An Entrepreneurial Innovation: Mega Cooperatives

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Abstract

Cooperatives internationally are pursuing horizontal and vertical integration at time when businesses globally are increasingly focussing on limited sets of value adding activities in order to satisfy customer needs and maintain competitive advantage. This paper explores this seeming paradox by looking at a recently formed mega dairy cooperative, which has monopolistic control over the New Zealand domestic and export markets. The paper assesses the changes and challenges for the dairy cooperative in its infant years before assessing the relative performance of the cooperative against several key performance indicators

Key words: *Dairy, Fonterra, Cooperatives, Macro Marketing*

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1. Introduction

At a time when external environmental forces are leading businesses around the world towards focusing their operations and decreasing their horizontal and vertical integration, why are cooperatives moving in the opposite direction? Globalisation, the deregulation of economic markets, technological convergence and the evolution of the internet, is leading to firms downsizing and specialising on limited sets of value adding activities (Prahalad & Ramaswamy, 2000; Vervest, 2005). Traditional manufacturing firm dominated hierarchies are being replaced by complex cooperative relationships, fundamentally changing the way in which firms operate and compete (Achrol & Kotler, 2006). Paradoxically, research has identified agricultural cooperatives trending towards larger cooperatives with higher degrees of vertical and horizontal integration, particularly in developed countries (Barton, Schroeder, & Featherstone, 1993; Hedberg, 2004; Misra, Carley, & Fletcher, 1993; Sankaran & Luxton, 2003; Schroeder, 1992; Sykuta & Cook, 2001). The size and international operation of these new cooperative structures pose unique problems and challenges for managers. They require new and unique skills, and management competencies. Examining this seeming paradox is the purpose of this research paper.

The agricultural industry in New Zealand (NZ) is similar to that of many other nations. The industry consists of many small sized producers (farmers) producing relatively homogeneous products, which compete against other producers both domestically and internationally. The process of converting the raw products leaving the farm gate into desirable consumer products and exporting the products internationally, is an expensive and complicated process in which economies of scale are critically important to financial success. The agricultural industry is a significant driver of NZ's economy, earning 30.8% of the total export revenue and contributing 12.6% of NZ's gross domestic product (GDP) (EconData Pty. Ltd, 2008; New Zealand debt management office, 2009). Twenty years of economic reforms has removed all but one of NZ's government established marketing boards, has forced NZ cooperatives into international marketing and business. The importance of the agriculture industry's contribution to NZ's economy cannot be overlooked, and research needs to critically assess these changes to ensure the continued success of this industry. This research paper reviews literature to examine the changing roles in the management of cooperatives, and the moving from a micro to a macro marketing approach. Content analysis is conducted to look at the successful mega dairy cooperatives Fonterra. Changes in the operation, problems, managerial tasks, strategic direction and marketing activities are discussed and analyses of key performance indicators are presented.

2. Literature Review

2.1 Cooperatives

The cooperation between agriculture producers to exploit market opportunities has a long history. Karki (2006) identities that archaeological discoveries provide evidence that agricultural cooperative structures have existed since the time of Babylonians and Ancient Egyptians. Present day research can be traced back to the 1800s (Finlay, 1896; Kies, 1891). Cobia (1989) as cited in Karki (2006) identifies three distinguishing features of cooperatives: firstly, those who own the cooperative are those who use the cooperative; secondly, those who use the cooperative control the cooperative; lastly, those who use the cooperative are the primary benefactors of the cooperative. The International Co-operative Alliance (1995) identifies a list of seven principles by which cooperatives are governed; open and voluntary membership; democratic member control; member's economic participation; autonomy and independence; education, training and information; co-operation among co-operatives; concern for the community. The primary objective of cooperatives is to increase the economic wellbeing of the producer/owner of the cooperative (Barton, et al., 1993). This is achieved through purchasing individual farm's outputs and marketing them collectively. Benefits accrue through the reduction in transaction costs and increased efficiencies. These benefits are distributed to the owner/producers usually though higher farm gate prices and the redistribution of earnings. Barton et al. (1993) acknowledges that the objectives of cooperatives are commonly viewed as distinct from that of investor orientated firms, a view shared by Karki (2006).

Increased economies of scale in cooperatives are highlighted as the primary benefit of operating in cooperative structures. Increased economies of scale translated into lower per unit costs during production and processing of raw produce, and the distribution of products to retailers and end users (Barton, et al., 1993; Hill, 2007; Schroeder, 1992). Other benefits include broader product ranges, stimulation of demand for outputs, securing access to production inputs, innovation and the sharing of risk between cooperative partners (Barton, et al., 1993). Karki (2006) explains that in developed countries cooperatives are focused on increasing the value of their products, while cooperatives in developing countries focus on increasing the volume of production. Historically, agriculture cooperatives have been primarily focused on serving the domestic market with exporting being carried out by government initiated marketing boards, with the exception of speciality products (Sankaran & Luxton, 2003). Deregulation of markets and

economic policies coupled with the forces of globalisation, has created new market opportunities for cooperatives (Karki, 2006). This article will focus on the aspects of those cooperatives which engage in international activity. However, even cooperatives which operate solely domestically, are also affected by the international competition, because if the opportunity exists other nations will export and compete directly with local producers.

2.2 Changing Structure of Cooperatives

Cobia (1989) and The International Co-operative Alliance (1995) describes the traditional cooperative formation. However, due to external forces, there are now several variations on the traditional structure. Consistent with Doyon (2005) this section presents three general models of "new" cooperative structures; Public Limited Cooperatives, New Generation Cooperatives and the Hybrid Model. The Public Limited Company cooperative structure is essentially a cooperative which has raised extra equity by means of selling a portion of its business to a non supplier owner. This can be done by either a, placing a portion of the cooperative on the stock exchange or seeking a corner stone investor. Usually, the new structure will have two boards of directors, one representing the cooperative and one representing the company. The cooperative's board still have their voice on the company board of directors, however the influence of the privately owned company governance structure is said to provide greater levels of flexibility and efficiency (Doyon, 2005). The New Generation Cooperative structure is similar to that of the traditional cooperative structure, except there is closed membership rather than open membership. Upon membership to the cooperative members, make a significant capital contribution, normally by means of the purchase of shares in the cooperative relative to their use of its resources. Additionally there is also generally an obligation to supply/use the cooperative. New Generation Cooperative structures are said to have better access to capital than that of the traditional cooperative structure. However, they are still constrained in accessing additional finance. The Hybrid Model of cooperatives has governance and capital structures, which are blended from both cooperative and private company characteristics. Voting occurs both on per share (private) and per supplier basis (cooperative). The board of directors contain both elected members (cooperative) and external members (private). Lastly, hybrid model cooperatives utilise external capital sources through interest bearing capital notes, which bear no voting rights.

2.3 Changing Business Environment

The liberation and deregulation of markets and economic policies has thrust many

cooperatives into international business (Sankaran & Luxton, 2003). In NZ, cooperatives now replace many of the pre-existing marketing boards, which governments had granted monopoly control over the exporting of specific agricultural products. Internationally as well as within NZ, there has been an identified trend towards larger cooperatives, through mergers and acquisitions (Barton, et al., 1993; Hedberg, 2004; Misra, et al., 1993; Sankaran & Luxton, 2003; Schroeder, 1992; Sykuta & Cook, 2001). The larger cooperatives have been shown to produce greater benefits for its owners/users, principally through the attainment of greater economies of scale (Hedberg, 2004; Sankaran & Luxton, 2003; Schroeder, 1992). Economies of scale become increasingly important in an increasingly liberated and deregulated global market place. Cooperatives can no longer settle for being efficient relative to their domestic competition; rather cooperatives need to ensure they are competitive relative to their increasing international competition. Due to the geographic isolation and limited size of New Zealand, achieving the desired production, processing, and distribution efficiencies, has required a high level of horizontal and vertical integration. This has resulted in the formation of the 'mega' dairy cooperative Fonterra, and the attempted formation of a similar mega cooperative for the sheep and beef industry, commonly referred to as the 'mega' meat merger. Fonterra now effectively holds a monopoly control of the NZ dairy industry. A similar position would have also been held if the proposed mega meat merger was successful.

2.4 The Transition from Micro to Macro Marketing

The size and international operation of these new mega cooperative structures, requires new and unique skills and management competencies. The required shift in managerial operation can be viewed as a change from micromarketing to macromarketing. Zif (1980) and Hunt (1977) describe the transition of a firm to macromarketing as when the firm is said to be high on either Hunts (1976) dimension of the 'level of aggregation', or Moyer's (1972) dimension of 'impact on society'. Both the mega cooperative structures have/would have had a significant effect on NZ's society as a whole, both through their direct responsibility for the international competitiveness of two of the largest industries in the NZ economy, and the resulting impact on the domestic market supply and price. The necessary changes can be viewed from Zif's (1980) study of the managerial approach to macromarketing. Macromarketing managers responsibilities can be broadly defined by asking two questions: Has central marketing authority been established? and is management responsible for directing the flow of goods and services? The result is a two by two matrix which attempts categorise a two dimensional continuum into four neat categories.

		Central Marketing Authority	
		Yes	**No**
Directing the flow of goods and services	**Yes**	Comprehensive Macro-management	Joint micro/macro management
	No	Central coordination and/or regulation	Specialized macro management

Figure 1 Classification of managerial responsibilities

Source: Zif (1980)

Joint micro/macro management involves the directing and flow of socially important products from a near monopoly position, but without the central authority over marketing activities. Through their dominant market positions, these firms marketing activities can have significant societal consequences and therefore their freedom of actions is reduced (Zif, 1980). The comprehensive micromanagement perspective is most common in communist countries. However, Zif (1980) identifies that there are also comparable examples in the western developed world. The most common examples are the government-sanctioned marketing boards, which have been mentioned previously in this article. The New Zealand economic reforms of the 1980s led, to the dissolution of many of these marketing boards, resulting in a lack of a coordinated international marketing effort of many New Zealand agricultural products (Le Cren, Lyons, & Dana, 2009). The formation of large mega cooperatives representing a vast proportion the nations processors of specific agricultural goods, are filling the void to ensure sufficient efficiencies and economies of scale to secure the international competitiveness of the dairy industry.

Zif's (1980) study of the management approach to macro marketing, can also be used to examine the managerial objectives of these mega cooperatives. The aggregate marketing behaviour and societal consequences of macro marketing requires managers to balance several organisational goals simultaneously. An examination of marketing boards by Zif and Israeli (1978) found that the basic goals of these organisations can be grouped into the following generalised categories: profitability, productivity, market development, social responsibility, and innovation. While these organisational goals are recognised to be similar to that of micromarketing, Zif (1980) highlights that their scope is enlarged and their relative importance is different, particularly the goals of profitability and social responsibility. Profitability at the

Macro marketing level is not only concerned with the attainment of desired profit margins, but also how these profits are distributed within the vertically and horizontally integrated organisation. Social responsibility is regarded as one of the greatest challenges faced by macro marketers. The goals consist of economic as well as non-economic sub goals, which are dynamic and often poorly defined. Social responsibility often receives public attention and usually conflicts with short-term profitability. Managing these diverse goals therefore presents a challenge for macro marketing practitioners, and it is assumed that managers will use vey general terms when stating goals and evaluating performances.

		Managerial control	
		Yes	**No**
Cultivating public support	**Yes**	Social performance orientation	Political orientation
	No	Business orientation	Passive orientation

Figure 2 Managerial objectives: A dual macro marketing concept

Source: Zif (1980)

Zif (1980, 39) explores the notion of a "dual macro marketing concept" to manage the often conflicting requirements of macromarketing. This concept recognises that in macro marketing the exchange process occupies both the market place and the political arena, and managerial tasks associated with each exchange process differ considerably. In the market place, mangers are expected to maintain and exercise control through marketing organisation, information systems, investment projects, research and development, marketing mix decisions and product quality decisions. The political arena consists of three distinct groups; the public-at-large, political intermediaries and special interest groups. Gaining support from these groups is regarded as an imperative for macro marketers in three common situations: the determination of objectives and public support, the seeking of approval for capital investment and organisational or marketplace action, and the negotiation of transactions with government representatives. Zif (1980, 40) therefore proposes a two dimensional continuum to represent managerial objectives given the relative priority of managerial control and cultivation of public support.

3. Formation of Fonterra

Fonterra cooperative group was established in late 2001 through the merger of the NZ Dairy Group and Kiwi Cooperative Diaries. Fonterra controls 95% of NZ's total milk production, accounts for 20% of NZ's total export receipts and represents 7% of the nations GDP. Fonterra exports to over 140 countries and is the second largest exporter of milk products internationally. The goals of Fonterra at formation were:

- To lead the world wide race to develop dairy products potential, through nutritional products ranging from quality food ingredients to FMCGs, in order to meet the changing preferences of the global market place.
- To enable the scale in New Zealand's milk processing and international export marketing, to enhance and unlock efficiencies, to increase the returns provided to farmers.

Currently Fonterra has 10724 (2333 fewer than 2002) owner/suppliers and a multi layer corporate structure. The business is involved in the production, processing, and marketing of New Zealand dairy products.

3.1 Fonterra's Governance Structure

The governance structure of Fonterra includes four key sets of players which are represented in Figure 3. The New Zealand dairy farmers are the owners and users of the Fonterra mega cooperative group. The shareholder's council purpose is to represent the interests of the farmer/suppliers. The 35 shareholders on the council are elected by dairy farmers and represent 35 identified regions of the country. The board of directors' responsibility is for the strategic direction of Fonterra. The board consists of 13 directors, nine of which are elected by the shareholders and the board appoints the remaining four. The four appointed directors are said to provide the skill and competences needed to manage a global company. Lastly, the milk commissioner is appointed by the shareholders council to resolve disputes between the shareholders council and the board of directors (Fonterra, 2009). The control which the farmers have over the board of directors (electing 9 of the 14 directors), is criticised for limiting the technical knowledge and expertise needed to run a global firm (Doyon, 2005). This is a common criticism of cooperative governance structures (Beverland, 2007; Doyon, 2005)

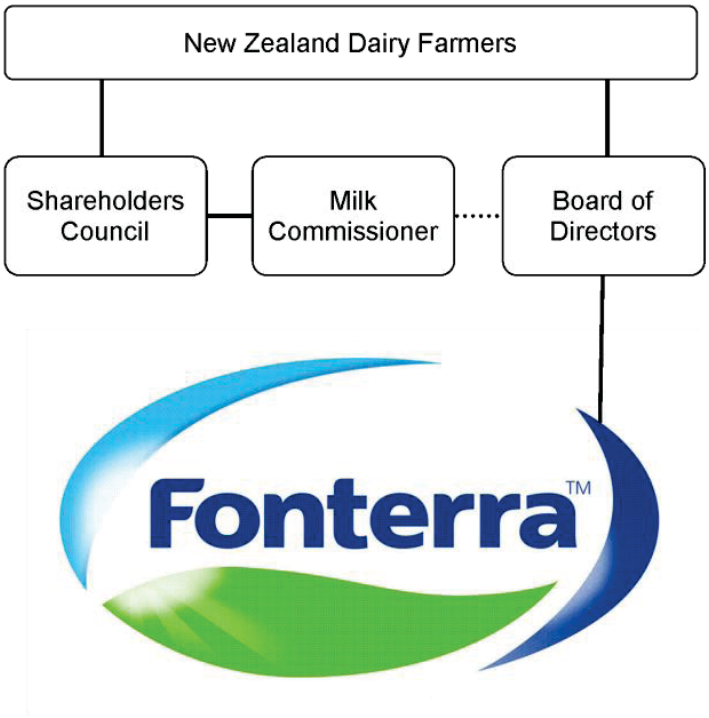

Figure 3 Fonterra governance structure

Source: Fonterra (2009)

Before the establishment of Fonterra, the NZ dairy industry consisted of four major dairy cooperatives; New Zealand Dairy Group, Kiwi Dairies, Tatua and Westland. The largest two cooperatives, New Zealand Dairy Group and Kiwi Dairy, collectively represented around 90% of NZ's milk production. These cooperatives marketed their products internationally through the New Zealand Dairy Board, while domestically they marketed and distributed their product independently. This structure was seen as inefficient and dysfunctional, due to years of government intervention, internal politics and poor governance (Ohlsson, 2004). In late 2001, the larger two cooperatives (New Zealand Dairy Group and Kiwi Dairy) merged together to form Fonterra (Ohlsson, 2004). The formation of Fonterra established a company with monopolistic control over the domestic and export markets NZ dairy products, processing 90% of NZ's milk production and 95% of NZ's dairy exports (including the exporting of products from Synlait and Westland) (Le Cren, et al., 2009). Regulation however ensures the fair pricing of raw milk supplies to competitor processors.

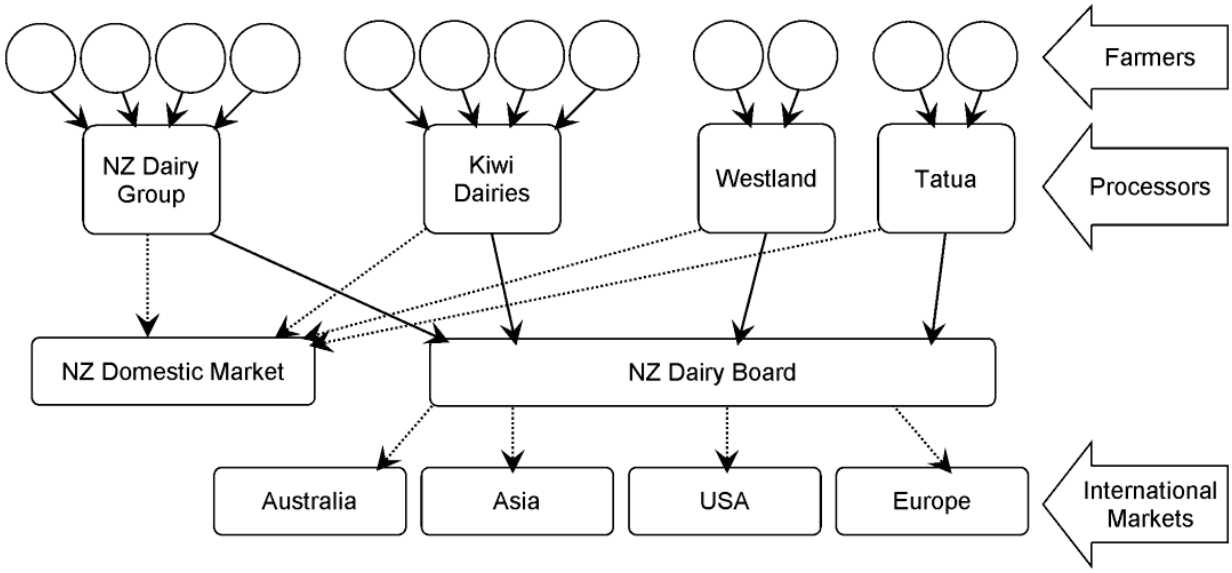

Figure 4 NZ dairy industry structure before the formation of Fonterra

Source: Le Cren et al. (2009)

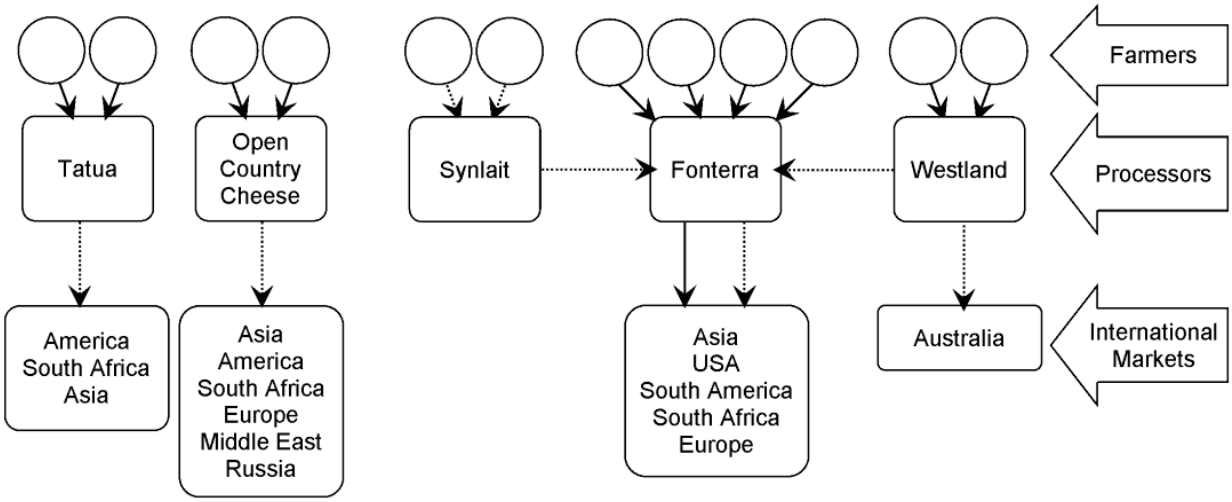

Figure 5 NZ dairy industry structure after the formation of Fonterra

Source: Adapted from Le Cren et al. (2009)

4. Changes at Fonterra

The next section of this report looks at the key business changes and challenges faced by the new mega cooperative Fonterra. Data was collected via the use a content analysis strategy. According to Hall and Valentin (2005) content analysis is "an observational research method used to systematically evaluate the actual and symbolic content in all forms of recorded

communication" (191). Such analysis can be conducted on a variety of data forms, particularly in mass communication media which includes web based newspapers, tabloids and magazine articles (Hall & Valentin, 2005; Harwood & Garry, 2003). This report utilised the content analysis of various news sources available over the World Wide Web.

Upon formation of Fonterra, management and directors needed to deal with a company which doubled in size in almost every facet almost instantly. This represented a significant increase in the level of aggregation of the organisation relative to the NZ dairy industry as a whole, and a move toward macro marketing (Hunt, 1976). The Fonterra organisation is often refereed to as a monopoly of the NZ Dairy industry (Schroeder, 1992). The near monopoly position of Fonterra, makes the management team responsible for a high degree of the direction and control of the flow of raw and processed milk products. Additionally it places responsibility on Fonterra for the successful marketing of dairy products domestically and internationally. According to Zif (1980) this would place Fonterra in a comprehensive macro-management role. The content analysis several substantial reviews and changes which Fonterra has made to deal with these changes. These were arranged around the following areas; transfer pricing between business units/subsidiaries; foreign currency hedging; production efficiencies; logistic optimisation; and consideration of the NZ brand.

Fonterra's new macro marketing responsibilities has produced a potential conflict between cultivating public support and meeting organisational goals (Zif & Israeli, 1978). Zif (1980, 39) identifies the solution as a "dual macro marketing concept" to manage the conflicting requirements. Cultivating public support for Fonterra's actions involves the careful management of various parties with sometimes conflicting interests. The content analysis revealed the following stakeholders which Fonterra relied upon for public support; environment groups, the Commerce Commission, central government, owners/suppliers and the general public. Fonterra was frequently questioned by environmental groups, the Commerce Commission, and its owners/suppliers. Through Fonterra's early years, the competences of its managers were frequently questioned and there was substantial evidence of boardroom disagreement which resulted in several directors resigning from the board.

The content analysis revealed a strong focus on the building of international business relationships. Joint venture, acquisitions, and the establishment of foreign subsidiaries were common occurrences, and were viewed as critical for the ongoing growth and performance of

Fonterra. The problem with the ongoing international expansion of Fonterra was the lack of access to capital finance. This is common among growing businesses, but is accentuated due to the general capital constraints of cooperative structures (Barton, et al., 1993; Beverland, 2007; Fazzari & Petersen, 1993). The constraint of access to capital funding, is two fold for cooperatives. Firstly cooperatives have few options when seeking new capital funding since few owners/farmers are willing to make extra investments and the investment of capital by outsiders is normally not allowed under cooperatives' constitutions. Secondly, cooperatives are restricted in their ability to retain earning because of the strong voice of the owners/suppliers over the election of board directors (Barton, et al., 1993). These constraints have led to several cooperatives amending their constitution with agreement from their owners/farmers, to allow for external capital funding. Doyon (2005) presents these new cooperatives as Public Limited Cooperatives, New Generation Cooperatives and the Hybrid Model cooperative. Fonterra fits the Hybrid Cooperative Model for its capital sourcing. Fonterra sources outside equity using interest bearing capital notes sold to the public, which bear no voting rights. Access to sufficient capital remains a key challenge for Fonterra, and was reported by many in the content analysis to be constraining the growth of Fonterra. Currently Fonterra is seeking support from farmers for a new capital structure which will allow Fonterra's owners/farmers to trade shares with each other to provide greater security for Fonterra's capital structure (Law link, 2009).

5. Fonterra's Performance

This section assesses the performance of Fonterra over several important key performance indicators. Primarily, information was sourced from Fonterra's annual reports, however comparison statistics are sourced and included where relevant. The first graph represents Fonterra's efficiency in processing raw milk into refined dairy products, and its ability to generate sales revenue for its owners/suppliers. The processing costs line shows the average cost of goods sold (COGS) for each kilogram of milk solids (KGMS) (Fonterra, 2009). The COGS figure excludes the cost of the raw milk, as this milk price also represents the shareholders return for investment. Additionally all prices have been converted to 2009 prices using the dairy PPI statistics to account for the various cost of production inputs (EconData Pty. Ltd, 2008). This line shows substantial support for Fonterra providing increased economies of scale during the transformation of raw milks to finished products, with a 46% decrease in 2004 the cost of production compared to previous year (2003). This represents a significant efficiency gain, and is in line with the expectations set on the formation of Fonterra. Fonterra however has failed to

continue its efficiency gain as it increased it milk production over the following years.

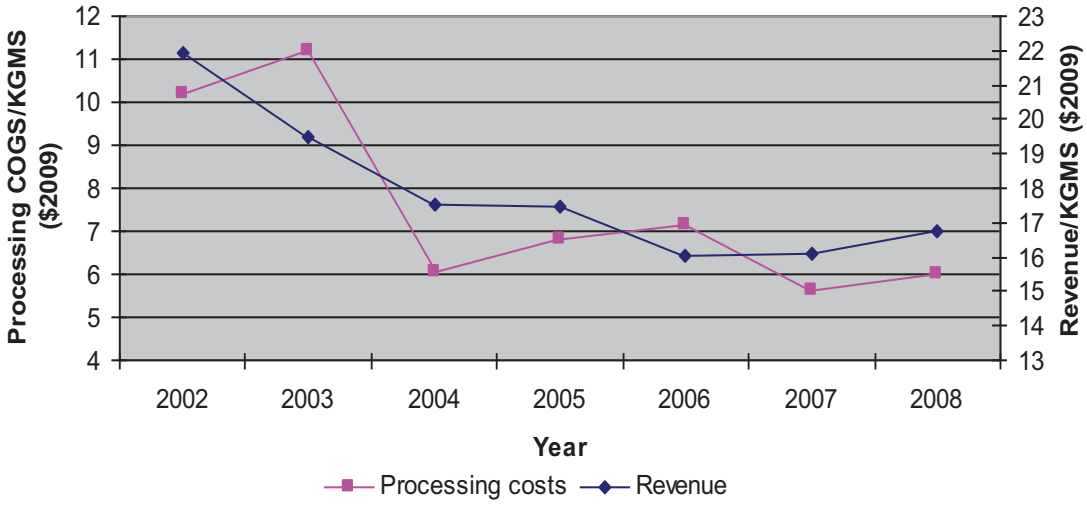

Figure 6 Processing and distribution efficiency of Fonterra

Data Sources: Fonterra (2009), EconData Pty. Ltd (2008).

The second line represents the revenue which Fonterra generates from each KGMS it collects from its farmers. The revenue figures have been adjusted for inflation, and are therefore representative of $2009 (EconData Pty. Ltd, 2008). It is interesting that the revenue generated per KGMS has declined over time, while commodity prices have generally increased. There are several possible reasons for this; the effect of the strengthening NZ dollar eroding the gains from increased commodity prices; possible move to products with lower value added components; international subsidiaries receiving lower payment for their output. This trend line is concerning however. It is expected that Fonterra principally manufacturing in a developed country like NZ, would be focusing on value added products to generate more value from each unit of its owners/suppliers output (Karki, 2006).

The report now looks at Fonterra's performance measured by farm gate prices, which was one of the reasons for the formation of Fonterra. Increase payment for raw product is highlighted as one of the key means by which cooperative's redistribute the benefits of belonging to the cooperative (Barton, et al., 1993). Since Fonterra controls 90% of NZ's milk production, there is no market price for milk in NZ. Instead, a working group consisting of Fonterra directors and external representatives' set a fair milk price which is externally audited (Fonterra, 2009). This price is shown in nominal terms on the graph below, and is read on the right hand axis. Additionally, the price has been standardised and compared against that of NZ's three largest

competitors (US, Australia and the UK) (Le Cren, et al., 2009). The cooperative has managed to maintain parity with its international competitors, of which some receive substantial government assistance (Le Cren, et al., 2009). However, Fonterra has failed to significantly increase the milk price payout to its suppliers/owners.

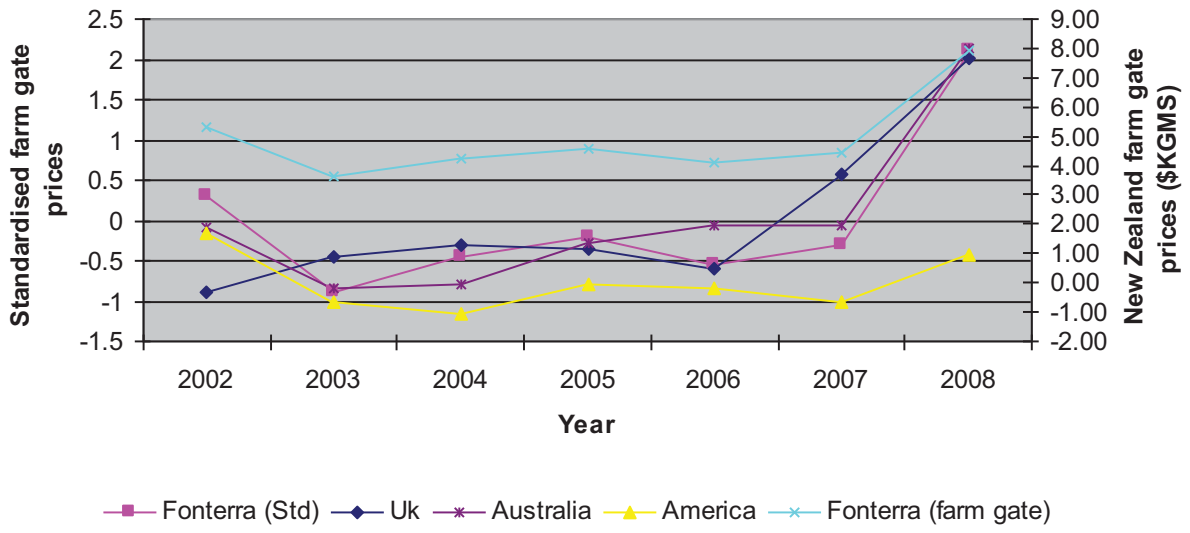

Figure 7 Farm gate milk prices

Data Sources: Fonterra (2009), EconData Pty. Ltd (2008), Dairy Australia (2009), Dairy Co Datum (2009), CLAL.it (2009)

Another means by which farmers/owners benefit from being part of the Fonterra cooperative is though an increase in the fair share price. The fair share price is set in a similar way to the milk purchase price. A specialist working committee determines the price annually, with the price being externally audited. A farm must own a share for each KGMS produced by the farm each year. The shares represent each farms investment in Fonterra (Fonterra, 2009). This ownership structure is common in many new generation cooperatives (Doyon, 2005). The graph below shows the annual percentage increase/decrease in the value of the fair share price, as well as the annual percentage increase of the NZX50. The NZX50 provides a benchmark for the opportunity cost when investing in Fonterra shares. The graph shows a fairly consistent increase in value of around 10-15% over the first four years since the formation of Fonterra, followed by a dramatic drop over the last two years. This drop is most probably due to the global recession and is consistent with the performance of the NZX50. Over the last seven years, the value of Fonterra shares has increased by 15% compared to an increase in the value of the NZX50 of 25%. However, care must be taken to recognise the value of the annual milk payout in comparison to potential dividends. Lastly, it will be interesting to see how Fonterra's share price compares to that of the NZX50 when the world emerges out of the recession.

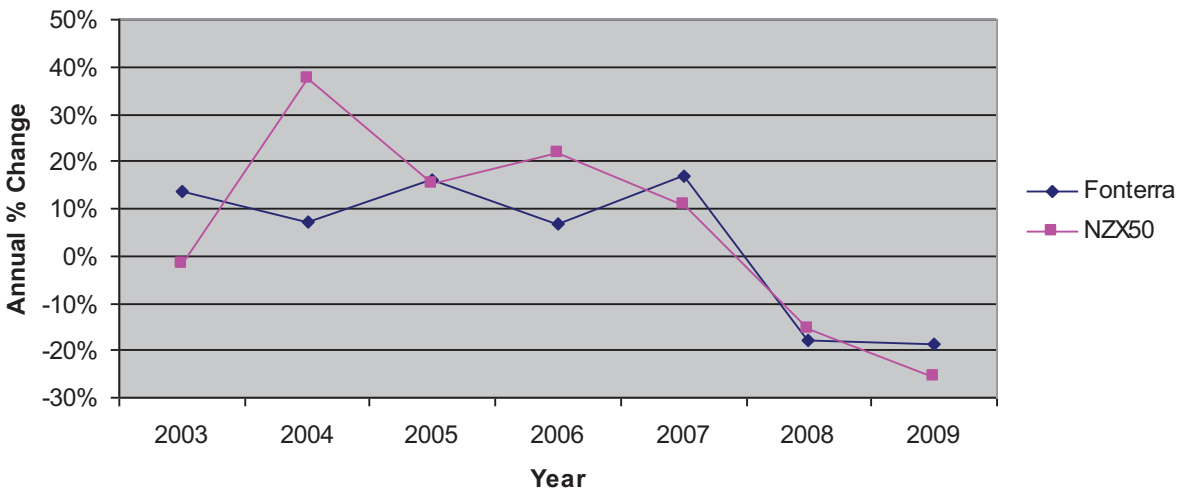

Figure 8 Return on investment

Data Source: Fonterra (2009), NZSE (2009).

One of the government mandates for allowing the formation of Fonterra to bypass the Commerce Commission, was that the dairy industry is of significant importance to the nation though its substantial contribution to the New Zealand economy (30.8% of total export revenue and 12.6% GDP) (EconData Pty. Ltd, 2008; New Zealand debt management office, 2009; Sankaran & Luxton, 2003). The formation of the mega cooperative was predicted to increase/maintain the competitiveness of New Zealand's dairy industry (Sankaran & Luxton, 2003). The graph below shows the value of dairy exports before and after the formation of Fonterra. There appears to be a greater annual increase in the value of dairy exports after the formation of Fonterra. However, there is also greater variation in the value of the exports.

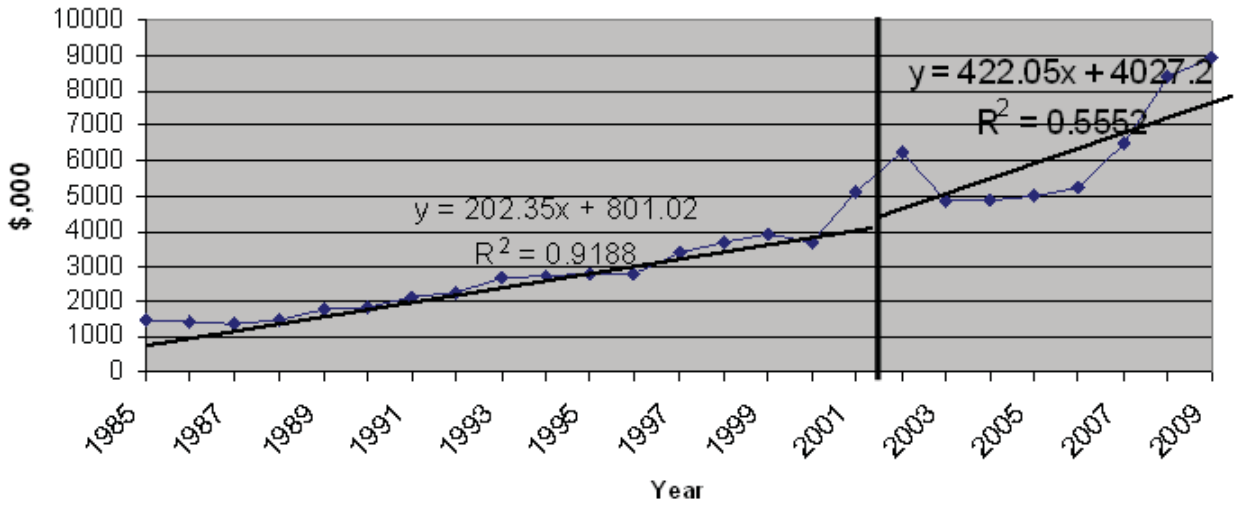

Figure 9 Value of New Zealand's dairy exports

Data Source: EconData Pty Ltd (2008)

The last performance indicator used to access Fonterra's performance was the investment activity in foreign markets. The above details the significant foreign entities partially owned by Fonterra. This type of foreign investment by Fonterra is not typical of cooperatives and reflects the business side of the cooperative (Doyon, 2005). This investment provides additional revenue and economies of scale to Fonterra and its owner/suppliers. The investments provide offshore milk production, product development, research and development work and access to foreign markets. The above table shows a significant amount of international partnerships and joint ventures since the establishment of the Fonterra foreign

Dairy Partners America Argentina S.A	**Argentia**	**50%**
DPA Manufacturing Holdings Limited	**Burmuda**	**50%**
Dairy Partners Americas Brazil Limitada*	**Brazil**	**50%**
Shijiazhuang San Lu Company Limited	**China**	**43%**
Ecajugos S.a	**Ecuador**	**50%**
AFF P/S	**Denmark**	**25%**
DMV Fonterra Excipients GmbH & Co KG	**Germany**	**50%**
Dairy Industries (Jamaica) Limited*	**Jamaica**	**50%**
Dairiconcepts Management, L.P.	**USA**	**50%**
Dairiconceptss Management, L.L.C.	**USA**	**50%**
Corporacion Inlaca, C.A	**Venezula**	**25%**

Table 1 Table of Fonterra's substantial foreign investments

Data Source: Fonterra (2009) *Acquire/established before the formation of Fonterra

6. Discussion

The changes have fundamentally changed and complicated the managerial objectives and tasks of cooperative entities. Within the new environment, there is an apparent conflict between the different goals of the various stakeholders of the organisation. Zif's (1980) dual marketing concept suggests, that a dominant confliction will be between the cultivating public support and the managerial control of the organisation. Additionally Barton et al. (1993) highlights the issues present in determining the fair distribution of profits between the various partners of the cooperatives. With the high degree of horizontal and vertical integration within mega cooperative

structures, managers may face increased challenges in the integration of different cooperative partners. Therefore, managers will need to consider a wide range of relational issues and objectives when integrating and maintaining such complex cooperatives, to ensure the successful completion of the new structure goals.

The assessment of Fonterra's performance produced mixed results. The most encouraging piece of evidence to support the formation of a mega cooperative was the economies of scale, which Fonterra was able to realise two years after formation. The 45% drop in cost of goods sold per KGMS (excluding the price of raw milk) was achieved though greater processing and distribution efficiencies. The cost of goods sold has remained relatively, stable since. This poses the question where will future cost savings come form since economies of scale in the New Zealand market are effectively exhausted, with Fonterra already processing 90% of NZ's dairy production (Fonterra, 2009). Possible answers are; through technological advances in processing; technological advantages to increase farms productivity; and international expansion and investment. This report found Fonterra to be heavily involved in the investment in international joint ventures, acquisitions and international subsidiaries, and the recognised view that NZ farms produce are comparatively small and shrinking proportion of the world's total dairy production. A less encouraging statistic was however, the steady decline in the revenue generated by Fonterra per KGMS produced. This drop is particularly concerning since cooperatives operating in developed economies are said to be focused on value added products (Karki, 2006). The assessment of farmers return on investment for being part of the Fonterra group did not produce any compelling evidence to support investment in Fonterra. Since the formation of Fonterra, the company has failed to produce return for investors greater than that of the NZX50, and the farm gate prices for milk solids has not significantly out performed the other major milk producing nations.

7. Conclusion

To summarise, the changes in the external operating environment of agriculture cooperatives produced by the liberation and deregulation of economic policies, has motivated some cooperatives to merge into mega cooperatives (Barton, et al., 1993; Doyon, 2005). These mega cooperatives involve a large degree of horizontal and vertical integration in order to ensure sufficient efficiencies and economies of scale, to secure the international competitiveness of the owners/users (Doyon, 2005). The new monopoly position of these mega cooperatives and

international marketing activities has transformed their managers responsibilities from a micromarketing approach to a macromarketing approach. These changes have the desired effect of moving competition from between domestic cooperatives to between international businesses. The success of the Fonterra Mega dairy cooperative was found to produce significant gains in economies of scale. However, the information from the other key performance indicators did not provide conclusive support for the mega cooperative structure. These findings are limited by the resources available for research, and therefore should be interpreted with care. Additionally, the Fonterra cooperative is only eight years old and further benefits may take time.

This research does provide an interesting area of study as cooperatives continue to merge to achieve economies of scale and adapt their governance and management structure in the face of changing external environmental forces. Interesting points of further research would include; the challenges of group formation during the merger of cooperatives; the relative performance of the new cooperative structures identified by Doyon (2005); An extensive study of the economic impact of a monopolistic cooperative.

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