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# STRATEGIC PLANNING, UNCERTAINTY AND PERFORMANCE:

## An Investigation of New Zealand Agribusiness Firms

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### ABSTRACT

Various economic liberalization measures have been adopted by the New Zealand Government beginning in mid-1984. These economic reforms have increased competition and accelerated the pace of change in the agribusiness environment. The reforms have made agribusiness decision makers increasingly aware of the importance of strategic planning. This study reports on an exploratory survey of New Zealand agribusiness firms which investigates the effect of economic reforms on the firms' strategic planning and operations.

### INTRODUCTION

The existence of an uncertain economic environment in agriculture is widely accepted (Havlicek 1986). Environmental adversity confronts agribusiness organizations and decision-makers with a basic survival issue of how to learn to deal effectively with these changed environments. There is, therefore, a growing need for managers to be increasingly aware of the impact of an environmental change on the business. How organizations (e.g. agribusiness firms) cope with environmental uncertainties and changes will probably be the most important determinant of their future success or failure (Camillus and Datta, 1991).

The New Zealand government has implemented various economic liberalization measures since mid-1984. Many agribusiness firms, over the last decade, have felt the impact of these unprecedented economic reforms. Economic liberalization measures adopted by the New Zealand government beginning in mid-1984 included reforms related to foreign exchange and other financial controls, taxes, import licenses, tariffs, export subsidies, supplemental minimum prices, procedures for labour negotiations, and other economic policies. These economic reforms have transformed the New Zealand economy into one of the least regulated economies in the world (Dobson and Rae, 1990). Many agribusiness firms in New Zealand considered the reduction in the profitability of exports caused by the appreciation of the New Zealand dollar, the increased cost of working capital, reduced subsidies to farmer customers, and reduced purchasing power of customers in the domestic market as the most unfavourable changes that affected their profits (Dobson and Rae, 1990).

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The environmental changes require New Zealand managers to alter their orientation. But, it has been claimed that New Zealand managers have been slow to adjust to the changed environment (Campbell et al., 1993). The World Competitiveness Report, in fact, ranked the standard of New Zealand managers in the bottom quartile of the OECD countries (see Adam, 1992). The geographical isolation of New Zealand, and the relatively small size of the industrial sector may create a lag in the adoption of what would normally be regarded as standard practice in European and American companies (Wright, 1982).

Like has been proposed by Campbell et al. (1993), that agribusiness decision-makers, within the deregulated economy, should be more likely to be pro-active leaders of change, to adopt a strategic orientation, to establish goals of adaptability rather than merely efficiency, and able to be risk taking rather than risk averse. Decision-makers should be also more sensitive to change, have wide scanning, and a concern for the strategic and long-term view instead of short-time planning. In other words, decision-makers should be concerned with conducting strategic planning which forces them to change their perception and orientation toward broader environments.

Strategic management theorists have recommended strategic planning as an essential tool for managers. A long series of empirical studies, however, has provided mixed support for the value of formal strategic planning. For instance, the value of planning processes has been questioned in studies by Grinyer and Norburn (1975), Kaiman and Shapiro (1978), Kudla (1980), Leontiades and Tezel (1980). On the other hand, some studies have documented the potential payoffs associated with the adoption of strategic planning. Thune and House (1970), Herold (1972), Karger and Malik (1975), Welch (1984), Ackelsberg and Arlow (1985), Rhyne (1986) and Pearce et al. (1987) among others have found that companies which engaged in formal strategic planning outperformed those that did not.

Although agribusiness researchers have agreed that strategic management area is the strongest potential usefulness of research among various areas of agribusiness management (Dobson and Akridge, 1989), very few studies have attempted to focus on this area. Since the uniqueness of agribusiness natures has been discussed (Downey and Erickson, 1987; Sonka and Hudson, 1989), strategic management in agribusiness needs to be developed related to its perspective. Westgren et al. (1988) argued that more agribusiness research related to the area of strategic management and planning is needed that is focused on the needs of agribusiness managers.

This study attempts to assess, using results from an exploratory survey, the characteristics of strategic planning and firm operations of a sample of agribusiness firms in New Zealand during the economic liberalization period covering 1984-90. The objectives of this article are:

- (1) to determine the extent of the use of formal strategic planning processes by agribusiness firms before and during the implementation of the economic reforms; and
- (2) to investigate the effect of strategic planning on agribusiness performance during the implementation of economic reforms.

## STRATEGIC PLANNING

### Definition of Planning

A strategic planning process can be viewed as a set of organizational task definitions and procedures for ensuring that pertinent information is obtained, forecasts are made, and strategic choices are addressed and evaluated in a consistent and timely fashion (Camillus and Datta, 1991). It deals primarily with the effort directed to the development of a purpose, the design of strategies and implementation policies by which organizational goals and objectives can be accomplished (Camillus, 1986).

As a formal process, strategic planning introduces into an organization a new set of decision-making forces and tools (Steiner, 1979) that: (1) simulates the future; (2) applies the systems approach; (3) forces the setting of objectives; (4) reveals and clarifies future opportunities and threats; (5) establishes a framework for decision-making throughout a company; (6) becomes a basis for other management functions; (7) measures performance; and (8) develops strategic issues. Management teams, moreover, can use strategic planning as a structured learning process to generate strategic change (Grundy and King, 1992).

Various definitions of strategic planning have emerged in the literature. Melcher and Kerzner (1988), for example, simply define strategic planning as the process of formulating and implementing decisions about an organization's future direction. Bryson (1988) defines it as a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it. Steiner (1979), on the other hand, defines strategic planning broadly to cover four points of view: (1) as the futurity of current decisions; (2) as a continuous process which consists of detail strategy formulation and strategy implementation; (3) as a philosophy that describes a company's attitude or way of life; and (4) as a structure of plans that mean a set of interrelated plans.

The terms "strategic planning" and "long range planning" have often been used interchangeably in the strategic management literature (Trowbridge, 1988; Bryson and Einsweiler, 1988; Markus, 1989; Rhyne, 1986). Trowbridge (1988), for example, describes a company like a ship on the sea which needs several type of planning: Corporate Planning is needed by the company to determine the size, scope and resources required to keep a company floating; Long Range Planning is needed to scan the environment for potential hazards; and Strategic Planning is needed to navigate the progress of the company. Rhyne (1986) suggested that the fundamental distinction between the two planning types is based on "whether the domain of the organization was considered given - long range planning; or whether it was open to question - strategic planning". However, Steiner uses synonymously all of these terms by arguing:

"...I abandoned the exclusive use of the term long-range planning to describe the system. So have most other writers in the field. Not all would agree with me, however, when I use synonymously comprehensive corporate planning, comprehensive managerial planning, total overall planning, long-range planning, formal planning, comprehensive integrated planning, corporate planning, strategic planning,

and other combination of these words. More and more, however, formal strategic planning is used to describe what is usually meant when the above phrases are employed" (Steiner, 1979, p 13).

### Prior Study of Planning-Performance Relationship

The first empirical test of strategic planning-performance was conducted by Thune and House (1970). They found that companies with formal planning outperformed companies with informal planning. The outcome of this study confirmed many firms' hope of the usefulness of strategic planning. Numerous studies, then, emerged which employed diverse methodologies and measures. These studies shared a common interest in exploring the financial consequences of the basic tools, techniques, and activities of formal strategic planning (see Appendix 1). Most of these studies focused on manufacturing firms, though, there were some studies concerned with other industries such as: service and retail firms (Burt, 1978; Shrader et al. 1989); financial institutions (Klein, 1979; Wood and LaForge, 1979; Sapp and Seiler, 1981; Robinson and Pearce, 1983; Whitehead and Gup, 1985); and even non-profit organizations (Odom and Boxx, 1988). However, there was no study found which focused on agribusiness firms.

Categorization of planning group which commonly used in these studies are: planners group versus non planners; formal planners and informal planners; before and after participating strategic planning; or separating the samples into more than two groups based on the level of planning comprehensiveness, quality of planning or planning formalization. The terms strategic planning, long-range planning and corporate planning were used interchangeably within these studies. However, the authors' motivation in conducting these studies was generally similar: examining the role of planning on a firm's performance in terms of dealing with the turbulent business environment. Accordingly, Steiner's view of using synonymously the terms of corporate, strategy and long-range planning is applicable in reviewing these studies.

Many of these planning-performance studies reported a positive relationship between planning-performance. However, since a large number of non-significant relationships was also surfaced, it is difficult to conclude that planning has a positive relation to a firm's performance. These studies have also been reviewed extensively elsewhere (Shrader et al, 1984; Greenley, 1986; Armstrong, 1982, 1991; Pearce et al., 1987; Boyd, 1991). Using meta-analysis review, they reviewed a body of empirical work and estimated a weighted average correlation between variables. From these reviews emerged the unanimous conclusion that the studies were confusing, contradictory, and impossible to reconcile (Powel, 1992).

Greenley (1984), for example, reported that the published research was far from conclusive in establishing a relationship between planning and company performance. Unfortunately, this review covered a limited number of studies. As a counter response to Greenley's conclusion, Armstrong (1991) argued that planning was statistically significantly useful for companies. In the latest updated review, Armstrong counted 20 positive relationships, 5 nonsignificant relationships and 3 negative relationships, and found a consistent conclusion with his previous reviews (Armstrong, 1982, 1991).

Pearce et al. (1987) critiqued 18 studies and concluded that empirical support for the effect of formal planning has been inconsistent and contradictory. Boyd (1991) calculated 105 evaluations of planning effects on performance, broken down from 21 selected studies and found that the overall effect of planning on firm performance was very weak. However, Boyd has strongly suggested that strategic planning should be continuously emphasized because the study also found that the existing research was subject to a great deal of measurement error, thus underestimating the benefits of planning.

## METHODOLOGY

### Research Design

This study investigated the effect of strategic planning on a firm's performance during the New Zealand's economic liberalization in a sample of New Zealand agribusiness firms. Successful firms during the changing environment may depend on the extent to which the manager has anticipated change, recognized present and future implications of change, and developed strategic as well as operational skills to cope with them (Bracker et al., 1988). One may conclude from prior studies that strategic planning helped firms to respond more easily to emerging issues and make appropriate adjustments. Strategic planning may permits firms to attain advantages as well as avoid threats in the changed environments. If so, the firms will be more capable to grow and achieve better financial performance. Therefore, three research hypotheses have been developed to test the above hypothetical statement.

- H1: There is no significant difference exists in the managerial performance of those firms with and without strategic planning during the New Zealand economic liberalization.*
- H2: During the New Zealand economic liberalization, the correlation between firms which use strategic planning and financial performance does not differ significantly from zero.*
- H3: During the New Zealand economic liberalization, the correlation between firms which use strategic planning and a fast-growing firm does not differ significantly from zero.*

This study used a mail survey of agribusiness decision makers across New Zealand over the period October-December 1992. Survey questionnaires were mailed to 175 agribusiness firms. Thirteen personal interviews of various agribusiness executives were also conducted during the period February 1993 to supplement the information received through the mail questionnaires.

### Participants

A wide range of New Zealand agribusiness firms have responded to the questionnaire. A total of 57 firms responded and these include firms selling fertilizer, animal

health products, farm machinery and equipment, wool brokerage and exporting services, skin and leather products, forestry products, fish products, animal farming, dairy cooperatives, farm consultancy businesses, farm and agribusiness finance firms, stock and station agents, agricultural product packaging services, meat processors and exporters, and statutory boards. The survey respondents also represented small, medium and large agribusiness firms based on the number of employees. However, more small agribusiness involved in this study. A big part of respondents employed 1-10 employees (44 %) and 10-99 employees (18 %), while respondents with the size of employment between 100-499, and 500 and over were 29 % and 9 %, respectively.

Non-response bias may cause statistical problems if there was a systematic difference in the behaviour of those firms that participated in the survey and those that did not. Since this type of information is unavailable and hard to obtain, there is no systematic way of determining possible sampling biases except to use the response rate as an indicator. Even though the response rate in this survey is not unreasonably low (33 percent) compared to most surveys, some degree of non-response bias may realistically exist. Efforts were made, however, to represent all types of agribusinesses in the sample.

### Analytical Procedures

Test of independence was used to examine the first hypotheses. The chi-square test is commonly used on the contingency table where the number of observations in each cell is sufficiently large (Snedecor and Cochran, 1980). When the number of observations in each cell is less than 5, chi-square will not give a valid test. In that case, Fisher's exact test is a more appropriate test of no association. It is similar to the chi-square test, but is an "exact test of independence" for a  $r \times c$  contingency table (Dixon and Massey, 1969).

Correlational analysis was used to examine hypotheses 2 and 3. The sample correlation coefficient "r" is an estimator of a population correlation coefficient  $\rho$  (rho), which would be obtained if the coefficient of correlation were calculated by using all the points in the population. A common test statistic for testing the null hypotheses  $\rho = 0$  is the Student's t statistic (see Mendenhall et al., 1982, p.505).

Financial performances over the New Zealand economic liberalization measured include; growth of sales; growth of after-tax profit; growth of employees, and growth of productivity (that is sales per employees). All growths were measured as percentage change between data in 1990/91 and data 1983/84.

## SURVEY RESULTS

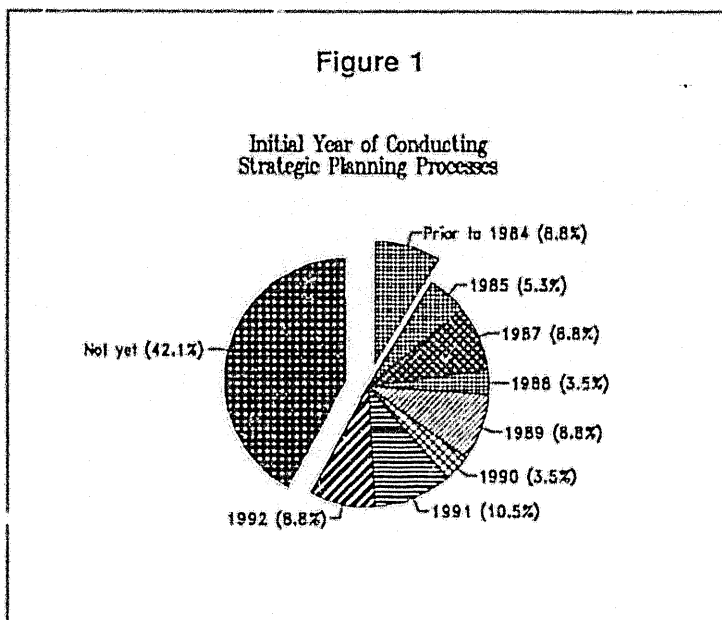
### New Zealand Agribusinesses and Strategic Planning

Valuable insights into the strategic planning processes actually used by the agribusiness firms were obtained. Of the 57 firms, 33 (58 percent) had formal strategic planning processes in place and 24 had no formal planning mechanisms. Of the 33 firms with formal strategic planning processes, 25 had formal written strategic plans and eight had no written plan. Hence strategic planning seems to be a very important activity for many of the firms surveyed. Likewise, the existence of a significant number of firms with formal written strategic plans is in contrast with Westgren et al.'s (1988) results from a survey of California agribusinesses and Robinson and Pearce's (1983) findings relative to small businesses in general.

Among those which had formal strategic planning processes in place, five started their planning processes before 1984, 15 started theirs during the period 1984-89 and 13 started having strategic planning since 1990 (Figure 1). Basing from these figures, it seems that the economic reforms and the uncertainty that came with them had an effect in terms of opening the doors of the firms to strategic planning.

Agribusiness decision-makers' perception of what strategic planning is, unfortunately, has not been clear noted among surveyed firms. Through the mail questionnaire, it was difficult to recognize the perception of decision-makers toward the strategic planning processes, such as distinguishing strategic planning from other kinds of planning, like some authors have argued for the differences

(Trowbridge, 1988; Bryson and Einsweiler, 1988; Markus, 1989). However, personal interviews conducted indicated that agribusiness decision-makers were unsure about what strategic planning is and its differences with other kinds of planning. Strategic planning could not be easily distinguished with other long-term planning by agribusiness' decision-makers. Every long term planning effort, which consists of assessment of the firm environments, and some prediction of the firm's future conditions were commonly labelled as strategic planning by decision-makers. Consequently, such an understanding of the strategic planning processes by agribusiness' decision-makers corresponds with that proposed by Steiner (1979).





That is, a perception of strategic planning being synonymous with other corporate long-range planning.

Respondents were asked to identify the individuals involved in the strategic planning process and the extent of their involvement. Results reveal that the Chief Executive Officers (CEO) or the Presidents of 29 firms were involved in strategic planning

Twenty five firms revealed the involvement of planning officers, nine firms indicated the use of industry consultants, and eight firms had the participation of members of the board of directors. Interestingly, the respondents indicated on the average that CEOs and planning officers contribute close to 40 percent each of the total effort devoted to planning. Industry consultants comprised roughly three percent of the total and members of the board of directors and others made up the remainder of the effort. The significant weight of the CEOs contribution to the planning processes could be due to the fact that many of the firms in the survey are relatively small in size.

The 33 firms with strategic planning processes in place were also queried as to the component parts of those processes. The number of firms conducting each of the strategic planning elements are as follows:

Analysis of Competitors	33
Competitor future strategies	23
Potential industry entrants	21
General Business environment	31
Trends in industry	28
Firm resources available	28
Buyers' bargaining powers	21
Suppliers' bargaining powers	21
Firm's competitive position	30

With the exception of a single firm, all the firms which had formal strategic planning processes update their plans regularly. Moreover, of the 33 firms, 27 indicated that their formal strategic plans are tied to annual operating results.

## The Role of Strategic Planning on Agribusiness Performance

### Hypotheses 1.

The economic liberalization measures adopted since mid-1984 have changed the environment in which the firms operate. Respondents were asked to compare and evaluate the relative difficulty of determining their goals and objectives based on several issues before and after mid-1984 when the first economic reforms were implemented. For the sake of analysis, the sample was subdivided into two groups based on the type and extent of strategic planning. The first group consists of 24 firms without formal strategic plans (referred to as the informal planning group). No firm in this group had formal strategic planning processes. The second group, containing 33 firms, had formal strategic planning processes and is called the formal planning group. Based on these groupings, the average responses for the

individual factors evaluated are provided in the Table 1. The average responses for all firms in the sample are provided in the first column.

Table 1. The Relative Difficulty of Determining Firm's Goals and Objectives Before and After the Start of Economic Liberalization

Goals / Objectives	Average Responses <sup>1</sup>			Fisher's Exact Test Probability
	All Firms (57) <sup>2</sup>	Informal (24)	Formal (33)	
Minimization of Risk	2.13	2.38	1.92	0.054
Profitability	2.02	2.33	1.75	0.015
Market Position	2.00	2.23	1.80	0.080
Cash Flow	1.96	1.95	1.96	1.000
Value to Consumer	1.85	1.95	1.75	0.593
Utilization of Resources	1.82	2.00	1.67	0.161
Overall Average	1.96	2.14	1.81	
Chi-square			15.175	(0.000)

<sup>1</sup> Scale used is 1 = less difficult, 2 = about the same, 3 = more difficult

<sup>2</sup> Sample sizes

The results seem to indicate that those firms which had formal strategic planning processes encountered less difficulty in establishing goals and objectives based on the six factors presented to them in the questionnaire compared to those firms without formal strategic planning processes. With the exception of determining firm goals/objectives based on cash flow, the average responses on each factor listed in Table 1 is lower in the formal planning group than in the informal planning group.

Chi-square test indicated a statistical difference between the overall average of the two groupings. A chi-square value of 15.175 was greater than the critical value at  $\alpha = 0.001$ , with 1 degree of freedom. Therefore, the study's first hypotheses must not be accepted for overall changes of difficulties in determining firm goals and objectives.

With respect to determining specific goals and objectives, firms which planned found all of the listed goals and objectives were easier to be met during the changed environment. On the other hand, three items were more difficult to be determined by non-planning firms. However, Fisher's exact test for each issue indicated that only determining goals and objectives of firm's profitability were statistically different at the 0.05 level. Minimization of risk and market position were statistically different at a lower level of significance ( $\alpha = 0.1$ ).

Respondents were also asked the extent of improvements they made in various areas of management and operations during the economic liberalization period. The list used in Table 2 is similar to those of Harper and Malcolm (1991) study which used for New Zealand various industries

Table 2. Extent of Improvement Made on Areas of Management by Informal and Formal Planning Groups during the Economic Liberalization Period

Areas of Management	Average Responses <sup>1)</sup>			Fisher's Exact Test Probability
	All Firms (57) <sup>2)</sup>	Informal (24)	Formal (33)	
Quality Control	1.85	1.38	2.24	0.003
Management Information System	1.79	1.50	2.03	0.103
Financial Management	1.79	1.50	2.03	0.557
Marketing and Customer Management	1.75	1.50	1.97	0.776
Technology	1.72	1.71	1.72	1.000
Corporate Planning	1.62	1.04	2.10	0.000
Work Methods and Flows	1.58	1.33	1.79	0.278
Labour Relations	1.57	1.42	1.69	0.278
Staff Training	1.55	1.21	1.83	0.101
Personnel Policies and Incentives	1.25	0.83	1.59	0.021
Management Contract and Incentives	1.08	0.88	1.24	0.021
Management Structure	1.06	1.17	1.97	0.029
Overall Average	1.60	1.29	1.85	
Chi-square			35.908	(0.000)

<sup>1)</sup> Scale used is 0 = not improvement at all, 1 = slightly, 2 = significantly, 3 = very significant  
<sup>2)</sup> Sample sizes

Consistent with prior expectations, agribusiness firms which had formal strategic planning processes seem to have adopted better to the changing economic environment than those without formal strategic planning processes based on the extent of the improvements they made in the various areas listed in Table 2. The overall average response of the formal planning group is higher than that of the informal planning group. Likewise, the average responses for each of the areas presented to the respondents are higher in the formal planning group than in the informal planning group. Average response to all areas considered by all firms in the sample is 1.60. The result of the chi-square test showed the difference was significant at the 0.001 level, which lead to reject the first study's hypotheses.

With respect to specific areas of management, Fisher's exact test indicated five areas of management were statistically significant different at  $\alpha = 0.05$ . Understandably, corporate planning was improved in a very significantly different ( $\alpha = 0.001$ ) between informal and formal planning groups. Although improvement in work methods and flows, and use of technology were not statistically different, planning firms have practised quality control in a more sophisticated manner than non-planning firms.

## Hypotheses 2.

Respondents were requested to disclose the amount of sales and profits of their firms during two periods: (1) 1983-84, prior to the start of the implementation of the economic liberalization measures; and (2) 1990-91, after most of the measures have been implemented. As shown in Table 3, significant differences are evident in the level of sales and profits of the firms surveyed between the two given periods. In fact, during the period 1983-84, average domestic and export sales of the 33 firms which responded to this question amounted to about NZ\$48 million. This figure significantly increased to NZ\$99 million during the period 1990-91, when most of the economic liberalization measures have been implemented.

Table 3. Average Sales and After-Tax Profits (in NZ\$), Number of Employees, and Productivity of Firms: 1983-84 and 1990-91

Performances	Sample Size	1983-84	1990-91
Average Total Sales	33	\$47913001	\$99016513
Average After-Tax Profits	28	\$ 2295138	\$ 9773859
Number of Employees	42	374	327
Productivity	32	620025	785370

Average after-tax profits of the 28 responding firms surveyed have likewise soared from about NZ\$2.3 million before the implementation of the economic liberalization measures to NZ\$9.8 million in 1990-91. Hence although some of the agribusiness executives interviewed by the authors had some reservations about the effectiveness of the economic reforms implemented by the government, it appears that most of the firms in the survey had significantly improved the level of their sales and profits during the economic liberalization period

As reported by Savage (1990), some "downsizing" of agribusinesses had occurred during the economic liberalization period. Results from 42 responding firms indicate that the average number of employees slightly declined from 374 in 1983-84 to 327 in 1990-91. However, the average of productivity (sales per employees) of 32 responding firms was increased from 620025 in 1983-84 to 785370 in 1990-91.

Hypotheses 2 concerned the relationship between the use of strategic planning and a firm's financial performance during New Zealand economic liberalization. Table 4 shows that only the correlation between strategic planning and growth of employees does not differ significantly from zero. On the other hand, growth of sales, growth of after tax profit and growth of productivity differ positively and significantly from zero (significant at  $\alpha = 0.03$ ). Thus, the second hypotheses of this study must be rejected for these three performance.

The non-significant correlation for growth of employees may be a result of the number of employees is no longer an indicator of company's growth. It was observed that a half of sample firms had decreased their employee numbers since deregulation began, but more than 60 percent of those firms, in the same time, increased their sales and/or productivity.

The level of correlation coefficient ( $r$ ) between strategic planning and growth of sales, after-tax profit and productivity were not high, that is 0.39, 0.47 and 0.41, respectively. This is perhaps due to various levels of planning sophistication existing in the surveyed firms' strategic planning.

Table 4. Correlation Coefficient ( $r$ ) between Firms which Had Strategic Planning and Financial Performance during the Economic Liberalization Period

Performances	Sample Size	Correlation Coefficient	Prob of $p = 0$
Growth of Sales	32	0.389	0.028
Growth of After Tax Profit	26	0.472	0.015
Growth of Employees	41	0.038	0.810
Growth of Productivity	31	0.406	0.023

### Hypotheses 3.

Respondents were also asked whether they consider their organization a fast-growing firm. Interestingly, 22 of the 57 firms surveyed answered positively to this question and most of these firms had formal strategic planning processes. The result of correlational analysis, as shown in Table 5, suggested that correlation between strategic planning and a fast-growing firm differs significantly from zero (at  $\alpha = 0.1$ ). This result suggested that the study's third hypotheses must not be accepted.

Interestingly, a higher significant level as well as correlation coefficient were observed considering the initial year of conducting strategic planning before 1989 (at  $\alpha = 0.03$ ), and even during 1984-89 (at  $\alpha = 0.001$ ). Firms included in the last variable may called earlier adopters of strategic planning. This reflects the willingness of management to use strategic planning as a managerial tool when faced with the dramatic changes in their business environments caused by economic reforms.

Table 5. Correlation Coefficient (r) between Firms which Had Strategic Planning and the Fast-Growing Firms during the Economic Liberalization Period

Variables	Correlation Coefficient	Prob of $\rho = 0$
Having strategic planing	0.238	0.074
Initial year of strategic planning up to 1989	0.399	0.021
Initial year of strategic planning during 1984-89	0.426	0.001

### CONCLUDING REMARKS

Agribusiness firms in New Zealand, over the last decade, have felt the impact of unprecedented environmental uncertainty. One of the management tools that could be used in an uncertain business environment is strategic planning.

This study attempted to assess, using results from an exploratory survey, the characteristics of strategic planning processes of agribusiness firms in New Zealand during the economic liberalization period. In particular, some valuable insights are gained into the characteristics of the strategic planning processes actually used by agribusiness firms before and after the implementation of economic reforms.

The results of the survey reveal that strategic planning exist in the majority of the firms studied. In fact, more than half of the firms in the sample had formal strategic planning in place. Interestingly, however, only five of the 33 firms had started formal strategic planning before the start of the implementation of the economic reforms in mid-1984. It is, therefore, possible that the dramatic changes that the economic reforms have brought in the business environment could have been the impetus behind the rush to develop formal strategic planning after 1984.

Although New Zealand agribusinesses can be categorized as a newcomer to planning<sup>1</sup>, this study's findings generally indicate that firms with formal strategic planning had experienced less difficulty establishing goals and objectives based on

<sup>1</sup> See also Wright (1982) which investigated the adoption of planning among sample of various New Zealand industries.

profitability, utilization of resources, market position, value to customer, and minimization of risk than firms without formal strategic planning. Firms with formal strategic planning had also performed better in terms of improving various managerial and operational areas than firms without formal strategic planning.

This study also suggested that strategic planning has a positive correlation with; growth of sales, growth of after-tax profit and growth of productivity, during deregulation times. Furthermore, this study indicated that strategic planning has enabled the planning firms to rapidly grow in the turbulent times. Since the correlation coefficients were low, however, improvement in conducting strategic planning processes may be needed.

Strategic planning may become more essential for agribusiness firms. Since the unique nature of agribusiness has been recognized (Downey and Erickson, 1987; Sonka and Hudson, 1989), future research may address questions such as: what elements should be involved in an effective strategic planning for agribusiness; what length of time is appropriate for a given strategic planning intervention to take effect; why and when does strategic planning lead to better performance; and what conditions make planning effective? The future research may also address the question of how different top managers operate with respect to an effective strategic planning.

Although based on an exploratory effort, these results suggest that research relating to strategic planning and changes in economic environment can generate information of interest to agribusiness managers, researchers and educators in the field, and even policy makers. Care must be taken, however, when making implications based from the results of this study due to the smallness of the sample used in this study.

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## Appendix 1. Description of Prior Studies Concerning for Planning-Performance Relationship

Year Published	Study by	Sample type	Sample size	Categorization on planning	Performance measures	Findings
1970	Thune and House	Industrial Firms	36	Formal versus informal planners	Sales, stock prices, EPS, ROE, ROA (5-10 years)	Formal planners performance superior. Finding are stronger for industry comparisons
1970	Ansof et al	US manufacturing firms	62	High and low level planners	21 financial measures (20 years)	High level planners superior
1970	Gershefski	Cross section of firms	323	Before and after strategic planning was introduced	Growth of sales (ten years)	Companies with formal strategic planning outperformed companies with little planning
1972	Herold	Industrial firms	10	Strategy, goals, action programs for three years	Pretax profit, R&D expenditures, (seven years)	Formal planners outperformed informal planners
1974	Furmer and Rue	US firms in durable, non durable and services industries	386	Planners and non planners	Sales and earning growth, return on sales, rate of return, (three years)	No difference between groups
1975	Karger and Maik	Machinery industry	13	Planners and non planners	13 financial measures (ten years)	Planners outperformed non planners on almost all measures
1975	Gonyer and Norburn	Cross section of British firms	21	Planners and non planners	ROA (five years)	No significant different between planners and non planners
1978	Burt	Australian retailing firms	14	Low, moderate, and high quality of planning	Growth in profitability, ROI, and changes in ROI (one years)	The level of planning quality significantly correlated with all performance measures
1978	Kaliman and Shapiro	Motor carriers	298	Five levels of commitment and sophistication of planning programmes	Revenue, profitability, return on capital and equity (ten years)	No significant benefit from planning
1979	Klein	Commercial bank	59	High, moderate and low level of planning	Deposit growth, profitability (five years)	No effect of level planning for any size of category
1979	Wood and Laforge	United State banks	41	Comprehensive planners, partial planners, non planners	Growth in net income and ROI (five years)	Comprehensive planners superior to non planners. No relationship between comprehensive and partial planners
1980	Kuda	Manufacturing firms plus others	129	Planners and non planners	Stock returns (15 years)	No significant effect of planning
1980	Leonades and Tezel	Cross section of firms	1	CEO rating of planning formalization and importance	ROA, equity price, sales and EPS growth, earnings ratio (seven years)	No significant difference between planners and non planners
1980	Van de Ven	Day care programmes	14	Programme planners and conventional planners	Efficiency, acceptance, service quality, and financial dependence (three years)	Planners superior
1981	Sapp and Seier	Banking institutions	362	Non planners, beginning, intermediate, and sophisticated planners	Deposit growth rate, ROE, capital to risk assets ratio, interest as a percentage of loans (one year)	Planners superior 3 of 4 measures
1981	Robinson, Vozik, and Pearce	Small firms	51	Not explicitly defined	Sales growth, profitability, sales per employee, employment growth (three years)	Planning found to enhance effectiveness
1981	Lindsay et al	US firms in durable, non durable and services industries	144	Impoverished, programmed, and progressive planners	Sales and earning growth, net margins, ROA (five years)	No consistent relationship between planning and performance

Appendix 1. Continued

<i>Year Published</i>	<i>Study by</i>	<i>Sample type</i>	<i>Sample size</i>	<i>Categorization on planning</i>	<i>Performance measures</i>	<i>Findings</i>
1982	Robinson	Small firms that had received strategic planning consultation	101	Whether engaging consultation in strategic planning	Profit before tax, and some measurement on organisational effectiveness	Engaging consultation of strategic planning outperformed on most item measures
1983	Robinson and Pearce	Small banks	85	Formal versus non formal planners	Profit margin, loan growth, ROA, ROE (three years)	No Relationship
1984	Weich	New York Stock Exchange firms	49	Strategic versus non-strategic planners	Price, earnings multiple (five years)	Strategic planners superior
1984	Fredrickson and Mitchell	Forest products firms	27	Level of comprehensiveness	Sales growth, average ROA (five years)	Negative relationship between comprehensiveness and performance
1984	Fredrickson	Paint and coating manufactures	38	Level of comprehensiveness	Sales growth, average ROA (five years)	Positive relationship between comprehensiveness and ROA, no relationship with sales growth
1984	Robinson et al	Small business of retail and services	51	Intensity of strategic planning in different stage of development	Sales, ROS, Employee Sales/employee (one year)	Planning has a positive impact on small firm performance that was vary across firm's stage development
1985	Ackelsberg and Arlow	Small business	124	Planners and non planners	Sales and earnings (three years)	Planners superior
1985	Whitehead and Gup	Banking institutions	212	Planners and non planners	ROA, ROE, deposit growth	No difference between groups
1986	Rhyne	Cross section of firms	89	Budgeting, annual planning, long range planning, strategic planning	Return to investors, return on equity (ten years)	Planners superior
1986	Branker and Pearson	Small firms in the dry cleaning industry	188	Unstructured plans, intuitive plans, structured operational plans, structured strategic plans	Growth of sales and profitability, ratio of costs to revenue (five years)	Planners superior on two measures
1987	Pearce et al	Manufacturing firms	97	Planning formalization	ROA, return on sales, sales growth (five years)	Planner superior
1988	Odom and Boxx	Churches	175	Planning sophistication	Growth in attendance, offering, total addition, baptism (one year)	Planners superior 3 of 4 measures
1988	Branker et al	Small firms in the electric industry	217	Unstructured plans, intuitive plans, structured operational plans, structured strategic plans	Growth in revenue, net income, present value, and CEO compensation (five years)	Strategic planners significantly better on revenue, present value, and CEO compensation measures
1989	Shrader et al	US manufacturing retail and services firms	97	Strategic planning and operational planning	Sales, employee profit (three years)	Operational planning was positively correlated with performance for the most part, while strategic planning had less significant relationship to performance
1992	Powell	Two industries represented different planning dissemination	113	Formal strategic planning in two industries which perfectly or imperfectly disseminated	Profitability (three years)	Planning performance are higher correlated in imperfectly planning disseminated industry