality and accessibility of firm-level and sector-level financial and operational data so that comparative studies can explore ways to enhance firms' competitiveness.

For the seafood firms to continue enhancing their international competitiveness, it is suggested that they use the concepts outlined in this study to explore new ways to shape and re-shape their bundles of resources into distinct and unique combinations that meet ever-changing customer requirements. If the New Zealand Government does provide legislative legitimacy to property rights holders' organisations, seafood firms should seriously pursue alternative arrangements for particular value chain activities to improve the production and delivery of their products and develop new markets, including outsourcing and

joint venture arrangements with partners who share the same level of commitment to meeting customer requirements.

Sealord Group Ltd., and to a lesser extent Simunovich Fisheries Ltd., already demonstrate that individual seafood firms do not require direct ownership of all inputs into particular value chain activities in order to build up particular strategic capabilities. These seafood firms demonstrate that *Inter-firm Cooperation* can assist a seafood firm's pursuit of overseas growth opportunities.

The challenge for these firms and others is to explore new ways of *Inter-firm Cooperation* that may well unleash creative potential within each firm that can provide mutual benefits. Benefits may arise for those seafood firms that enter into business arrangements with iwi or other Maori groups. When the pre-settlement and settlement assets are allocated to Maori, opportunities will likely arise for existing seafood firms to develop business arrangements with Maori.

To improve the integration of various types of knowledge, this study recommends that seafood firm managers consider the concept of 'comprehension' referred to in Chapter 1. The literature is increasingly clear that in a dynamically competitive environment a knowledge-based orientation is essential to sustaining a competitive advantage and superior performance, and comprehension is integral to the management of strategically relevant knowledge. Thus, comprehension has been identified as a critical aspect of management decision making that impacts on firms' ability to meet their objectives (McGrath et al., 1995; Miller, Burke and Glick, 1998; Simons, Pelled and Smith, 1999).

This study cites interaction between senior managers at Simunovich Fisheries Ltd. as an example of successful comprehension. The senior managers stated that their method of interaction provides a sense of camaraderie, a sense of humour and a strength of purpose that allows them to collectively make better decisions than would be possible if they acted individually. However, the interaction

between senior managers during decision making and the resulting dissemination and implementation of decisions are aspects of management that virtually all firms can improve.

Because a successful vertical integration strategy relies on comprehension and dissemination of strategically relevant knowledge, this study concludes that the single greatest potential gain for individual firms could well lie in senior managers' reviewing the nature and extent of their interactions, their comprehension of value chain activities, and their firm-wide communication-oriented processes and routines to support the capabilities building process.

Managerial Capability, particularly its comprehension and integrating aspects, is embedded within a firm and, therefore, remains largely unobservable from outside, creating barriers that impede competitors' ability to acquire, imitate and substitute this source of advantage. At the same time, the building of long-term customer relationships inevitably reveals some critical aspects of a firm's *Marketing Capability*. Although this study concludes that the desire to develop enduring customer relationships drives the development and deployment of all other firm resources, it is the *Managerial Capability* that provides the greatest mechanism for sustaining a firm's competitive advantage.

It is conceivable that Lippman and Rumelt (1982) are correct in stating that the sources of competitive advantage are ultimately incomprehensible. Therefore, the factors responsible for performance differentials between firms would resist precise identification. Comprehension and the ongoing integration of various types of knowledge by way of internal processes and routines demonstrate the importance of managers' numerous small decisions that develop, nurture, and exploit firm-specific resources but yet remain largely unobservable because of their causal ambiguity and social complexity. Hence, this study encourages seafood firm managers to continually reconfigure their firms in ways that shape and reshape bundles of resources into distinct and unique combinations that consistently serve ever-changing customer needs.

Hypermedia References

- HREF 1: www.dataunit.rbnz.govt.nz The New Zealand Reserve Bank
- HREF 2: www.oecd.org/std/gdp.htm The Organisation for Economic Co-operation and Development
- HREF 3: www.forfas.ie/report/ncc/what.htm The National Competitiveness Council (USA)
- HREF 4: www.nzsa.co.nz/futureactive The New Zealand Software Association (NZSA)
- HREF 5: www.stepsahead.org.nz The New Zealand National Party
- HREF 6: www.seafood.co.nz The New Zealand Seafood Industry Council
- HREF 7: www.comms.fish.govt.nz The New Zealand Ministry of Fisheries
- HREF 8: www.nmfs.noaa.gov National Marine Fisheries Service (USA)
- HREF 9: www.iser.uaa.alaska.edu The Salmon Market Information Service (USA)
- HREF 10: www.seamarkets.alaska.edu University of Alaska, Seafood Market Information Service (USA)
- HREF 11: www.affa.gov.au/ocvo/fhu/aquaplan.html The Australian National Strategic Plan for Aquatic Animal Health.
- HREF 12: www.sealord.co.nz Sealord Group Ltd.
- HREF 13: www.gendor.com Gendor Fishing Ltd., a joint venture of Sealord Group Ltd.

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