# Business Models and Performance Indicators for AgriBusinesses

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# Chapter 1
# Introduction

This research was undertaken as the result of an Operational Research grant from the Ministry of Agriculture and Forestry. The purpose of the research is to provide information to assist in policy development for the New Zealand agribusiness sector. This project investigated business models and performance indicators for agribusiness firms, exploring the relevance and applicability of these models particularly for small and medium-sized enterprises (SMEs).

The project has issued interim reports at several milestones in this year-long project. The first report reviewed the literature, both national and international on business models of development and their associated suite of indicators. The second report reviewed the indicators currently used in agribusiness, including governmental statistics and industry data. This report examined success models specific to agriculture and brought together the research from the prior report on general business models and the research specific to agriculture to identify the important information gaps. The third report presented the results of fieldwork collected through case studies, qualitative interviews, and questionnaires conducted to assess how applicable models of business success are to the agribusiness sector. The fourth report briefly reviewed business model theory including taxonomy and function before proposing a firm level model and indicators for New Zealand agribusinesses.

This report, the final for the project summarises previous findings and presents a new model for business success tailored to agribusiness. From this indicators are developed and policy conclusions are drawn. The report is organised into chapters. The second chapter provides a review of several standard business models including the Firm Foundations, Five-Stage SME, Balanced Scorecard, Business Culture and Personality, Sustainability-oriented, and Best Practice. Chapter 3 reviews the indicators currently collected and provides an analysis of the gap between standard and agribusiness model indicators, and between the information currently collected and that required for monitoring agribusiness health or success. The fourth chapter outlines the fieldwork completed for this project, providing a summary of the findings from the interviews and survey of kiwifruit growers and sheep and beef farmers. Chapter 5 outlines the proposed firm level model for agribusinesses. This chapter describes the key elements of the model and their interrelationships, and discusses the model's indicators. The final chapter of the report identifies the implications of this research, highlighting some potential gaps in government policy and support for the agribusiness sector.

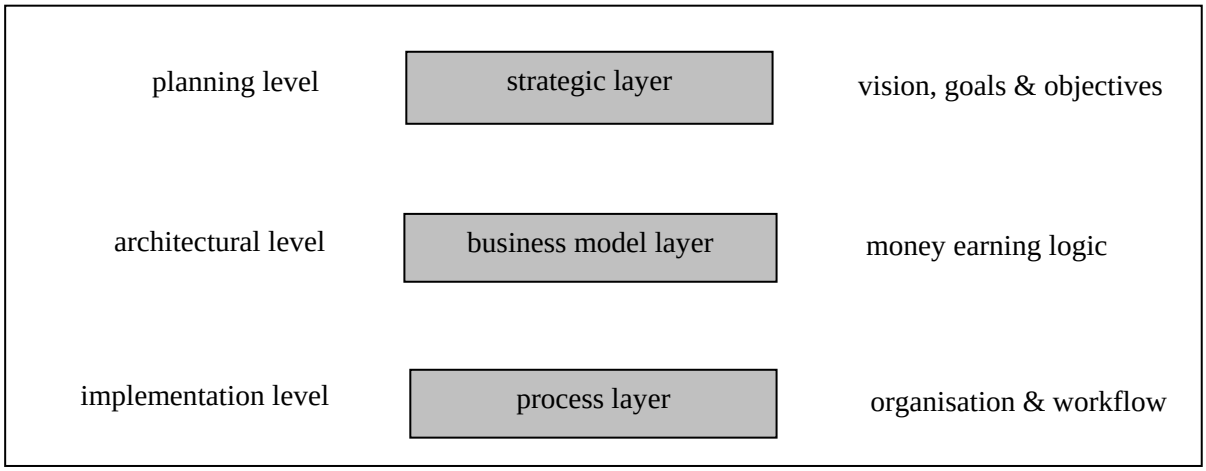
# Chapter 2
# Review of Models of Business Success

## 2.1 The business model

Although the concept of business models has been around for some time, there is no generally accepted definition for this term (Morris, Schindehutte & Allen 2005; Shafer, Smith & Linder, 2005). This has led to some confusion in terminology with business model, business concept, revenue model, economic model and strategy being used interchangeably. The term business model has also been used to variously describe a firm's architecture, design, methods, plans and assumptions. A business model may be viewed as a description of a firm's commercial relationships with industry participants, as a conceptualisation of the firm's business structure and processes, or as a more comprehensive perspective including a firm's position in the value chain and an outline of key business relationships and economic attributes.

Morris et al.'s (2005) review of 30 business model definitions found that these models could be sorted into three general categories, that is, economic, operational and strategic. Each category comprises a unique set of decision variables, the economic category involving the least number of decision variables and the strategic category the most. Osterwalder (2004) adopts a similar perspective, categorising a firm's activities into thee layers, that is, strategic, business and process. Figure 2.1 outlines the different layers of business activity, indicating the level of detail captured at each layer. Morris et al's and Osterwalder's research indicates that organisations vary in the way in which they use business models to consider their activity, and that the amount of detail considered varies depends on whether the firm is considering strategy, business operation or a particular business activity. A further way of considering the business layer/category approach is to view each layer as representing a different time horizon. The strategic layer focuses on the longer term, the operational layer on the medium term, whilst the economic (or process) layer considers the more immediate business concerns.

**Figure 2.1: Business layers**

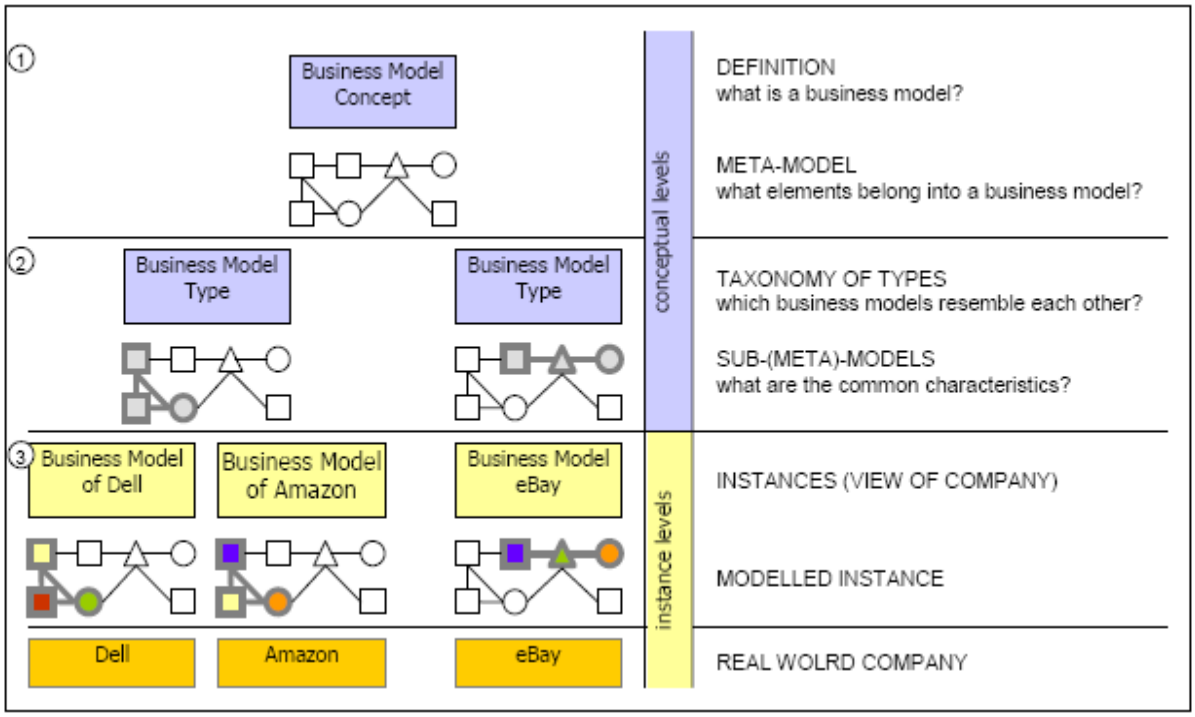



Source: Osterwalder, 2004

## 2.2 Taxonomy of business models

In addition to considering a firm's activities at economic, operational and strategic levels, business models can also be used to examine units of analysis larger than an individual firm. Osterwalder, Pigneur and Tucci (2005) note that business models can be applied at different levels of business (see Figure 2.2). The highest level is an abstract view (i.e. meta-model) that can be used to describe all businesses, offering a generic perspective. At the intermediate level there are a number of business model types that describe businesses with common characteristics and can be used to describe a particular sector or industry. At the lowest level are business models portraying specific companies. The Firm Foundations business model is probably best positioned between the abstract level and intermediate level as this model identifies the common characteristics of successful New Zealand businesses. However, to effectively portray the New Zealand agribusiness firms, a lower level business model is required.

**Figure 2.2: Business model concept hierarchy**

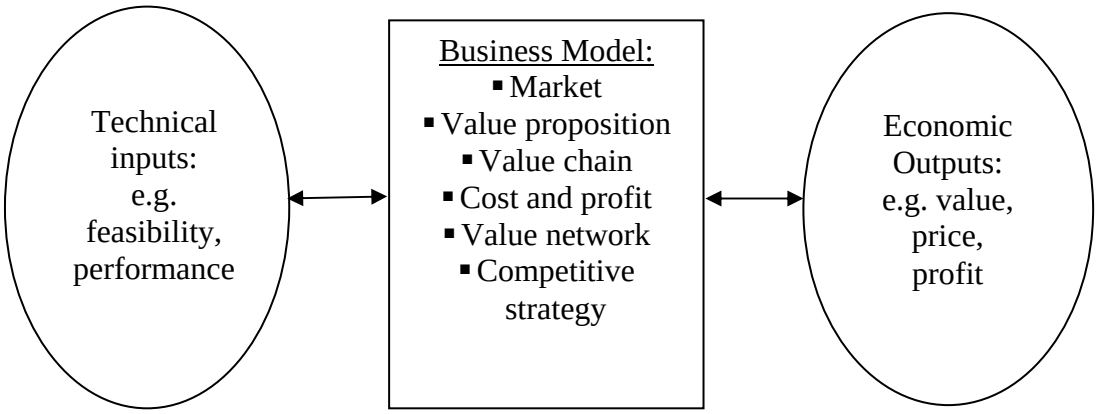



Source: Osterwalder et al., 2005

## 2.3 The functions of business models

Chesbrough and Rosenbloom (2002) propose that business models can be positioned between the technical inputs and the economic outputs of a firm and contain six elements that: articulate the value proposition, identify the market segment, define the structure of the value chain, estimate the cost structure and profit potential, describe the position for the firm within the value network, and formulate the competitive strategy. Figure 2.3 provides an outline of this model.

**Figure 2.3: The business model mediates the technical and economic domain**




Source: Chesbrough & Rosenbloom, 2002

Business models have become an important planning, analytical and policy tool. They enable firms to analyse the structure of a particular sector, plan business ventures, and monitor ongoing performance. They also enable policy makers to understand the key elements of business activity within a sector. Models of successful business development provide policy-makers with tools to facilitate business development and overall socio-economic growth strategies. Substantial research effort has focused on developing theoretical, descriptive models as well as empirical models that consider cross-sectional and/or time-series analyses. Recent models have expanded their focus from traditional factors such as quality control, financial returns and product development to more holistic perspective covering interactions between the traditional factors and other key factors which assist growth, e.g., technology, export intensity and skills and talent. Models have also been expanded to include environmental and social factors.

Economic models and indices of business success allow firms and policy makers to identify the essential variables and attributes of development and to prioritise them in a manner suitable for an evolving business environment. These models and indices help firms and policy-makers to:

- monitor progress towards economic goals,
- measure performance versus benchmarks,
- contrast their progress with that of competitors, and
- evaluate the underlying factors which affect outcome.

In addition, they help policy-makers in setting, evaluating, and modifying economic policies.

Lewis (2006) groups models into four categories, each with a different focus. The four focuses are: owner personality and capability, organisation development, business management, and sector-specific. The models chosen for review in this report look at three of these four categories. The Business Practices and Performance model used in the Firm Foundations report (Knuckey et al., 2002) is an example of a model focused on business management. On the other hand the five-stage growth model focuses on the path that

organisations follow as they develop. The Balanced Scorecard approach is another business management model considered here. Finally, additional models, including ones focused on owner personalities, are also reviewed briefly.

## 2.4 Business Practices and Performance/Firm Foundations Report

This project draws heavily upon the Firm Foundations report (Knuckey et al., 2002). This project uses a Business Practices and Performance (BPP) model, applying it to a wide range and extensive sample of NZ business to assess capability and issues around business development in NZ. An aim of the report most relevant here was to better inform businesses, their advisors and government policy makers on the factors which are key in developing successful business. This was to enable better policy making and advice. This report has been used extensively especially in the Ministry of Economic Development to establish policies and indicators to enhance and measure business success. The major aim of the present research project is to evaluate how relevant these are to agribusiness and how they may be adapted.

The BPP model reported in the Firm Foundations report (Knuckey et al., 2002) is adapted from the models used in the 'Leading the Way' (Australian Manufacturing Council, 1994) and 'Gearing Up' (Knuckey, Leung-Wai & Meskill, 1999) reports. These models were developed from the literature and emphasise the holistic aspects of business development and the importance of 'good practice' and a coordinated and cooperative approach. The model brings together various concepts and theories of business development including core competencies, distinctive capabilities, competitive strategy, organisational culture and learning organisations.

The BPP model emphasises that businesses that adopt a coordinated, cooperative approach over all aspects of their business (including employees) tend to outperform others. The model integrates the various concepts above to assess how they affect success.

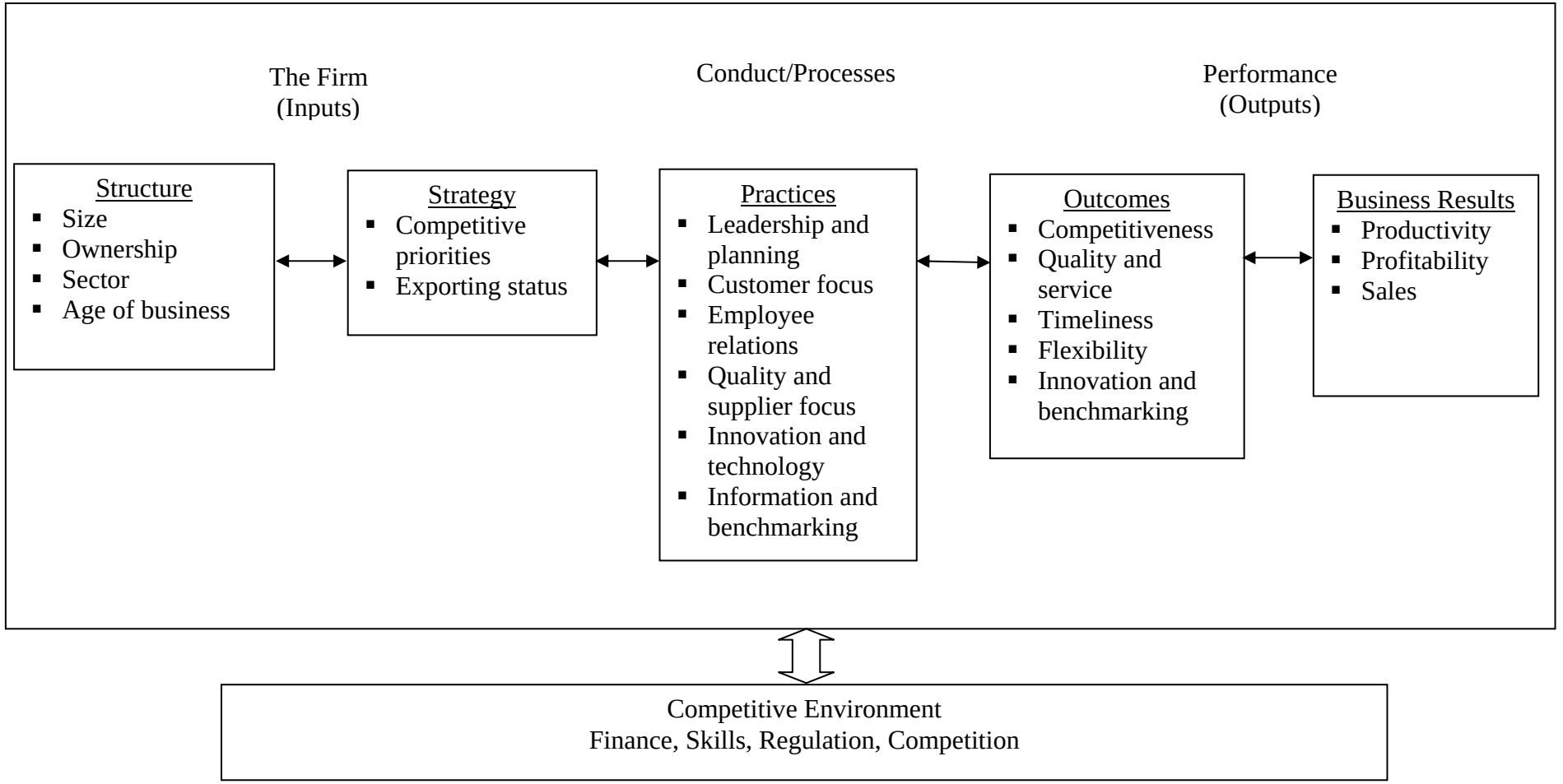
The following key elements are considered in the BPP model:

i. Structural Issues
ii. Strategy
iii. Conduct
iv. Outcomes
v. Business Results
vi. Competitive Environment

The BPP model attempts to draw together these aspects and then test to see if they relate to business performance and to determine which factors are important.

An outline of the Firm Foundations model is provided in Figure 2.4. The five components can be grouped into the three elements of the firm, processes and performance/outcomes, groupings that are broadly consistent with Chesbrough and Rosenbloom's model (i.e. inputs, business model and economic outputs). The Firm Foundations model offers a more holistic view, incorporating inputs and outputs into the business model situated within a wider environment.

**Figure 2.4**: **Firm Foundations Model**




Source: Knuckey et al. 2002

### 2.4.1 Results from the Firm Foundations report

The Firm Foundations report survey data was analysed by grouping results into six key areas of strategy/practices, leadership and planning, employee practices, quality and supplier focus, customer focus and information and benchmarking.

Barriers to business performance appeared to be different from industry to industry:

- Fluctuating foreign exchange and the access to the international market are considered as the main barriers by firms in the agriculture, forestry and fishing industry.
- Access to finance has been the main barriers to the firms in construction, cultural and recreational services and communication.
- Access to leading technology has been the main barrier to the firms in technology intensive industry, and business owners in communication services and insurance.
- Management skills are considered a barrier by some firms in the education, manufacturing, agriculture and restaurant business.

Overall, a key factor in business success was well-defined leadership and planning. This is an essential attribute for NZ firms, as many of them are small, relative to their competitors in the highly-competitive global markets. Leadership involves identifying the vision, setting the firm's aim, purpose, and goals. It requires consultation with stakeholders, harmonising shared values and developing a common culture throughout the firm. Leadership also promotes the firms role in contributing to the welfare of the wider community.

The BPP provides a model for defining business success and identifying strengths that separate leaders from laggers. The model is useful because it provides a framework for understanding and assessing a range of factors that contribute to success. It is also useful to consider the BPP model when assessing business success in New Zealand because the Firm Foundations research is available as a benchmark based on a robust and extensive survey of New Zealand businesses.

## 2.5 Five-stage SME model

One model that examines the growth of SMEs is the stage model. The idea that a business develops through a number of definite stages can be traced to the Rostow's (1960) model of economic development. The idea was applied to individual businesses in a life-cycle model (Greiner, 1972), which focused on a business's age and size. In an examination of the relationship between personal and business experience and learning, Greiner (1972) asserted that business growth occurs through phases of stable expansion punctuated with periods of crisis – which may result in growth opportunities being created via adaptation and learning. Greiner's (1972) model sees internal crisis as a spur to learning, change, and future growth.

Churchill & Lewis (1983) applied the stage model to SMEs. This work has been developed further by other researchers, such as O'Farrell et al. (1988) and Watts et al. (1998). Early stage-model literature on SMEs is based on the assumption that firms go through five stages of development (Churchill & Lewis, 1983) – existence, survival, success, take-over and resource maturity. Each of these stages is evaluated via indices of size, diversity and complexity and is described by five management factors: managerial style, organisational

structure, extent of formal systems, major strategic goals and the owner's involvement in the business. The model implies that there is an identifiable path and that firms transit from one stage to the next.

The *Five-Stage-Growth Model* suggests that firms in each stage have different focuses:

- Stage I (existence): Firms mainly concentrate on obtaining customers and finding ways to deliver the product or service.
- Stage II (survival): Firms shift their focus from establishment (existence) to worrying about survival by emphasizing profit (revenue vs. expense) and cash flow generation for reinvestment.
- Stage III (growth and/or separation): Firms must choose: 1) ongoing growth or stability; and/or 2) to continue as extension of their owners or to evolve beyond the control of their founder.
- Stage IV (take-off): Firms become concerned about how to generate and finance rapid growth.
- Stage V (resource maturity): Firms are concerned with how to consolidate and control past financial gains and how to retain past advantages.

As the firm grows enough to utilise advanced operational and strategic planning, it needs to identify the changes occurring in the market place. Churchill and Lewis (1983) identified eight key factors – four relate to the enterprise and four to its owner. The first four are the firm's:

1. Financial Resources,
2. Personnel Resources,
3. Systems Resources, and
4. Business Resources.

The second four are the owner's:

1. Goal(s),
2. Operational Abilities,
3. Managerial Ability, and
4. Strategic Abilities.

These factors all affect how a firm develops in each stage and how it transits from one to the next.

Research has identified several caveats that need to be considered with a stage model of SMEs. One caveat is that firms may not pass through five stages in a sequential manner, and the stages may not be inevitable or linear (Beverland & Lockshin, 2001). McMahan (2001) focused on capped growth in SMEs and showed that arrested growth configurations (e.g. lifestyle business) are common. Other researchers have attempted to characterise firms by their attitudes towards growth. O'Farrell and Hitchens (1988) considered three types: i) fast-growers, ii) satisfiers and iii) groups attempting fast growth, but failing. Storey (1994)

classified firms as: failures, trundlers, and flyers, while Baines et al. (1997) viewed firms as being growth ambivalent, growth enthusiastic and non-employment growth. The idea that the owner's lifestyle ambitions play a role in firm growth is explored below.

## 2.6 Balanced scorecard

Kaplan and Norton (1992) identified a disconnect between firms' monitoring activities and business strategies. The balanced scorecard was proposed by Kaplan and Norton (1992) as an approach to tracking a firm's performance that takes into account process, innovation and customer objectives as well as the financial position. In working with the scorecard they also found it performed an integrative function by bringing together disparate measures in a single report, and hence helped the senior management team to clarify and operationalise strategy (Knott, 2006). The balanced scorecard (BSC) allows executives to manage a company from several perspectives simultaneously. It has evolved into a useful framework as it forces the perspectives of human resources (innovation, continuous improvement and learning), internal processes (turning inputs into outputs), the market (customer relationships, product and service criteria) and shareholders (profitability, return on assets, wealth, non-financial and ethical goals) to be explored and the linkages between them to be determined. The term 'Balanced Scorecard' reflects the balance between short- and long-term objectives, financial and non-financial measures, lag and lead indicators, and external and internal performance perspectives (Hepworth, 1998).

The balanced scorecard (BSC) summarises a strategically oriented set of goals. Their indicators are grouped into four different perspectives: financial, customer, internal processes and learning and growth. Some organisations have expanded the basic model to include other perspectives relating to the community or society; others have changed the order of the perspectives for example not-for-profit organisations have reversed the roles of the financial and customer perspectives as the latter more accurately reflects their objectives (Atkinson & Epstein, 2000). The balanced scorecard is based on a common vision for the business. A common vision is a challenge in family businesses where conflict often exists between business and family visions and purpose (Byles, Le Grice, Rehman & Dorward, 2002; Gasson, 1973).

The key performance indicators are specified for each goal, and the key performance indicators include both the outcomes (lag indicators) and the drivers (lead indicators). A crucial step in the balanced scorecard approach is to identify any linkages or 'cause and effect' relationships between indicators and to see them as a continuum from learning and growth to internal processes to the customer and to the financial results.

Non-financial indicators are usually drivers, informing the manager of likely future performance. For example, learning new knowledge and skills, a lag indicator for learning and growth, is a lead indicator of the farm staff's ability to ensure best practices are in place. Without investment in staff learning and personal growth, the business has less ability to deliver to the product quality specifications identified in its customer related goals. The under-utilisation of non-financial key performance indicators in business control was one of the key findings that led to the development of the balanced scorecard by Kaplan and Norton (1992).

The Balanced Scorecard design process builds upon the premise of strategy as hypotheses. Strategy implies the movement of an organisation from its present position to a desirable but

uncertain future position. Because the organisation has never been to this future position, its intended pathway involves a series of linked hypotheses. The scorecard enables the strategic hypotheses to be described as a set of cause-and-effect relationship that are explicit and testable (Kaplan & Norton, 2000). In this way the assumptions made of the cause and effect relationship between process (farm practices) and state (environmental impacts) indicators can be explored.

From the balanced scorecard framework a strategy map can be devised that provides a clear picture of how the components of the system interact at the strategic level. Strategy maps have the impact of charting an organisation's success in achieving objectives. These maps allow organisations to describe and illustrate – in clear and general language – their objectives, initiatives, target markets, performance measures, and the links between all the pieces of their strategy.

### 2.6.1 Models of firm size

Schiffer and Weder (2001) investigated the impact of firm size on markets, governmental factors, and economic growth of SME. They performed a world-wide survey of 10,000 firms in 80 countries, and showed that firm size was an important determinant in business success. Smaller firms exhibited more problems than medium and large firms in terms of taxes and regulations, finance, inflation, corruption, street crimes and anti-competitive practices.

Watts et al. (1998) analysed the relationship between common management problems and organisational characteristics by looking at the growth and development needs of SME in the Northwest of England using the four quadrants of the Ansoff's Matrix (Ansoff, 1965):

- market penetration,
- market development,
- product development, and
- diversification.

Watts et al. (1998) examined the learning process based on experience and its impact on business growth and identified differences between large firms and SMEs in the growth process. They found it was important to analyse internal crises separately from external crises and asserted that the concept of 'crisis' is noticeably problematic.

### 2.6.2 Models of business culture and personality

One factor that has been raised in business success is the impact of the culture of the firm. D'Audney (2000) suggested that business culture in New Zealand may adversely affect business performance, growth, and long term sustainable development. D'Audney (2000) explained NZ business culture as a bias for short-term gain traded against lost long-term advantage. Long-term proper planning, structure and framework appear to be lacking in many firms. Rapid globalisation has changed the business environment with frightening rises in competition in the market place.

Many researchers have found that owner intentions and attitudes along with the influence of lifestyle are critical factors in business growth (Ennis, 1999; Lewis, 2006; Watts, Cope &

Hulme, 1998). Understanding owner attitudes and motivations to growth is essential – they drive the direction of the firm. Thus, owner's lifestyle has a major influence in the SME culture in New Zealand (Beaver, 2002; Gray, 1993; Lewis, 2006; Massey, Harris, Tweed, Warriner & Lewis, 2003). Unlike the stage models, these models include the business culture and the owners/managers as economic agents, but recognises that they may be interested in money, lifestyle, and/or security (Baines & Wheelock, 1998; Baines, Wheelock & Abrams, 1997).

Attitudes and intentions that are less in favour of non-economic targets should be considered in analysing the key determinants of business growth. For example, Massey (2003) assessed SMEs with information from 50 interviews randomly distributed across the NZ SME sector. These interviews attempted to capture owner characteristics and their impacts on firm growth. These characteristics are covered by the term 'lifestyle'. This lifestyle model of SME includes the owners' desire to have micro-firms, willingness to operate business to achieve personal objectives, satisfaction with a target level of income and growth averseness toward own business.

Lewis (2006) used a random sample of 50 firms, selected from 500 manufacturing and service-sector firms in NZ, to identify and understand the key transitions that NZ firms encounter in their growth process and how these experiences relate to the stage model. Lewis found that lifestyle plays a vital role in NZ SMEs. Half of the sample firms referred to their lifestyle in describing the intentions in terms of firm growth. Findings show that either the growth was restricted to achieve personal goals or the growth is limited by family-based objectives or centred on retaining specific lifestyles and their growth intentions are precisely influenced by the manager/owner's attitude to growth. The findings of this study indicate that the majority of NZ SMEs are unlikely to ever achieve the levels of size or employ the growth strategies suggested in stage growth models.

## 2.7 Business models oriented towards sustainability

The agricultural sector is concerned with improving its performance. This concern is evident in the financial and production statistics already widely collected. However, production efficiency and financial performance are not the only goals of individual farmers, agricultural industries, or policy-makers. The vision of what it means to be a good farmer or a healthy sector is much broader.

Sustainable development itself is a politically defined term, and was defined by the Brundtland Commission as development that 'seeks to meet the needs and aspirations of the present without compromising ability to meet those of the future' (WCED, 1987). Various disciplines have addressed the interpretation of sustainability in very broad terms. It is not uncommon, for example, to distinguish 'social sustainability', 'cultural sustainability', 'environmental sustainability', and 'economic sustainability'. Social sustainability includes key concepts such as resilient communities, sustainable livelihoods, and access to core services of education and health. Cultural sustainability includes language, values and cultural aspirations. Of relevance here is economic sustainability.

Agribusinesses are a special case when considering sustainability indicators. Agricultural production depends on natural capital to a much larger extent than does industrial production, so that measures of natural capital, such as soil fertility and rainfall, are also economic capital measures. This interaction between farm success and environmental capital, as well as

agriculture's use of large areas of land, has led governments to focus on environmental indicators in the agricultural sector. In addition, some governments have taken an active interest in maintaining rural social and cultural capital. Thus, the availability and use of these indicators of capital are different for agribusiness, especially on-farm agribusinesses, than for the overall private sector. The information available and uses to which it is put do vary, however.

Some of the potential indicators are:

*Human Capital*

- Employment (full- time, part-time and unemployed)
- Qualifications of employees
- Skill level and experience of employees
- Attributes of employees

*Human-Made Capital*

- Buildings by type and age
- Water (water races and potable supplies)
- Power distribution (network capacity and current delivery)
- Telecommunication (access to phone, internet and fax; and data capacity)

*Natural Capital*

- Land use (by type)
- Water quality
- Green house gas emissions
- Energy use
- Water (stockwater, groundwater riparian water usage)
- Soil fertility
- Climate

*Social Capital*

- Turnout at elections
- Membership of local groups
- Donations to local groups
- Use of local facilities (e.g. doctor)

*Cultural Capital*

- Ethnic group
- Usage rates of public halls and recreation centres
- Length of time in locality

## 2.8 Best practice business models

Various award programmes exist for on-farm agribusiness. As with the award programmes reviewed in the Ministry of Economic Development report (Knuckey et al., 2002) they and their underlying frameworks have tended to become more and more comparable over time. In fact, most programmes have several objectives in common. Knuckey et al. (2002) list the 12 common principles espoused by these awards that have developed over the last 15 years and are based upon a large body of published research. They have been described by the

Australian Quality Council as the basic assumptions from which most awards and business improvement models have developed. These principles are:

1. A clear direction allows organisational alignment.
2. Mutually agreed plans translate direction into action.
3. Understanding customer requirements and expectations influences organisational direction, strategy and action.
4. Improving outcomes relies on improving the system and its processes.
5. A firm's potential is realised through its people, their enthusiasm and participation.
6. Continual improvement and innovation depend on continual learning.
7. Outcomes are maximised when people work on a system, not just in it.
8. Effective use of facts, data and knowledge leads to improved decision making.
9. Variability is inevitable; it impacts upon both predictability and performance.
10. Firms provide value to their community.
11. Sustainability is determined by a firm's ability to create and deliver value to all stakeholders.
12. Senior leadership has a constant role in modelling each of these principles and assisting the firm and its people to reach their potential.

Most on-farm award programmes are governed by these same principles. Specific principles may be emphasised more as a reflection of the sponsors of the award than because one principle overrules another. For example, in the Federated Farmers Taranaki Meat and Fibre Farmer of the Year competition, one of the sponsors is the Taranaki Regional Council. As a result, environmental management is specifically noted and there is an additional award for the entrant excelling in this aspect of the farming business. Similarly, entrants for the Fonterra Westpac Farm Business Scholarship in 2006 were tested for their knowledge of the global business in which they have invested as co-operative members and their understanding of Fonterra's global marketing operations.

Martin and Shadbolt (2005) summarised best practice as shown in Table 2.1. With best practice, farmers update their basic knowledge as time goes by, hone their skills and attributes, cultivate a learning culture, and have self-knowledge and self-belief.

**Table 2.1: Elements of best practice**

| Basic Knowledge | Skills & Attributes | Learning Culture |
|---|---|---|
| Command of Basic Facts | Analytical, problem solving skills | Creativity |
| Relevant Professional Understanding | Social skills & abilities | Mental Agility |
| Continuing Sensitivity to Events | Emotional resilience | Balanced learning habits & skills |
| | Proactive Inclination | Self Knowledge |

# Chapter 3
# Indicators currently collected and gap analysis

## 3.1 Indicators currently collected

There is no shortage of statistics on the agricultural sector. The Government collects data on farm performance, and these are reported through MAF and Statistics New Zealand. The different parts of the agricultural sector also collect information on their member farms and farmers. For example, Meat and Wool New Zealand collect data on productivity of beef and sheep farms. Fonterra uses the DairyBase programme to monitor performance of dairy farms. The indicators regularly and generally collected by MAF, Meat and Wool, and DairyBase are largely production statistics. They are intended to capture production inputs and outputs, sometimes at a very detailed level. They also capture the financial situation of the farm firms, focusing on costs of production, sales, return on investment, and changes in farm assets. The statistics can assess the efficiency of the production system, such as the efficiency of feed conversion, lambing percentages, and ability to produce carcases of specific weights.

Some of the data collected may also have relevance to non-financial perspectives on agriculture. For example, the data collected on paid and unpaid labour could have relevance for assessing human and social capital on the farm. Data on total farm area versus production area, and in particular changes to those measures, may be useful for considering environmental conditions and impacts of farms. The data could also serve as raw material for an assessment of energy flows on the farm, which would also be important for assessing environmental capital of agriculture. The DairyBase information includes animal health statistics, such as percentage of herd with mastitis; the focus is thus broader than kilograms of milksolids and gross revenue.

The indicators suggested by the general and agribusiness models are collected and categorised in Table 3.1.

## 3.2 Analysis of gaps

There are two main gaps or areas of difference that are evident from this review. One gap is between the standard models and the agribusiness models, and so also between the standard indicators and the agribusiness indicators. The essential question here is the extent to which agribusinesses are different from other business. If they are similar, then the gap is small and potentially the same set of indicators may be used. If they are quite different, then the gap is large and a new set of indicators may be appropriate. In addition, it may be important to consider differences between on-farm and off-farm enterprises in how they fit the standard business success models. The evidence, such as is available, is mixed.

The second gap to bridge is between the information needed to assess the success or health of agribusinesses and the indicators or statistics currently collected. As discussed above, a large number of statistics are collected by government and industry. These statistics have been collected for specific purposes, such as to measure production of a specific commodity or financial outcomes for farms or sectors. However, they may provide an incomplete picture of agribusiness health or success.

These gaps are apparent in Table 3.1. It indicates that the literature on business success models and indicators is that the models are generally provide very good frameworks for thinking about agribusiness success, but some indicators are not very useful when applied to on-farm businesses. For example, the seasonal labour needs of agribusiness means that measures related to employee turn-over or time in position are less able to indicate business health or success. It has also become clear that financial indicators are widely collected and monitored, but all other types of indicators are largely absent from current statistical collection work.

As a result, the existing models provide a rough guide for indicators that could be used to assess the health of agribusinesses, but this literature needs to be compared to the experience of firms in agriculture to determine which are the most relevant indicators. This fieldwork is discussed in the next chapter.

**Table 3.1: Comparison of indicators**

| Criteria from general business models | Agribusiness indicators | Currently collected statistics |
|---|---|---|
| *Structure of the firm* | | |
| Size<br>Ownership structure<br>Industry<br>Industry structure (e.g. concentration ratio)<br>Age of business | Size<br>Ownership structure<br>Industry<br>Industry structure (e.g. concentration ratio)<br>Age of business | Farm size (hectares) – MAF<br>Industry – MAF |
| *Business strategy* | | |
| Existence of formal planning process<br>Vision statement<br>Per cent sales exported<br>Per cent share of market | Vision statement<br>Per cent sales exported* | None |
| *Customer focus* | | |
| Per cent sales from new products<br>Share of key accounts purchases<br>Per cent complaints<br>Delivery times<br>Time to process phone calls<br>Customer profitability<br>Existence of consumer satisfaction surveys | Per cent sales from new products*<br>Share of key accounts purchases*<br>Delivery times<br>Customer profitability<br>Identification of and contact with customers<br>Processes for receiving feedback from customers | None |
| * These indicators may have limited usefulness, or their applicability may vary by industry. | | |

**Table 3.1 (continued). Comparison of indicators**

| Criteria from general business models | Agribusiness indicators | Currently collected statistics |
|---|---|---|
| *Quality* | | |
| Number of units reworked<br>Waste<br>Productivity<br>Member of certification schemes<br>Returns as a proportion of total sales | Quality grades of products<br>Waste<br>Productivity<br>Member of certification schemes<br>Returns as a proportion of total sales | Quality grades of products<br>Membership in certification schemes<br>Farm profit as proportion of revenue |
| *Employee relations* | | |
| Employee turnover<br>Absentee rates / sick leave<br>Injury rates<br>Productivity<br>Performance based pay<br>Skill and qualification<br>Training provision | Employee turnover*<br>Absentee rates / sick leave<br>Injury rates<br>Productivity<br>Performance based pay<br>Skill and qualification<br>Training provision | Injury rates - ACC |
| *Innovation* | | |
| Length of time of sole trade new product<br>Length of life of product<br>Per cent of product developed in last 12 months<br>Per cent of product developed in last 5 years<br>Research and development expenditure<br>Use of web and internet<br>Investment in ICT<br>Investment | Number of new products trialled or sold<br>Number of new processes or techniques attempted or adopted<br>Use of Information and Communication Technology<br>Investment/change in capital | Change in capital |
| * These indicators may have limited usefulness, or their applicability may vary by industry. | | |

**Table 3.1 (continued). Comparison of indicators**

| Criteria from general business models | Agribusiness indicators | Currently collected statistics |
|---|---|---|
| *Social / environmental factors* | | |
| Pollution measurements (e.g., nitrate pollution)<br>Proportion of materials used recycled<br>Energy consumed<br>Water use and source<br>GHG emissions<br>Environmental certification<br>Proportion of employees from the locality (e.g., 10 km radius)<br>Proportion of suppliers locally based<br>Participation in local/ public policy making<br>Contributions/ donations to local groups | Pollution measurements (e.g., nitrate pollution)<br>Proportion of materials used recycled<br>Energy consumed<br>Water use and source<br>GHG emissions<br>Environmental certification<br>Proportion of employees from the locality (e.g., 10 km radius)*<br>Proportion of suppliers locally based*<br>Participation in local/ public policy making<br>Contributions to/ donations to/ participation in local groups | Fuel costs/usage |
| *Business performance* | | |
| Shareholder value<br>Economic Value added<br>Return on invested capital<br>Gross margin<br>Profit after tax<br>Economic value added<br>Debt/equity ratio<br>Diversity of revenue sources<br>Per cent of market share for 5 years | Shareholder value<br>Economic Value added<br>Return on invested capital<br>Gross margin<br>Profit after tax<br>Economic value added<br>Debt/equity ratio<br>Diversity of revenue sources*<br>Per cent of market share for 5 years* | Economic value added – GST calculation<br>Profit after tax – various sources<br>Return on capital – various sources |
| * These indicators may have limited usefulness, or their applicability may vary by industry. | | |

# Chapter 4
# Fieldwork

Prior research identified two areas for further investigation. The first area was the gap between the standard models and the agribusiness models, and also between the standard indicators and the agribusiness indicators. The second area was the indicators that could be collected, in addition to those already gathered by government and industry, to provide information about agribusiness success.

Underlying this investigation of current indicators and models are several factors. The first factor is the biological basis of agriculture, which makes the sector different from other parts of the economy. Agriculture depends on the natural environment, so it is subject to climatic and weather influences, seasonal production patterns, biological risks, and natural physical characteristics of the areas where production is located. A second factor is the size of firms in the sector. Research that focuses on firms defined by number of employees may not be valid for farm enterprises, in which economic activity tends to be organised around families and family labour. For example, the Firm Foundations (Knuckey et al., 2002) report focused on firms with six or more employees, a definition that is likely to exclude a large number of agricultural firms. A third factor that this research considered was the heterogeneity of the agricultural sector. Individual farms may be organised around families, and may therefore be small in revenues or employees when compared to averages across the whole economy. However, upstream and downstream in the supply chain from individual farms are much larger firms. These firms, such as Fonterra and Zespri, may account for nearly the entire processing or distribution of certain commodities in New Zealand. Upstream of the farms, there are agricultural suppliers with many locations and many employees. These suppliers may even be subsidiaries of international firms. Thus, models of business management suited to and employed by centralised, formalised organisations may apply to some agribusiness but be inappropriate for others. This split is likely to correspond to the division between off-farm and on-farm agribusiness.

Table 3.1 presents the indicators identified in this earlier research. The fieldwork assessed the validity of these indicators for agribusiness using a mixture of case studies, qualitative interviews and questionnaires. The results and their implications are presented in later part of this section.

## 4.1 Method for fieldwork

The fieldwork gathered information from agribusiness firms to determine the importance, validity, and applicability of the indicators identified in prior research. This fieldwork used a combination of methods to survey firms throughout the supply chain, mainly in the kiwifruit and sheep and beef sectors. These sectors were chosen in order to lever off other projects and work undertaken by the AERU and maximise the number of responses and information collected. The specific methods are described below.

### 4.1.1 Farmer surveys

A detailed questionnaire was used to survey farmers about the key indicators in Table 3.1. A draft questionnaire was developed by the research team and then reviewed by experienced

agribusiness researchers who ensured the questions were adequately framed for the sector. The final survey consisted of 22 questions pertaining to 15 agribusiness indicators. Two questions asked whether the farm/orchard had a business management plan and how frequently it was used. Two questions enquired about the farm's/orchard's information regarding customers, and another four questions focused on innovations, such as information technology, current and future investment in plant and machinery, and management system improvements. Seven questions related to employment relations indicators, including staff turnover, absenteeism due to sickness and injury, training, and performance-based pay. The remaining seven questions enquired about social and environmental factors and included questions about election participation, contributions to charity and local community groups, the proportion of supplies bought locally and proportion of employees living locally.

The survey contained in-depth questions and thus required a willingness to participate on the part of farmer respondents. This project was allowed access to farmers who are participating in the Agriculture Research Group on Sustainability (ARGOS) project. The six-year ARGOS project is investigating sustainability in the kiwifruit, sheep and beef, dairy, and high country sectors. In each sector, farms with different management methods or systems have been organised in clusters matched on the physical characteristics of the farms, such as climate and soils. The ARGOS project is in its fourth year, and detailed information on economic, environmental and social indicators has been collected for each farm, which has enabled the construction of a large database. Thus, the database allows a comparison between the data collected from the present survey and a number of variables in the database. Moreover, these farmers have an ongoing relationship with ARGOS which is facilitated through a dedicated sector field officer. These farmers were willing to participate in a face-to-face, lengthy, in-depth survey about their businesses.

Responses to this survey were compared with other data from the ARGOS project to further investigate the applicability of these indicators. Principally, the survey information was compared to financial data from the farms and orchards to determine whether the agribusiness indicators had any relation with financial success. Gross farm revenue and cash surplus per effective hectare were used as financial performance indicators for the kiwifruit orchards, and gross farm revenue per effective hectare was used as the financial performance indicator for the sheep and beef farms.

The survey data was also compared to other factors derived from the ARGOS database that may potentially affect success. In the case of kiwifruit orchards, two environmental factors were included: average soil organic matter and average number of earthworms between and within rows. Also included was one quality indicator of the fruit (average fruit dry matter), two structure of firm indicators (management structure and age of business) and one innovation indicator (management system). The management system variable indicates whether the orchard grows the Hayward green variety conventionally, grows Hayward organically, or grows the newer Hort16A Gold variety.

In the case of the sheep and beef farms, the Argos database provided one environmental factor (the average number of earthworms), one firm structure indicator (effective hectares) and one innovation indicator (management system). In the sheep and beef context, management system refers to whether a farm uses a conventional, organic or integrated pest management system.

The survey administration was undertaken in February 2007 by two ARGOS Field Research Managers. The surveys were administered face-to-face with kiwifruit orchardists and sheep and beef farmers in the Argos project. Data from the surveys were entered in February and March 2007, and analysed using Excel and SPSS. For the kiwifruit sector, the number of responses was 26. For the sheep and beef sector, the number of respondents was 27.

### 4.1.2 Agribusiness interviews

Another set of interviews gathered information from a range of firms in the agricultural supply chain. These interviews focused mainly on the kiwifruit and sheep and beef sectors, but also included firms involved in other parts on the agricultural sector.

These interviews were conducted as semi-structured interviews. This type of interview does not seek categorical answers to specific questions, but guides the conversation through a number of pre-determined topics and gathers qualitative results. A semi-structured interview gives more scope for investigating concerns and issues raised by the respondent than does a fixed questionnaire.

The kiwifruit interviews were conducted in order to assess factors leading to business success in that industry. These interviews not only allowed investigation of the agribusiness indicators, but also contributed to research funded by Agribusiness Research and Education Network (AREN) and The Agricultural and Marketing Research and Development Trust (AgMardt). Thirteen interviews were conducted with kiwifruit agribusinesses along the supply chain.

The remaining interviews, focused on agribusiness firms in the sheep and beef sector, were conducted as face-to-face interviews. They focused on factors which firms considered were important to their success and those that inhibited their success. The interviews were organised around the following success factors from the earlier research: vision and planning, governance, innovation, marketing, Information and Communication Technology (ICT), training/labour, and certification schemes.

## 4.2 Results of fieldwork

The information and data collected in the fieldwork are organised by category of indicator (the column headings in Table 2.1). The fieldwork gathered both qualitative and quantitative data. The qualitative data is presented as a discussion of the interviews, the responses that interviewees gave and issues that they raised. Interviews in the kiwifruit, sheep and beef, and related industries highlighted issues that were considered important. Thus, the information from these interviews included not only agribusiness indicators but also further issues of importance to the interviewees.

The quantitative data was analysed statistically. The data collected on agribusiness indicators were compared with farms' gross revenues and cash surpluses to determine the implications of the indicators for farm financial success. The two main statistical tools were crosstabulations of data with chi-square tests of significance and correlation coefficients. The crosstabulations assessed whether the farms in question were above or below the median revenue figure per hectare for ARGOS farms in the sector.

## 4.3 Implications of the results

The results show that caution has to be used when applying general business models of success to the agricultural and agribusiness sector. This is for a number of reasons. Particularly in the case of farms, these are geographically tied small businesses and frequently family run. This limits the growth of such business. Moreover these farms are tied to the physical environment over which there is limited control.

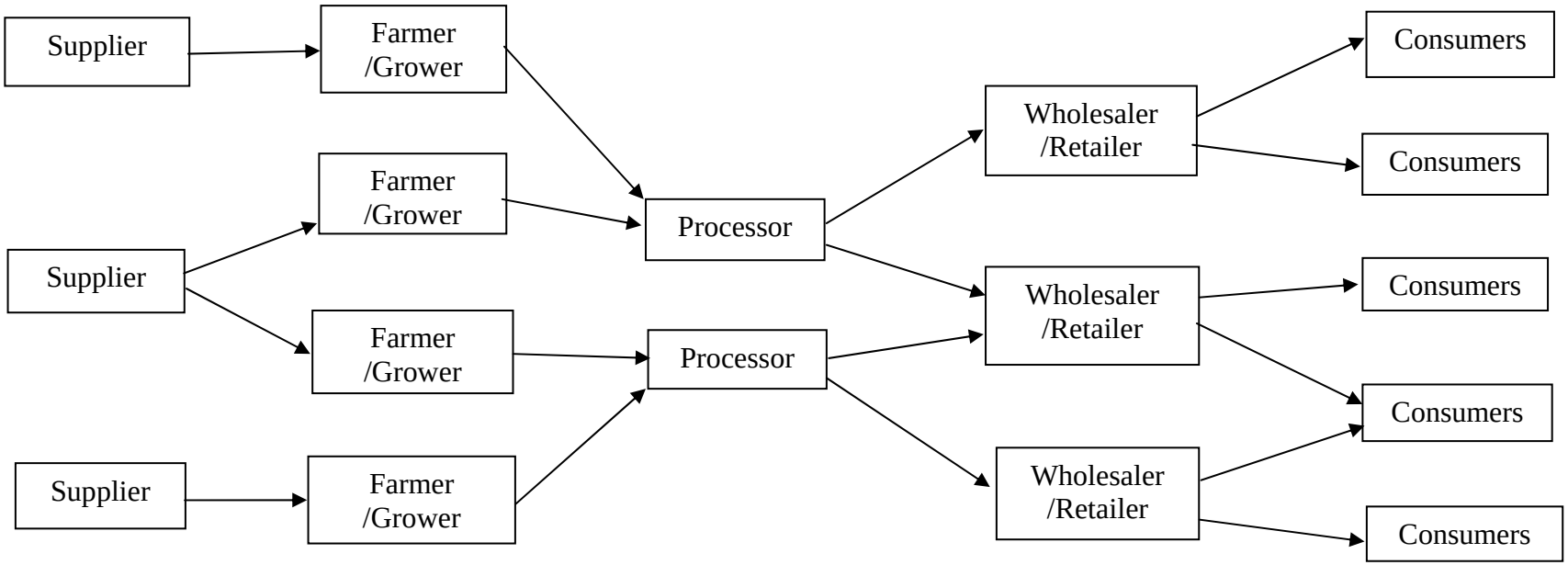
An important factor for many agribusinesses is that their output is part of a larger supply chain and the end product is often exported. The degree of control that a single business can have on their product is limited. There are differences across the sectors, and some producers have marketed or are marketing their own product overseas. The generic models of business success appear to be more relevant for those who are marketing overseas. Sectors varied, too, as to the flow of information from market to producer. The kiwifruit industry tended to have relatively good incentives and signals from markets to producers through the whole agribusiness chain.

The agribusiness value chain may be relatively long and the position of a firm within the value chain is important. Figure 4.1 provides a simplified view of an agribusiness value chain. The position of a business within in this chain will influence the individual firm's business model. For example, firms in the value chain vary in their proximity to the end consumer and therefore may receive differing types and levels of feedback from the marketplace. A firm's position in the value chain will also affect the type and number of firms that they sell their product or services to. Farmers and growers tend to sell their production to a limited number of downstream agribusinesses, whereas service providers typically sell to a larger number of growers or farmers. The flow of information up and down the supply chain also affects the firm's business model especially if they receive incentives for responding to this information. Many individuals reported focusing on the long-term nature of their businesses. This focus was apparent not just with farms but with agribusiness in general as well. As environmental conditions differ across years, it is long-term returns that are the focus, not annual returns. This often reflects itself in the style of business: many agribusinesses reported that it is the development of long term relationships that is important and drives firm growth. Two of the interviewees who had tried to expand beyond this limit quickly and export overseas or do their own proactive marketing had both experienced failure.

The other issue raised across the sectors is that returns generally are in one payment per year, which has its own particular management issues. This timing of payments is important in relation to business debt levels. Farms typically have high debt loadings, and the lumpiness of revenues adds to this burden.

These issues did seem to lead to a general conservatism in the sector. Businesses realised that innovation, whilst important, would not yield returns except over the longer term and therefore needed to be approached more cautiously. In addition, much innovation is expensive for a single business and thus not feasible unless some industry grouping took over responsibility for it or championed it. The ability to act in such a way has contributed to the success of Zespri, for example.

**Figure 4.1: The agribusiness value chain**



Interestingly, in the course of the interviews, the focus was mainly on macroeconomic issues and compliance costs. It was often difficult to focus on business models in the interviews. This experience was contrary to work the AERU has done in other sectors where business did respond positively to business indicators of success. Agribusiness firms were much more focused on the general macroeconomic climate, such as exchange rates and interest rates, as key factors affecting their performance; they were much less interested in more microeconomic issues, which are those covered by indicators of firms success. The other factors that firms were more concerned with as affecting their success were compliance issues. The specific compliance issues were the time taken to obtain compliance and the lack of transparency and accountability around agencies.

The survey of farms and orchards was able to test statistically the relationships between suggested business indicators and financial performance. For the most part, the indicators did not appear to correlate with financial performance. There are several potential explanations for this result. First, the farms and orchards in the survey sample may not represent a random selection of businesses. Secondly, the sample size was too small. If data were to be collected on one hundred or several hundred farms, trends in the data might become clearer and more often statistically significant.

The third possible explanation, of course, is that these indicators are not particularly useful for identifying successful farms. That is, the long-term focus of some farms coupled with the sector's exposure to environmental pressures and macroeconomic conditions may create a sector of the economy that operates differently from others. Another factor may be the variability across the sector. The differences seen above just between kiwifruit orchards and sheep and beef farms suggest that a broad-brush approach to the agriculture sector may be misguided.

Despite these difficulties and reservations, there were suggestions of potentially significant indicators from the survey. For example, indicators of management activities, such as the use of business plans and the presence of recent management changes, may be linked to agribusiness success. A focus on product quality, such as improving dry matter content of kiwifruit, may also lead to improved financial performance. Farmer and employee training, which was an issue in the agribusinesses interviewed, also appeared to have a potential link to business success. Finally, adopting innovations may lead to improving farm performance, whether the innovations are new computers for improved record-keeping and communications, or adopting new crops or management methods.

The results suggest that some non-financial indicators may be useful for fostering business success, but that many proposed factors or indicators are not tightly linked with success. However, the participants in the fieldwork indicated clear areas where governmental policy can help: macroeconomic conditions, research and extension, assistance with regulations, and appropriate industry structures, to name a few.

Nevertheless, it is difficult from this research to identify factors or indicators that could be developed for use across the agricultural sector as they have been developed for us in a general business context. First, the sector is very heterogeneous, so that indicators do not appear to apply universally. Secondly, the people and firms in the sector appear to have found many ways to be successful. Simple indicators may not be robust enough to capture their range of experiences.

# Chapter 5
# Proposed Model of Successful Agribusiness

To this point, the report has reviewed standard business success models. It has investigated models and programmes used to identify successful agribusinesses. These models have been operationalised into performance criteria. Finally, these criteria have been assessed for empirical validity with fieldwork, including semi-structured interviews and quantitative surveys. The result is proposed in Figure 5.1. While this model is based on the Firm Foundations report, it includes several modifications suggested by this research.

The proposed model highlights two important themes that emerged from the study's fieldwork. Firstly, there are a number of factors that influence the success of an agribusiness firm and secondly, that these factors tend to have somewhat subtle relationships. These observations suggest a useful way of viewing business success may be as a cluster concept[1]. The cluster concept suggests that there is no single set of factors or conditions that are required for business success; provided that a business has a fair number of the success factors or conditions, it is likely to be successful. This view of business success is consistent with the view that there is no one way for a firm to succeed. Firms that perform well tend to have a number of factors supporting their performance, although the number and combination of factors that each business has may vary.

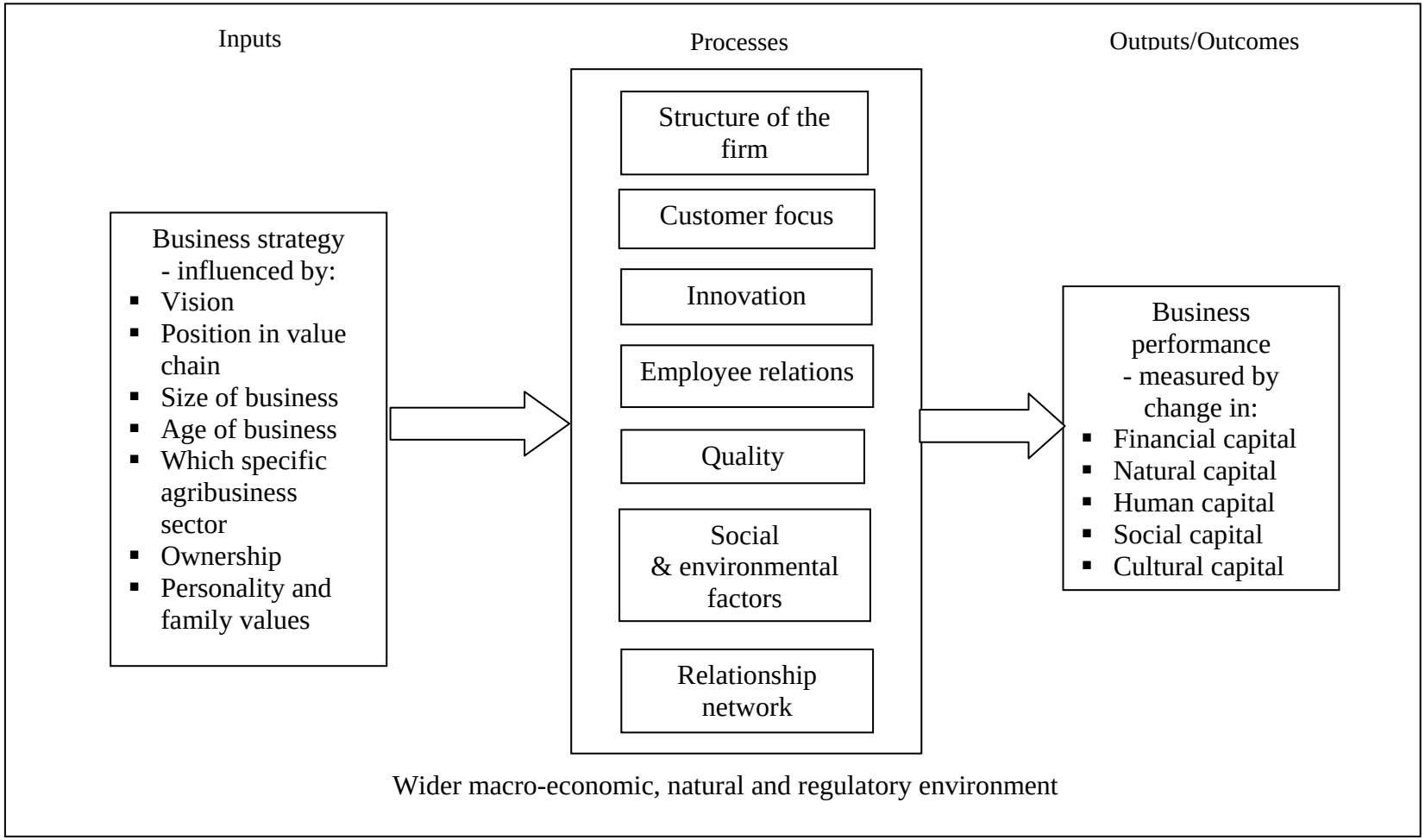
A feature of many agribusiness firms is that they are often relatively small, family run enterprises. Previous research has shown that a business owner's attitudes and lifestyle aspirations are important factors influencing a firm's success (Ennis, 1999; Lewis, 2006; Watts, Cope & Hulme, 1998). The fieldwork also underlined the role that business owner's attitudes, and personality play in shaping a firm's development. In addition to potentially influencing business planning, risk-taking and investment, these factors may also affect a variety of operational decisions around labour and production systems.

The relationships and networks that agribusiness firms develop with one another is an important feature of this sector. The fieldwork highlighted that firms in this sector tended to form stronger, longer-term relationships than what is found in the wider business sector. Informal and formal networks are influential in helping agribusiness firms to make business decisions. The importance of social networks and relationships amongst agribusinesses in rural communities was also highlighted in the fieldwork.

Environmental factors tend to play a larger role in agribusiness planning and operations than for other types of business. The biological basis of production for many firms means that production tends to be influenced by a range of physical factors largely outside the control of the business (e.g. climate and weather events). Production is heavily influenced by the seasons, restricting when some activities can be undertaken and creating peaks and troughs in work and cashflow. Growing consumer awareness of food production systems and changing market requirements also creates the ongoing need to monitor and adjust environmental aspects of the production systems (e.g. pre-harvest intervals for orchardists).

[1] Douglas Gasking is the originator of this concept

**Figure 5.1: Proposed model**



The model highlights the issue of assessing business success. A successful business will largely be the result of a combination of successful decisions, investments and operations resulting in outputs. Essentially the key input variables are behaviours, yet business success is primarily assessed using outcome measures. The use of performance indicators to assess both behaviours and outcomes helps captures the range of elements that contribute to success and those that are indicators of success. This approach is similar to that used in the Firm Foundations research which used the strategising/practice index to consider a firms business efforts and the operational-outcome index to assess the operational outcomes. In assessing firms, both indices were considered simultaneously. Firms achieving high scores in both indices were considered as reaching sustainable high performances.

The input component of the model captures a number of elements that influence business strategy and therefore indirectly affect business success. These input elements can be thought of as antecedents that influence business strategy which in turn shapes the business processes and practices that a firm uses to ultimately create the outputs and measurable success (or otherwise). In other words, the success of a particular strategy is mediated by the operational processes that a firm implements. The wider macro-economic, natural and regulatory environment also affects the strategy and processes that a firm adopts.

In essence the inputs section describes the elements that influence the development of a firm's strategy, whilst the processes section captures the factors that shape the way in which a firm undertakes its business activities, and the output section captures the outcomes from a firm's business activity. In terms of describing performance, there is considerable debate as to how to conceptualise performance. Some researchers have suggested that performance is best thought of as outcomes, whilst others have proposed performance as actions and behaviour (Bernardin, Hagan, Kane & Villanova, 1998; Motowidlo, 2003; Pearlman & Barney, 2000). Conceptualising performance as both outcomes and actions/behaviour is probably the most useful approach. Such an approach would position the process indicators as the actions/behaviours of a firm and the outputs as the outcomes resulting from a firm's actions/behaviours. If this approach is applied to the case of an orchard, although quality management (e.g. regular pest and disease monitoring and intervention) may be a useful indicator of success, this in itself does not guarantee performance in terms of harvest or financial returns. However, the more positive indicators present (e.g. good genetic stock, sound employee relations, customer orientation, innovation), the more likely it is that the orchardist will be successful.

## 5.1 Inputs

The right hand side of the business model captures the inputs that shape a firm's strategy and therefore influence business activities, processes and outcomes. A firm's business strategy is shaped by a combination of features of the sector, characteristics of the firm and its resources, and personal preferences in the way that a firm's owner may wish to undertake business. Five of the factors included in the inputs section of the model are included in the Firm Foundations model (i.e. vision, size and age of the business, specific industry sector and ownership structure). Two additional factors have also been added. The value chain was added on the basis of the fieldwork completed for this study. The position of a firm relative to the consumer in the value chain was seen as influencing the amount and quality of information received from consumers. This in turn shapes the strategy adopted by a firm. The inclusion of personality, attitudes and family values was based on a variety of literature underlining the

importance of these factors on business strategy and in particular how large a firm may be allowed to grow.

### 5.1.1 Vision

A firm's vision is important in shaping the overall direction and strategy of a firm. The study's fieldwork often found that it was the larger firms that tended to have formal visions in place. Many firms often suggested that it was not possible to plan or have too restrictive vision or strategy due to the number of factors that were out of the control of the firm (e.g. weather and seasonal conditions, overseas markets). However, when pressed, some of these firms had considered key elements of their vision, although they may not have formalised this. There were also differences in the articulation of vision at the industry level. In contrast to the sheep and beef sector, ZESPRI expressed a clearer vision for the kiwifruit industry as a whole.

The evidence from this study suggests that although vision is important, it is probably not as important as it is in the more generic business sector. Within the agribusiness sector, vision is likely to be more important for the larger or more complex firms and those firms servicing the sector than it will be for on-farm or grower enterprises.

### 5.1.2 Position in the value chain

A firm's position in the value chain will affect how close they are to the end consumer. For example, most sheep and beef farmers are several steps away from the end consumer such as a supermarket shopper in the United Kingdom. In contrast to the farmer are the agribusinesses who deal directly with the consumer (e.g. exporters and retailers). In terms of shaping strategy, the firm's proximity to the end consumer will influence the amount of feedback they receive about the marketplace and also shape the resources that they allocate to servicing the businesses or consumers that they sell to.

### 5.1.3 Size of the business

Schiffer and Weder's (2001) survey of 10,000 firms across 80 countries found that business size was an important determinant in business success. Smaller firms were likely to experience more problems than medium and larger-sized firms across a range of matters including tax and regulatory compliance, finance, inflation, corruption and anti-competitive practices. The size of a firm is likely to influence the strategy that the business develops. Larger firms tend to be better resourced and hence are able to engage specialist help in their strategic planning and execution. Larger firms may also have better reserves to assist them in coping with or taking advantage of unforeseen events.

### 5.1.4 Age of the business

The Firm Foundations report found the age of a business was a useful indicator of business success. In terms of influencing a businesses strategy, a firm that has operated for longer is likely to have greater experience and knowledge of the various production systems and the marketplace. A more mature business may also have greater reserves and therefore be better placed to cope with unseasonal events or market downturns. A new entrant to the market will need to consider how to best position their product or service. The new firm will have

potentially more strategic choices including differentiating their product or service on the basis of quality or cost or innovation.

### 5.1.5 Specific agribusiness sector

The fieldwork completed during this study highlighted some significant differences between the two agribusiness sectors surveyed. For example, the sheep and beef sector used contract labour to a greater extent than did kiwifruit orchardists. Kiwifruit orchardists received a lot more market related information than their farming peers. This greater market awareness may shape kiwifruit orchardists business planning to a greater extent than sheep and beef farmers.

### 5.1.6 Ownership

The structure of a firm's ownership was identified as influential in the development of business strategy. A range of ownership structures exist in the agribusiness, although owner-operated, managed and leasehold are probably the three most common arrangements. These types of ownership can influence the formulation of business strategy in a variety of ways. The timeframe for business planning may be different for a firm reliant on leasehold assets than for an owner-operated. Leasehold business structures may offer superior return on capital employed, although these firms may have less ability to borrow for business expansion. Employing a manager to operate a business may remove some control over how a firm conducts some of its activities, although in contrast to the owner-operated scenario, a manger may be more readily held accountable for the performance of the firm.

### 5.1.7 Personality and family values

A number of researchers have found that owners' attitudes and lifestyle aspirations are important factors in shaping business growth (Ennis, 1999; Lewis, 2006; Watts, Cope & Hulme, 1998). These attitudes and motivations to growth drive the direction of the firm, influencing the strategy that the firm follows and the processes it puts in place. Lewis's (2006) survey of 50 New Zealand firms underlines the importance of lifestyle attitudes for small and medium sized enterprises. Lewis found that in a number of instances, a firm's business growth had been limited by personal goals or family objectives.

### 5.1.8 Business planning and business strategy

If it is assumed that business strategy can be loosely equated with business planning the fieldwork provides some insights as to the influence of strategy on the financial performance of a firm. The survey results indicated that those farmers who have a formal business plan tend to have greater gross revenue. This provides support for the role of business strategy as an indicator of success.

## 5.2 Processes

The central section of the business model captures the various components that contribute to the way in which a firm conducts its business and operations. Several of the indicators are also present in the input area of the model as these factors also influence strategy. For example, firm size is likely to affect business strategy as well as the way in which a firm

configures its production systems. Depending on which measure of performance is considered, the size of a firm is also likely to impact on performance outcomes.

### 5.2.1 Structure of the firm

The structure of a firm influences the way in which it carries out its core business activities. Five performance indicators for the structure of the firm were identified for the model. These were the firm's size, ownership, industry, structure of industry, and age of business. Four of these indicators were investigated in the study's fieldwork (i.e. size, ownership structure, industry and age).

Many of the participants interviewed did not consider firm structure and governance issues to be important as most were operating family-run businesses. However, interviews completed in the kiwifruit sector highlighted the importance of industry structure for the success of individual firms. A key element in the success of the kiwifruit industry has been the ability of the industry to work as an integrated cohesive unit, able to respond to the changing marketplace. The single point of entry industry structure has enabled industry-wide initiatives to be introduced and for market information to be dispersed to the industry. The structure of ZESPRI as an organisation has been important in its success and this has had flow on effects to the wider industry. However, the business structure of individual producers appears to have been less important. The fieldwork suggests that the structure of an agribusiness firm may vary in its level of importance depending on the specific sector. It appears that different structures exist successfully across the agribusiness sector.

Survey data on the size of firms was collected for both the sheep and beef, and kiwifruit sectors. No significant relationship was found between gross revenue and the size of farm, or between the number of employees and gross farm revenue for the sheep and beef sector. However, for the kiwifruit sector significant correlations were found between the size of the business and revenues, the number of employees and gross farm revenue, and paid employees and cash surplus. The firm's size may have limited applicability as an indicator for on-farm businesses as many of these firms are constrained in the ways in which they can expand. This can be due to a variety of reasons including limited physical resources, capital or lifestyle aspirations.

The type of management structure was compared to financial information for the kiwifruit sector. Orchards were either operated by a paid manger, leased or owner-operated. The management structures were not significantly related to either gross revenue or cash surplus. A paired comparison of owner-operated orchards and managed orchards showed that owner-operated firms tend to have a higher cash surplus, although they did not have significantly higher gross revenue.

Kiwifruit orchardists were analysed on the basis of the age of their business, those who had been operating their orchards since before 1990, and those who had begun orcharding after 1990. No significant differences were found in the proportion of orchardists that had gross revenue above the median, indicating that the age of business does not relate to financial performance. It should be noted that an important resource in the agribusiness sector are the relationships that firms have with one another. The longer that a firm has been trading, the more numerous and developed the relationships are likely to be.

The specific area of agribusiness that a firm operates within is important. There is evidence that the operating environment for each area of agribusiness are slightly different and that these differences influence a firm's financial performance. For example, during the 2004 financial year the profit margin on sales for dairy farming was 11per cent, for horticulture 6.7per cent, and for off-farm businesses 4per cent (Statistics New Zealand, 2005).

### 5.2.2 Customer focus

A firm's degree of customer focus affects the type of relationship and arrangements that a business develops with their customers. The six indicators related to a firm's degree of customer focus are: per cent sales from new products; share of key accounts purchases; delivery times; customer profitability; identification of and contact with customers; and processes for receiving feedback from customers. During the study's fieldwork the role of customer feedback and direct sales to customers were surveyed. Several of the indicators in this category have been noted as of limited use. Depending on where a firm is in the value chain will influence the relative importance of delivery times, customer profitability, customer contact, and customer feedback indicators. For agribusiness producers selling directly to consumers, these indicators may help differentiate between below par and superior firms.

The fieldwork interviews found that the perceived importance of having a customer focus and marketing to customers depended on the type of business. Some firms reported high levels of activity in this area, especially businesses that exported niche products. Firms servicing the New Zealand agricultural community tended to focus on building long-term relationships rather than more traditional marketing activities. Although the development of long-term relationships is important in the wider business community, there appears to be a much greater emphasis on this in the agribusiness sector.

Participants interviewed from the kiwifruit sector noted the role of market demands driving innovation and the incentive structure to producers. Although the sector was seen as having a relatively open communication system offering firms an understanding of market issues, continued improvements in efficiencies and removing the duplication of activities were seen as an ongoing requirement.

The fieldwork investigated the customer orientation of producers by asking how often they received customer feedback and the amount of their sales that were direct to consumers. For kiwifruit growers, the frequency of customer feedback did not impact significantly on the gross revenue or cash surplus for orchards. It is important to note that most kiwifruit orchards received information regularly on customer requirements. The low differentiation on this performance indicator amongst growers made it difficult to ascertain the importance of customer information in the kiwifruit sector. None of the kiwifruit growers sold directly to consumers, marketing their entire production through ZESPRI.

The sheep and beef farmers surveyed typically receive information about customer requirements less often than kiwifruit growers. Although a slightly greater proportion of sheep and beef farmers who received more customer requirement information recorded above median gross revenue, this difference was not significant. Only a few of the sheep and beef farmers interviewed sold produce directly to consumers. There was no significant difference in the number of farms with an above median gross revenue between those farms that sold directly to consumers and those that did not.

### 5.2.3 Innovation

Innovation provides the opportunity for businesses to offer new products and services or to develop more efficient ways of producing these. With marketplaces and other competitors continuing to evolve, it is important that firms keep pace with new products, processes and technology. The four indicators associated with innovation are: new processes or techniques attempted; use of information and communication technology; number of new products; and new investment. The study's survey investigated new techniques and information and communication technology as performance indicators. The importance of innovation varied depending on the type of business interviewed. The kiwifruit sector was seen as an area of agribusiness that innovation had been critical to, in both its development and in its ongoing success.

Farmers and orchardists were asked to rate how up-to-date their plant and machinery was. These ratings were then compared with gross revenue or cash surplus. For kiwifruit orchardists, no significant relationship was found between the perception of how up to date their machinery was and the measures of financial performance. However, sheep and beef farmers' perception of their machinery being up to date was significantly related to their gross revenue.

The survey found no significant relationship between those farmers or orchardists that are planning to invest in new technology or machinery and the measures of financial performance (gross revenue or cash surplus). However, a higher proportion of the sheep and beef farms with plans to invest were positioned above the median gross revenue (65 per cent) than amongst those farms with no such plans (40 per cent).

The survey explored whether recent system changes aimed at operational improvement were linked to the farm or orchards financial performance. In the case of the kiwifruit farmers, the existence of recent changes to promote operational improvement were not related to gross revenue or cash surplus. Sheep and beef farmers appeared to show some relationship, with a higher proportion of farmers that had made a change to their production systems had above average gross revenue than those who had not made any significant changes. However, the relationship was not statistically significant.

Correlational analysis of the perceived importance of information technology and the use of information technology for financial recording, information seeking e-mail with gross revenue per effective hectare found no significant relationships. On the other hand, the crosstabulations found that a higher proportion of orchardists who rated using information technology and computers for the purpose of financial recording as very important had an above median gross revenue than those who rated it as not important. Those orchardists who rated the technology important for email as very important were more likely to have an above median gross revenue than those who saw it as not important. However, across all response categories these results were not statistically significant.

Analysis of the different management systems for sheep and beef farmers found that the system used (i.e. conventional, organic or integrated) had no significant relationship with gross farm revenue. The kiwifruit orchardists surveyed grew either green, organic green or gold fruit. Gold fruit offered higher gross revenue than green and organic green fruit, although only in the comparison with organic green fruit was this difference statistically significant.

### 5.2.4 Employee relations

There has been a growing consensus that employees are important in ensuring the success of a firm. Employees can assist an organisation in becoming more efficient and customer oriented. They also represent potential risk in terms of accidents, sickness and turnover. The seven factors associated with employee relations are employee turnover, sick leave, injury, productivity, performance based pay, skills and qualifications, and training. All of these indicators with the exception of skills and qualifications were investigated during the fieldwork phase of this project.

The interviews highlighted a number of issues for the agribusiness sector. One of the most common concerns for firms was finding people with appropriate skills. Training was generally recognised as important and most firms supported in-house training.

Measures of turnover, sickness, injury rates, and pay for performance were assessed for a sample of kiwifruit orchardists. Unfortunately there was insufficient variability in the responses from orchardists on these measures to undertake meaningful analysis. In the case of training undertaken by orchards, there was not a significant relationship between the number of training days and gross revenue.

The survey highlighted that sheep and beef farmers tend to use paid labour differently to the orchardists, with farmers to employing more staff and contractors than the orchardists. Pay for performance schemes were not generally used by sheep and beef farmers, so their relationship with financial performance could not be examined. No significant relationships were found between turnover, sickness, injury rates and the measures of financial performance.

The interviews and survey indicate that agribusinesses use contractors to a greater extent than the conventional businesses, and that this is related to reducing the risks associated with employing staff. Given the greater use of contractors in the agribusiness sector, the more mainstream indicators of employee relations such as turnover, absenteeism rates and performance based pay may be of limited importance. However, training appears to be the most applicable performance indicator for agribusiness firms, regardless of the type of labour employed.

### 5.2.5 Quality

Quality has been identified as important factor in ensuring the success of a firm. As noted in the discussion of the inputs section of a business, quality is a common strategy used to differentiate a firm’s products. However, even for firms differentiating their products on the basis of cost or innovation, quality is still important in terms of ensuring that the consumer enjoys a consistent product or service. With an increasing awareness of the environmental effects of production, consumers and a wide range of organisations are starting to pay interest in how products are produced. The desire for more sustainable production systems is leading to a greater emphasis on efficiency, waste minimisation and environmental certification. The five indicators associated with quality are the grades of products produced, waste, productivity, certification, and returns on sales. The first of these indicators (quality) was investigated in fieldwork phase of the project.

Feedback from the interviews indicated that there was a large degree of variation amongst firms in their level of involvement in quality systems. For the smaller number of interviewees

exporting niche products, quality systems were a costly though necessary requirement. The kiwifruit sector has developed quality control systems which have become important in supporting the ongoing success of New Zealand kiwifruit.

The kiwifruit industry uses a quality assurance programme based on the dry matter of fruit which is then linked to payments to orchardists. Data from the ARGOS project showed that dry matter was not a significantly related to the orchards gross revenues. The interviews and survey information suggest that quality is linked to payment for products and is also a requirement for export.

### 5.2.6 Social and environmental factors

Social and environmental factors influence farmers and growers in several different ways. These factors may influence consumer perceptions of agricultural and horticultural produce, and can influence farmers and orchardist decisions on management and production systems. Farmers and orchardist are also members of communities that they support and are in turn influenced by. The ten factors associated with quality are pollution, materials recycled, energy use, water use and source, greenhouse gas emissions, environmental certification, local employees, local suppliers, and participation in local groups. Three of these factors, local employees and suppliers, and participation in local groups were investigated. An additional measure of earthworm counts taken from the ARGOS database was also assessed as a potential indicator.

The survey found that kiwifruit orchards that support community activities through sponsorships, monetary donations, and time tend to have above median gross revenue and cash surplus. Organic kiwifruit orchardists tended to support community activities the most followed by gold and green fruit growers. Participation in community groups was found to be related to gross revenue and cash surplus. A significantly greater proportion of orchardists who were involved in a community group had above median gross revenue and cash surplus than those that do not. The participation of sheep and beef farmers in supporting and engaging in community activities was assessed. Almost all of the farms reported that they were involved in community activities, so there insufficient variation to complete a statistical analysis.

Orchardists and farmers were asked about where they sourced their chemical, fertiliser, veterinary supplies and seed supplies. Almost all of the orchardists supplies are obtained locally and the variation in this data were insufficient to enable further analysis. There was greater variation in where the farmers sourced their supplies, although there was not a significant relationship between the proportion of local purchases and gross revenue. Almost all of the farmers and orchardist surveyed participated in national and local elections. The variation in the election data was insufficient to enable further analysis.

Orchardists and farmers were asked about where they, their families, and employees lived. Almost all of the orchardists, their families and employees lived either on the orchard or locally. Correlational analysis of the farmers found no significant relationship between the proportion of farmers, family and employees living locally and the gross farm revenue per effective hectare.
The ARGOS database provided earthworm counts for kiwifruit orchards, both between rows and within planted rows. This information was compared to the orchards gross revenue. Although there were some differences in the proportion of orchards earning above median

gross revenue and between row worm counts (i.e. a slightly greater proportion of orchards with a lower worm count earned above median gross revenue), this result was not statistically significant. Similarly, worm counts for the sheep and beef sector were analysed finding no significant relationship between farms' gross revenue and the number of earthworms in their soil.

Two of the indicators not assessed in the fieldwork, energy consumed and water use/source are likely to become increasingly important indicators. For some types of agricultural production, energy is an important input. Therefore, the efficiency of a firm's energy use will be an important indicator relative to similar businesses. In a number of regions in New Zealand water has become an increasingly scarce resource. As a key input for a number of production systems, the ongoing quality, availability and efficiency with which water is used is an important indicator of a firm's sustainability.

### 5.2.7 Relationship network

Previous research completed by the AERU has indicated the importance of networks in supporting agribusinesses in a variety of ways. The informal networks provide important social support for families who are often located in more remote locations. The informal networks may offer support and encouragement to business owners who may be undertaking innovation or new ventures. The formal networks provide the opportunity for businesses to access advice, information and to see first hand alternative approaches to production. Membership of organisations also provides a potential development path for business owners and their staff, enabling them to acquire additional interpersonal, presentation and influencing skills. The two indicators related to the relationship network are informal and formal networks. The formal network measures were discussed in the previous subsection describing social and environmental factors. No measurement of the informal network was undertaken in this study. An interesting methodological issue associated with this indicator is finding appropriate metric for something which is "informal".

## 5.3 Outputs

The outputs section of the model captures the various indicators of business success. Traditionally measures of business success have tended to focus on the financial elements. In more recent years, there has been growing interest in the social and environmental performance of business with for example triple bottom line reporting becoming commonplace. A number of the indicators are also present in the processes section of the model. In the short term, the financial measures provide an indication of the output and overall performance of a business. If a longer term view is taken and sustainability is considered, then the measurement emphasis will shift towards the change in the state of the natural, human, social, and cultural capital.

### 5.3.1 Financial

Financial measures are perhaps the simplest output measure to capture as firms are required to either report on these measures for taxation and bank barrowing or use some of these measures for planning, operational oversight and performance management of their business. General levels of financial performance in the agribusiness sector influence ongoing business confidence including investment and reinvestment. For example, the recent increase in dairy

payouts announced by Fonterra stimulates new entrants into the dairy sector as well as further investment of existing firms. No single measure of financial performance is adequate in indicating a successful firm. However, several measures taken together provide insight as to the relative performance of a firm.

Three factors, effective hectares, gross revenue and cash surplus were investigated in the fieldwork. These were found to be related to a number of process indicators including aspects of: firm structure, innovation, business strategy, and social/environmental factors.

### 5.3.2 Natural capital

Natural capital plays an important role in sustaining the ongoing performance of particularly farming and horticultural firms. To remain competitive a firm requires basic natural resources and needs to use these wisely to ensure the firm remains efficient. Seven indicators of natural capital have been identified, these are: land use, water sources and quality, greenhouse gas emissions, energy use, soil fertility and climate. Only land use was partially assessed in the fieldwork.

### 5.3.3 Human capital

Several of the human capital indicators are also included in the employee relations component of the processes section. Four indicators are included covering number of employees, qualifications, skill level and experience, and attributes of employees. Two of the indicators capturing the number of employees and training were measured in the fieldwork.

### 5.3.4 Social capital

Social capital captures the collective value of social networks that enable the support of one another and effectively functioning communities. Three of the four indicators were assessed in the fieldwork, capturing election participation, local group membership, and support of local groups.

### 5.3.5 Cultural capital

Cultural capital plays an important role in sustaining the ongoing well-being of individuals, families and communities. Three indicators of cultural capital have been identified, these are: ethnic group, local public hall and recreation centre usage, and the length of time in a location.

### 5.3.6 Summary of the indicators agribusiness

The various agribusiness indicators are summarised in Table 5.1. The research literature and fieldwork supported a number of measures as useful indicators for an agribusiness firm's success. It is important to note several points when considering Table 5.1. Firstly, not all of the indicators were assessed during the fieldwork phase of this project. Secondly, some of the indicators tested in the fieldwork provided inconclusive results due in part to the limited sample size. Finally, some indicators initially expected to be related to a firm's success were not found to be useful indicators. These indicators have been highlighted in the Table 5.1.

**Table 5.1: Summary of indicators for agribusiness firms**

| **Inputs** | | | | | | |
|---|---|---|---|---|---|---|
| Vision | Position in value chain | Size of business | Age of business | Specific agribusiness sector | Ownership | Personality & family values |
| ▪ Vision statement<br>▪ Business plan | ▪ Proximity to consumer | ▪ Hectares<br>▪ Turnover<br>▪ Employees (FTEs) | ▪ Years trading | ▪ Sector | ▪ Publicly listed company<br>▪ Private company<br>▪ Owner operated | ▪ Personal objectives<br>▪ Lifestyle ambitions<br>▪ Target income<br>▪ Attitudes to growth |
| **Processes** | | | | | | |
| Structure of the firm | Customer focus | Innovation | Employee relations | Quality | Social & environmental factors | Relationship network |
| ▪ Size<br>▪ Ownership structure<br>▪ Industry<br>▪ Industry structure<br>▪ Age of business | ▪ Per cent sales from new products*<br>▪ Share of key account purchases*<br>▪ Delivery times<br>▪ Customer profitability<br>▪ Identification & contact with customers<br>▪ Processes for receiving feedback from customers | ▪ No. of new products trialled or sold<br>▪ No. of new processes or techniques attempted<br>▪ Use of ICT<br>▪ Investment/ change in capital | ▪ Employee turnover*<br>▪ Absentee rates/ sick leave*<br>▪ Injury rates*<br>▪ Productivity<br>▪ Performance based pay<br>▪ Skill & qualifications<br>▪ Training provision | ▪ Quality grades of products<br>▪ Membership of certification schemes<br>▪ Productivity<br>▪ Waste<br>▪ Returns as proportion of total sales | ▪ Pollution measurement<br>▪ Proportion of Materials recycled<br>▪ Energy used<br>▪ Water use & source<br>▪ GHG emissions<br>▪ Environmental certification<br>▪ Local employees* & local suppliers*<br>▪ Participation in local/public policy<br>▪ Participation in local groups | ▪ Informal networks<br>▪ Formal networks |
| **Outputs** | | | | | | |
| Financial | Natural | Human | Social | Cultural | | |
| ▪ Shareholder value<br>▪ Diversity of revenue sources*<br>▪ Per cent of market share for 5 years*<br>▪ Economic value added<br>▪ Return on invested capital<br>▪ Gross margin<br>▪ Profit after tax<br>▪ Economic value added<br>▪ Debt/equity ratio | ▪ Land use<br>▪ Water quality<br>▪ GHG emissions<br>▪ Energy use<br>▪ Water usage<br>▪ Soil fertility<br>▪ Climate | ▪ Employment<br>▪ Employee qualifications<br>▪ Skill level & experience<br>▪ Attributes of employees<br>▪ Training provided | ▪ Election participation<br>▪ Donations to local groups<br>▪ Local group memberships<br>▪ Usage of local facilities (e.g. doctor) | ▪ Ethnic group<br>▪ Usage rates of public facilities (e.g. library)<br>▪ Length of time in locality | | |
| * These indicators may have limited usefulness or their applicability varies by industry | | | | | | |

# Chapter 6
# Implications for Government Policy and Assistance

## 6.1 Gaps in support for agribusinesses

In light of the proposed business model and indicators, an issue raised is whether the currently available support mechanisms meet agribusiness SME needs. To address this issue a description of some of the support programmes offered by government and a variety of other agencies is given, followed by analysis of their use. As Table 6.1 highlights, there is a variety of support available to businesses ranging from education and training through to business development grants. A number of different providers offer assistance programmes including New Zealand Trade and Enterprise (NZTE), the Ministry of Economic Development (MED), Chambers of Commerce, manufacturer and producer associations, economic development agencies, charitable trusts, not for profit organisations, and various commercial entities.

The potential gaps between what support is currently available and that which is required by small and medium sized agribusiness firms for successful development may be due to either:

1. The mismatch between the potential support and the typical business scale in the sector (e.g. the NZTE Beachhead programme is better suited for medium to larger-sized firms)
2. The support mechanisms not meeting the specific needs of this sector (e.g. some of the business support available is specifically focused on firms who wish to develop export markets).

The fieldwork completed during this study highlighted several areas of concern regarding government support of the agribusinesses. In general agribusiness firms had not taken advantage of the support offered by government and other agencies, which is contrary to the results of other work the authors have done, especially in the ICT sector. As described below most firms identified the macroeconomic environment and compliance costs as their main concerns and were not interested in other support. However, a few firms had accessed the support and their experiences are related below.

### 6.1.1 Business support and marketing assistance

A few firms had benefited from NZTE grants to assist their market development activities. The comment was received that these grants were perceived as assisting those businesses that were already established and would not help the potentially riskier market opportunities. There was also concern that the paperwork associated with these grants was seen as too onerous, a comment also made by other business sectors in previous work completed by the authors.

A specific comment included was in relation to initiating and growing market opportunities to lesser developed countries. A specific problem of getting customers through New Zealand immigration was identified. This problem was felt to undermine negotiation and sales to potential new markets. Another comment was that the support was only available to exporters and not importers who may wish for help to go overseas to obtain best possible inputs to service the agricultural industry.

**Table 6.1: Area of business support**

| Assistance Category | Description of Assistance |
|---|---|
| Inward Investment Assistance<br>e.g. NZTE[2] Beachheads programme | Organisations in the export market (the country buying New Zealand goods) that offer assistance and support to foreign companies to help them do business in their country. These organisations offer a wide range of services, resources and support. |
| Education & Training<br>e.g. economic development agencies, Agricultural ITO[3] | Training programs, events and courses. |
| Transport and Logistics<br>e.g. NZTE Market New Zealand.com | Cargo clearance and freight documentation information. |
| Mentoring<br>e.g. Business in the Community | Mentoring networks and assistance. |
| Intellectual Property<br>e.g. Intellectual Property Office (MED)[4] | Intellectual property protection information, and patent, trademark and design registrations. |
| Workforce & Immigration<br>e.g. Canterbury Manufacturers' Association | Immigration information, and visa, residency and work permit applications. |
| Export Readiness<br>e.g. NZTE Market New Zealand.com | Help identifying if a business is capable of exporting. |
| Marketing<br>e.g. NZTE Market New Zealand.com | Marketing strategies and exhibition centres. |
| Exporting Procedures<br>e.g. NZTE Market New Zealand.com | How to export and undertake market visits. |
| Networks & Partnerships<br>e.g. NZTE (Partner facilitation) | Organisations that help firms to get in contact with organisations/people with desired skills/knowledge/experience, and that facilitate business/trading partnerships. |
| Channel Development<br>e.g. NZTE Market New Zealand.com | Information about ways to enter the chosen export market, such as agents or distributors. |
| Advocacy<br>e.g. Export New Zealand | Organisations representing and actively advocating your needs as a business. |
| Legal Requirements & Standards<br>e.g. NZTE | Information about tax and reporting requirements, company registration, tariffs, custom regulations, and product standards and specifications. |
| Market Research & Monitoring<br>e.g. NZTE | Export market research, data and information. |
| Finance, Investment & Insurance<br>e.g. Angel Investor Network (Biz & Ice Angels) | Information about insurance, financing and credit facilities, and assistance with getting in contact with investors. |
| Funding & Grants<br>e.g. NZTE - Market Development & Business Development Grants | Information about grants and funding. |
| Tradeshows & Conferences<br>e.g. NZTE Market New Zealand.com | National and international tradeshows, conferences and other events. |

[2] NZTE: New Zealand Trade and Enterprise
[3] Agricultural ITO: New Zealand Agricultural Industry Training Organisation
[4] MED: Ministry of Economic Development

Some firms reported that they have sought advice on business planning and strategy from consultants. Generally these firms were not particularly satisfied with the assistance they had received, citing that consultants struggled to understand the business context of the firms and tended to operate with a perspective that was too short-term. In contrast to the perceived shortcomings of consultants, mentors were generally seen as more helpful for offering support to developing businesses. These comments were consistent with comments form ICT firms when accessing this kind of advice and support.

Positive comments were made however about the local business courses and the help Federated Farmers offered with business advice.

### 6.1.2 Quality

Comments were made by those who wished to or do access high value niche markets overseas in regard to the regulatory and market access requirements. The initial costs of compliance with these requirements were high and sometimes an important barrier in selling into these markets. The comment was made that financial help and advice to meet the initial costs of these requirements would be an effective method of enhancing the value of our exports. It was also stated that personnel in key agencies which had previously offered advice changed too often to build institutional knowledge and be of assistance. In fact two respondents did state that they had to inform the official of the requirements and that their manuals had been taken away to help the officials learn about requirements of the market and the compliance issues.

Interviewees also suggested the requirement for research that focuses on the environmental and health attributes of New Zealand primary produce that are becoming increasingly important requirements for market access.

### 6.1.3 Employee relations and human capital

A number of firms reported that their firm did not take advantage of government training schemes as the required paperwork was seen as to onerous. Firms preferred to pay for the training courses themselves and/or trained in house.

Current employment legislation raised some concern, with some interviewees suggesting the need for amendment to enable firms to trial new employees on for example, a three-month trial period. In addition concern was raised about the difficulties of dismissing staff even those who had committed serious misconduct; this was seen as disruptive to the rest of the staff in a firm and undermined employee morale. These issues were also very important to other sectors the authors have interviewed, especially where the number of employees is relatively small. Small businesses and particularly those new to employing workers reported that they were somewhat challenged in finding staff with the right skills and flexibility

### 6.1.4 Innovation

A few firms had accessed Technology for Business Growth grants and found these useful. However, interviewees thought that the process for obtaining the grants could be streamlined and better coordination achieved between these grants and other government grants.

There was general concern related to Crown Research Institutes and government research bodies regarding staff changes and the institutes' distance from growers/farmers. A particular issue noted was that different incentive structures meant that growers' interest on more immediate returns was not matched with scientists being rewarded for publication.

### 6.1.5 Additional factors

There was general concern across a range of wider issues. Macro-economic factors including the exchange rate and interest rate (Official Cash Rate) were noted by almost all interviewees as concerns. Regulation and the cost of compliance were also noted by some interview participants as problematic. In addition to the cost and effort of participating in certification schemes discussed earlier, the uncertainty and costs associated with Resource Management Act was seen as unhelpful, especially the time taken for consents to be granted. Other concerns arising in conjunction with regulation and compliance were the time required to get drivers licences for younger workers and overseas seasonal workers negatively impacting on workforce capability. The change to tighter laws on agrichemical is also creating problems.

The lack of transparency and accountability of a number of agricultural agencies across different sectors was raised an issue. Interviewees felt that these organisations did not consult with industry widely nor did they have a very cooperative approach. This approach tended to lead to regulations that were applied in a blanket approach even though a firm may not need to meet these for a particular export market. Some interviewees thought that regulations were developed without consultation and sometimes even contrary to research and evidence. Interviewees were keen to see the processes streamlined and made more inclusive.

## 6.2 Conclusion

This study's aim was to investigate which business models and performance indicators are most appropriate for agribusiness firms, and the information requirements for this model. Two main gaps were identified. The first is the gap between the standard models and the agribusiness models (and also between the standard indicators and agribusiness indicators). Three key aspects of agribusiness were noted as important when considering the information requirements to effectively monitor firms in this sector: the biological nature of production; the size of firms; and the heterogeneity of the sector. Although current business models provide a rough guide for indicators that can be used to assess the health of agribusinesses, these indicators may be inadequate to provide a more complete picture of on-farm agribusinesses health.

The second gap is the shortfall between information collected by government departments and various industry organisations, and that required for several standard business models. Review of the data and statistics collected by these organisations found reasonable financial and production information; however, other material collected was not as readily available.

The fieldwork and literature review led to the formulation of a firm-level agribusiness model. Although this model shares indicators with the more generic business models, several additional indicators are included. The position of a firm within the value chain is an important factor, indicating the relative closeness of the business to the end consumer. Few farmers and growers sell directly to consumers and many agribusinesses were also in a supply

chain either supplying to farmers or processing. It is typically the exporters and retailers that are closest to the end consumer.

Personality, attitudes and family values appear to be influence the development of some agribusiness firms. Research by Lewis (2006) underlines the importance of lifestyle aspirations in shaping particularly family-run businesses. Although not always considered by the mainstream business models, environmental and social factors, and relationship networks provide indicators of business success and resilience. The last group of additional indicators identified was the various other output measures. Aside from financial measures, the performance of a firm across natural, human, social and cultural capital indices provides important information as to the sustainability of the firm and its operations.

In general agribusiness firms were concerned about the macro economy and compliance and did not expect or even want other government support. In fact many interviewees seem to have a suspicion of government support, especially that of a financial nature. The nature of agribusiness which typically are part of a supply chain and have a longer term perspective of their business meant that different forms of business support maybe helpful. Aid with building relationship networks could be seen as a potential way of supporting business, thus field days demonstration farms could be encouraged. Aid and support for mentoring schemes may also help these relationships develop and provide important expertise at various stages of the firm's development.

The more tangible ways of aiding development and enhance export returns would be help with the requirements of high value niche markets. This could be both providing access to expertise of how to meet market requirements of such schemes as EurepGAP, but also grant assistance or loans to meet regulatory requirements.

Information flows can be seen as also an impediment to enhancing earnings from the sector. These varied across the sectors being typically better in the kiwi fruit sector. Consideration of how the market requirements and information could be relayed all the way down the supply chain would be useful especially given the growth in more stringent market requirements.

In conclusion, the application of generic business models to agribusinesses does seem to require some modification. In particular, to allow for the physical constraints relating to production, the reliance on natural resources and the position of the firm in the supply chain.

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