THE RELATIONSHIP BETWEEN COMPETITIVE INTELLIGENCE AND COMPANY SUCCESS

Wilna Amoritha Fourie

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ABSTRACT

The past few years have seen a growing interest in competitive intelligence amongst academics and practitioners. This growth has been affected by a high degree of scepticism regarding the ability of competitive intelligence to effectively support business performance.

The objectives of this study was to determine whether a relationship exists between competitive intelligence activities and company performance in a sample of New Zealand companies; to determine the level of competitive intelligence activities undertaken in this sample; and to determine the impact of the results on marketing strategy in general.

To achieve this a mail survey was conducted and results based on a sample of 125 strategic business unit managers from various sized manufacturing, importing and distributing companies, in four respective industries of the Chemical industry sector.

A composite competitive intelligence score was developed that included the following elements of the competitive intelligence cycle, namely: gathering activities, focus of intelligence, analysing activities, dissemination channels, use of intelligence, top management involvement and counter intelligence. Performance measures were self reported measures of growth over a three-year period (1994-1997).

Although the results revealed a significant positive correlation between the composite competitive intelligence score and market share growth, it was a weak relationship with only three percent of the variance in market share explained by the composite competitive intelligence score (assuming this was the direction of causation).

The competitive intelligence approach in the Chemical industry sector was found to be an ad hoc approach, characterised by informality and uncoordinated actions. Strategic business unit managers indicated that, even though using a predominantly informal approach, competitive intelligence activities:

- Improved their understanding of the dynamics of the market place.
- Improved implementation of new products or projects.
- Led to concrete actions.
- Helped shape policies.

Although above mentioned benefits did not directly explain the variance in market share and only provide weak empirical support for an investment in competitive intelligence, it could indirectly play a significant role in the formulation of marketing strategies and ultimately in the creation and maintaining of a competitive advantage for a company.

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SUMMARY

The objectives of this study were:

(1) To determine the level of competitive intelligence activities undertaken in a specific New Zealand industry sector;

(2) To determine the relationship between competitive intelligence and measures of business success;

(3) To assess the implications of this relationship for marketing strategy in general.

The literature review revealed:

- Confusion regarding a common acceptable definition. Competitive intelligence for the purpose of this study was defined as being both a product and a process. As a product, competitive intelligence means ethical, timely and useful value-added information on customers, competitors, other key stakeholders in the competitive environment and the company itself. As a process, it involves establishing intelligence needs, generating information, analysing and disseminating actionable intelligence to key decision makers, to build a competitive advantage and enhance business profits.

- Consensus exists regarding the Competitive Intelligence Cycle (a multistage intelligence process). Studies revealed that competitive intelligence focussed mainly on the direct competitive environment, which includes customers, competitors and the organisation itself. The purpose of competitive intelligence was continuously described as providing actionable intelligence for use in strategic decision making, and the outcome of undertaking competitive intelligence was reported to be the creation of a competitive advantage with resulting increase in business performance.

- Global economies, the information era, defusion of technological and managerial capabilities, advances in computer information systems and communication technology advances contributed to the growth in competitive intelligence in the 1980's and 1990's.

- Growth in competitive intelligence led to an increase in problems regarding this activity. The one persistent problem encountered by competitive intelligence active organisations, is the lack of full integration of intelligence activities with actual decisions - especially at the top - resulting in inferior strategic decisions and doubt whether investment in competitive intelligence activities are justified.

- No studies could be found that directly linked business performance and the level of competitive intelligence activities.

- Current research regarding competitive intelligence focus on eight main areas, namely: how to conduct competitive intelligence; competitive intelligence and its role in marketing strategy; competitive intelligence in specific industries; comparative studies regarding competitive intelligence in various countries; reasons for the failure of competitive intelligence activities; counter intelligence issues; the future of competitive intelligence; and the effect of competitive intelligence on the success of companies. Very little research on the state of competitive intelligence in New Zealand had been conducted.

The methodology followed in the primary research was to conduct a mail survey on strategic business units from a population of 610 companies belonging to the New Zealand Chemical Industry Sector, including the following four industry types: (1) Chemical Manufacturing; (2) Drugs and Medicines; (3) Soap and Cleaning and (4) Perfumes, Cosmetics and Toiletries.

The primary research process consisted of two phases where the purpose of phase one was to elicit participation in the study from the population companies and phase two consisted of mailing out the 'main questionnaire pack' to each of the strategic business unit (SBU) managers who agreed to take part in the study.

The decision to survey SBU managers rather than companies as a whole was taken in order to avoid an over-representation of small companies, as a large company would have been given the same weight as a small company. The use of strategic business

unit managers also identified the business entities assumed to be responsible for the competitive intelligence activity and related decisions.

Of the 542 eligible companies in the population, 91 companies (17%) agreed to take part in the study and provided the names of 155 SBU managers. The response rate in phase two of the study was 80.6% and constituted 125 SBU managers returning the main questionnaire.

The SBU managers in the sample were manufacturers, importers and distributors from various sized companies that together held up to 90% of the market share in the four respective industries of the New Zealand Chemical industry sector and can therefore be seen as representative of this sector.

Specific characteristics of competitive intelligence activities in the Chemical industry sector, were:

- The level of competitive intensity experienced was 'high' with a tendency to compete on price, numerous competitors, slow growth and low switching costs for buyers. The speed of change, also a contributing factor to competitive intensity, was 'steady'.

- Sixty two percent of the SBU managers described their approach to competitive intelligence as Ad Hoc. This approach can be described as informal and uncoordinated.

- The main source for intelligence reported as being 'often' used, were: personal contacts followed by trade literature; talking to suppliers and distributors who influence end users; newspapers and magazines; and interviews with company employees.

- Competitive intelligence was balanced in its focus on all three stakeholders in the immediate environment namely, competitors, suppliers and customers. The only immediate environment roleplayer that seemed neglected was the focus on new entrants.

- In the analysis of competitive intelligence the SBU managers indicated a commitment to data being analysed by experts inside the company, but low commitment to using external experts and storing information on databases.

- Dissemination patterns were good with SBU managers indicating formal, informal and interfunctional dissemination patterns. Limiting factors in terms of dissemination were that 69% of the SBU managers indicated that they were responsible for their own competitive intelligence gathering. SBU managers also indicated hesitancy regarding whether top management prioritised their competitive intelligence needs. These two factors demonstrated that although the channels of dissemination were in place, it did not necessarily mean the most appropriate information was flowing through them.

- The use of competitive intelligence reflected the informal nature of the competitive intelligence function in the Chemical industry sector. SBU managers reported an 'agreement' that competitive intelligence improved their understanding of the marketplace; improved the implementation of products and projects; led to concrete actions and shaped policies.

- The budget allocated to competitive intelligence activities was low with the majority of SBU managers in small and medium companies reporting a 'nil budget' and the majority of SBU managers in large companies reporting a 'below $25 000' annual budget.

- In terms of counter intelligence, results showed that SBU managers were very conscious of ensuring that other companies could not get access to their information. However, respondents 'disagreed' that they have put counter intelligence measures in place.

Overall, although the competitive intelligence approach followed in the New Zealand Chemical industry sector is one characterised by being informal and somewhat uncoordinated, it is an approach that is unique to a country with a small domestic market and a specific informal business culture.

A composite measure of the level of competitive intelligence was calculated by using information regarding 'gathering activities', 'focus of intelligence', 'analysing activities', 'dissemination channels', 'use of intelligence', 'top management involvement' and 'counter intelligence'. Performance measures were self reported measures of growth over a three-year period (1994-1997).

This study established that a significant positive relationship exists (at the 90% confidence interval) between a composite measure of competitive intelligence activities (CISCORE) and a self reported measure of performance (market share growth). However, the relationship proved to be weak with only 3% of the variance in market share explained by competitive intelligence activities (assuming this is the direction of causation).

Although the results provide weak empirical support for an investment in competitive intelligence, the above mentioned reported benefits experienced by the SBU managers could indirectly play a significant role in the formulation of marketing strategies and creation of a competitive advantage for a company.

1. INTRODUCTION

The past few years have seen a growing interest in competitive intelligence amongst academics and practitioners alike (Bernhardt, 1996). The growth has been caused by a worldwide change to global economies, the advent of the information era, defusion of technological and managerial capabilities and advances in computer information systems as well as telecommunication technology (Ghoshal & Kim, 1986; Herring, 1988; Mockler, 1992; Bernhardt, 1996).

Competitive intelligence forms an optimal input to competitive strategy formulation (Porter, 1979) and a vital ingredient for achieving an optimal market orientation (Kohli & Jaworski, 1990). The considerable volume of research on the concept of market orientation (Narver & Slater, 1990; Kohli & Jaworski, 1990; Jaworski & Kohli, 1993; Raju, Lonial & Gupta, 1995) and competitive strategy has lead to a deeper understanding of the important role that competitive intelligence plays in the marketing strategy formulation field.

The literature revealed that competitive intelligence is disseminated to strategists for use in strategic decision making, and as such, competitive intelligence is a facilitator of competitive advantage (Czepiel, 1992). The literature review also revealed that developing competitive intelligence as a core capability in firms, is receiving increased support, as it then directly contributes to the creation of a competitive advantage (Ghoshal & Kim, 1986; Bernhardt, 1996). The result of effective strategic decision making is a competitive advantage, which can be directly measured as business success (Czepiel, 1992; Porter, 1979).

Although the necessity of establishing a competitive intelligence function is well supported in the literature (Bernhardt, 1996; Gilad, 1989), growth in usage has been affected by a high degree of scepticism regarding the ability of competitive intelligence to effectively generate information pertinent to strategic decision making (Cartwright,

Boughton & Miller, 1995). There is confusion about what contribution to company success can be expected from an investment into competitive intelligence (Sutton, 1989; Bernhardt, 1996; Ghoshal & Kim, 1986).

Therefore, even in today's climate of information economies, knowledge cultures and instant connectivity, many intelligence professionals face an uphill battle in funding their competitive intelligence objectives, networks and units (Solomon, 1996). At the same time, however marketers report that a lack of appropriate information and intelligence on competitive issues constitutes a barrier to sound and effective strategic decision making (McDonald, 1996).

As competitive intelligence becomes more established as a professional discipline, the need grows to devise ways of measuring and quantifying the results of intelligence gathering operations (Solomon, 1996). Ghoshal & Kim (1986) argue that competitive intelligence units must earn legitimacy on the grounds of directly supporting business performance. Although the value of competitive intelligence appears self-evident to practitioners, without an estimable measure, its bottom line contribution will continue to be taken more on "...inner faith than outer confidence" (Solomon, 1996).

This study aims at determining *whether there is a positive relationship between the level of competitive intelligence activities and the business success of a company.*

This study replicates competitive intelligence measures used in previous studies (Kohli, Jaworski & Kumar, 1993; Cartwright et al., 1995; Jaworski & Kohli, 1993; Maltz & Kohli, 1996) and sets out to determine competitive intelligence scores for a selected sample of New Zealand companies, determining and measuring the relationship with their business performance.

It is hypothesised that companies undertaking a high degree of competitive intelligence will exhibit a high degree of business success. Taking into account the results from the Trengrove & Vryenhoek (1997) study, regarding the immature nature of competitive intelligence activities, it is hypothesised that New Zealand companies in general will demonstrate relatively low scores on competitive intelligence.

The study will clarify the state of competitive intelligence activities in a specific New Zealand industry sector. Based upon this study, marketing strategists will potentially gain insight into possible improvements to the practice of competitive intelligence that can be undertaken to improve their company performance. The study result may assist in convincing sceptical top managers of the need to provide adequate funding for competitive intelligence in their companies.

1.1. Objectives

The main objective of the research was:

To establish the relationship between competitive intelligence and company success.

Specific objectives were as follows:

1. To determine the level of competitive intelligence activities undertaken in a specific New Zealand industry sector.

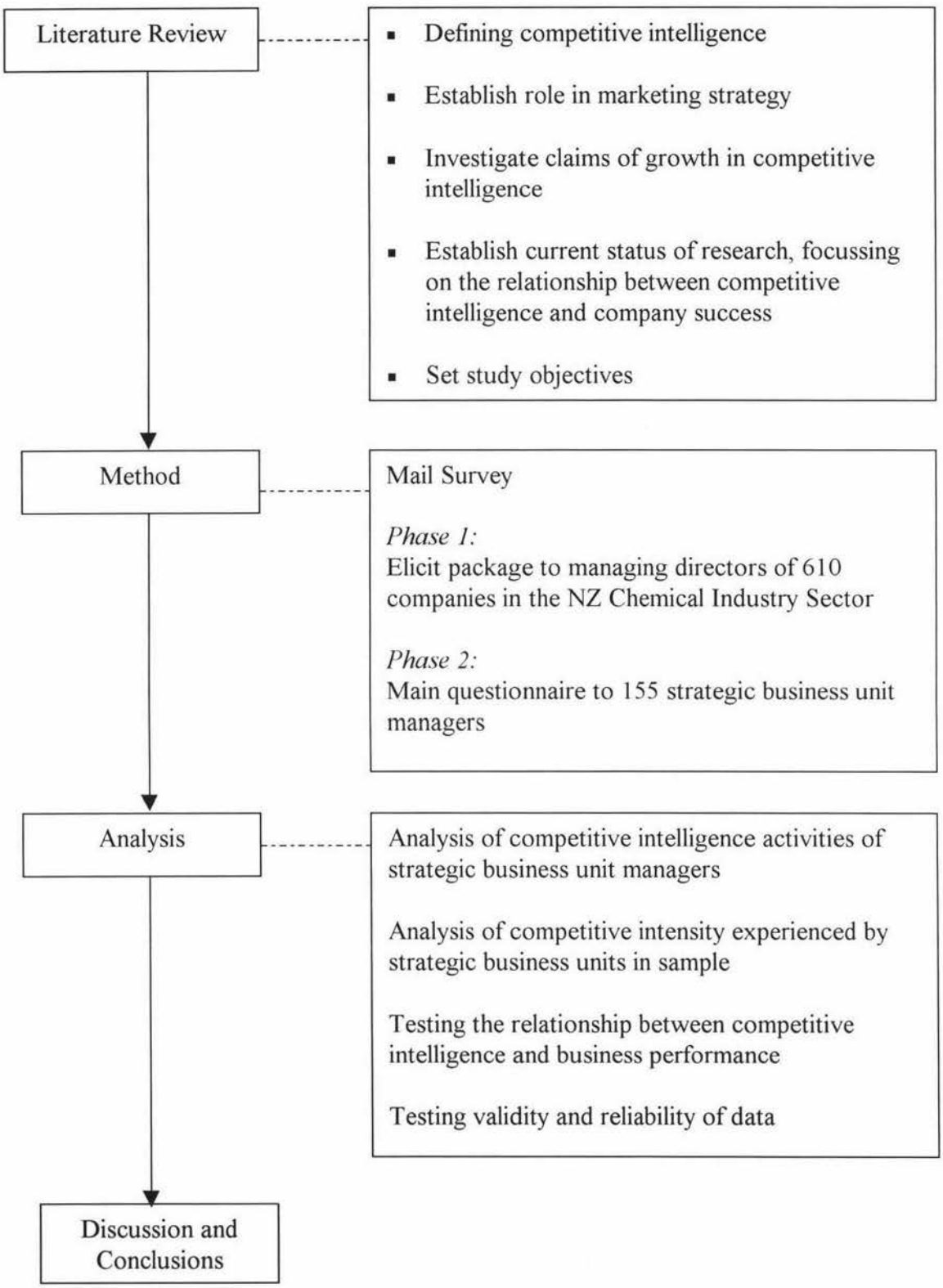
2. To determine the relationship between competitive intelligence and measures of business success in these companies.

3. To assess the implications of this relationship for marketing strategy in general.

1.2 Structure of the Research Process

Figure 1 describes the structure of the overall research process followed in this study.

Figure 1: Overall Research Structure



2. LITERATURE REVIEW

2.1 Introduction

This review section set out to:

- establish the role that competitive intelligence plays in marketing strategy;
- define competitive intelligence and clarify specific issues and concepts arising from the definition;
- explore the claims of phenomenal growth in competitive intelligence and list the reported reasons for this growth;
- investigate the current status of research in competitive intelligence with specific focus on whether any evidence exists for the claims that competitive intelligence has a positive effect on a company's competitive advantage and therefore its business success.

The literature review concluded with a summary of the current status of competitive intelligence research in New Zealand.

2.2 Background

The concept of intelligence of competitors dates back to 500 BC. Sun Tzu wrote in 500 BC in his classic treatise, The Art of War, "... The enlightened ruler and wise general can subdue the enemy whenever they move and they can achieve superhuman feats because they have foreknowledge... Know the enemy and know yourself; in a hundred battles you will never be in peril. When you are ignorant of the enemy but know yourself, your chances of winning or losing are equal. If ignorant of your enemy and yourself, you are certain in every battle to be in peril..." (Hwang, 1994).

Military principles and strategies are not the whole answer, but they do provide insight into what it takes for one company to succeed in attacking another company or in

defending itself against competitors. Kotler & Singh (1981) suggest management should deepen its understanding of military strategy without replacing basic marketing consciousness.

Competitive intelligence in a commercial application dates back to the 15th century and was practised by the Venetian nation state in their then worldwide commercial dealings. They claimed that competitive intelligence lead them to be the envy of the rest of the world in a commercial sense (Kalitka, 1996).

Although it would make logical sense that a concept dating back centuries should have a common acceptable formal definition, this proved not to be the case. Sutton (1989) states: "There are so many different ways to define competitive intelligence and so many different approaches to gathering, processing and presenting competitive intelligence, there is confusion about what competitive intelligence is and what it can contribute."

2.3 Role of Competitive Intelligence in Marketing Strategy

Strategic competition forms the basis for the rationale behind competitive strategy development. In strategic competition the competitors are not unthinking and unaware, they are able to discern the changes that are taking place and respond to them (Czepiel, 1992).

The work of Porter (1979) regarding competitive strategy and its ability to influence sustainable competitive advantage and ultimately business performance, convinced companies that competitive strategy required competitive intelligence (Gilad, 1991).

Competitive marketing strategy is aimed at distinguishing the organisation in a positive way with respect to its competition, in fulfilling customer needs. Strategic Marketing Managers have to anticipate promising and threatening developments in the company's environment, while taking into account the internal strengths and weaknesses of the

organisation (Day & Wensley, 1988), implicitly or explicitly aiming at realising the objectives formulated and considering the long term fit between their own organisation and its environment (Bijmolt, Frambach & Verhallen, 1996).

Herring (1992 b) states that successful strategies depend on the skills of the corporate strategist, the ability of the firm management team to implement the strategy, and sound information from which the strategy can be derived. The success of strategies is directly related to comprehensiveness and timeliness of competitive intelligence (Herring, 1992 b). Good intelligence by itself will not make a good strategy. Successful strategies are derived from good intelligence concerning a company's competitive environment.

Herring (1992 b) states that the role of competitive intelligence is critical in the formulation, implementation and evaluation of strategy. He describes the role of competitive intelligence in strategy formulation and implementation as follows:

1. Describing the current competitive environment: Information regarding competitive forces in the market forms the basis for dynamic analysis to develop competitive response models.

2. Forecasting the future competitive environment: Competitive Intelligence should contribute to business intelligence estimates (forecasts of company's business future) (Herring, 1992 b). Bernhardt (1996) describes the primary function of Competitive Intelligence is to reinforce and challenge the vision of the firm.

3. Challenging underlying assumptions: A very important role of intelligence is identifying and challenging underlying assumptions that affect company strategist's thinking. These assumptions are implicit and strategists will not even realise they are basing their strategies on them.

   The work of Gilad, Gordon & Sudit (1993) has been very valuable in this regard. They developed a 'systematic diagnostic analysis' to be used in companies to identify so-called 'Competitive Blind Spots'. It is seen as a way to expose any

unfounded assumptions and problems in the generation, dissemination and use of competitive intelligence in companies.

4. Identifying and compensating for exposed weaknesses: Competitive intelligence can be required to identify and assess a company's own weaknesses and vulnerabilities (something typically required to be done on the competitors). A well-prepared company entering a new business arena should understand its own weaknesses before the competition does. This enables companies to correct weaknesses or formulate strategies that do not expose them in ways that might make the company vulnerable.

5. Using intelligence to implement and adjust strategy to the changing competitive environment: This requires monitoring of the competitor's initial reaction and also later more comprehensive reactions. Herring (1992 b) warns that in this period counter intelligence should be emphasised.

6. Determining when the strategy is no longer sustainable: Competitive intelligence must maintain an ongoing intelligence collection and reporting program on changes in the market and detect when a strategy is no longer viable.

2.4 Commercial Intelligence

Intelligence can be described as "...the capacity for understanding"; "...the ability to perceive and comprehend meaning" (Collins, 1995); "...value-added information". (Pavlicek, 1992) and "...actionable information" (Herring, 1988).

From a commercial perspective is important to clarify the terminology regarding Business intelligence or Strategic intelligence, Competitive Intelligence and Competitor Intelligence and to point out that these terms differ in meaning and content.

Business Intelligence or Strategic Intelligence is a broad concept and encompasses information gathered from external environments. Its focus is the technological, economic, political, legal, broad social trends, cultural and competitive environments. (Montgomery & Weinberg, 1979; Ghoshal & Kim, 1986).

Competitive Intelligence is both a product and a process. As a *product*, competitive intelligence means ethical, timely and useful value-added information on customers, competitors, other key stakeholders in the competitive environment and the company itself. As a *process*, it involves establishing intelligence needs, generating information, analysing and disseminating actionable intelligence to key decision makers, to build a competitive advantage and enhance business profits. This definition is discussed in detail in section 2.5.

Competitor Intelligence has a very narrow focus and can be described as a subset of competitive intelligence with the entire focus being the competitors. The essence of competitor intelligence is to understand what competitors are capable of today and what they will do in future (Barndt, 1991).

2.5 Defining Competitive Intelligence

The literature review undertaken for this study revealed no consistent definition describing the concept of competitive intelligence. The definitions, however, all tend to refer to one or more of the following issues, namely the properties of intelligence, a multistage process, the focus of the intelligence effort, the purpose of competitive intelligence and the possible outcome of the competitive intelligence effort.

Table 1 depicts a summary of the formal definitions found in the academic literature and the issues addressed by them:

Table 1: Formal Definitions of Competitive Intelligence

Author	Definition	Properties	Stages	Focus	Purpose	Out Come
Barto, 1996	Competitive intelligence is the process and practise of gathering and disseminating information on marketplace requirements, on competitors who provide solutions for those requirements, on how well these competitors perform, and on their future strategies. All this information must be evaluated in terms of its implications for your company.		✓	✓	✓	
Bernhardt, 1996	Competitive intelligence is a legal ethical and creative process that generates a decision related, future oriented product managers can use to eliminate corporate blind spots, facilitate change and improve competitiveness.	✓			✓	✓
Cartwright et al., 1995	Competitive intelligence can be classified as an organisational learning system that addresses the capabilities and behaviour of current and potential competitors in order to assist decision makers in making strategic decisions.		✓	✓	✓	
Czepiel,1992	Competitive intelligence is the analytical process that transforms disaggregated competitor data into relevant, accurate and useable strategic knowledge about competitor's position, performance, capabilities and intentions.	✓	✓	✓	✓	

Author	Definition	Properties	Stages	Focus	Purpose	Outcome
Gilad & Gilad, 1985;	Competitive intelligence is information that tells us how competitive the firm is. It's understanding the competitive arena, being able to predict competitor's moves, customer's moves, government moves and so forth. It is the systematic gathering, analysing, storing, disseminating and protecting of specifically tailored information for both operating and strategic managers.		✓	✓	✓	
Hall & Ben Soussan, 1997	Competitive Intelligence can be seen as being made up of: (1) Processes for analysing and communicating competitive intelligence, (2) Sources of information and (3) a Management Structure that is responsible for delivering effective competitive intelligence.		✓		✓	
Hendrick, 1996	Competitive intelligence means ethically collecting, analysing, and disseminating accurate, relevant, specific, timely, foresighted, and actionable intelligence regarding the business environment, competitors and the organisation itself.	✓	✓	✓		
Hershey, 1980	Competitive intelligence is essentially publicly available information about competitor capabilities and intentions that provides a basis for planning long term strategy and goals.	✓		✓	✓	
Vella & McGonagle, 1988	Competitive intelligence is both a product and a process. As a *product*, competitive intelligence means useful and current information on competition, competitors, and the competitive environment. As a *process*, it involves establishing corporate intelligence needs, identifying potential sources of raw data, and collecting and evaluating that data to produce useful information.	✓	✓	✓	✓	

The definition of competitive intelligence used in this report is an adapted version of the Vella & McGonagle (1988) definition:

> Competitive intelligence is both a product and a process. As a *product*, competitive intelligence means ethical, timely and useful value-added information on customers, competitors, other key stakeholders in the competitive environment and the company itself. As a *process*, it involves establishing intelligence needs, generating information, analysing and disseminating actionable intelligence to key decision makers, to build a competitive advantage and enhance business profits.

The properties, multistage process, focus, purpose and outcome of competitive intelligence will be addressed in more detail in the section that follows.

2.5.1 Properties of Competitive Intelligence

Ethical and legal properties

When competitive intelligence and the gathering thereof is discussed, it mostly refers to intelligence obtained in an ethically acceptable manner and there is indeed no need for unethically, illegally obtained information (Sawka, 1996; Bernhardt, 1993).

A contradictory study by Whitney & Gainsford (1996) set out to show the many indirect strategic benefits from economic espionage, by conducting a hypothetical analysis. They found that economic espionage could cause favourable profit shifting in addition to more obvious cost savings (sensitive to certain underlying assumptions). However, the Whitney & Gainsford (1996) study was the exception rather than the rule. They also mention that when new technologies are developed over time, the possibility of espionage would likely act as a deterrent to innovation for all nations, causing losses to consumers throughout the world.

Cases of economic espionage have been growing at an alarming rate (Heffernan & Swartwood, 1993; Sawka, 1996), prompting governments to pass laws such as the 1996 Economic Espionage Act in the United States. The Act caries enhanced penalties when the theft of trade secrets is at the behest of a foreign government. The new Act defines "trade secrets" as material that is not patented or copyrighted, and so not protected under those laws. The term encompasses information that a business has taken reasonable efforts to keep secret, and that derives its value from being secret and not easily developed by the public at large (Miller, 1997).

The law has a major implication for companies in terms of taking adequate steps to protect 'trade secrets'. When a company fails to comply with the minimum requirements for securing a trade secret, it can render the information for which trade secret protection is sought, ineligible (Westermeier, 1990).

This leads to an increased need for counter intelligence actions (Bernhardt, 1993; Kalitka, 1996; Westermeier, 1990). According to Pavlicek (1992) companies should develop a counter intelligence mind-set to minimise chances that competitors can obtain proprietary information, as lost trade secrets might translate into lost lead time, lower market share and lower revenue. This is supported by the work of Ewing (1992) who says many trade secrets are lost through what he calls 'accidental exposures', which could have been prevented by taking appropriate counter intelligence actions.

In New Zealand there is no "Competitive Intelligence Act" neatly setting out the parameters of lawful information gathering. Legal controls on the collection and use of competitive intelligence are scattered through various statutes and common law, none of which were developed with reference to what we now call competitive intelligence (Hoskings, 1997).

Hoskings (1997) summarised the laws affecting the competitive intelligence activity as the: Privacy Act, 1993; Law of Confidentiality (in particular its significance for employees); Fair Trading Act, 1986; Tort Law (particularly the action for interference with contractual relations); Law of Trespass; and relevant provisions of the Crimes Act, 1961.

New Zealand has no code of ethics for competitive intelligence. The Society of Competitive Intelligence Professionals (SCIP), with branches in the USA, Canada, Japan, Europe, Asia and Australia, provides its members with a Code of Ethics. New Zealand professionals interested in this society can either join the Australian or the USA branch. For a copy of the Society of Competitive Intelligence Professionals Code of Ethics see appendix A.

Other properties

Competitive intelligence should not only be ethical and legally obtained, but also *relevant* (Czepiel, 1992; Hendrick, 1996), *timely* (Calof, 1997; Hendrick, 1996), *accurate* (Czepiel, 1992; Hendrick, 1996; Calof, 1997) and *useful* and *actionable* (Hendrick, 1996; Czepiel 1992; Calof 1997).

2.5.2 Multistage Process - The Competitive Intelligence Cycle

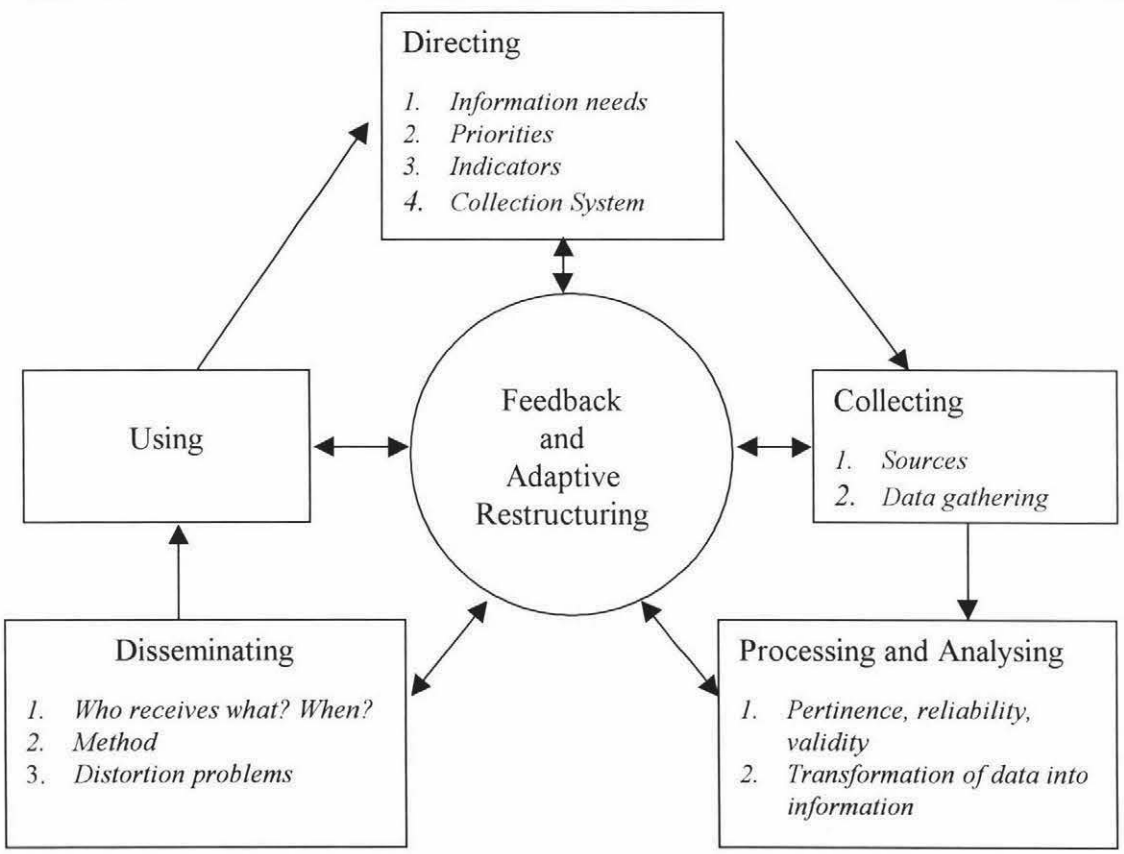
The competitive intelligence cycle describes the stages involved in transforming data into information and ultimately into intelligence. When data (pieces of raw, unconnected knowledge) is collated, it begins to form information. Only when managers *analyse* the information, does the information become intelligence (Fuld, 1991). Intelligence, as distinct from information, provides management with implications and assessments on which they can base strategic decisions (Fuld, 1991; Calof, 1997).

The competitive intelligence cycle, as depicted in Figure 2, was first described by Montgomery & Weinberg (1979) based on an extensive literature review and empirical research with a sample size of a hundred executives in thirty firms. Montgomery & Weinberg (1979) pointed out that a critical point was constantly being overlooked by studies regarding strategy, namely that "...a strategic plan can be no better than the information on which it is based." The strategist and strategies devised are both the result and the prisoner of the available intelligence (Czepiel, 1992).

Although there is little consensus on the exact form that a strategic intelligence system should take, there is consensus regarding the functions that a competitive intelligence system need to perform (Czepiel, 1992).

The competitive intelligence cycle is a closed-loop cycle where each of the basic operations constitute an important and necessary function in the system's overall operation (Herring, 1988). In practice the intelligence cycle is not the smooth step-by-step process suggested, but an iterative process (Bernhardt, 1996).

Figure 2: The Competitive Intelligence Cycle



Source: Montgomery & Weinberg, 1979

The following is a brief description of each of the functions of the competitive intelligence cycle with reference to the main research areas addressed in each stage as depicted in academic research. It is not intended to be a comprehensive discussion, as it is not the main focus of the study.

Direction

Setting the direction involves the management and planning of the entire intelligence effort (Bernhardt, 1996). This first stage of the competitive intelligence cycle is concerned with determining what information is needed, what priorities should be established and what indicators (specific measures or surrogate measures that will be used to determine the answer to a specific intelligence need), should be monitored (Montgomery & Weinberg, 1979).

Montgomery & Weinberg (1979) suggest a framework for specifying information needs, namely distinguishing between areas of influence - product or market segments in which the company is currently engaged; immediate zone - areas of competitive activity which are close to, but not directly competitive with, the company's current operations and areas of interest – areas with potential opportunities or threats in the long term. Montgomery & Weinberg (1979) warn that many companies fail to use available opportunities due to their exclusive concentration on their 'area of influence' and lack of attention to 'immediate zone' and 'area of interest'.

Once an organisation has determined the needs from each of the three above-mentioned zones, they should determine the priorities of the information needs. Montgomery & Weinberg (1979) suggest ranking the intelligence needs according to the following criteria, namely: importance of the event to the organisation, speed with which the event can impact the organisation, and speed with which the organisation can react to the event.

The direction stage is very important and often the least well executed, because of the following problems: lack of clear focused thinking by decision makers, limited understanding of the nature of competitive intelligence, and limited understanding of the value of competitive intelligence (White, 1997).

Collection

Intelligence collection involves the scanning of the competitive environment of the company in search of data which individually or collectively provide decision relevant inputs to the firm (Bernhardt, 1996; Montgomery & Weinberg, 1979; Vella & McGonagle, 1988).

Scanning the environment can be subdivided into two sub-components: surveillance and search. Surveillance is a viewing and monitoring function, which is not focused upon one single target, or need, but observes multiple aspects of the environment being scanned. Search, however, implies deliberate investigation and research (Montgomery & Weinberg, 1979).

The identification of sources of information is a very important part of this stage and has been addressed by many practitioners and academics (Sutton, 1989; Tyson, 1989; Flax, 1984; Main, 1992; Svatko, 1989; Teitelbaum, 1992; Kight, 1996; Calof, 1997; Hershey, 1986). Kelly (1987) describes methods to exploit the sources to their fullest potential. Montgomery & Weinberg (1979) explain that the proper choice of intelligence sources depends not only on the data that it provides, but also on how it interrelates with other aspects of the company's strategic intelligence system.

There are innumerable sources and types of sources, but Czepiel (1992) states the most useful initial breakdown is into published (or secondary) and field (or primary) data. Bernhardt (1996) devides the possible sources of information into open sources (mainly published and on line data and information in the public domain), human intelligence outside the company (competitors, suppliers) and company employees. Sawka, Francis and Herring (1996 cited in Calof, 1997) believes that up to 75 percent of intelligence resides in the minds of the employees, as they are aware of competitors, customers, suppliers and the government.

Processing and Analysis

Processing involves the conversion of data into a form suitable for producing finished intelligence. Analysis concerns the conversion of information into the final intelligence product (Bernhardt, 1996).

After the collection stage the data should be evaluated before it enters the system for analysis. This includes determining the pertinence, reliability and viability of the data obtained.

White (1997) states that two vital influences impact on the quality of the processing and analysis stage, namely: the quality of the information and the experience of the analyst, coupled with their ability to solve problems.

Dissemination

Dissemination refers to the distribution of the finished intelligence product to the strategic decision-makers whose needs initiated the intelligence requirement (Bernhardt, 1996). Consideration should be given in this stage to product format, methods of distribution, receivers of intelligence, timing of intelligence distribution and security issues (Bernhardt, 1996). The medium and format of the intelligence being disseminated depends on the structure and intelligence needs of the company (White, 1997).

A major challenge in dissemination is to develop sound working relationships between competitive intelligence personal and other functional managers. In many cases it is difficult to develop this as intelligence experts are seen as either outsiders that do not understand the business or is seen as "lackeys" to top managers (Ghoshal & Kim, 1986).

Interdepartmental conflict appears to inhibit intelligence dissemination as well as responsiveness of the organisation, which supports the notion that companies in which tensions prevail across departments are less likely to be willing to share market information or to work in concert with other departments to satisfy customer needs and

expectations. Top manager's risk aversion does not seem to affect intelligence generation and dissemination, but seems to have a negative effect on the responsiveness of a firm (Jaworski & Kohli, 1993).

Emphasis should be placed on disseminating information in the strategically most useful way to ensure a successful competitive intelligence system (Maltz & Kohli, 1996; Cartwright et al., 1995).

Use

Czepiel (1992) states that the important issue with reference to the intelligence cycle is in identifying what to collect and in linking the collection system to the users and determining the purposes for which the data are intended.

One persistent problem encountered by competitive intelligence active organisations is that the intelligence produced by the competitive intelligence unit is seldom used for actual decision-making (Ghoshal & Kim, 1986). The Ghoshal & Kim (1986) study was followed by various studies researching the possible causes of lack of use of competitive intelligence (Maltz & Kohli, 1996; Cartwright et al., 1995).

Cartwright et al., (1995) researched the effect of the organisation's strategic approach on the perceived usefulness of four types of competitive intelligence. In their exploratory research of 74 companies, they found that the technical adequacy (quality) was the most critical factor impacting on the usefulness of competitive intelligence to the decision-maker. This was followed by interaction with the decision-maker (competitive intelligence units should be positioned close to key decision-makers). These two important influences were found to have a significant influence across all the different strategic approaches and over all the different types of competitive intelligence.

Maltz & Kohli (1996) researched 788 managers and found that the frequency and formality of market intelligence dissemination to optimum levels has a positive influence on the trust of the sender in the competitive intelligence product. They also found a

positive relationship between trust and the perceived intelligence quality and showed that perceived intelligence quality has a positive relationship with use of the intelligence product.

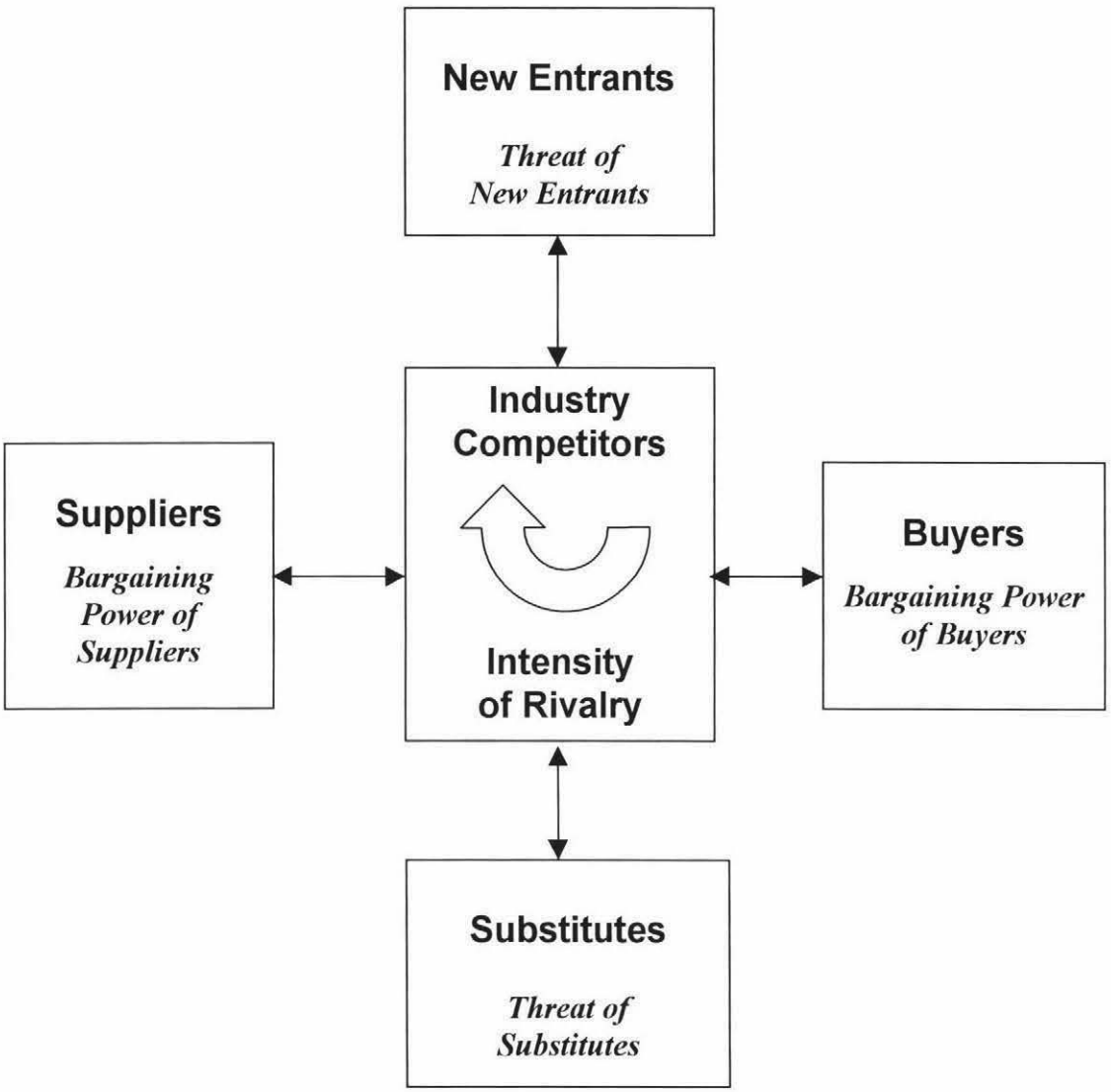
2.5.3 Focus of Competitive Intelligence

The focus of competitive intelligence is on the micro- or direct environment (Calof, 1997). Jain (1993) describes the organisation and its direct environment in terms of 'three strategic C's' namely: Corporation, Customer and Competition. In addition to information on competitors, competitive intelligence sweeps in data about all other competitive forces in one's industry, from suppliers, to buyers, to regulatory bodies, to end users and to partners (Gilad, 1996; Calof, 1997; Hendrick, 1996; Bernhardt, 1996).

To enable this strategy formulation, constant competitive intelligence gathering is necessary (Porter, 1979). Porter states that the essence of strategy formulation is coping with competition and makes it clear that it is easy to view the competition too narrowly. Competition consists of competitive forces that go beyond just the established combatants in a particular industry and include customers, suppliers, potential entrants, and substitute products. Companies engaging in competitive intelligence with the view to provide information to competitive strategy formulation focus on the above five forces when gathering information (Czepiel, 1992; Bradmore, 1996). The Porter Five Forces Model is depicted in Figure 3.

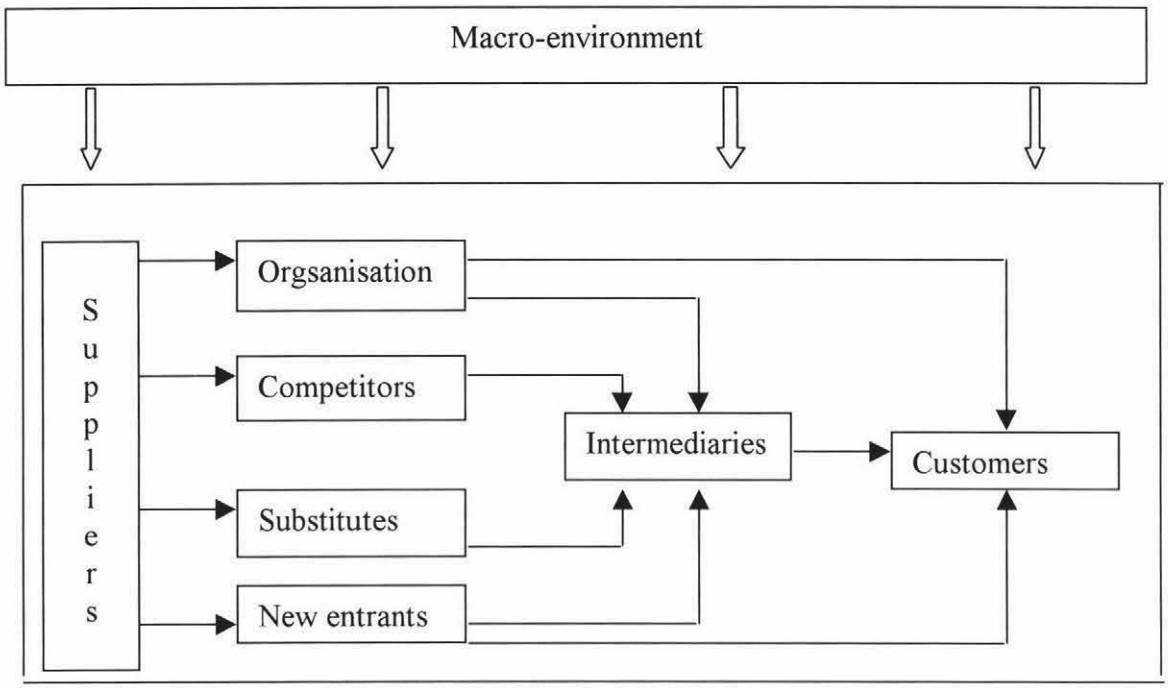
Gathering intelligence from the macro environment will be classed as business intelligence (Montgomery & Weinberg, 1979), whereas competitive intelligence is based on the micro- or direct environment (Calof, 1997). Figure 4 depicts this concept (Bijmolt et al., 1996).

Figure 3: Porter Five Forces Model



Source: Bradmore, 1996.

Figure 4: Actors and Forces in the Organisational Environment



Source: Bijmolt, Frambach & Verhallen, 1996

2.5.4 Purpose of Competitive Intelligence

The purpose of competitive intelligence is to add value to the competitive strategy development process by improving the quality of strategic decisions (Chussil, 1996; Montgomery & Weinberg, 1979). A strategic decision is defined as a decision which is important in terms of the actions taken, the resources committed or the precedents set and is a decision that shapes the course of the firm (Eisenhardt & Zbaracki, 1992). A strategic decision and plan can be no better than the information on which it is based (Montgomery & Weinberg, 1979; Herring, 1988; Gilad, 1989).

Montgomery & Weinberg (1979) describes the purpose of competitive intelligence as providing three types of intelligence to strategists, namely: Defensive Intelligence (avoiding environmental surprises), Passive Intelligence (providing benchmark data for objective evaluation), and Offensive Intelligence (to identify opportunities).

Bernhardt (1996) describes the purpose as providing managers with the foresight they need to support the creation and implementation of winning competitive strategy. Foresight should aim to describe what competitors, customers and suppliers are doing and going to do (Kight, 1996). In industries where there is long development cycles and change is cumbersome, forecasts should reach several years into the future, whereas for many dynamic industries, meaningful future may be less than a year ahead (Kight, 1996).

Vella & McGonagle (1988), based on years of consultative experience, provides a list of what they classify as valuable competitive intelligence contributions that can be made to enhance strategic decision making for marketers and the rest of the organisation, namely: projections of future market size, rates of growth in each industry in which the organisation participates, industry cost structures, trends in cost components, technological threats and opportunities, customer's perceptions of how product quality compares to competitors product quality and forecasts of significant industry changes.

A common problem experienced by competitive strategists is the lack of readily accessible information and intelligence to support rigorous competitive strategy development (Chussil, 1996; McDonald, 1996). Gilad (1991; Chussil, 1996) warns that the difference between a well balanced strategic decision and one that ignores competitive intelligence can be so disastrous, that top management should be continually concerned with a firm's intelligence effectiveness.

Chussil (1996) explains that a key influence on competitive intelligence's capability to reach its purpose, is a gap between competitive intelligence and competitive strategy. Competitive intelligence provides value-added information and competitive strategy needs actionable, timely information. Chussil (1996) advocates a closer working relationship between competitive intelligence and competitive strategy units to overcome the gap.

Due to the focus of competitive intelligence being on the direct environment, competitive intelligence can contribute unique and critical insights to strategy development (Chussil, 1996).

2.5.5 Outcome of Competitive Intelligence

The literature review revealed that the outcome of competitive intelligence is a competitive advantage (Bernhardt, 1996; Vella & McGonagle, 1988; Chussil, 1996; Czepiel, 1992).

Concept of Competitive Advantage

Although the concept of competitive advantage is still ill defined (Czepiel, 1992), the following briefly describes what is known about this concept.

A sustainable competitive advantage is the ability to deliver superior value to the market for a sustained period of time (Czepiel, 1992). A sustained period must at a minimum be longer than the industry's design, manufacture or market cycle (the time that it would take for a firm in the business to deliver a new offering to the market, from the time of inception to the commercialisation of the product) (Czepiel, 1992). Marketers need to be skilled in determining what customers perceive as having 'value'. The Value-Chain Concept developed by Porter (1996) is an analytical tool developed to assist marketing managers in this regard.

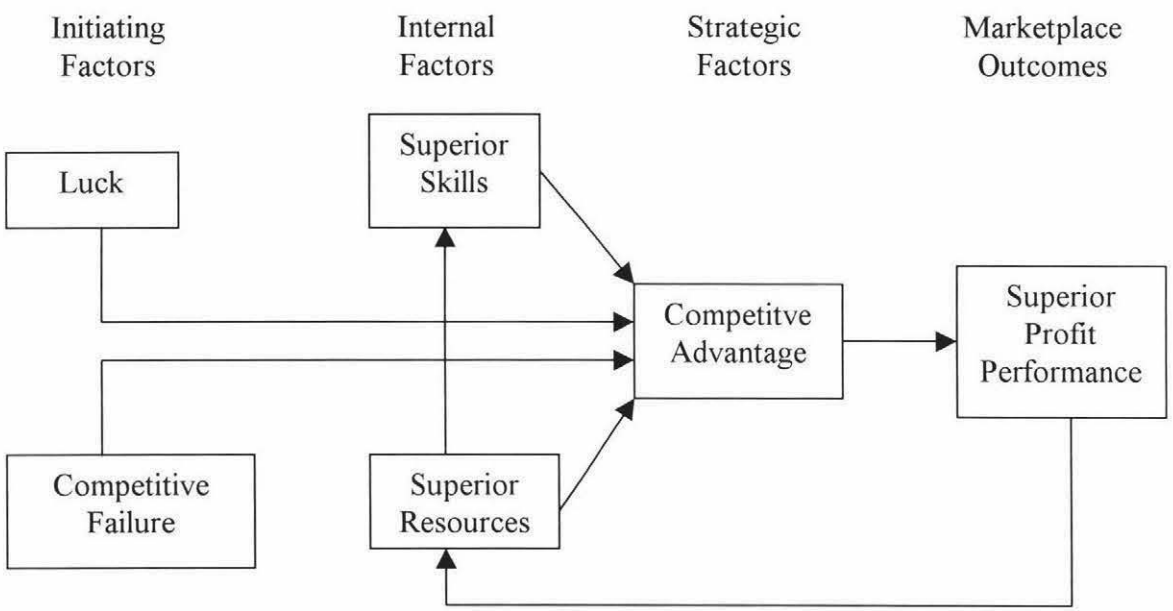
Although 'value' is a principle force in creating a competitive advantage, Barney (1991) describes three more indicators of the potential of firm resources to generate a sustainable competitive advantage, namely: a firm resource must be valuable, in the sense that it exploits opportunities and or neutralises threats in a firm's environment, it must be rare among a firm's current and potential competition, it must be imperfectly imitable (there cannot be strategically equivalent substitutes), and the organisation must be in place to take advantage of the resource (Barney, 1991).

A competitive advantage delivers superior value to customers, which leads to several outcomes, namely: more satisfied customers, less vulnerable to competitor's offers; increase in market share; increase in market share translates to higher profits, and higher profits feeds back into the business and can be used to fund resources to sustain the

position (Czepiel, 1992; Barney, 1991; Prescott, 1995). Figure 5 explains the self - sustaining nature of a competitive advantage (Czepiel, 1992).

Ghemawat (1986) states that creating a sustainable competitive advantage involves deciding on the relative emphasis that will be placed on: commitment to competing in a particular way and (2) retaining the flexibility to compete effectively in other ways. His findings are based on a study involving a hundred businesses that respectively outperformed their industries in the recent past.

Figure 5: Self-sustaining Nature of Competitive Advantage



Source: Czepiel, 1992

The role of Competitive Intelligence in Competitive Advantage

There are two streams of thought as to the role that competitive intelligence plays in accomplishing a competitive advantage. The first group describes competitive intelligence as contributing to the creation and development of competitive advantage by systematically integrating knowledge across boundaries and disciplines and product areas in a company (an indirect facilitating role) (Bernhardt, 1996; Vella & McGonagle, 1988; Chussil, 1996).

A significant second group of practitioners and academics describe competitive intelligence as a competitive advantage in itself (a much more direct role). Firms most likely to prevail in global competition are those which succeed in building competitive intelligence as a core capability and in building it faster and more efficiently than competitors, in much the same way as companies develop core competencies in technologies and production processes which add value (Hamel & Praharad, 1990; Ghoshal & Kim, 1986).

Actionable, decision related intelligence represents the "...very currency of global competition" (Bernhardt, 1996). There is a growing recognition for creating and sustaining competitive advantage using intangible knowledge and intellectual capital rather than physical capital (Von Kroch & Roos, 1996). Intangible resources, such as decisions based on good competitive intelligence, are being recognised as more important contributing factors to competitive advantage than traditional physical sources (Cory, 1996). Arguments such as those mentioned above, lead many academics to argue in favour of developing competitive intelligence as a core capability (Bernhardt, 1996; Ghoshal & Kim, 1986).

Prescott (1995) supports above-mentioned notion and proceeds to describe three issues that should be considered should a company choose to develop a competitive intelligence core competency: Absorptive capacity - the ability of the firm to evaluate and utilise outside knowledge; Integrative potential - the degree to which information and intelligence existing in the organisation are combined in a timely manner, and Decision impact - extent to and manner in which competitive intelligence is factored into decision making.

Cory (1996) tested the different stages of the competitive intelligence cycle by using a 'VRIO' framework (see figure 6 below), as suggested by Barney (1991), to determine whether competitive intelligence as a core competency has the potential to contribute to a sustainable competitive advantage, and which stage of the competitive intelligence cycle contributes most to creating a competitive advantage.

Cory (1996) found that not all competitive intelligence stages are equally capable of generating a competitive advantage. He suggests that the 'analysis' component of competitive intelligence activities has the highest probability and he advocates in-house competitive intelligence to avoid imitability of creating a sustainable competitive advantage. 'Collecting' and 'disseminating' have lower probabilities due to the increased likelihood of being imitated. 'Storage' and 'protection' will not generate competitive advantage, but will help prolong advantages gained through analysis, gathering and dissemination (Cory, 1996).

Figure 6: Framework for analysing Individual Resources driving Sustainable Competitive Advantage (VRIO Framework)

Question	*Likely outcome if answer is yes*
Is the resource Valuable?	Competitive Parity
Is the resource Rare?	Competitive Advantage
Is the resource Inimitable?	Sustainable Competitive Advantage
Is the Organisation in place to Take advantage of the resources?	Sustainable Competitive Advantage

Source: Cory, 1996.

2.6 Growth in Competitive Intelligence

The 1980's and 1990's have seen a growth in the perceived importance of competitive intelligence activity as part of the strategic planning and decision making functions in organisations (Cartwright et al., 1995). The growth of competitive intelligence is a recognition that a strategy can be no better than the information from which it derived (Herring, 1988) and that stronger intelligence support for decision-makers is overdue (Gilad, 1991). The stronger intelligence effort is only feasible if corporate leaders understand that a fully dedicated intelligence support function is no longer a luxury, but a necessity (Gilad, 1991; Scott, 1997).

Competitive intelligence has shown growth in terms of people being involved with it. Calof (1997) states that competitive intelligence is one of the fastest growing disciplines in business, with competitive intelligence programmes and conferences increasingly common throughout North America. He notes that The Society of Competitive Intelligence Professionals (SCIP) is growing at thirty to forty percent per annum, with Canada being the fastest growing region. This is supported by Scott (1997), who reported "phenomenal" growth, averaging thirty percent annually, equating to a hundred new members per month joining SCIP branches worldwide.

Competitive intelligence has also shown growth in terms of companies incorporating it as recognised activity and spending increased amounts of money on it. The first major increases were reported in 1985 when a survey of Fortune 500 companies revealed over a third of US companies sampled were spending more than $1 million a year on competitor analysis (Ghoshal & Wesney, 1991). In 1996, the Futures Group's second annual survey of competitive intelligence among US companies, revealed that eighty percent of US companies had adopted an organised approach to feed information to decision makers, constituting an increase of sixty eight percent on the year before (Scott, 1997). This figure is in sharp contrast to the figures of a 1991 study, a mere five years earlier, which revealed that fewer than five percent of US firms had full-fledged intelligence systems in place (Calof, 1997).

The significance of following an organised approach is supported by the work of Gilad (1989) who proposes organised intelligence as a strategy to enhance the value of competitive intelligence and its contribution to a competitive advantage. He states that organised intelligence (coordinated approach across the entire organisation in order to bring about a systematic collection and analysis of competitive intelligence) is clearly contrasted to informal intelligence (independent activity of scanning the environment, which is carried out by individuals on an ad hoc, uncoordinated basis).

Vella & McGonagle (1988) in their case study research, stated that the majority of US firms developing competitive intelligence functions, meet at least one of the following criteria:

1. They are industry leaders in size, aggressiveness, innovation or growth.

2. They can withstand strong competition, when price, product market and technological changes by a competitor may noticeably affect overall sales, market share and even survival.

3. They participate in either maturing or in shrinking markets, in which increased market share represents a competitor's loss and vice versa.

4. They compete in the domestic markets with new overseas corporations - the traditional informal procedures for information gathering on competitors' actions are insufficient.

5. They have entered, or are planning to enter a market in which they have no direct or current experience.

2.6.1 Growth of Competitive Intelligence in Various Countries

The realisation that competitive intelligence is a necessity comes late for American organisations and the effectiveness of competitive intelligence operations in US companies remains questionable (Herring 1992 a; Calof, 1997).

Japanese business intelligence capabilities are well developed, benefiting companies and government programs, which in turn support international competition (Herring, 1992 a). The Japanese government has been running a competitive intelligence school for industry managers since the early 1960's.

Sweden's activities are more subtle but comprehensive, ranging from university education to well developed corporate business intelligence programmes, supported by a worldwide collection network set up by the country's international banks, government efforts and by embassies abroad (Herring, 1992 a).

Germany also has an integrated competitive intelligence structure with banks, academia and industry sharing information and responsibilities (Calof, 1997), and in France the focal point of competitive intelligence is the government, which sets priorities for industries, gathers intelligence, passes it out and trains companies in competitive intelligence (Calof, 1997).

2.6.2 Reasons for Growth in Competitive Intelligence

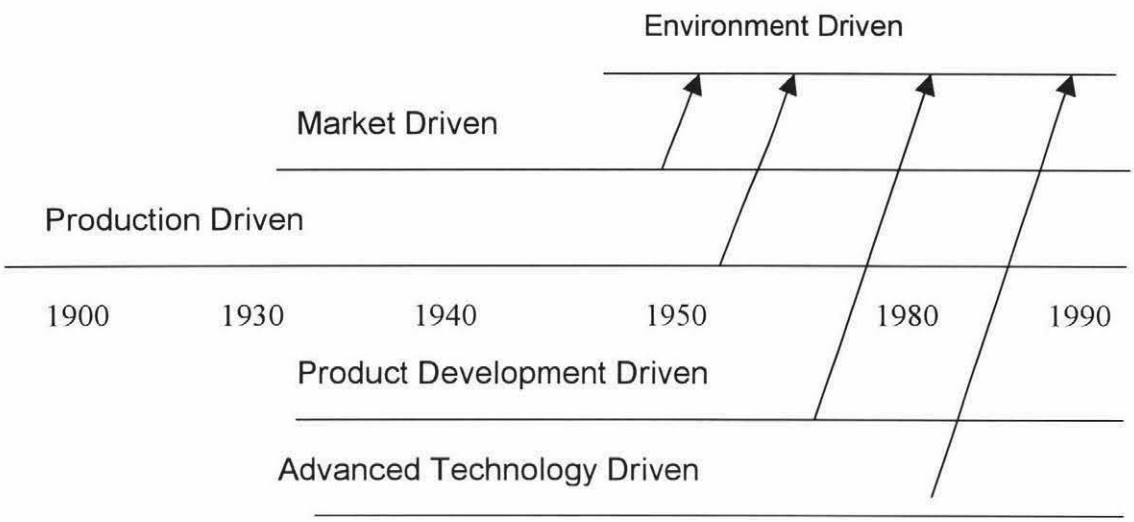
The growth in competitive intelligence activity can be mainly contributed to the following phenomena:

1. Global economies: these emerged in the 1970's and became increasingly dominant in the 1980's, affecting multinational and domestic firms alike (Ghoshal & Kim, 1986; Scott, 1997). The trend towards global operations resulted in increased foreign competition (Herring, 1988).

2. The Information Era: The movement from industrial societies to post industrial, information or knowledge society has been the result of an increasingly volatile business environment (Mockler, 1992; Ghoshal & Kim, 1986). This led to an eroding buffer between firms and their environment. Shortening product life cycles, the trend towards deregulation of business, and increasing convergence of technologies have heightened the need for early detection of environmental changes and quick response to those changes (Ghoshal & Kim, 1986; Peters, 1988).

Ansoff & Sullivan (1993) describe how different approaches to strategic success all rely on closing the gap between the company and the environment. This realisation has lead to companies to adapt an "Environment Driven Approach." Environment driven firms continually monitor the environment in search of business intelligence, monitor the immediate environment in search of competitive intelligence and incorporate intelligence into business strategies. Figure 7 suggests that, while many firms are shifting to environment driven orientation, others remain successful using their historical success formulas.

Figure 7: Shift towards an Environment Driven Approach



Source: Ansoff & Sullivan, 1993.

3. Technological and managerial capabilities are defused: Competitive advantages and positions are now determined by how well firms can cope with change and not on the basis of technological or commercial breakthrough (Ghoshal & Kim, 1986)

4. Growth have been stimulated by advances in computer information systems and communication technology advances (Mockler, 1992).

2.6.3 Questions surrounding Competitive Intelligence

The growth in competitive intelligence has also lead to an increase in the degree of scepticism regarding the ability of competitive intelligence to effectively generate information pertinent to strategic decision making (Cartwright et al., 1995).

Contribution of competitive intelligence to business performance

Sutton (1989) reports that there is confusion about what competitive intelligence is and what it can contribute. The one persistent problem encountered by competitive

intelligence active organisations is the lack of full integration of intelligence activities with actual decisions - especially at the top - resulting in inferior strategic decisions and doubt whether investment in competitive intelligence activities are justified (Gilad 1989; Ghoshal & Wesney, 1991)

Ghoshal & Kim (1986) found that in many instances the information obtained through competitive intelligence is rarely used for decision making, thus often there is no real or perceived value in the intelligence "product". They state that the whole exercise becomes a fashionable symbol of the firm's progressive stance and a function carried out for its own sake, often providing information too late and at too high a level in the hierarchy.

Other Questions

1. Difficulties of organisational structure: competitive intelligence is structurally often removed from senior policy makers (Bernhardt, 1996). Full integration of the function at all levels is important as senior management lacks a full grasp of organisation's information needs (Fuld, 1991). The competitive intelligence unit should not become a dead end in terms of promotion opportunities, and promotion paths within the competitive intelligence unit should be clear (Vella & McGonagle, 1988)

2. Problems with collection methods and sources: There seems to be a failure to design effective collection efforts, especially from human resources (Bernhardt, 1996). Databases should serve discrete information tasks and not supplant human analysis (Fuld, 1991). Governments are often viewed as extensive collectors of information, but not valued as good sources (Montgomery & Weinberg, 1979). Suppliers are more often viewed as a source of information about competitors, without consideration of the fact that they can be a source to competitors as well (Montgomery & Weinberg, 1979). Sources of data should be clearly outlined, especially in terms of internal sources of information (Vella & McGonagle, 1988).

3. Problems in terms of company culture: Sharing of information is often not part of Western company culture. Managers and engineers are sent to meetings with instructions to gather more information than they reveal (Montgomery & Weinberg, 1979). The new function is often met by objections and considered a threat to existing marketing, planning, finance and legal departments (Vella & McGonagle, 1988).

4. Problems with adequate funding and resources allocated to competitive intelligence: Herring (1992 a) reports few US companies have dedicated the resources or created the necessary organisational capability to produce the competitive intelligence needed to compete in today's global business environment. The competitive intelligence function requires higher set- up costs than an informal system obtaining information (Vella & McGonagle, 1988).

5. Inadequate training of Managers: Professional education is necessary for both managers and practitioners. Unfortunately few universities and business schools in the USA offer competitive intelligence as a distinct course. Sweden has been educating managers in competitive intelligence since the 1970's. Herring (1992 a) reports that at least fifty of Sweden's major companies have world class business intelligence operations.

6. Problems with the time frame of expected results: Competitive intelligence programs need time to mature. The suggested time frame to develop a mature competitive intelligence facility is three to five years (Fuld, 1991). A program maturation period is needed to build a network of contacts, establish adequate databases and build a base of knowledge. Fuld (1991) states that the intelligence programme should not be a strictly return on investment issue; and should be given the time and effort to mature.

7. Problems with knowledge: Employees often obtain critical information and do not know who should receive it. Management needs to raise awareness of competitive subjects and informational needs. Organisations often provide no incentive for managers to obtain information and it becomes a low priority, neglected goal (Fuld, 1991). Information is a principal source of power and recognition in an organisation. To be

effective the competitive intelligence unit needs information collected from managers who often have no incentive to share their valuable information (Vella & McGonagle, 1988).

8. Problems with dissemination and communication of results: An intelligence function is not communicating when it asks for information, but does not send any, nor will it build a much needed knowledge base about its marketplace (Fuld, 1991). Scott (1997) stated that the Futures Group's second annual survey of competitive intelligence among US corporations released in 1996 revealed that forty four percent of companies stated a lack of a formal process to share information.

9. Can foster espionage misconceptions: The establishment of a formal competitive intelligence unit can foster misconceptions by management, stockholders and the general public that the business employs 'spies' (Vella & McGonagle, 1988). The title of the competitive intelligence unit is important and a name should be chosen to reflect the function without creating conspicuous images (Vella & McGonagle, 1988).

10. Competitive intelligence is not acknowledged as a professional discipline: Managers report a lack of trained personnel (Scott, 1997). For a competitive intelligence unit to function effectively, it must include employees with direct experience in each corporate department. Many companies have reluctantly transferred skilled employment into a permanent competitive intelligence unit (Vella & McGonagle, 1988). There is often a lack of a 'champion' to lead the competitive intelligence unit (Scott, 1997) and that often the head of the competitive intelligence unit is appointed from outside the organisation, lacking an understanding of the intricacies in the business (Ghoshal & Kim, 1986)

2.7 Competitive Intelligence and Business Performance

As mentioned in section 2.5.5, the potential outcome of competitive intelligence is a competitive advantage (Bernhardt, 1996; Vella & McGonagle, 1988; Chussil, 1996;

Czepiel, 1992). The outcome of a competitive advantage is a superior profit performance (Czepiel, 1992). There are, however, many different descriptions of what a superior profit performance represents and how it is measured.

2.7.1 Empirical Evidence

In the search for empirical evidence of the impact of competitive intelligence on company success, a number of studies argued that the impact couldn't be measured directly. Fuld (1991) for example, states that companies should not make the competitive intelligence program a strictly return on investment issue. He explains that if the needs of the organisation have accurately been identified and time have been given for the maturing of the competitive intelligence programme, then managers will see a return on investment in the form of new clients, strategic insight and ultimately market victory.

A similar argument is forwarded by Solomon (1996) suggesting a method called 'Intelligence Asset Building ' (IAB). IAB is a 'yardstick' of how well the organisation is applying the competitive intelligence to enhance competitive advantage. It does not directly translate intelligence into revenue, but does provide a compelling case for funding. It entails an integrated cross-unit questionnaire collected by objective third parties, to determine the value that the recipients of the competitive intelligence define.

Eger (1995 cited in Bernhardt, 1996) disagrees with the above mentioned softer approach, stating that companies facing depressed economic conditions have to face up to measurable results of all business processes. He states that competitive intelligence has to be quantifiable and suggests that competitive intelligence can be found in analysing decision making patterns in strategic business units.

Although little academic research regarding the measurement of benefits of organisational investment in competitive intelligence has been conducted, Bernhardt (1996) suggests that there is sufficient empirical evidence to suggest the pay-off is substantial. Bernhardt (1996) refers to a study by Prescott & Bhardwaj (1995 cited Bernhardt, 1996) who surveyed 390 Society of Competitive Intelligence Professionals,

asking them to identify the benefits of competitive intelligence. Their findings included benefits such as: an expanding of management's analytical skills; increased organisational sensitivity to competitive intelligence and competitive thinking; improvement in identifying new opportunities; an increase in sharing of ideas and, revenue enhancement.

A study by Jaworski and Wee (1993) found that an effective competitive intelligence programme benefits a firm in three ways: it leads to more positive relationships among the internal functional areas of the organisation, strategic plans and presumably the planning, are of a higher quality and therefore trusted and, managers' knowledge of the market environment is increased. They conclude that they found in the short term each of these benefits leads to improved bottom line performance and over the long term they serve to reinforce the successful evolution of the firm's knowledge assets and strategic behaviour (Jaworski & Wee, 1993).

Gilad (1989) refers to Jaworski & Wee (1993) and warns that realised benefits as reported above are not necessarily identical with potential benefits. He suggests that the lack of top management support have a moderating effect on the outcome of competitive intelligence activities. The overriding benefit seems to be a simple one: with coordination, competitive intelligence becomes a resource which can then be deployed for the firm's competitive advantage. With lack of coordination the benefits remain personal and localised (Gilad, 1989).

No studies could be found that directly linked business performance and the level of competitive intelligence.

The only studies eluding to a possible link, are the study by Jaworski & Kohli (1993) with a sample size of 479 and 230 companies respectively, who concluded that market orientation is an important determinant of business performance (Kohli & Jaworski, 1990). They describe market orientation as referring to company wide generation of market intelligence, dissemination of intelligence across departments and organisation wide responsiveness to it. This description of market orientation function also describes elements of the competitive intelligence cycle. Although this seems to suggest some

link, it does emphasise that the company must have a market orientation which appears to in return affect the generation of market intelligence, its dissemination in the organisation and the responsiveness of the organisation (Jaworski & Kohli, 1993).

2.7.2 Measuring Business Performance

From the viewpoint of financial theory one wins in economic exchange when one's actions increase shareholder wealth. A Firm does this by increasing the value of its business assets over and above what they cost, by maximising the future stream of cash flows that their use can generate as measured by net present value (Czepiel, 1992).

Five measures of performance were found consistently in studies measuring performance and were also used in this study, namely: sales growth, profit growth, net profit margin, return on total assets and market share change in dollars (Narver & Slater, 1990; Kohli et al., 1993; Raju et al., 1995; Jones, 1997).

In a study to assess the effect of market orientation on business profitability, Narver & Slater (1990) used judgemental measures. Business performance was measured in terms of the strategic business unit's (SBU) profitability, as reported by the top managers. Narver & Slater (1990) reported that they used these self reported business performance measures, as a strong correlation was found between subjective performance assessments and their objective counterparts (Dess & Robinson, 1984; Pearce, Robbins & Robinson, 1987 cited in Narver & Slater, 1990).

Building on the work of Narver & Slater (1990), Kohli et al., (1993) and Raju et al., (1995) developed a comprehensive list of 19 self-reported business performance variables (See Appendix B). The objective of their studies was also to determine the impact of market orientation on business performance. Respondents were asked to assess the performance of their company on a scale of one (much worse) to five (much better), relative to the competition.

2.8 State of Competitive Intelligence in New Zealand

Very little research on the state of competitive intelligence has been conducted in New Zealand until recently.

In 1991, a study examined the extent to which New Zealand companies were structured to establish competitive advantage in a growing global business environment (Crocombe & Enright & Porter, 1991). The result was not very positive and depicted New Zealand companies as not well aligned to the requirements of competitive success. The mind set in New Zealand companies was described as short-term and static. The New Zealand companies focused predominantly on their internal environment at the expense of the external competitive invironment (Crocombe et al., 1991).

In 1996, Campbell-Hunt & Corbett (1996) found some improvement in attitude and practices in companies regarding environmental scanning, and reported that companies found it necessary to monitor economic, technological, governmental changes, social trends and shareholders in the macro environment.

An exploratory study based on the state of competitive intelligence within New Zealand private and public sector organisations was undertaken by Trengrove & Vryenhoek in 1997. Their study, based on a sample of 285 New Zealand companies from seventeen different industry categories, provided some indications of current trends in the use of competitive intelligence in New Zealand companies in general. The limitations of their study were that the results were based on the broad range of industry types facing various competitive intensities that could affect the level of competitive intelligence. The level of person answering the questionnaire was not controlled which meant that respondents who had nothing to do with competitive intelligence could have completed the questionnaire. Despite these limitations, it is the only study of its nature and key findings should be considered. The Trengrove & Vryenhoek (1997) key findings were as follows:

1. New Zealand companies and local government believe that their competitive environment is challenging and that it will become more challenging in future. The vast majority of the companies surveyed also rated themselves moderately good at monitoring their competition.

2. New Zealand companies experienced a similar gap between generation and use of competitive intelligence by strategists, as reported by Ghoshal & Wesney (1991).

3. Informal and unsophisticated information systems dominated competitive intelligence activities, with the predominant source of information being word of mouth and personal contacts. A general failure to use all sources of information in a comprehensive and coordinated manner was detected.

4. Very few organisations understood the need and importance of protecting their strategic information by using counter intelligence methods.

5. New Zealand firms were slightly less mature in their approach to Competitive Intelligence than their Australian counterparts.

Their report recommended that New Zealand companies need to develop integrated and comprehensive competitive intelligence processes that are linked to strategic planning systems; that the focus of information gathering should be widened to use a wider range of information sources and, finally that adequate resources must be allocated to ensure effective competitive intelligence activities.

Trengrove & Vryenhoek (1997), propose that further research be conducted on amongst other issues, the effect of competitive intelligence on the strategic planning process and resulting demonstrable benefits.

2.9 Summary of Literature Review

The following is a summary of the main findings of the literature review conducted for this study.

- Competitive intelligence for the purpose of this study was defined as being both a product and a process. As a product, competitive intelligence means ethical, timely and useful value-added information on customers, competitors, other key stakeholders in the competitive environment and the company itself. As a process, it involves establishing intelligence needs, generating information, analysing and disseminating actionable intelligence to key decision makers, to build a competitive advantage and enhance business profits.

- Consensus exists regarding the Competitive Intelligence Cycle (a multistage intelligence process). Studies revealed that competitive intelligence focussed mainly on the direct competitive environment, which includes customers, competitors and the organisation, itself. The purpose of competitive intelligence was continuously described as providing actionable intelligence for use in strategic decision making, and the outcome of undertaking competitive intelligence is reported to be the creation of a competitive advantage with resulting increase in business performance.

- Growth in competitive intelligence in the 1980's and 1990's can mainly be contributed to global economies, the information era, defusion of technological and managerial capabilities and advances in computer information systems and communication technology advances.

- Growth in competitive intelligence led to growth in problems regarding this activity. The one persistent problem encountered by competitive intelligence active organisations, is the lack of full integration of intelligence activities with actual decisions - especially at the top - resulting in inferior strategic decisions and doubt whether investment in competitive intelligence activities are justified.

- No studies could be found that directly linked business performance and the level of competitive intelligence

- Current research regarding competitive intelligence focus on eight main areas, namely: how to conduct competitive intelligence; competitive intelligence and strategy; competitive intelligence in specific industries; comparative studies regarding competitive intelligence in various countries; reasons for the failure of competitive intelligence activities; counter intelligence issues; the future of competitive intelligence; and the effect of competitive intelligence on success of companies.

- Very little research on the state of competitive intelligence has been conducted in New Zealand.

3. METHOD

3.1 Procedure

A mail survey method was chosen for the collection of the primary data. The mail survey method was relatively cheaper than a telephone or personal interview method and it enabled reaching companies throughout New Zealand.

A list of 610 unique company names was compiled using the UBD Business Directory of New Zealand Companies (1997/1998) and the New Zealand Business Who's Who (39th edition). The list contained the names of all companies belonging to the New Zealand Chemical Industry Sector (Standard Industrial Classification 35000) and included the following four industry types: Chemical Manufacturing (SIC 35110); Drugs and Medicines (SIC 35220); Soap and Cleaning (SIC 35231) and Perfumes, Cosmetics and Toiletries (SIC 35232).

The primary research process consisted of two phases:

- In phase one an 'elicit pack' was sent out to the Managing Directors of the 610 population firms. Companies, who in response to this agreed to take part in the study, were asked to provide the names of up to four senior managers heading different strategic business units (SBUs) within the company.
- Phase two consisted of mailing out the 'main questionnaire pack' to each of the SBU managers who agreed to take part in the study.

In both phases two reminders followed the initial mail-out. The reminders consisted of the reminder letter, a free post envelope and a copy of the response form (phase one) or a copy of the main questionnaire (phase two).

The decision to survey strategic business unit managers rather than companies as a whole, was taken in order to avoid an over-representation of small companies as a large company would have been given the same weight as a small company. As the

large companies in the population represented more market share than the small companies, it was important to obtain relatively more SBU managers from the large companies than the small companies. The use of strategic business unit managers also identified the business entities assumed to be responsible for the competitive intelligence activity and related decisions.

The research design chosen, was based on a study conducted by Maltz & Kohli (1996) in which they obtained a 74% response rate by first mailing out letters to explain the study and then after obtaining the names of executives, mailing out the main questionnaire.

3.2 Population

3.2.1 Definition of the population

The Drugs and Medicine industry was initially selected as it has been used in other studies on competitive intelligence (Bernhardt, 1996; Czepiel, 1992). It was described by Czepiel (1992) as an industry known for it's "...highly competitive nature and its advanced competitive intelligence activities". As only 172 unique names for the New Zealand Drugs and Medicine industry were listed, three related industries within the same sector were added to increase the population size to 610 companies.

The initial aim of the study was to only include names of New Zealand owned manufacturing companies. This decision was based on the fact that manufacturers provided the highest response rate in the Trengrove & Vryenhoek (1997) study. The companies within the Chemical industry sector, however, tended to not have manufacturing facilities, but rather have offices responsible for the distribution and marketing of the products in New Zealand. Due to the small number of companies in each of the four chosen industries, excluding companies with foreign ownership, or companies that did not manufacture locally, would have reduced the population size to such an extent that the research results would have been limited.

Maltz and Kohli (1996) suggested not using 'high technology environment industries' as these industries have predominantly engineering driven cultures with marketing activities having little or no influence. Choosing industries with a marketing orientation, they suggested, could lead to more substantive results. The chosen four industries are not considered to be 'high technology environment industries'.

The population therefore includes manufacturers, importers and distributors (with various degrees of foreign ownership) belonging to the four related industries within the Chemical industry sector and the companies are based throughout New Zealand.

3.2.2 Population Size and Response Rates

The following table describes the response rates for phase one of the study.

Table 2: Response rates for Phase One

	n	%
Number posted out	**610**	
Returned to sender (1).	-50	
Ineligible (2).	-18	
Final population size	**542**	**100**
Returned: Valid	91	16.8
Refused (non-response not completed) (3).	37	6.8
Refused (non-response completed)	122	22.5
Not Returned	292	53.9

1. Represents the number that no other address could be obtained for, or where the mail to a new address was also returned as undelivered.
2. Represents 14 companies that indicated that they did not belong to the specified industry categories, and 4 companies that no longer traded.
3. Details of companies that refused and did not fill in the non-response form (See appendix C).

Various methods were introduced to increase the phase one response rates, namely: preliminary notification by letter; reminders; letters addressed to a specific person; the cover letter signed by the researcher and stating the researcher status; the first mail-out

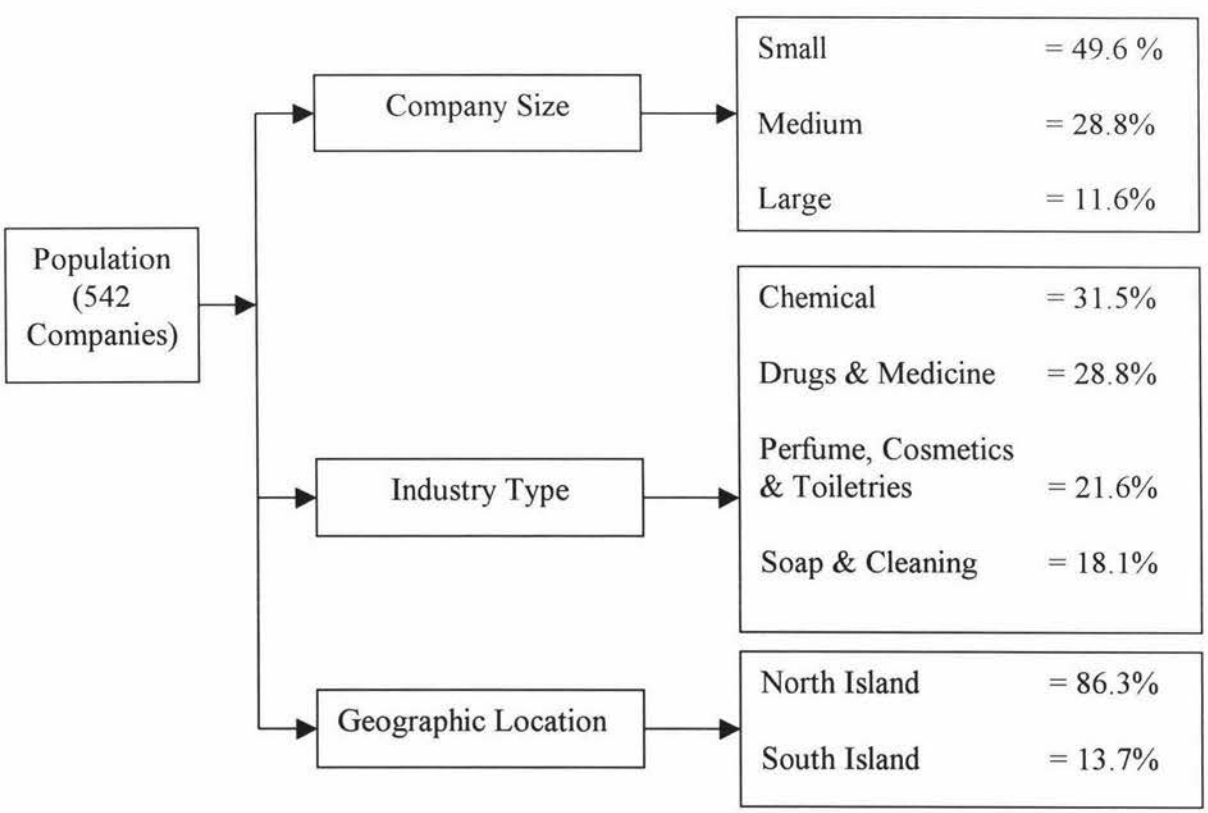
included a letter accompanied by a response form rather than just a letter. An incentive was also introduced in the second reminder, with the purpose of increasing the response rates.

Despite the above efforts, the response rate for phase one was low. Of the 542 companies in the population, 91 companies (17%) agreed to take part in the study and provided the names of 155 SBU managers.

3.2.3 Characteristics of the Population

The main characteristics of the 542 companies in the population are depicted in Figure 8 (see detailed tables in appendix D). The description of the characteristics is based on the size of company (according to the number of employees), industry type to which the company belongs and geographic location of the company.

Figure 8: Main Characteristics of the Population



The majority (49.6%) of the companies in the population was small companies with a staff of 0-10 employees. The largest industry representation was that of the Chemical industry, with 31.5% of the population companies belonging to this industry.

A cross tabulation of the company size with the type of industry was conducted (Table 8, appendix D) and revealed that the Drugs and Medicine industry showed a tendency towards larger firms. This tendency could be the result of the high capital investment needed to set up and succeed in the Drugs and Medicine industry. Companies in this industry need a high monetary investment to enter the industry, need research and development facilities and have to invest large sums of money into registering patent rights (Bradmore, 1996).

In the Soap and Cleaning industry, 63% of companies were small. Respondents from companies in this industry indicated a tendency to obtain licensing rights for a few products, which could lead to an industry characterised by small owner-operated companies.

A comparison of the geographic location of the population companies with the distribution of companies in general in New Zealand revealed a slightly higher (10%) number of population companies located on the North Island (Table 7, appendix D). A cross tabulation of the geographic location with the type of industry showed the Chemical industry possibly contributing to the higher number as 92% of the Chemical industry companies were located on the North Island (Table 9, appendix D).

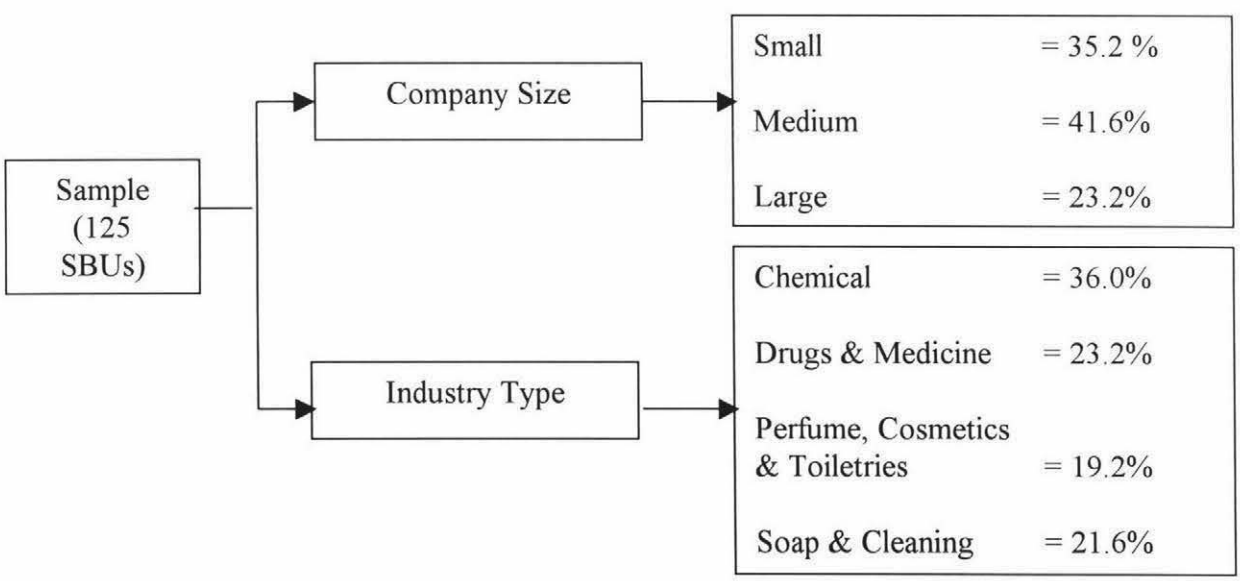
In the phase one response form, companies were asked to provide information regarding the turnover category that best describes their current average annual turnover. Some of the respondents indicated that the turnover categories provided on the form did not go high enough. This concern seemed justified as the majority of the sample companies were small, but in the analysis of the turnover the majority classified themselves as part of the highest turnover category (Table 10, appendix D). This data was therefore not used in any further analysis.

3.3 Sample Characteristics

The response rate in phase two of the study was 80.6% and constituted 125 SBU managers returning the main questionnaire. Even though the response rates seem low with many SBU managers from small firms not taking part, the final 125 SBU managers in the sample did however belong to companies that represent between 80-90% of the market share in their respective four industries. The sample can therefore be seen as representative of the four industries in the Chemical industry sector of New Zealand.

The main characteristics of the 125 SBU managers in the sample are depicted in Figure 9 below (detailed tables in appendix E). The description of the characteristics is based on the size of companies to which the strategic business unit managers belong and the extent to which each of the four industry types are represented in the sample.

Figure 9: Main Characteristics of the Sample



Keeping in mind the main characteristics of the population as depicted in figure 8, which showed that the majority of population companies were small, then the sample of SBU managers show a more balanced representation of small, medium and large

companies, as a result of using strategic business units as sample entities rather than companies. The strategic business units also represent a similar profile of numbers from the four industry types as found in the population industry profile.

A cross tabulation of the company size to which the strategic business unit belongs, with the type of industry was conducted (detailed in Table 13, appendix E). The majority (41.4%) of the SBU managers in the Drugs and Medicine industry were part of larger firms, whereas the majority (51.9%) of the SBU managers in the Soap and Cleaning industry were part of small companies, which is also similar to population findings.

The SBU managers in the sample were therefore manufacturers, importers and distributors in various sized companies that together held up to 90% of the market share in the four respective industries in the New Zealand Chemical industry sector and can be seen as representative of this sector.

3.4 Non respondents

In this study non-response bias was a concern as 83% of the population were non-respondents. Three types of non respondents were identified, namely: companies who did not respond at all (53.9% of the population); companies who responded, but refused to take part and did not fill in the non response form (6.8% of the population); and companies who responded by refusing to take part in the study, but who were willing to fill out the non response form (22.5% of the population) (detailed in Table 2).

The major issue when analysing non-response was to determine what potential non-response bias had been created as a result of the specific non-response. The non respondents were analysed with the purpose of checking for two types of non response bias, namely: non coverage (inability to reach the sample) and non response (non respondents being different in some important way from the respondents) (Lehmann, Gupta & Steckel, 1998).

Non coverage was experienced by 11% of the 610 original companies in the population. These companies, as indicated in Table 2, were removed from the population leading to the population comprising of a final 542 companies.

An effort was made to obtain information regarding the profile of the non respondents by including a non response form in phase one of this study, however 73% of the non respondents did not fill it out. Non response was therefore analysed based on available population data, which included the company size and industry type of the companies.

In comparing the profile of the non respondents with the respondents, it was found that nearly 50% of the non respondents were small companies with only 10% being large companies compared to 20% of the valid respondent companies being large (details in appendix F). A source of possible non-response bias could therefore likely have come from a bias towards small companies choosing not to take part in the research. No specific areas of non-response bias could be identified in terms of industry type or geographic location of the non-respondents compared to the respondents.

Other possible areas of non-response bias were:

- The fact that a non response form was available in the initial 'elicit pack', could have lead to companies finding it easier to fill in the short non response form, in stead of agreeing to take part in the full study. Some of the questionnaires clearly showed the respondents changing their minds as they ticked the 'yes' to indicate a willingness to take part, and then crossed that out, ticked a 'no' and filled the non response form out.
- The nature of the topic could also have contributed to the low response, as it is a fairly new concept in New Zealand.
- Some companies indicated that they were in the process of being taken over or being sold and therefore chose not to take part.
- Companies were asked to describe their number of strategic business units, but a large percentage indicated that they did not understand this. The formality of the term could have contributed to a lower response in terms of excluding companies that did not understand the term.

- Three companies indicated that they had to fill in so many forms for the government and that they had no more time for questionnaires.
- The fact that the UBD and Who's Who was used, could have lead to companies being approached that were often approached, as these two databases possibly.

3.5 INSTRUMENTS

3.5.1 Phase One

The purpose of phase one was to elicit participation from the population companies. The package sent out to all companies contained a personalised letter (copy in appendix H) addressed to the Chief Executive Officer or Managing Director of the sample companies, a response form and a freepost envelope.

The response form (copy in appendix G) in the phase one 'elicit pack' took respondents 5-10 minutes to complete and included:

- Four demographic questions namely: industry type, the number of employees in the company and the number of strategic business units. Respondents were also asked a categorical question on the average turnover of the company.
- Space to provide the names and addresses of up to four senior managers responsible for separate strategic business units who would be willing to participate. The use of strategic business units would help deal with the unequal sizes of companies in the population and would avoid over-representation of small companies. It was expected that larger companies would be able to provide up to four names, whereas small companies would only provide one to two names.

Two reminders were mailed out and a full 'elicit pack' was sent out with each reminder. In the second reminder an incentive was introduced, which positively affected the response rates. The incentive offered respondents the opportunity to be entered into the draw to win a book on Competitive Intelligence, namely: "Competitive Intelligence:

How to gather, Analyse and Use Information to move your business to the top", by Larry Kahaner (1998). Copies of the reminder letters are contained in appendix H.

3.5.2 Phase Two

The purpose of phase two was to gain answers to questions in the main questionnaire (copy in appendix I), which in return would enable the researcher to address the objectives of the study. The package sent out to all SBU managers who agreed to take part in the study, contained a personalised letter, the main questionnaire and a freepost envelope. Copies of phase two cover letter and reminder letters are contained in appendix J. The main questionnaire took respondents approximately 15 – 20 minutes to fill out and consisted of three parts:

- Part A aimed at determining the activities undertaken in gathering, analysing, disseminating and use of competitive intelligence. It also addressed the responsiveness of the company to competitive intelligence and asked a few general questions that included involvement of top management, structure of the competitive intelligence function in the company and the annual budget allocated to competitive intelligence activities. Competitive intelligence generation, dissemination and use were three issues tested by Kohli, et al. (1993) and appropriate parts of their questionnaire were replicated.

- Part B set out to assess the business success of the company. Five basic performance measures were used as these were found to be common measures of performance in several studies (Jones, 1997; Narver & Slater, 1990; Raju et al., 1995) namely: Sales Growth; Profit Growth; Net Profit Margin; Return on Total Assets and Market Share Change.

  The companies were also asked to indicate the percentage market share that their company held in its specific New Zealand market. This would clarify what proportion of the New Zealand market was represented by this study. As pointed out in the section on pre-testing, 'net profit margin' could have been improved

significantly if a company had recently decreased the number of employees and Part B included a question to assess change in employee numbers.

- Part C assessed the intensity of competition in the industry and the speed of change. This was assessed as the literature review revealed the level of competitive intensity influenced the level of competitive intelligence in companies. Part C results form the background to Part A & B results.

The main questionnaire was pre-tested by three industry members from three different sized companies. It was also pre-tested by four academic members of staff. Specific changes made in response to the pre-test were as follows:

- Two additional descriptions of possible competitive intelligence approaches were added to question 12 (Part A of main questionnaire). This was specifically based on the industry members' expectations of possible competitive intelligence approaches likely to be found in New Zealand companies and not listed elsewhere.

- Comment lines were added beneath Likert scale tables to enable respondents to add specific comments (Part A of main questionnaire).

- A question was added to Part B (main questionnaire) to address the influence of employee reduction on net profit margin performance.

3.6 Analysis

The main questionnaire was subjected to validity and reliability tests (see section 5.1) to ensure the credibility of further analysis and results presented. Analysis of the data was conducted using the SPSS statistical package.

The majority of the questions in the main questionnaire were based on a 5 point Likert scale format. The Likert scale data was first evaluated using normal descriptive

statistics to look for any peculiarities in frequencies. Preliminary cross tabulations were also done. Likert scale codes were treated as metric level data and the mean used as central tendency measure.

Most of the Likert scale questions were followed by an open question asking respondents to present any further comments. The results of the open comments are discussed where appropriate and copies of all comments are detailed in appendix K.

To test whether a relationship exists between competitive intelligence and company performance, a composite competitive intelligence measure was developed (detailed in section 4.5.1) and correlation analysis conducted.

4. RESULTS

4.1 Validity and Reliability

4.1.1 Construct validity

Construct validity is based on the way a measure relates to other variables within the system of the theoretical relationships (Babbie, 1989). It refers to the ability of a measure to both represent the underlying construct (concept) and to relate to other constructs in an expected way. A measure has construct validity if it behaves in an expected way according to existing theory (Lehman, et al., 1997). Construct validity would be demonstrated if the constructs that constitute the definition of competitive intelligence relate to each other in a logical and excepted way as measured in this study. It will be demonstrated in section 4.5 that the constructs measured indeed related logically to each other and to other concepts such as competitive intensity and performance measures. The correlations found were generally low, but of the correct sign and as expected, based on the theoretical framework presented in the literature review.

4.1.2 Content validity

Content validity refers to the degree to which the measure covers the range of meanings included within the concept (Babbie, 1989). Content validity refers to the logical appropriateness of the measure used. It also refers to the inclusiveness in the measure of all relevant aspects of the measure (Lehman, et al., 1997). Content validity in this study was ensured in two ways: by basing the questionnaire on previous studies done in competitive intelligence field (Kohli & Jaworski, 1993; Cartwright et al., 1995; Maltz & Kohli, 1996), and by pre-testing the questionnaire on seven respondents to determine whether they understood the constructs as the researcher had intended them.

4.1.3 Discriminant Validity

Discriminant validity exists when a construct is sufficiently distinct from other constructs to justify its existence (Lehman et al., 1997). Discriminant validity was tested by running a factor analysis on all aspects of competitive intelligence in part A of the main questionnaire. Since in no instance did the different aspects of competitive intelligence, for example gathering and analysis, load onto the same factor, discriminant validity was demonstrated (see appendix L for factor loadings).

4.1.4 Reliability

A measure is said to be reliable if it consistently obtains the same result. Reliability is a measure of the internal consistency of the construct variables, depicting the degree to which they indicate the common latent (unobserved) construct. An instrument can be reliable without being valid (Hair, Anderson, Tatham & Black, 1995).

Cronbach's alpha (a measure of internal reliability calculating an internal consistency coefficient) was used to measure the reliability of questions in part A and part B of the main questionnaire used in a composite measure (referred to as CISCORE).

Table 3 shows that most of the tested questions achieved Cronbach alpha scores above 0.7, which is the commonly used threshold value for acceptable reliability. Note that values below 0.7 have been accepted in studies of an exploratory nature (Hair, et al., 1995). Questions 5 and 6 (part A) were still included in the composite measure with scores just below 0.7. Question 8 (part A) was not included as it not only scored a low Cronbach alpha, but also seemed to be influenced by interpretation of the respondents (lack of content validity) (question 8 is explained in detail in section 4.3.6).

Table 3: Cronbach Alpha Reliability Coefficients

Question	Description	Cronbach alpha score
A1	Gathering (18 aspects tested)	0.81
A2	Focus of CI (8 aspects tested)	0.86
A5	Analysis and Storage of data (3 aspects)	0.64
A6	Dissemination (5 aspects)	0.62
A7	Use of CI (6 aspects)	0.84
A8	Responsiveness (3 aspects)	0.51
A9	General issues (5 aspects)	0.70
B13	Measures of Performance before Asian crises (5 measures)	0.84
B14	Measures of Performance after Asian crises (5 measures)	0.95

4.2 Competitive Intensity

The level of competitive intensity of the sample is an important background issue to the level of competitive intelligence in companies (Czepiel, 1992) and is discussed in this section before the detailed results

Questions 17 and 18 (part C) of the main questionnaire were specifically designed to assess the intensity of competition in the industry. SBU managers were asked to take into consideration the circumstances experienced in their particular industry at the time of the study and to tick the box that best described the extent to which they agreed that the eight statements provided accurately described the competitive intensity in their market. A five point Likert scale question was provided with five representing 'strongly agree' and one representing 'strongly disagree'. All statements were worded so that the higher the mean score, the higher the competitive intensity which would have been experienced (for detailed results see appendix M, table 17).

The highest mean for the sample was that SBU managers 'agreed' that their industry experienced a tendency to compete on price (mean 3.96, std dev .95). The other factors that rated high were:

- SBU managers 'agreed' that they were exposed to numerous competitors (mean 3.9);
- SBU managers 'agreed' that industry growth was slow (mean 3.89);
- SBU managers 'agreed' that buyers experienced low switching costs (mean 3.71).

SBU managers 'disagreed' with the statements that competitors are roughly equal in size (mean 2.46) and exit barriers are high (mean 3.10). General contributing factors could be the open trade policy in New Zealand, which creates competitors of various sizes. Many New Zealand offices are overseas subsidiaries which probably make exit barriers lower, as New Zealand is just one of many markets for these companies.

Anova analysis revealed no significant differences in terms of competitive intensity between the different sizes of companies to which the SBU managers belong. The same analysis on the different industry types revealed only one significant difference between the Drugs and Medicine industry and the Chemical industry in terms of whether 'competitors are equal in size' ($F = .044$ at 95% confidence level). As both means indicate a 'disagreement' and therefore do not contribute to the competitive intensity within these particular industries, this statement of competitive intensity did not warrant further analysis.

Another measure of competitive intensity was the speed of change (Maltz & Kohli, 1996) in an industry. In question 18 (part C) SBU managers were asked to indicate on a five point Likert scale how quickly three aspects of their markets change, where five represented 'very quickly' and one represented 'very slow'. The higher the mean, the higher the speed of change and therefore the higher the competitive intensity (detailed results contained in appendix M, Table 18).

Although most respondents reported a 'steady change' in all three questions, a significant difference was found between the Perfumes, Cosmetics and Toiletries industry (mean 3.75) and the Chemical industry (mean 3.00) in terms of introduction of new products (F=.022 at 95% confidence). The Perfume, Cosmetics & Toiletries industry experienced a faster rate of introduction of new products with an obvious higher impact on the competitive intensity in that industry. A possible explanation is that the Perfumes, Cosmetics and Toiletries industry is fashion driven and much more influenced by frequent changes in customer preferences.

4.3 Results of Competitive Intelligence Activities

4.3.1 Gathering Activities

In assessing the types of sources used for the gathering of information, a list of 18 possible competitive intelligence sources were compiled, based on lists found in the literature review (Trengrove & Vryenhoek, 1997; Hall & Bensoussan, 1997; Kohli et al., 1993; Montgomery & Weinberg, 1979) and adding a few sources after the pre-testing stage to specifically incorporate New Zealand business circumstances. In question 1 (part A) respondents were asked to indicate to what extent they made use of the above mentioned sources, where five represented 'always', three 'sometimes' and one 'never' (results detailed in appendix N, table 19).

The source with the highest mean score was the use of personal contacts (mean 4.02, std dev 0.70, mode 4) indicating that this source was 'often' used. Other sources that were also 'often' used to gather competitive intelligence (based on high mean scores and mode of at least 4) were:

- Trade literature (mean 3.74);
- Talking to suppliers and distributors who influence end users (mean 3.57);
- Newspapers and Magazines (mean 3.44);
- Interviews with company employees (mean 3.24).

Sources that were 'sometimes' used (based on a mean and mode above 3) were:

- Informal rumours (mean 3.27);
- Trade shows (3.15).

Other sources had means and modes that indicated that these sources were 'seldom' to 'never' used for competitive intelligence gathering. Comments by respondents showed that although they were not currently using the internet (mean 2.15, mode 1), they could see it "...becoming increasingly useful". Some respondents also indicated that they almost exclusively used Nielsen data as the only source of competitive intelligence. This is a form of syndicated research that can be subscribed to on a monthly basis. Although over the sample it had a low mean (1.88), to some respondents it was the exclusive source of competitive intelligence.

Anova analysis was done on all the variables, to test whether significant differences existed between the size of companies to which the SBU managers belong, in terms of the extent to which they use the various sources. Significant differences were found in terms of the use of:

- Government bodies (F=.018). SBU managers from large companies indicated they made more use of government sources (mean 2.93) than SBU managers from small companies (mean 2.16). Many of the government services are not free of charge in New Zealand and the fact that the larger companies make use of them could be a function of the price of this source, that makes it too expensive for small companies to use.

- Syndicated marketing research (F=.022). SBU managers from large companies were making more use of syndicated research results (mean 2.34) than SBU managers from small companies (mean 1.58). Again this could be a function of the price of the source being above the means of a small company.

- Customised marketing research (F=.027). SBU managers from small companies made less use of this (mean 1.58) than SBU managers from large (mean 2.31)

companies. A possible reason for this difference could be the affordability of the source, but small companies might also be serving a smaller market, that they can monitor by using informal means without having to commission formal customised marketing research.

The sources of information included in this study can be divided into external and internal sources and sub-divided according to the formality of the process involved in using the particular source, as depicted in Table 4. The matrix is based on the results of a factor analysis on question 1 (part A).

Table 4: Sources of Competitive Intelligence Gathering

	External	Internal
Informal	Trade literature Newspapers & magazines Presentations by competitors Lunches by trade partners	Personal Contacts Rumours Chamber of commerce functions
Semi Formal	Trade shows Government bodies Internet Databases	In-house research Interviewing employees Talking to those who influence your end users
Formal	Consultants Marketing research – syndicated Marketing research – customised	Benchmarking

4.3.2 Focus of Competitive Intelligence Activities

Gathering of competitive intelligence focuses on the immediate company environment or stakeholders of the company (Jain, 1993; Bernhardt, 1996; Bijmolt et al., 1996). Based on this, question 2 (part A) asked respondents to indicate how often they gathered and received information regarding various aspects of their competitors, customers and suppliers, where five represented 'always', three 'sometimes' and one 'never' (detailed results in appendix N, Table 20).

The highest mean score indicated that the respondents 'often' focus on existing competitors' activities (mean 4.04, std dev .72, mode 4). Other areas of focus in order of mean scores (based on high mean scores and mode of at least 4) were:

- Suppliers' new products/services/brands (mean 3.80);
- Customers' product preferences (mean 3.73);
- Competitors' new products/services/brands (mean 3.73);
- Customers' existing perceptions (mean 3.47);
- Competitors' new technology & processes (mean 3.31).

Aspects that were only 'sometimes' or 'seldom' focused on were future or potential competitor activities (mean 3.39) and profiles of competitors' decision-makers (2.32). These areas of focus require extensive competitive intelligence to be undertaken and many companies might avoid this, based on the effort, time and resource commitment it requires. The results showed a balanced focus on existing competitors, suppliers and customers.

No significant differences were found between the responses of SBU managers belonging to the different sized companies regarding the focus of competitive intelligence activities.

4.3.3 Analysing and Processing of Competitive Information

The effective analysing and processing of information and conversion to competitive intelligence depends on the quality of the information and the experience of the analyst (White, 1997). Question 5 (part A) asked respondents to indicate how committed they were to using internal or external experts to analyse their competitive information and secondly how committed they were to storing information on a database for further use. A five point Likert scale were provided with five representing 'very committed', three 'somewhat committed' and one 'not committed at all' (detailed results in appendix N, Table 21).

The results show that SBU managers were 'somewhat committed' and 'committed' to data being analysed by experts inside their companies (mean 3.32, std dev. 1.19, mode 4). It should be noted that the standard deviation is high, indicating a broad range of opinions. The SBU managers were, however, in agreement in that they had 'no commitment at all' to use external experts. The reason for this could be that they are aware of the sensitive nature of the information or could be a result of the informal nature of the competitive intelligence gathering that does not warrant the use of formal external consultants. The finding here is consistent with the result in question 1 (part A) where SBU managers indicated they would 'seldom' use consultants to gather information (mean 1.90). This could indicate a resistance towards using consultants in general in New Zealand.

SBU managers indicated that they were 'somewhat committed' to storing intelligence on a database (mean 2.6), which could indicate that the full potential of competitive intelligence is not being realised and data mining capabilities are not being made use of.

No significant differences were found between the different company sizes to which the SBU managers belong regarding the level of commitment to the different aspects of analysing and storing of competitive information.

4.3.4 Dissemination of Competitive Intelligence

Question 6 (part A) focused on two aspects of dissemination, namely:

- Whether formal as well as informal methods of dissemination were used. The literature review suggested that the dissemination process was highly individual and designed to suit a specific company structure and culture (White, 1997). It should therefore not matter whether it is either a formal or an informal dissemination process. The research of Maltz & Kohli (1996) did, however, find a positive relationship between frequency and formality of competitive intelligence dissemination and the use thereof. They suggest that the above two aspects affect the trust of the person receiving the intelligence. It was therefore decided to test both formality and informality.

- Whether interfunctional dissemination took place. Jaworski and Kohli (1993) found that interfunctional conflict inhibited the competitive intelligence dissemination process.

In question 6 (part A), managers were asked to indicate to what extent they agreed with the provided description of competitive intelligence dissemination in their companies, where five represented 'fully agree', three 'neither agree nor disagree' and one 'totally disagree'. Statements were based on the questionnaire used by Kohli et al., (1993), (detailed results in appendix N, Table 22).

The results showed consistent 'agreement' with all five statements as mean scores ranged between 4.12 and 3.48. The highest mean score was 'agreement' that when something important happens to a major competitor, the company will know about it within a short period of time. This could reflect effective dissemination, but also the result of a small country with the advantage of quick dissemination of information over small markets. In the open comments made about this question, most comments were made by SBU managers in small companies, indicating that they found dissemination of information easy as a result of their size.

No significant differences were found between the responses of SBU managers from small, medium and large companies regarding dissemination of intelligence.

4.3.5 Competitive Intelligence Use

The literature review revealed scepticism regarding the actual usefulness of competitive intelligence (Ghoshal & Kim, 1986). Question 7 (part A) set out to assess the perceived usefulness of competitive intelligence received by the SBU managers and was adapted from the Maltz & Kohli (1996) study. Respondents were asked to indicate to what extent they agreed with statements describing how competitive intelligence had been used in their companies over the past year, where five represented 'strongly agree', three 'neither agree nor disagree' and one 'totally disagree' (detailed results in appendix N, Table 23).

Results showed the majority 'agreed' (mean 3.83, std dev .73, mode 4) with the statement that competitive intelligence improved the understanding of the dynamics of the market place. Other statements that SBU managers 'agreed' with, in order of mean scores (based on high mean scores and a mode of at least 4) were:

- It improved implementation of new products or projects (mean 3.64);
- It led to concrete actions (mean 3.62);
- It helped shape policies (mean 3.60).

A reverse statement was made where it was suggested that competitive intelligence was rarely used and most SBU managers 'disagreed' (mean 2.39) with it. This indicated most respondents did feel that competitive intelligence in their companies was used on a frequent basis.

SBU managers 'neither agreed nor disagreed' with the statements that competitive intelligence improved their productivity (mean 3.20) and that it improved their understanding of how things work in their organisations (mean 2.93). Open comments revealed that some of the New Zealand companies felt that information was being fed to them from international offices and that this was useful. However, some also expressed frustration with a lack of understanding and recognition of the small New Zealand office by the larger overseas head office, which often led to difficulty in using intelligence. This could have led to the low means on the above two statements.

No significant differences were found between the means for the different sizes of companies to which the SBU managers belong regarding the use of competitive intelligence.

4.3.6 Responsiveness of SBU managers to competitive intelligence

Responsiveness was measured in the Kohli, et al. (1993) study as an added component to the use of competitive intelligence. Competitive intelligence can be perceived as useful, but if an organisation were not very responsive to the information and not able to act quickly on the received information, it led to an ineffective competitive intelligence system (Kohli et al., 1993).

In question 8 (part A) of the questionnaire, respondents were asked to indicate to what degree they agreed with three statements regarding their responsiveness. The first two questions focused on the speed of their responsiveness. When editing and coding questionnaires, it became clear that these two statements were ambiguous and were open to different interpretations.

Comments made by most respondents revealed that their strategy did not allow for quick response, in other words, they would receive information and then wait before reacting, not because of a lack of responsiveness, but rather because it was part of the strategic plan to wait. Others indicated that responsiveness was quick in New Zealand, but as they were part of overseas companies, they were subjected to slow response from overseas head offices. Some SBU managers questioned the use of the word 'quick' and asked what time period would be classified as 'quick', indicating confusion. It was, therefore, decided that these two statements would not be further analysed.

The third statement in question 8 asked SBU managers to what extent they agreed that if they found their customers were unhappy with the quality of their service, they would take immediate corrective action, where five represented 'fully agree', three 'neither agree nor disagree' and one 'strongly disagree'. Results revealed that SBU managers 'strongly agreed' with this statement (mean 4.39, std dev .78 and mode 5). This could be a result of good use of competitive intelligence, but is more likely a result of a marketing orientation in the firm, which would warrant immediate action on customer dissatisfaction.

4.3.7 General Aspects of Competitive Intelligence

General aspects of competitive intelligence were measured in various questions in Part A of the questionnaire, namely:

- The extent to which top management was involved in the competitive intelligence function (question 9);
- Counter intelligence (question 9);

- Whether the SBU managers viewed the company's competitive intelligence function as being centralised (question 10);
- Whether the SBU managers were responsible for collecting their own competitive intelligence (question 4);
- Whether incentives were provided for passing information on (question 3); and
- The budget allocated for competitive intelligence activities (question 11).

Top management involvement

Studies by Gilad (1989; 1991) and Fuld (1991) emphasise that top management involvement is crucial in the functioning of an effective competitive intelligence function. SBU managers were asked to indicate to what extent they agreed with statements regarding the involvement of top management in their competitive intelligence activities where five represented 'strongly agree' and one 'strongly disagree' (detailed results in Appendix N, Table 24).

Results showed that SBU managers 'agreed' (mean 4.15) that top management were regularly updated regarding information and that top management in their companies was directly involved in the intelligence function (mean 4.12). A less favourable result was that SBU managers 'neither agreed nor disagreed' (mean 3.39) that top management in their companies were prioritising their intelligence needs. This indicates efficiency (doing things right) without the necessary effectiveness (information about the correct issues). The structures are good, but more pro-active prioritising may need to take place to realise the full potential benefits of the competitive intelligence function.

Counter Intelligence

Pavlicek (1992) and Ewing (1992) suggest the creation of a 'counter intelligence mind-set' in companies with the aim of increasing the awareness amongst employees to protect sensitive company information. Two statements were included in question 9 (part A) to address this.

Results show that SBU managers 'agreed' (mean 3.67, std dev .67, mode 4) that they were very conscious of ensuring that other companies could not get access to their information. However, SBU managers 'disagreed' (mean 2.54, std. dev. .87, mode 2) that they have put counter intelligence measures in place. Open comments regarding counter intelligence ranged from "we simply don't tell anyone anything except on a need to know basis" to "we really don't have any concern for what our competitors think of us".

Centralised competitive intelligence function

SBU managers were asked whether they had a centralised competitive intelligence function with a dichotomous yes or no answer provided (Question 4 part A). This would give an indication of the formality of the competitive intelligence function. If the answer was 'no' it would indicate a decentralised competitive intelligence function, whereas if it was yes and therefore centralised, it would indicate formality (Gilad, 1989).

Eighty four percent of the SBU managers indicated that they did not have a centralised competitive intelligence function, which indicates that most SBU managers belong to companies with informal competitive intelligence functions.

Responsibility for collecting Competitive Intelligence

The formality of the competitive intelligence function was also tested asking a dichotomous yes or no answer to the question whether SBU managers were responsible for their own competitive intelligence gathering. Sixty-nine percent said they were responsible for collecting their own competitive intelligence, which corresponds with the findings of 84% saying that they did not have a centralised function. Again, it confirms informality in the competitive intelligence function in New Zealand.

Incentives for passing on competitive information

Question 3 (Part A) was included to determine to what extent companies provided incentives to their employees for passing information on. Sawka, Francis and Herring

(1996 cited in Calof, 1997) suggests the 'human intelligence resource' inside a company, constitutes a major source of competitive intelligence.

Although 96% of the SBU managers replied that no incentives were offered, numerous comments below this question showed that it did happen in some way. Some comments suggested that a reward was unnecessary and that passing on of information was an expected part of the job and nothing more than acknowledgment could be expected. Most of the comments however indicated that information was obtained by buying a "...few beers or an informal lunch". Others mentioned that the company would informally reward them by "...being lenient with company property, tools, training materials and vehicles for information passed on" and one respondent mentioned that they would "...receive $50 per full price list or complete set of data sheets".

Budget allocated for Competitive intelligence

As mentioned in section 2.6, the growth in competitive intelligence has been in terms of people involved, but also in terms of budget allocated to this function. The result of Question 11 (part A) was intended to clarify the commitment to competitive intelligence in general, but to also clarify the reason for certain trends such as informal gathering methods, decentralised systems and lack of incentives for passing information on.

A categorical question asked SBU managers to tick the box that best described the annual budget allocated to competitive intelligence within their companies. The categories provided were: 'nil budget'; 'up to $24 000'; '$25 000 to $49 999'; '$50 000 to $99 999'; '$100 000 to $249 999' and the last category '$250 000 and more'. The majority (55.6%) of the SBU managers indicated a nil budget, with the second largest group (34.2 %) indicating a budget of up to $24 000. Only 10.3% of the SBU managers indicated a budget above $25 000.

Anova analysis revealed that the larger sized companies allocated significantly (F = .8320 at the 95% confidence level) more budget (up to $24000) to competitive intelligence than the small and medium companies (nil budget). This result is

predictable, as the sheer size of operations in large companies would require more budget to be allocated over most functions.

4.3.8 Overall Competitive Intelligence Approach

The final question (12) in Part A, requested SBU managers to tick the box that best describes the competitive intelligence approach followed in their company. Four competitive intelligence approaches were initially described based on the work of Cartwright et al., (1995) who identified these four types based on research by Gilad (1990); Herring (1990, 1991 cited in Cartwright et al., 1995). Approach types included Ad Hoc, Project based, Continuous but Focused and Continuous but Broad (see appendix I, question12 for detailed description). After the pre-test, two more descriptions were added, namely: Competitive intelligence gathered by an overseas head office and appropriate information sent to New Zealand; and Extensive use of syndicated research. A final option provided for respondents to describe the approach followed in their companies in their own words, should they not find any of the other six approaches appropriate.

Results showed that 62% of the SBU managers described their approach to competitive intelligence as Ad Hoc, which meant it was performed on an 'as requested' basis by various groups of people in the organisation. Depth of analysis would vary and outputs were one-off in nature. Cartwright et al. (1995) described this approach as informal and uncoordinated and representing at most an adjunct responsibility to the marketing or planning function. It does not necessarily require the existence of a formal competitive intelligence function.

Eighteen percent of the respondents described their own process. Comments varied from "...no formal structure – no time for competitive intelligence gathering", to "...field staff or distributors are the main source of information". A few indicated that as a result of the small nature of their companies they did not need a formal approach but that they "...just talk to each other".

The third most popular approach was the extensive use of syndicated research with 8% of respondents choosing this option (detailed results in appendix N, Table 25).

The results in this question corresponds with the fact that 84% of SBU managers indicated no central competitive intelligence system (question 10) existed in their companies and that 68% of SBU managers reported that they were responsible for their own gathering of competitive intelligence (question 4) and confirms a predominantly informal approach in New Zealand companies.

The Cartwright et al. (1995) study (based on empirical research on a sample of 74 companies) suggest that a project based competitive intelligence approach is perceived to be the most useful approach. In this study none of the respondents reported that this approach 'best resembled' their competitive intelligence function.

4.4 Results of Performance Measures

In Part B of the questionnaire, five commonly used financial performance measures (Jones, 1997; Narver & Slater, 1990; Raju et al., 1995) were included namely: Sales Growth; Profit Growth; Net Profit Margin; Return on Total Assets & Market Share Change.

The performance was measured as being the SBU managers' assessment of the average performance over the 3 years (1994-1997) preceding the Asian crises. SBU managers had to tick the most appropriate category describing the performance change, where categories were:

- More than 3% increase
- 0 to 3% increase
- No change
- 0 to –3% decrease
- More than –3% decrease

The question was repeated asking the expected average performance in the current year and following year.

Although the method of measuring performance was subjective, its use was based on previous studies which indicated a strong correlation between subjective assessments and their objective counterparts (Dess & Robinson, 1984; Pearce, Robbins & Robinson, 1987; cited in Narver & Slater, 1990).

The Asian crises refers to the monetary collapse of the so-called 'Tiger economies' at the end of 1997. Asia has become one of New Zealand's dominant trade partners in the last 20 years and it was expected that this crises would have a direct impact on the performance of New Zealand businesses, as well as an impact on business confidence. To prevent companies from indicating lower growth rates for the 1994 to 1997 period, based on lower confidence levels caused by the current crises, before (question 13) and after crises questions (question 14) were used.

Based on a 3% growth forecast in real GDP towards the end of 1997, a 3% growth was used as cut off point. The actual 1997 growth rate was later confirmed as 2.4% (National Bank QEF, 1998).

The results showed that across all five measures, there was a definite tendency towards lower performance growth forecasts after the crises (frequency tables for question 13 and 14 in appendix O).

The analysis of the performance measures focused on the results of question 13 (part B), which related to the three year (1994-1997) period preceding the Asian crises. The information for this period was already available and more reliable. Information for the period after the crises would have been less reliable due to the subsequent uncertainties in the various affected markets.

Across all five measures the majority of SBU managers (70%) indicated their business performance as being stable or showing positive growth. In fact, more than 50% of

SBU managers on each of the measures, indicated a 'more than 3% increase' over all five business performance measures (frequency tables in appendix O).

The ability of a performance measure to isolate changes due to competitive intelligence activities is limited due to the variety of factors that could influence each of the measures for example the effect of a reduction in employees on Net Profit Margin (NPM). Question 16 (part B) requested respondents to indicate whether any changes in employee numbers had occurred in the company to test whether the decrease of employee numbers had any effect on the Net Profit Margin (NPM). Of the respondents 18% had indeed reduced the employee numbers. The reduction ranged between 2% and 50%. When comparing the NPM of this subgroup to the rest of the sample, the performance growth of this group was visibly lower with 52.6% indicating 'no change' in growth and ' 0-3% decrease' in NPM. This indicates that NPM is influenced by the reduction in employee numbers, which means its objective value as a performance measure for this study is reduced.

Question 15 requested respondents to indicate the percentage market share held by their company in their specific New Zealand market. The purpose of this question was to determine the market share percentage represented by the sample of this study. When adding the market shares of the large and medium companies to which the SBU managers belong, it showed an 80-90% market share held by the companies in their respective industries, with the rest of the small companies holding the rest of the market share.

4.5 Relationship between Competitive Intelligence and Company Performance

The objective of this research study was to establish the relationship between the level of competitive intelligence activities and the company performance. Part A of the questionnaire set out to measure the level of competitive intelligence activities as described by the SBU managers and Part B of the questionnaire set out to measure the

level of company performance in terms of average growth over a three year period. In order to determine the relationship and its strength, a composite competitive intelligence score was developed.

4.5.1 Development of the Composite Competitive Intelligence Score

An initial list of the questions relating to the level of competitive intelligence activities in a company was compiled, which included questions: one (gathering), two (focus), five (analysing), six (dissemination), seven (use) and nine (top management involvement and counter intelligence). The questions were analysed using correlation matrices and where statements in a question significantly correlated with one another, one of the statements were removed, so that the remaining statements explained the maximum variance in the data. The next step was to do a factor analysis on each question with the purpose of isolating statements that explained most of the variance in the data. All factors that exhibited an eigenvalue higher than one was used in the calculation of the composite competitive intelligence measure.

The composite competitive intelligence score (CISCORE) consisted of six elements (based on the six above-mentioned questions). If more than one factor was extracted for each of the questions, the variables in each factor were weighted according to the ratio of the variance explained by them as opposed to the sum of the variance explained by all factors with an eigenvalue above one.

The following equation describes the composite competitive intelligence score:
CISCORE = GATscore + FOscore + ANscore + DIscore + USEscore + GENscore
(detailed description in appendix P).

A competitive intensity score (COMSCORE) was also calculated in a similar way (detailed in appendix Q), for use in further analysis.

4.5.2 Refining of the Performance Measures

Net profit margin was removed as performance measure for this study as it lacked objectivity, as earlier described in section 4.4. Correlation analysis on the remaining four financial performance measures for the three years (1994-1997) were performed and sales growth and profit growth removed, as they were highly correlated with market share change.

The two remaining performance measures used in the testing of a relationship between the CISCORE and performance measures were therefore the growth in market share ($) and growth in return on total assets.

4.5.3 Results of the Relationship Analysis

Correlation analysis was performed to determine whether a relationship existed between the calculated composite score CISCORE and the performance measures.

Although a significant positive correlation was established between CISCORE and Market share change ($) at the 90% confidence level, it was quite weak ($r^2 = 0.03$, CISCORE explained 3% of variance in market share) in its ability to describe the variation in market share (assuming this is the direction of causation).

The individual elements of the CISCORE was also tested for correlation with market share change and FOscore (composite measure element of the focus of competitive intelligence) significantly correlated with the market share performance growth at 95% confidence level ($r^2 = .08$). The lowest correlation was between GATscore (composite measure element of the gathering activities of competitive intelligence) and market share change ($r^2 = .001$). This low correlation could be the result of the fact that gathering information does not guarantee the effective dissemination and use thereof. It seems to indeed be the entire competitive intelligence cycle with all its components that contribute to an effective competitive intelligence function. Details of other elements' correlation with CISCORE are detailed in Appendix R.

To characterise the composite score (CISCORE), further correlations were performed between CISCORE and measures other than company performance. The following significant relationships were found at the 95% confidence level:

- CISCORE and COMSCORE (competitive intensity score) was significantly correlated. COMSCORE explained 8% of the variance in competitive intelligence activities ($r^2 = 0.08$). This supports the theory that the higher the competitive intensity the greater the need for competitive intelligence activities. Maltz & Kohli (1996) explains that in markets with greater competitive intensity the gathered market intelligence has a relatively short life because of the rapidity of competitive changes, leading to increased need for regularly updated competitive intelligence.

- CISCORE and competitive intelligence budget (Question 11) was significantly correlated ($r^2 = 0.05$). The higher the budget the higher the ability of the company to perform more formalised and higher priced competitive intelligence activities. This corresponds with similar findings reported in the paper by Ghoshal & Wesney (1991) where they found that increased budgets allocated to competitive intelligence generally fund more formalised competitive intelligence functions.

- CISCORE and centralised competitive intelligence function (Question 10) was significantly correlated ($r^2 = 0.05$). The companies who indicated they had a centralised competitive intelligence function had a higher CISCORE, indicating a more formal approach involving informal, semi-formal and formal competitive intelligence activities. The work of Gilad & Gilad (1985) and Gilad (1989,1991) sets out to explain the advantages of developing an organised centralised competitive intelligence function. Some of the advantages listed for following this approach are: Improved decision making and planning; increased demand for intelligence as its value is realised; cost effectiveness over the long run and raising awareness of competitive intelligence increases the supply of valuable information.

No significant differences could be found between the CISCORE for SBUs from small, medium and large companies.

5. DISCUSSION

The purpose of this section is threefold in that it first discusses the key findings of this study in relation to the theoretical framework presented earlier; secondly it considers the implications of the findings for marketing strategy in general and thirdly it describes the limitations of this study and some directions for further research.

5.1 Level of Competitive Intelligence activities in New Zealand Companies

This study described the state of competitive intelligence based on a sample of 125 strategic business unit managers from companies collectively holding up to 90% market share in their respective four industries within the Chemical industry sector of New Zealand.

The competitive intensity experienced was 'high' (means above 3.5) with a tendency to compete on price, numerous competitors, slow growth and low switching costs for buyers – all contributing factors (Porter, 1979; Czepiel, 1992; Bradmore, 1996). The speed of change, also a contributing factor to competitive intensity (Maltz & Kohli, 1996) was 'steady' (mean 3.0). This description of the competitive intensity corresponds with the Trengrove & Vryenhoek, (1997) study that also reported high perceived market competitiveness based on a survey of 285 companies in 17 industries.

The high competitive intensity should be viewed against the background of a country with a small domestic economy and open trade policies for example parallel-importing. A country that is part of the Asia Pacific Region which is one of the world's fastest growing and arguably very competitive areas (Hall & Bensoussan, 1997).

How far the results can be generalised to New Zealand as a whole is however debatable. As the level of competitive intelligence is influenced by competitive intensity

and speed of change, the findings can possibly be generalised to other industries experiencing the same high competitive intensity and steady speed of change as experienced in the Chemical industry sector.

The following is therefore a description and discussion of the main characteristics of the New Zealand Chemical industry sector in particular and care should be taken in generalising it to other industry sectors of the country as a whole, without refining the measurement instrument and analysis methods.

The competitive intelligence approach followed by the majority (62%) of the SBU managers was Ad Hoc. This approach can be described as an informal and uncoordinated approach that does not necessarily require the existence of a formal competitive intelligence function (Cartwright et al., 1995). The effect of following the Ad Hoc competitive intelligence approach can be seen throughout the following summarised key findings:

- **Gathering** of intelligence was based on informal and semi-formal sources rather than formal sources. The main sources for intelligence, reported as being 'often' used, were: personal contacts, followed by trade literature; talking to suppliers and distributors who influence end users; newspapers and magazines; and interviews with company employees. There is some evidence that the gathering of intelligence can be beneficial to a company, such as a study by Miller, (1975 cited in Montgomery & Weinberg, 1979) which concluded that successful firms tended to undertake more intelligence gathering. In terms of which sources are better, the choice of sources depend on the data it provides and how it interrelates with other aspects of a company's specific strategic intelligence system (Montgomery & Weinberg, 1979). It is, therefore, not necessarily incorrect to just have semi-formal and informal sources, should that serve the strategic intelligence system effectively.

- Competitive intelligence was balanced in its **focus** on all three stakeholders in the immediate environment namely, competitors, suppliers and customers. Respondents reported they 'often' focused on gathering intelligence regarding existing competitors' activities; suppliers' new products/services/brands and customers'

product preferences. The only immediate environment roleplayer that seemed neglected was the focus on new entrants or as it was worded in this study, future/ potential competitors, with SBU managers indicating they only 'sometimes' looked at this aspect. New entrants form an integral part of a balanced set of key roleplayers to focus on (Porter, 1979; Day & Wensley, 1988 cited in Narver & Slater, 1990). The focus on new entrants, however require a more formal competitive intelligence approach and the findings are therefore consistent with the Ad Hoc approach followed in this industry sector.

- In the **analysis** of competitive intelligence the SBUs indicated a 'commitment' to data being analysed by experts inside the company. This finding is in direct contrast to a study of Ghoshal & Westney (1991) who interviewed 153 managers in 3 major American companies. They reported a major problem cited frequently by these companies was "...specifically the reluctance of managers to use staff-generated analysis."

  SBU managers were in agreement in being 'not committed at all' to use external experts. The reluctance to use external experts could possibly be a function of the resource limitations faced by mainly small companies in a small country. It could also be part of a specific "do it yourself' mind-set in the New Zealand business culture.

  A less favourable finding was the low commitment to storing information on a database, which poses a problem in terms of a possible lost opportunity. This finding was suprising, given the extent to which New Zealand is hailed for being at the forefront of adopting new technology. Gilad (1989) explains that managers usually make strategic decisions based on their own intelligence framework and a superior analysis and storing sytem could widen the scope of intelligence significantly.

- **Dissemination** patterns were good, with SBU managers indicating formal, informal and interfunctional dissemination patterns. Maltz & Kohli (1996) state that they

found an equal mix of formal and informal dissemination methods to be optimal for maximising the quality of intelligence dissemination across functions.

Limiting factors in terms of dissemination could, however, be that 69% of the SBU managers indicated that they were responsible for their own competitive intelligence gathering. SBU managers also indicated hesitancy regarding whether the top management prioritise their needs. These two factors indicate that although the channels of dissemination are in place, it does not necessarily mean the most appropriate information is flowing through them.

- The **use** of competitive intelligence reflects the informal nature of the competitive intelligence function in the Chemical industry sector companies. SBU managers reported an 'agreement' that it improves their understanding of the marketplace; improves the implementation of products and projects and on a general level leads to concrete actions and shapes policies. Overseas subsidiaries, or distribution offices based in New Zealand, reported ineffective use of intelligence. They reported being hampered by slow and distant overseas head offices when wanting to take quick strategic action, based on specific intelligence received. The study by Ghoshal & Kim (1986) provide excellent practical suggestions in regards to the effective organising of competitive intelligence activities over a network of overseas subsidiaries.

- The **budgets** allocated to competitive intelligence activities are low, with the majority of SBU managers in small and medium companies reporting a 'nil budget' and the majority of SBU managers from large companies reporting a 'below $25 000' annual budget. This possibly explains the use of informal gathering sources and informal analysis. It corresponds with the findings of the Trengrove & Vryenhoek (1997) study with 52% of their sample indicating a ' below $25 000 budget'.

Overall, the competitive intelligence approach followed in the New Zealand Chemical industry sector is one characterised by being informal and somewhat uncoordinated. Gilad (1989) describes the informality of competitive intelligence as a 'phase' borne out of a lack of intense competition and states that "when competitive pressures outgrow

the informal networks, a case can be made for formal organised competitive intelligence functions." This study showed a significant positive relationship between the composite score for competitive intensity and the composite score for competitive intelligence that supports the statement made by Gilad (1989).

The Trengrove and Vryenhoek (1997) study described the New Zealand competitive intelligence approach as 'immature'. This study, however, proposes that the New Zealand competitive intelligence approach might need refining and a degree of formalisation, however it is unique and could be largely effective in a small country with its specific informal business culture.

5.2 The Relationship between Competitive Intelligence and Measures of Business Success.

A significant positive relationship was found at the 90% confidence level between the composite measure of competitive intelligence and the growth in market share change. However, the relationship was weak as it only explains 3% of the variation in market share (assuming this is the direction of causation). The weak ability of CISCORE to explain market share could be expected, taking into account the predominantly Ad Hoc approach followed by most SBU managers and the limited budgets assigned to the competitive intelligence activity.

It is important to take into account that this is the first study of its nature and both the method of determining the composite measure as well as the elements of which the individual parts of the composite measure consist, should be refined for future use. The results of this study warrants further refinement of the measure and research that may have promising implications for addressing some of the scepticism regarding competitive intelligence and its contribution to company success (Cartwright et al., 1995; Bernhardt, 1996).

An important aspect of this study was the use of all the theoretical elements of the competitive intelligence cycle, namely: gathering, analysing, dissemination and use of competitive intelligence to determine a composite competitive intelligence score (Gilad & Gilad, 1985; Montgomery & Weinberg, 1979; Herring, 1988; Bernhardt, 1996). It also addressed related issues which previous studies showed to have an impact on the successful functioning of the intelligence system namely the focus of intelligence activities (Porter, 1979; Jain, 1993; Narver & Slater, 1990), the structural organisation of the function (Gilad, 1989; Gilad, 1991), the top management involvement (Fuld, 1991; Ghoshal & Westney, 1991; Gilad, 1991) and counter intelligence actions (Pavlicek, 1992; Ewing, 1992).

The use of 'market share growth' as a performance indicator is well supported by the literature (Kohli et al., 1993; Raju et al., 1995). A study by Buzzell, Gale & Sultan, (1975) revealed 37 key profit influences of which market share is the most important (based on data from the Profit Impact of Market Strategies (PIMS) database). It is therefore of particular interest that the composite measure in this study is significantly correlated with market share growth, albeit a low correlation.

Therefore, this study has discovered a significant correlation between a composite measure of competitive intelligence and a self reported business performance measure (market share). Due to the low r^2 , this provides a weak indication that competitive intelligence influences company performance

5.3 Implications of this relationship for Marketing Strategy in General

Competitive intelligence plays an integral part in marketing strategy. The literature review revealed that to succeed in business, companies had to build a sustainable competitive advantage. This advantage was created amongst others by following specific marketing strategies. The formulation and implementation of successful marketing strategies are dependent on a good intelligence product (Gilad, 1991;

Bijmolt, et al, 1996). Due to the unique focus of competitive intelligence on the direct competitive environment, it can contribute unique and critical insights to strategy development (Chussil, 1996). There is growing support for the notion that competitive intelligence not only supports marketing strategy, but can in itself become a competitive advantage (Von Kroch & Roos, 1996; Cory, 1996; Bernhardt, 1996; Ghoshal & Kim, 1986).

Chussil (1996; McDonald, 1996; Gilad, 1991) reported a common problem being experienced by competitive strategists is the lack of readily accessible information and intelligence to support rigorous competitive strategy.

The question is raised why this problem exists. The main cause seemed to be a scepticism or doubt regarding the actual contribution to business performance that can be made by competitive intelligence (Sutton, 1989). This results in lower budget being allocated to the competitive intelligence function (Solomon, 1996; Trengrove & Vryenhoek, 1997); a lack of full integration of competitive intelligence with strategy formulation (Ghoshal & Westney, 1991) and the competitive intelligence function being seen as a "...fashion symbol of a firms' progressive stance, carried out for its own sake" (Ghoshal & Kim, 1986).

Ghoshal & Kim (1986) argue that competitive intelligence units must earn legitimacy on the grounds of "..directly supporting business performance" and Solomon (1996) explains that although the value of competitive intelligence appears self evident to the practitioners, without an estimable measure, its bottom line contribution will be taken "...more on inner faith than outer confidence".

No studies were found that directly linked business performance to competitive intelligence and this exploratory study set out to directly address this issue.

This study has discovered a weak correlation between a measure of competitive intelligence activity and self reported business performance (market share change). An investment in competitive intelligence can also have other benefits, as described in the literature review for this study, for example: increased competitive thinking; quick

identification of new opportunities; increase in sharing ideas; enhancement of analysis and decision making skills (Prescott & Bhardwaj, 1995 cited Bernhardt, 1996).

5.4 Limitations of the Study and Future Research Areas

The following describes limitations of this research, which also give rise to possible direction for future research.

This study was based on the response from a relatively small sample (17%) of SBU managers from companies in four specific industries in the New Zealand Chemical industry sector. The study could be replicated on a larger sample and across various industries to determine the impact of various industry-related influences on the relationship between competitive intelligence and market share.

The 83% non-response from the population with its related possible non-response bias was a concern and future studies should address the reduction of the non-response rate.

The measurement of responsiveness to competitive intelligence (question 8, part A main questionnaire) could not be included, as the wording of the question was ambiguous. This could be refined for inclusion in future research, as well as possible inclusion in the composite score for competitive intelligence.

The performance measures were based on self- reported categorical information. Future studies should look at refining the performance measures. This could include asking actual performance data, as well as measuring the performance over an extended period of time, to effectively address the long term with which marketing strategy is essentially concerned.

The composite competitive intelligence measure used in this exploratory study, needs to be refined in terms of its statistical composition and the elements which constitutes it. The more rigorous the composite measure the better the actual contribution it can

make, not only for assessing existing competitive intelligence performance, but also as a predictive measure. The research should also further explore the direction of causation.

In terms of the methodology used, the depth of understanding of this subject can benefit from using other methodologies, which include in-depth interviews and case study analysis. This could add valuable detail information regarding New Zealand trends, problems, structures used and impact of competitive intelligence on New Zealand business performance.

The link between marketing strategy and competitive intelligence can be explored in more depth, especially the formal versus informal competitive intelligence function and their respective contributions to performance.

The unique nature of a small country with a competitive economy and informal business attitude and its affect on effective competitive intelligence functions needs exploring. A study of this nature can provide direction for establishing competitive intelligence functions in New Zealand companies and companies in other small countries or small markets.

6. CONCLUSION

This study set out to determine the state of competitive intelligence in a specific New Zealand industry; to determine whether a relationship existed between competitive intelligence and business performance, and to assess the impact of the study findings on marketing strategy in general.

The results of this study reflect the characteristics of 125 SBU managers in four industries of the Chemical industry sector in New Zealand companies. The results also reflect the high competitive intensity and steady growth experienced in this sector and should be viewed against the background of a small country with its related small domestic demand base and open trade policies.

The current situation in the Chemical industry sector can be described as reflecting a pre-dominantly Ad Hoc competitive intelligence approach. This approach showed SBU managers to be in control of collecting their own competitive intelligence and also showed that very few companies had centralised competitive intelligence functions. Informal gathering and informal analysing patterns reflected the low budget to no budget afforded to this function.

In spite of these possible restricting factors, companies did report a balanced focus on all members of the immediate competitive environment, good dissemination patterns and good use of available competitive intelligence. Top management was reported as being directly involved in the intelligence function and regularly updated.

Competitive intelligence issues that could be improved in this industry sector are:

- extending the use of intelligence by means of storing it in databases accessible to staff;
- top management prioritising intelligence needs which would ensure more cost-effective use of intelligence;
- development of a counter intelligence mind set to safeguard information;

- identifying and using new gathering sources, such as the internet, and more formal gathering sources, such as benchmarking, should this suit the strategic direction of the company. This would contribute to the array of informal sources currently being used.

The study established that a significant positive relationship exists (at the 90% confidence interval) between a composite measure of competitive intelligence activities and a self reported measure of performance (market share growth). However, the relationship proved to be weak with only 3% of the variance in market share caused by competitive intelligence activities (assuming this is the direction of causation).

The study therefore provides weak support for an investment in competitive intelligence activities. It should be taken into account that this result is based on a sample with a low investment in competitive intelligence and a predominantly informal organisation of the competitive intelligence function. By addressing the limitations identified in this study, a replication study might shed further light on the problem of establishing the nature of the relationship between competitive intelligence and company performance.

Even though only weak support was found for an investment in competitive intelligence, the literature review did identify a growing need by marketing strategists for a good competitive intelligence product to enhance strategy development processes. It also showed that companies do not only view competitive intelligence as an input to marketing strategy, but suggest that the competitive intelligence function can become a competitive advantage in its own right.

This study showed SBU managers agreeing that their competitive intelligence activities:

- Improved their understanding of the dynamics of the market place.
- Improved implementation of new products or projects
- It led to concrete actions
- It helped shape policies

Although above mentioned benefits did not directly explain the variance in market share, it could indirectly play a significant role in the formulation of strategies and the ultimate success of a company.

7. APPENDICES

Appendix A:

Code of Ethics of Society of Competitive Intelligence Professionals, SCIP (1997)

1. To continually strive to increase respect and recognition for the profession.

2. To persue one's duties with zeal and diligence while maintaining the highest degree of professionalism and avoiding all unethical practices.

3. To faithfully adhere to and abide by one's company's policies, objectives and guidelines.

4. To comply with all applicable laws.

5. To accurately disclose all relevant information, including one's identity and organisation, prior to all interviews.

6. To fully respect all requests for confidentiality of information.

7. To promote and encourage full compliance with these ethical standards within one's company, with third party contractors and within the entire profession.

Appendix B:

The variables used in Kohli et al., (1993) and Raju et al., (1995) studies to assess Business performance.

1. revenue growth over the last three years
2. service quality as perceived by customers
3. market share gain over the last three years
4. investments in R & D aimed at new innovations
5. net profits
6. return on investment
7. reputation among major customer segments
8. capacity to develop unique competitive profile
9. profit to revenue ratio
10. cash flow from operations
11. new product/service development
12. market development
13. cost per adjusted discharge
14. mortality and mobidity rate
15. return on assets
16. employee turnover
17. S&P or Moody's rating
18. market share in units sold
19. market share in revenue

Appendix C:

Details of companies that refused and did not fill in the non-response form.

ID	Reason provided for refusing to take part	Action or comments
1004	"I do not want to participate in this survey"	
1034	"Sorry, I do not think our small company is of any help"	Rang- still not willing
1051	" Not interested"	
1052	"We receive many requests from Universities, Technical Institutes and Schools, and we are not able to accept the majority of them. We regret that we cannot accept your invitation to be involved in additional work of this nature"	
1073	"We regret that we are not in a position to take part in your study"	
1102	"Sorry, I don't think this is for me to give and for you to gather"	
1166	"You must be joking- We definitely don't want to take part. You have a very naive attitude to this subject"	
1199	"Thank you for considering our company. However we decline to take part"	
1203	"I would not like to take part"	
1277	"I am sorry that we will not be taking part"	
1298	"Our apologies – we cannot take part in this survey"	
1311	"Unfortunately at this time because of prior commitments, our company will not be able to take part in your project"	
1320	"We do not like to take part"	
1365	"I am sorry, we do not wish to complete this survey"	
1358	"….is an importer of food grade chemicals and do not fit into any categories"	I disagree – rang back – still unwilling
1443	"We recognise the importance of this study but at this time are unable to participate"	
1442	"We are currently in the process of being sold, therefore, it is not practical for us to be part of your research project"	
1466	See attached transcript	
1500	"no thanks"	
1513	"Whilst we are pleased to have been asked to take part,…,will have to decline your offer"	
1528	"My business does not lend itself to what is required – I am	I rang – still unwilling
	a one man band"	
1599	"No thank you"	
1624	"Not interested"	
1652	"Company has been sold – in transition"	

Transcript of Id 1466

"Please note that we are declining participation in your research project, because all of the people responsible for compiling competitive intelligence are regionally based outside Australia and New Zealand. The exceptions would be advice of competitive launches ex Trade sources or advertising spend ex AIM Data in Australia or Hunter McNair in New Zealand. Therefore, we don't anticipate to be of much assistance"

Appendix D:

Characteristics of Population (Companies)

Table 5: Population in terms of company size

Company Size	n	%
Small (0-10 employees)	269	49.6
Medium (11-50 employees)	156	28.8
Large (51+ employees)	63	11.6
No data available	54	10.0
Total sample size	**542**	**100**

Table 6: Population in terms of the four industry types

Industry Type	n	%
Chemical industry	171	31.5
Drugs and Medicine industry	156	28.8
Perfumes, Cosmetics and Toiletries industry	117	21.6
Soap and Cleaning industry	98	18.1
Total sample size	**542**	**100**

Table 7: Geographic location of population compared to New Zealand total company distribution

	Sample		Population 2	
Geographic location	(n)	(%)	(N)	(%)
North Island	468	86.3	209 130	76.7
South Island	74	13.7	63 400	23.3
Total	**542**	**100**	**272 530**	**100**

2. Figures based on Business Activity Statistics, 1997. Statistics New Zealand

Table 8: Industry type according to size of the company

Industry Type	Company sizes						
	Small (%)	Medium (%)	Large (%)	Total (%)	Total valid (n)	No data	Total (n)
Chemical	57.0	30.5	12.5	100	152	19	171
Drugs and Medicine	46.9	37.1	16.0	100	143	13	156
Perfumes,Cosmetics and Toiletries	57.0	30.8	12.2	100	107	10	117
Soap and Cleaning	62.8	27.9	9.3	100	86	12	98
Total					**488**	54	**542**

Table 9: Geographic location of population companies in each industry

Industry Type	North Island (n)	North Island (%)	South Island (n)	South Island (%)	Total (%)
Chemical Industry	158	92.4	13	7.6	100
Drugs and Medicine Industry	136	87.2	20	12.8	100
Perfumes,Cosmetics & Toiletries Industry	98	83.8	19	16.2	100
Soap and Cleaning Industry	76	77.6	22	22.4	100
Total	468	**86.3**	74	**13.7**	100

Table 10: Average current annual turnover of companies who filled in the non-response form

Turnover Category ($)	Sample Companies (n)	Sample Companies (%)	Population (n)	Population (%)
0 to $ 100 000	2	2.1	8	1.5
$101 000 to $500 000	9	9.9	29	5.4
$501 000 to $1 000 000	14	15.4	26	4.8
$1 000 000 to $5 000 000	32	35.2	58	10.7
Above $5 000 000	34	37.4	84	15.5
Data not available			337	62.2
Total	**91**	**100**	**542**	**100**

Appendix E:

Characteristics of Sample (Strategic Business Units)

Table 11: Sample in terms of company size

Company Size of SBU	n	%
Small (0-10 employees)	44	35.2
Medium (11-50 employees)	52	41.6
Large (51 + employees)	29	23.2
Total sample size	**125**	**100**

Table 12: Sample in terms of the four industry types

Industry Type	N	%
Chemical industry	45	36.0
Drugs and Medicine industry	29	23.2
Perfumes, Cosmetics and Toiletries industry	24	19.2
Soap and Cleaning industry	27	21.6
Total sample size	**125**	**100**

Table 13: Industry types versus SBU Company sizes

	Company sizes of SBUs				
Industry Type	Small (%)	Medium (%)	Large (%)	Total (%)	Total (n)
Chemical	42.2	35.5	22.3	100	45
Drugs and Medicine	20.7	37.8	41.4	100	29
Perfumes, Cosmetics and Toiletries	20.8	58.3	20.8	100	24
Soap and Cleaning	51.9	40.7	7.4	100	27
Total					**125**

Appendix F:

Characteristics of the Non respondents

Table 14: Company size of non-respondents compared to the sample

	Valid Respondents		Non respondents		Total Population	
Company Size	(n)	(%)	(n)	(%)	(n)	(%)
Small	41	45.0	228	50.6	269	49.6
Medium	32	35.2	124	27.5	156	28.8
Large	18	19.8	45	10.0	63	11.6
No data available			54	11.9	54	10.0
Total	**91**	**100**	**451**	**100**	**542**	**100**

Table 15: Industry type of non-respondents compared to the sample

	Valid Respondents		Non respondents		Total Population	
Industry type	(n)	(%)	(n)	(%)	(n)	(%)
Chemical industry	30	32.9	141	31.3	171	31.5
Drugs and Medicine	23	25.3	133	29.4	156	28.8
Perfumes, Cosmetics & Toiletries	17	18.7	100	22.2	117	21.6
Soap & Cleaning	21	23.1	77	17.1	98	18.1
Total	**91**	**100**	**451**	**100**	**542**	**100**

Table 16: Geographic location of non-respondents compared to total population

	Non respondents		Total population	
Geographic location	(n)	(%)	(n)	(%)
North Island	397	88.0	468	86.3
South Island	54	12.0	74	13.7
Total	**451**	**100**	**542**	**100**

Appendix G

Phase One - Response Form

Competitive Intelligence in New Zealand

Part A

Company Code:

1. **Please indicate which industry category your company is in:**

   Drugs and Medicines ☐
   Soap and Cleaning ☐
   Perfumes, Cosmetics and Toiletries ☐

   Other _____ ☐
   (Please describe)

2. **Please indicate the number of employees you currently have:**

   Number of employees _____

3. **Please indicate the number of Strategic Business Units you currently have:**

   Number of SBU's _____

4. **Please tick the box that best describes your current annual turnover:**

   0 to $ 100,000 ☐

   $ 101,000 to $ 500,000 ☐

   $ 501,000 to $1,000,000 ☐

   $1,000,000 to $5,000,000 ☐

   Above $5,000,000 ☐

Part B

Please provide the name or names of 1 to 4 managers of Strategic Business Units who are or could be, high users of Competitive Intelligence in your company (including yourself if appropriate)?

1. Name: _____

   Position: _____

   Address if different from your address: _____

   _____

2. Name: _____

   Position: _____

   Address if different from your address: _____

   _____

3. Name: _____

   Position: _____

   Address if different from your address: _____

   _____

4. Name: _____

   Position: _____

   Address if different from your address: _____

   _____

I will be mailing out the specific **survey packs** to the above managers within the next month. It will be very helpful if you could inform them of the study and your approval of them taking part.

I appreciate your time and commitment to this project.

Yours sincerely

_____

Wilna Fourie

Appendix H

Phase One - Cover letter and Reminder letters

8 May 1998

MASSEY
UNIVERSITY

Private Bag 11222
Palmerston North
New Zealand
Telephone +64-6-350 5593
Facsimile +64-6-350 2260

COLLEGE OF
BUSINESS

DEPARTMENT OF
MARKETING

John Smith
Address

Dear Sir/Madam

Competitive Intelligence in New Zealand

I am writing to ask for your help in a research project that **aims to determine the relationship between the Competitive Intelligence activities undertaken by a company and the subsequent success of the company**. To my knowledge this will be the first time a study of this nature has been undertaken in New Zealand.

The name of your company was obtained from the **UBD Business Directory of NZ Companies (1997/8) and The NZ Business Who's Who (39 th ed). A total of 600 companies** will be approached within the following four industries:

Chemical Manufacturers
Drugs and Medicines
Soap and Cleaning
Perfumes, Cosmetics and Toiletries

Competitive Intelligence involves collecting information about customers, competitors or other key stakeholders, and disseminating the information to key decision makers in a company. **It does not matter if you collect information on an informal, ad hoc basis or have an ongoing, formal intelligence gathering system, your participation will be valuable to my study.**

At this stage all I am looking for is your agreement to take part in the study and your help in identifying a manager or managers in your company who would be willing to complete a questionnaire about competitive intelligence.

All participating companies will be provided with a summary of the results. I can assure you of the confidentiality of the study, and that no company-specific information will be published or divulged. I will be working with identification codes as an added security.

Should you have any questions that you would like clarified before registering to take part, please contact me or my supervisor, Professor Phil Gendall, Department of Marketing, Massey University, Palmerston North (Tel: 06 350 5582).

Wilna Fourie
Manukau Business School
Manukau Institute of Technology
Private Bag 946009, Manukau City,
Auckland

Tel: 09 274 6009 x 7488
Fax: 09 273 0707

Email:wfourie@manukau.ac.nz

Response

I would like to take part in the study:

Yes (Please fill in **Part A and Part B** and mail back in prepaid envelope.)

No (Please fill in **Part A** to enable us to determine the non response characteristics of the sample. Your details are anonymous and confidential and we will not approach you again. Please mail back in the prepaid envelope.)

Final date for the return of registration is 29 May 1998.

10 June 1998

MASSEY
UNIVERSITY

Private Bag 11222
Palmerston North
New Zealand
Telephone +64-6-350 5593
Facsimile +64-6-350 2260

COLLEGE OF
BUSINESS

DEPARTMENT OF
MARKETING

John Smith
Address

Dear Sir/Madam

Competitive Intelligence in New Zealand

I am writing to ask for your help in a research project that **aims to determine the relationship between the Competitive Intelligence activities undertaken by a company and the subsequent success of the company**. To my knowledge this will be the first time a study of this nature has been undertaken in New Zealand. If you have responded already, please ignore this reminder.

The name of your company was obtained from the **UBD Business Directory of NZ Companies (1997/8) and The NZ Business Who's Who (39th ed). A total of 600 companies** will be approached within the following four industries:

Chemical Manufacturers
Drugs and Medicines
Soap and Cleaning
Perfumes, Cosmetics and Toiletries

Competitive Intelligence involves collecting information about customers, competitors or other key stakeholders, and disseminating the information to key decision makers in a company. **It does not matter if you collect information on an informal, ad hoc basis or have an ongoing, formal intelligence gathering system, your participation will be valuable to my study.**

At this stage all I am looking for is your agreement to take part in the study and your help in identifying a manager or managers in your company who would be willing to complete a questionnaire about competitive intelligence.

All participating companies will be provided with a summary of the results. I can assure you of the confidentiality of the study, and that no company-specific information will be published or divulged. I will be working with identification codes as an added security.

Should you have any questions that you would like clarified before registering to take part, please contact me or my supervisor, Professor Phil Gendall, Department of Marketing, Massey University, Palmerston North (Tel: 06 350 5582).

Wilna Fourie
Manukau Business School
Manukau Institute of Technology
Private Bag 946009, Manukau City,
Auckland

Tel: 09 274 6009 x 7488
Fax: 09 273 0707

Email:wfourie@manukau.ac.nz

Response

I would like to take part in the study:

Yes (Please fill in **Part A and Part B** and mail back in prepaid envelope.)

No (Please fill in **Part A** to enable us to determine the non response characteristics of the sample. Your details are anonymous and confidential and we will not approach you again. Please mail back in the prepaid envelope.)

Final date for the return of registration **has been extended to 30 June 1998**.

MASSEY
UNIVERSITY

Private Bag 11222
Palmerston North
New Zealand
Telephone +64-6-350 5593
Facsimile +64-6-350 2260

COLLEGE OF
BUSINESS

DEPARTMENT OF
MARKETING

27 June 1998

John Smith
Address

Dear Sir/Madam

Competitive Intelligence in New Zealand

All participating companies

will be entered into the draw for the following book:

Competitive Intelligence:

How to Gather, Analyse and Use Information to move your business to the top.

(Larry Kahaner, February, 1998)

(If you have responded to our previous reminder, please ignore this final reminder.)

This is our final letter to ask for your help in a research project that **aims to determine the relationship between the Competitive Intelligence activities undertaken by a company and the subsequent success of the company**. To my knowledge this will be the first time a study of this nature has been undertaken in New Zealand.

The main questionnaire **will take no longer than 15 minutes** to complete.

The name of your company was obtained from the **UBD Business Directory of NZ Companies (1997/8)** and a **total of 600 companies** will be approached within the following four industries:

Chemical Manufacturers
Drugs and Medicines
Soap and Cleaning
Perfumes, Cosmetics and Toiletries

Competitive Intelligence involves collecting information about customers, competitors or other key stakeholders, and disseminating the information to key decision makers in a company. It does not matter if you collect information on an informal, ad hoc basis or have an ongoing, formal intelligence gathering system, **your participation will be valuable to my study**.

At this stage all I am looking for is your agreement to take part in the study and your help in identifying a manager or managers in your company who would be willing to complete a questionnaire about competitive intelligence.

All participating companies will be provided with a summary of the results. I can assure you of the confidentiality of the study, and that no company-specific information will be published or divulged. I will be working with identification codes as an added security.

Should you have any questions that you would like clarified before registering to take part, please contact me or my supervisor, Professor Phil Gendall, Department of Marketing, Massey University, Palmerston North (Tel: 06 350 5582).

Wilna Fourie
Manukau Business School
Manukau Institute of Technology
Private Bag 946009, Manukau City,
Auckland

Tel: 09 274 6009 x 7488
Fax: 09 273 0707

Email:wfourie@manukau.ac.nz

Response

I would like to take part in the study:

Yes (Please fill in **Part A and Part B** and mail back in prepaid envelope.)

No (Please fill in **Part A** to enable us to determine the non response characteristics of the sample. Your details are anonymous and confidential and we will not approach you again. Please mail back in the prepaid envelope.)

Final date for the return of registration **has been extended to 17 July 1998.**

Appendix I

Phase Two - Main Questionnaire

Competitive Intelligence in New Zealand

A Research Study to determine the relationship between competitive intelligence activities undertaken by a company and the performance of the company

24 July 1998

Company code:

Instructions

1. **The questionnaire should take no more than 15 minutes to complete.**

2. **Most questions are in the form of tables. Please circle the number in the box that best describes your answer.**

3. **It is not compulsory to complete the comment lines underneath each table. However, should you wish to clarify an issue you may use them.**

4. **Should you have any questions please feel free to ring Wilna Fourie on (09) 274 6009 ext 7488.**

5. **The deadline for posting your completed questionnaire back to me is 20 August 1998. A pre-paid envelope has been provided for this purpose.**

6. **The research project will be completed in November 1998.**

7. **All participants will receive a copy of the main findings and conclusions in January 1999.**

All respondents

have been entered into the draw for the following book:

Competitive Intelligence:

How to Gather, Analyse and Use Information to move your business to the top.

By Larry Kahaner, 1998

Part A:
Competitive Intelligence Activities

Competitive Intelligence involves collecting information about customers, competitors or key stakeholders and disseminating the information to key decision makers in the company.

Gathering

1. Could you please indicate to what extent you make use of the following methods of gathering competitive intelligence:

	Always	Often	Some Times	Seldom	Never	Don't know
Informal rumours	5	4	3	2	1	0
Attending informal lunches and talks by trade partners	5	4	3	2	1	0
Personal contacts	5	4	3	2	1	0
Presentations by competitors	5	4	3	2	1	0
Benchmarking	5	4	3	2	1	0
Consultants	5	4	3	2	1	0
Talk to those who can influence the end users' purchases (i.e. retailers, distributors)	5	4	3	2	1	0
Trade literature	5	4	3	2	1	0
Newspapers and magazines	5	4	3	2	1	0
Databases	5	4	3	2	1	0
Internet	5	4	3	2	1	0
Trade shows	5	4	3	2	1	0
Information from Government agencies such as Tradenz, Statistics NZ	5	4	3	2	1	0
Chamber of Commerce	5	4	3	2	1	0
Interviews with your company employees	5	4	3	2	1	0
In-house marketing research	5	4	3	2	1	0
Commercial marketing research (customised research)	5	4	3	2	1	0
Commercial marketing research (syndicated research)	5	4	3	2	1	0

Comments:

_____

_____

2. Could you please identify how often you gather and receive information and intelligence regarding the following topics?

	Always	Often	Some Times	Seldom	Never	Can't choose
Existing competitors' activities	5	4	3	2	1	0
Future or potential competitors' activities	5	4	3	2	1	0
Profiles of competitors' decision makers	5	4	3	2	1	0
Competitors' new products/services/brands	5	4	3	2	1	0
Competitors' new technology and processes	5	4	3	2	1	0
Customers' existing perceptions	5	4	3	2	1	0
Customers' product preferences	5	4	3	2	1	0
Suppliers' new products/services/brands	5	4	3	2	1	0

Comments:

_____

_____

3. Does your company offer incentives for passing on information?

Yes	2
No	1
Don't know	0

If **yes**, briefly describe **the nature of the incentives:**

_____

_____

4. Does each business unit or division in your company have a responsibility for gathering its own competitive intelligence?

Yes	2
No	1
Don't know	0

Analysing

5. Please indicate to what extent your company is committed to:

	Very Committed	Committed	Somewhat committed	Not really committed	Not Committed At all	Can't choose
Using experts from your own company to analyse the data received	5	4	3	2	1	0
Using external experts or consultants to analyse the data received	5	4	3	2	1	0
Storing information and intelligence in a central database	5	4	3	2	1	0

Comments:

_____

_____

Dissemination

6. Please indicate to what extent you agree or disagree with the following descriptions of how competitive intelligence is <u>disseminated</u> in your company:

	Fully Agree	Agree	Neither Agree nor Disagree	Disagree	Totally Disagree	Can't choose
A lot of informal hall talk in this division or unit concerns competitors' tactics or strategies	5	4	3	2	1	0
Personnel in our business unit spend time discussing customers' future needs with other departments	5	4	3	2	1	0
Information on customers is disseminated at all levels in our company on a regular basis	5	4	3	2	1	0
We have meetings several times a year to discuss market trends and developments	5	4	3	2	1	0
When something important happens to a major competitor in the market, the whole company knows about it within a short period of time	5	4	3	2	1	0

Comments:

_____

_____

Competitive Intelligence Use

7. Please indicate to what extent you agree or disagree with the following statements describing how competitive intelligence has been <u>used</u> in your company over the last year:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Can't choose
It helped shape our policies	5	4	3	2	1	0
Improved implementation of new products or projects	5	4	3	2	1	0
Improved our productivity	5	4	3	2	1	0
Improved our understanding of the dynamics of the marketplace	5	4	3	2	1	0
Was rarely used	5	4	3	2	1	0
Increased our understanding of how things work in our company	5	4	3	2	1	0
Led to concrete actions	5	4	3	2	1	0

Comments:

_____

_____

Responsiveness

8. Please indicate to what extent you agree or disagree with the following descriptions of how responsive your company is as a result of competitive intelligence activities undertaken in your company at present:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Can't choose
If a major competitor were to launch an intensive promotional campaign targeted at our customers, we would implement a response immediately	5	4	3	2	1	0
We are quick to respond to significant changes in competitors' pricing strategies	5	4	3	2	1	0
When we find that customers are unhappy with the quality of our service, we take corrective action immediately	5	4	3	2	1	0

Comments:

_____

General

9. Please indicate to what extent you agree or disagree with the following statements in relation to your company:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Can't choose
Our top and senior management are directly involved in the intelligence function	5	4	3	2	1	0
Our top and senior management are regularly updated on information	5	4	3	2	1	0
Our top and senior management prioritise their information needs	5	4	3	2	1	0
We are very conscious of ensuring that other companies cannot get easy access to our information	5	4	3	2	1	0
We have put counter intelligence measures in place	5	4	3	2	1	0

Comments:

_____

_____

10. Do you have a centralised formal competitive intelligence function in your company?

Yes	2
No	1
Don't know	0

11. Please tick the box that best indicates approximately how much annual budget is allocated to competitive intelligence activities in your company:

Nil	Up to $24 999	$25 000 to $49 999	$ 50 000 to $ 99 999	$100 000 to $249 999	$250 000 and more
0	1	2	3	4	5

12. Please tick one box next to the scenario that *best resembles* the competitive intelligence approach in your company:

1.	Competitive Intelligence is performed on an 'as requested' basis in anticipation of or in response to an event in the market place. It may be developed by the same team each time or it may be developed by changing teams. Depth of analysis may vary. Outputs are one time in nature and focus on a competitor, competitive product, or competitive event. (Ad Hoc Basis)	☐
2.	Competitive Intelligence is performed by all departments. Extensive use is made of syndicated research reports, which the company subscribes to and receives on a regular basis. These reports are analysed by individual sections or divisions and results incorporated into formal strategic planning and decision making.	☐
3.	Competitive Intelligence is performed by a project team specifically to understand how competitors may influence the success of a given project. The focus is on the competitors relevant to the specific project. Outputs may be detailed, but not too complex. Output is often in the form of an assessment of the strengths and weaknesses of those competitors vis- a- vis the project being evaluated. (Project based)	☐
4.	Competitive Intelligence is performed by specialist Competitive Intelligence staff to investigate specific competitive issues defined by the senior management or key decision makers. Assessments of specific competitors, specific industry and technological issues and other major factors as guided by decision makers are the outputs. (Continuous but focused)	☐
5.	Competitive analysis is performed on an ongoing basis by specialist Competitive Intelligence staff to investigate broad competitive forces shaping the industry. Outputs can be relatively complex and integrate various aspects of the environment. (Continuous and broad focus)	☐
6.	Competitive Intelligence is mainly gathered by the overseas head office and the New Zealand office is kept up to date with the findings of their Competitive Intelligence activities.	☐
7.	None of the Above Comments:	☐

Part B:
Measures of Business Success

13. Tick the box best describing the average performance of your company for the 3 years preceding the Asian Market crises (1994-1997) :

	More than 3% increase	0 to 3% increase	No change	0 to –3% decrease	More than -3% decrease	Can't choose
Sales Growth	5	4	3	2	1	0
Profit Growth	5	4	3	2	1	0
Net Profit Margin	5	4	3	2	1	0
Return on Total Assets	5	4	3	2	1	0
Market Share change ($)	5	4	3	2	1	0

14. Taking into account the Asian Market crises, tick the box best describing the expected average performance of your company for the current and next year :

	More than 3% increase	0 to 3% increase	No change	0 to –3% decrease	More than -3% decrease	Can't choose
Sales Growth	5	4	3	2	1	0
Profit Growth	5	4	3	2	1	0
Net Profit Margin	5	4	3	2	1	0
Return on Total Assets	5	4	3	2	1	0
Market Share change ($)	5	4	3	2	1	0

15. What is your estimate of the percentage market share held by your company in its specific New Zealand market?

_____ %

16. Have there been any changes in your employee numbers over the past three years?

Employee numbers increased	2
Employee numbers stayed the same	1
Employee numbers decreased	0

If you have indicated a change in employee numbers, what is your estimate of the average percentage change over the past three years? _____ %

Part C:
Intensity of Competition in your industry

17. Taking into consideration the circumstances in your particular industry at the moment, tick the box that best describes the extent to which you agree or disagree that the following statements accurately describe the competitive situation in your market:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Can't choose
The competitors are numerous	5	4	3	2	1	0
The competitors are roughly equal in size and power	5	4	3	2	1	0
The industry growth is slow	5	4	3	2	1	0
The industry's products have low switching costs for buyers	5	4	3	2	1	0
There is a tendency towards competing on price	5	4	3	2	1	0
The exit barriers are high	5	4	3	2	1	0
The market we compete in has an above average competitive intensity compared to other markets in New Zealand	5	4	3	2	1	0
The competitiveness of our company is above the average compared to other companies in the same market	5	4	3	2	1	0

18. Please indicate how quickly the following factors change in the market in which your company operates:

	Very Quickly	Quickly	Steady Change	Slow	Very Slow	Can't choose
Customers' preferences for product features	5	4	3	2	1	0
Competitors' marketing strategies	5	4	3	2	1	0
Introduction of new products/ services	5	4	3	2	1	0

Appendix J

Phase Two - Cover letter and Reminder letters

MASSEY
UNIVERSITY

Private Bag 11222
Palmerston North
New Zealand
Telephone +64-6-350 5593
Facsimile +64-6-350 2260

COLLEGE OF
BUSINESS

DEPARTMENT OF
MARKETING

24 July 1998

Name
Address

Dear Sir/ Madam,

Competitive Intelligence in New Zealand

I approached _____ of your company in early May 1998 with a request to take part in a unique research project being conducted throughout New Zealand. The research project aims to determine the relationship between *competitive intelligence* activities undertaken by a company and the subsequent success of the company.

Your company registered its interest in the project and provided me with up to four names of senior managers in the company, to whom I could send my main questionnaire. **Your name was given to me as a possible respondent** and I have therefore attached the main questionnaire and a freepost envelope for your use.

The name of your company was obtained from the **UBD Business Directory of NZ companies (1997/8) and The NZ Business Who's Who (39th edition). A total of 600 companies** have been approached within the Chemical Manufacturing industry, Drugs and Medicine industry, Soap and Cleaning industry and Perfumes, Cosmetics and Toiletries industry.

All participating respondents will be provided with a summary of the reesarch results. I can assure you of the confidentiality of the study, and that no company-specific information will be published or divulged. I am working with identification codes as an added security method.

Competitive Intelligence involves the collecting of information about competitors, customers or other key stakeholders, and dissemination of the information to key decision makers in the company. **It does not matter if you collect information on an informal, ad hoc basis or have an ongoing, formal intelligence gathering system; your participation will be valuable to my study.**

Should you have **any questions** that you would like clarified before filling out the questionnaire, please contact me or my supervisor, Professor Phil Gendall, Department of Marketing, Massey University, Palmerston North (Tel: 06 350 5582).

Wilna Fourie	
Manukau Institute of Technology	Tel: 09 274 6009 x 7488
Private Bag 94 006	Fax: 09 273 0707
Manukau City	
Auckland	Email:wfourie@manukau.ac.nz

I would like to thank you in advance for your time and effort.

Yours faithfully

_____

Wilna Fourie
Master of Business Studies student

24 July 1998

MASSEY
UNIVERSITY

Private Bag 11222
Palmerston North
New Zealand
Telephone +64-6-350 5593
Facsimile +64-6-350 2260

COLLEGE OF
BUSINESS

DEPARTMENT OF
MARKETING

Name
Address

Dear Sir/ Madam,

Competitive Intelligence in New Zealand

I would like to thank you for agreeing to take part in this unique New Zealand research project, which aims to determine the relationship between competitive intelligence activities undertaken by a company and the subsequent success of the company. I have attached the main questionnaire and a freepost envelope for your use.

All participating respondents will be provided with a summary of the research results. I can assure you of the confidentiality of the study, and that no company-specific information will be published or divulged. I am working with identification codes as an added security method.

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Manukau Institute of Technology
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Manukau City
Auckland

Tel: 09 274 6009 x 7488
Fax: 09 273 0707

Email: wfourie@manukau.ac.nz

I would like to thank you in advance for your time and effort.

Yours faithfully

_____

Wilna Fourie
Master of Business Studies student

24 August 1998

MASSEY
UNIVERSITY

Private Bag 11222
Palmerston North
New Zealand
Telephone +64-6-350 5593
Facsimile +64-6-350 2260

COLLEGE OF
BUSINESS

DEPARTMENT OF
MARKETING

Name
Address

Dear Sir/ Madam,

Competitive Intelligence in New Zealand

I have noticed that I have not received your completed questionnaire to date. I realise that you are busy and might have forgotten or misplaced the questionnaire pack. I look forward to your response.

All participating companies

will be entered into the draw for the following book:

Competitive Intelligence:

How to Gather, Analyse and Use Information to move your business to the top.

(Larry Kahaner, February, 1998)

(If you have already responded, please ignore this reminder.)

I approached _____ of your company in early May 1998 with a request to take part in a unique research project being conducted throughout New Zealand. The research project aims to determine the relationship between *competitive intelligence* activities undertaken by a company and the subsequent success of the company.

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Manukau City	
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I would like to thank you in advance for your time and effort.

Yours faithfully

_____

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Master of Business Studies student

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UNIVERSITY

Private Bag 11222
Palmerston North
New Zealand
Telephone +64-6-350 5593
Facsimile +64-6-350 2260

COLLEGE OF
BUSINESS

DEPARTMENT OF
MARKETING

14 September 1998

Name
Address

Dear Sir/ Madam,

Competitive Intelligence in New Zealand

I have noticed that I have not received your completed questionnaire to date. I realise that you are busy and might have forgotten or misplaced the questionnaire pack. I look forward to your response.

Final Deadline is 23 September 1998

All participating companies

will be entered into the draw for the following book:

Competitive Intelligence:

How to Gather, Analyse and Use Information to move your business to the top.

(Larry Kahaner, February, 1998)

(If you have already responded, please ignore this reminder.)

I approached _____ of your company in early May 1998 with a request to take part in a unique research project being conducted throughout New Zealand. The research project aims to determine the relationship between *competitive intelligence* activities undertaken by a company and the subsequent success of the company.

Your company registered its interest in the project and provided me with up to four names of senior managers in the company, to whom I could send my main questionnaire. **Your name was given to me as a possible respondent** and I have therefore attached the main questionnaire and a freepost envelope for your use.

The name of your company was obtained from the **UBD Business Directory of NZ companies (1997/8) and The NZ Business Who's Who (39th edition). A total of 600 companies have been approached** within the Chemical Manufacturing industry, Drugs and Medicine industry, Soap and Cleaning industry and Perfumes, Cosmetics and Toiletries industry.

All participating respondents will be provided with a summary of the reesarch results. I can assure you of the confidentiality of the study, and that no company-specific information will be published or divulged. I am working with identification codes as an added security method.

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Manukau City	
Auckland	Email:wfourie@manukau.ac.nz

I would like to thank you in advance for your time and effort.

Yours faithfully

_____

Wilna Fourie
Master of Business Studies student

Appendix K

Comments to open questions

Comments made at end of question 1: Methods used to gather information

ID	Comments
164444	Use of the internet is only just underway. I anticipate continuing and greater use over time (seldom)
154021	More information is becoming accessible on the internet and although we only use it "sometimes" at the moment, it is becoming increasingly useful.
116332	There are a relatively small number of significant competitors in our industry. The majority of competitive intelligence gathering is done by our own staff observations and research as they move around their respective territories. Internal intelligence gathering from overseas also.
115221	We rely mostly (95%) on feedback from our agents/distributors.
164443	We mainly gain intelligence from competitive situations and from our clients who have been targeted by competitors
141831	We are a small operation of enthusiasts in our industry. Subscribe to four international trade magazines, have the best dealers, and good international suppliers
162111	Always means that we "always try to". One talks to them (employees) and expects their knowledge to be given as of right. One of the best sources is international conferences and trade shows. The sometimes refer to the cost of getting there. Trade shows are also the best source of "rumours". Better term is commercial espionage-ie listening and looking
144531	Visits to retailers when going out with representatives to their calls. (Informal lunches, rather café coffees)
140621	Have not used commercial market research to date, but intend to in the near future (never)
111011	Market research AC Nielsen, Scan data, Scan talk and using summated stats from customer scanning data
133211	Mainly Nielsen data
148431	Majority of gathering is by prospecting, phone qualifying and referrals

Comments made at end of question 2: How often is information and intelligence gathered and received regarding the following topics

ID	Comments
164444	Profiles of competitor decision makers is not easy, but is possible
101844	Due to the overseas nature of our suppliers it is often difficult to accumulate up to date product information
116332	Our major competitors are international, as we are Technology & Service. Information is gathered on an international basis, while local activities are monitored locally
115521	We are very re-active – no forward planning – thus very little need for competitive intelligence
117811	When I mark often – it means as often as possible
162111	"often" should be replaced by "assuming something has attracted attention". I have seen

	other companies donate enormous amounts of effort analysing competitors to the extent they become paralysed.
111342	Customer perceptions – on a one to one basis – always. Customer product preferences through formal surveys – often.

Comments at end of Question 3: If you offer incentives for passing on intelligence – please describe

ID	Description
164443	$50 for a full price list or, complete set of data sheets
152211	Leniency with use of company property, tools, training material, vehicles, and gifts.
103711	Bonus
135011	No incentives, but normal part of job to pass information on to company
106244	If taking someone out to dinner and getting the gossip and industry talk is incentives –yes. Note the purpose of the dinner is as a thank you not as information gathering
124832	Nothing other than acknowledgment
162111	You pay, they supply – the question is what?
164444	There is an ethical issue here. However, inside knowledge" can be obtained by supplying a few beers or a dinner.
113611	Employee – return of portion of specification. Market intelligence received every two weeks from management. Source frequently rewarded
142721	Informally – boozy lunches etc. and bonding sessions – very informal and spontaneous

Comments made at end of question 5: Analysing – to what extent is the company committed to certain ways of analysing

ID	Comments
164444	As our company has grown and will continue to grow the use of external advise will probably increase
162111	(Respondent did not answer this question). There is no point in collecting information without analysing it. There is absolutely no point in having external analysis.
152211	(On external consultants). My experience has taught me that so called experts/consultants charge a lot more than they are worth and they are usually useless.
143711	We are a small company – the above analysing methods fall outside our scope.

Comments made at end of question 6: Dissemination – to what extent agree with descriptions of how information is disseminated in the company

ID	Comments
153711	(Respondent ticked 1 on all answers) – Because I am involved in a small business and I am an owner operator, there really isn't a lot of time available for much of the above.
164444	Our system is mainly verbal, but some ' ' memos are used.
119511	We have no other departments. We regularly discuss competition in the smoko room with staff from the owner to the storeman
162111	We are small so this is easy.

130311	We meet several times a week
152211	Dissemination is done very informally
144531	We represent many companies as a distributor. Therefore we tap information from their info sources
144532	Small organisation – 2 management/marketing oversee two divisions. Easy to disseminate
117811	(Respondent marked disagree and totally disagree). We only have two people in the company.
124832	(Respondent market fully agree and agree). Small company – no other departments

Comments made at end of question 7: Use – to what extent agree with how CI is used in the company

ID	Comments
164444	We have always used such information, but generally we have acted independently and in some cases been the leader
103211	Poor international responsiveness
124832	Gave us a lot of price direction

Comments made at end of question 8: How responsive is the company to CI

ID	Comments
164444	(respondents disagree with responding to customer price changes) We price as we need to. This is based on a common sense need to get a return on our investment and make a profit.
162111	(Respondent did not answer first two in this question). Would be quick in deciding what to do, but most of the time, we might well 'plug' quality or otherwise sit.
130311	(If major competitor launch intensive promotional campaign). We wait at least a month before we react.
103211	Locally quick to respond, not internationally
133211	(on reacting immediately to intensive promotional campaign by competitor) Only if though necessary.

Comments made at end of question 9: General structure of CI activities in the company

ID	Comments
164441	The company is relatively secure – most staff have signed a confidentiality statement
164444	As to the last question (counter intelligence), we simply don't tell anyone anything, except on a "need to know" basis.
162111	We are so small, this is not relevant
111011	Information on market share is in the public domain as supplied by AC Nielsen
141831	We don't have too much concern for what our competitors think of us

Comments made when option 7 chosen in question 12: Describe which CI approach best resembles the CI in your company

ID	Comments
153711	Other: No time left for any of these approaches
115211	No formal structure
126711	Done on an ad hoc basis by those it affects
113611	Yes yes yes – we know immediately when something important happens to major competitor
108811	Sales representatives, buyers and customers pass on information
118621	Competitive Intelligence is undertaken on an ongoing basis by all staff
116333	Most competitive intelligence comes from field representatives talking to their clients
103211	NZ is treated as a nonentity – especially by Australian and UK associate companies. CI is done overseas, but not done well
127011	Company approach is somewhere between no 1 & 2
144532	Intelligence is generated by representatives in the field, management in the field, etc. We have a management team of two and can respond without the need for specialised personnel. We have a preference for being proactive rather than reactive.
148431	Intelligence is gathered by all agents in the field
101841	Competitive Intelligence is gathered by all staff, but primarily by sales staff in each SBU.
101911	As a small company the above options are not relevant
117811	CI performed on an ongoing basis as result of market intelligence – not in response to any particular event
104811	We don't bother
147833	Competitive Intelligence is gathered by all personnel in the company and is dealt with on a daily basis (small business team)
141831	Two is the closest – we all talk to one another on an hourly basis
115521	In my division: We welcome any intelligence we get from our agents/distributors, and request some from them. But information is very very limited, in many cases we don't even know how much our products are selling for – let alone the competitors products

More comments on Question12:

ID	Comments
115611	(respondent chose no 4) Some staff have this as part of their role, but not a specific separate department

Other comments

ID	Comments
154021	Q11: have no idea how much we spend – globally managed out of London. Locally funds are allocated as and when necessary
162111	Q11: Can't say (a) very little, because it doesn't work. The best intelligence comes from people who don't realise they are giving it. (b) bad policy to tell

109442	(on back page of questionnaire) Our company is going through radical change. From being a reactive player, we will shortly (August 3rd) launch a new company named NZ vet, which will change the dynamics of the industry. It has taken 18 months to affect the change, but it will change the market forever.
103211	Q11: I would be surprised if ANY company did this as a specific identifiable activity.
133211	We use Nielsen reports
111341	Hail & drought has affected business success
115521	There is a 0% link between the success/failure of the division at the moment and the level of competitive intelligence we do. We operate on such low level of information because we are small and are influenced by external factors, which cannot be predicted – such as government policy. We are a feather in the wind so why waste time and resources on intelligence gathering

Appendix L

Factor loadings for Discriminant validity test

Factor Analysis Report

Page/Date/Time 9 01-04-1999 12:26:11
Database C:\DOWNLOAD\TEMP\WILNAM.S0

Factor Loadings after Varimax Rotation

	Factors				
Variables	**Factor1**	**Factor2**	**Factor3**	**Factor4**	**Factor5**
A1RUMOUR	-0.133707	0.067113	0.018080	0.120310	0.000423
A1LUNCH	-0.038360	-0.014382	-0.191974	-0.083847	-0.142862
A1PERCON	-0.113649	-0.134298	-0.099338	-0.143751	-0.208068
A1PRSCOM	0.049551	0.070583	0.025308	0.156213	-0.692537
A1BENCHM	-0.059586	-0.005093	0.009834	0.124952	-0.222055
A1CONSLT	-0.105494	-0.114490	0.037309	0.010094	0.052518
A1INFLEN	0.100363	-0.104062	0.322685	-0.146529	-0.332614
A1TRALIT	0.018094	-0.114330	-0.041930	-0.003031	-0.566586
A1DATAB	-0.040786	-0.107514	0.052220	0.106156	-0.500234
A1TRSHOW	-0.084739	0.052089	0.010164	0.120645	-0.137624
A1GOVBOD	0.054134	-0.122471	0.235408	-0.096642	-0.118026
A1CHAMCO	-0.082611	0.146618	0.317888	0.135162	-0.116708
A1INTEMP	-0.016159	0.065780	-0.002404	0.113661	-0.083109
A1INHRES	-0.217913	-0.086646	0.179539	0.159379	-0.216269
A1CRESSY	-0.133094	0.139675	0.158280	-0.056250	-0.266420
A2EXCOM	-0.195169	-0.028161	-0.050612	0.042108	-0.130153
A2PROFDE	-0.160511	-0.140852	0.362356	-0.131699	-0.057377
A2CUSPER	0.012895	0.054875	0.063003	0.127811	0.065200
A2SUPNEW	-0.145127	-0.377650	0.054422	0.309604	-0.178687
A6INTALK	-0.103627	-0.020986	-0.106193	0.096984	-0.105667
A6DISOTH	-0.133418	0.023934	0.118235	0.764195	-0.153667
A6DISALL	-0.409900	-0.150834	0.114933	0.185105	-0.067880
A6MEETIN	-0.190784	-0.029135	0.250191	0.061097	-0.066120
A7IMPROD	-0.295305	-0.120570	0.068144	0.376428	-0.186549
A7INCUND	-0.261668	0.200971	0.054943	0.065861	-0.233835
A7CONACT	-0.402057	0.094278	0.282242	0.055834	-0.218178
A9TOPINV	-0.604265	-0.418375	-0.036343	-0.147812	-0.005631
A9REGUPD	-0.916566	0.111754	0.049574	0.049949	0.077289
A9PRIOR	-0.654371	-0.109783	0.204584	0.265663	-0.014138
A9EASYAC	-0.267037	-0.040787	0.585861	-0.004481	0.111458
A9COUNTI	-0.019587	0.034199	0.813971	0.141555	-0.080189

Factor Analysis Report

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Factor Loadings after Varimax Rotation

	Factors				
Variables	**Factor6**	**Factor7**	**Factor8**	**Factor9**	**Factor10**
A1RUMOUR	0.732254	-0.169639	0.097211	-0.044973	-0.158728
A1LUNCH	0.020682	-0.001612	0.062777	-0.116958	-0.088477
A1PERCON	0.228225	-0.120072	0.439959	-0.079684	-0.254939
A1PRSCOM	-0.055249	-0.046257	-0.075223	-0.083461	-0.063825
A1BENCHM	0.012458	0.042404	0.118476	-0.230986	-0.198022
A1CONSLT	-0.057514	0.073813	-0.004611	-0.800349	-0.060028
A1INFLEN	0.083530	-0.461642	-0.127753	-0.235041	-0.137694
A1TRALIT	0.010207	-0.155969	0.149864	0.072438	-0.187374
A1DATAB	0.069305	0.043311	0.288736	-0.276645	-0.221422
A1TRSHOW	0.111276	-0.093643	0.037243	-0.011181	-0.656201
A1GOVBOD	-0.030857	-0.095261	0.114643	-0.128273	-0.603027
A1CHAMCO	-0.600959	0.045599	0.136878	-0.239302	-0.450378
A1INTEMP	-0.001831	-0.077205	0.148822	-0.034168	-0.238063
A1INHRES	-0.232366	-0.019106	0.443394	-0.028914	0.051440
A1CRESSY	0.047910	-0.134214	0.068697	-0.518415	-0.030206
A2EXCOM	0.076492	-0.161375	0.190609	0.042488	-0.095080
A2PROFDE	0.098248	0.319454	0.371459	-0.113555	-0.296915
A2CUSPER	0.053258	-0.147386	0.778713	-0.007848	-0.078957
A2SUPNEW	-0.156987	-0.065203	0.278097	-0.054090	0.119131
A6INTALK	0.226299	-0.701173	0.234166	0.045119	-0.152507
A6DISOTH	0.065074	-0.050575	0.097312	0.045016	-0.068626
A6DISALL	-0.053468	0.054261	0.373328	-0.164516	-0.180615
A6MEETIN	0.036822	0.068109	0.081344	-0.081300	-0.082057
A7IMPROD	0.174675	-0.058856	0.083858	-0.320526	-0.121190
A7INCUND	0.105170	0.075573	0.066721	-0.342051	-0.137888
A7CONACT	0.342168	0.007159	-0.063983	-0.205097	-0.055659
A9TOPINV	-0.098158	-0.269181	0.083536	-0.183150	-0.186519
A9REGUPD	0.079810	-0.093764	0.038746	-0.034689	-0.008360
A9PRIOR	0.098892	0.148463	0.060898	-0.217926	0.009981
A9EASYAC	-0.076519	-0.089112	0.101100	-0.088486	-0.090904
A9COUNTI	-0.019128	0.099353	0.009706	-0.071837	-0.069839

Factor Analysis Report

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Factor Loadings after Varimax Rotation

	Factors				
Variables	**Factor11**	**Factor12**	**Factor13**	**Factor14**	**Factor15**
A1RUMOUR	0.024347	-0.057134	0.146844	-0.069720	0.056940
A1LUNCH	-0.124988	0.033070	0.048835	-0.088074	0.671662
A1PERCON	-0.060542	-0.015736	0.129117	0.104307	0.253959
A1PRSCOM	0.013687	-0.055249	0.159585	-0.085817	0.118727
A1BENCHM	-0.125099	-0.694653	0.205322	-0.010762	-0.022217
A1CONSLT	-0.042441	-0.097720	0.003954	-0.039614	0.120595
A1INFLEN	-0.298718	0.252132	-0.033122	0.152119	0.084392
A1TRALIT	-0.333752	-0.080476	0.053845	0.009081	0.164264
A1DATAB	-0.105088	-0.294506	-0.099919	-0.094285	-0.134242
A1TRSHOW	-0.088132	0.008858	0.003591	-0.156209	0.126924
A1GOVBOD	-0.153429	-0.280787	0.132007	0.020074	-0.062760
A1CHAMCO	-0.061242	-0.176068	0.218391	-0.068990	0.068714
A1INTEMP	-0.615344	-0.055874	0.123378	-0.033274	0.117852
A1INHRES	-0.156854	0.006592	0.206977	0.242100	-0.131344
A1CRESSY	0.003295	-0.088052	-0.007589	-0.120548	-0.027960
A2EXCOM	-0.202984	-0.159743	0.779774	-0.010678	0.050140
A2PROFDE	-0.169150	-0.222326	0.383161	-0.084178	0.238906
A2CUSPER	-0.158093	-0.120825	0.085383	-0.256051	0.065272
A2SUPNEW	-0.567879	-0.155976	0.225299	0.012255	0.031706
A6INTALK	-0.090774	-0.015801	0.161202	0.051141	-0.008076
A6DISOTH	-0.200543	-0.102288	0.018852	-0.059024	-0.134343
A6DISALL	-0.183376	0.311663	0.104827	-0.427690	-0.339695
A6MEETIN	0.012664	-0.029482	-0.001507	-0.699456	0.057106
A7IMPROD	0.066503	0.056536	0.343251	-0.310599	0.179924
A7INCUND	-0.162928	-0.026295	0.137897	-0.418640	0.268262
A7CONACT	-0.313730	-0.068457	0.373242	-0.165420	-0.013017
A9TOPINV	-0.026747	0.009637	0.129271	-0.343892	0.075362
A9REGUPD	-0.059701	-0.147386	0.134021	-0.068807	0.012801
A9PRIOR	0.041270	0.125091	0.051787	-0.142810	0.054312
A9EASYAC	-0.110494	-0.130175	-0.075182	-0.204629	-0.149814
A9COUNTI	0.060956	0.072999	0.037044	-0.111124	-0.121822

Appendix M

Results for Part C: Competitive Intensity and Speed of Change

Table 17: Competitive Intensity Results

Description	Sample mean	Std dev	Mode
Competitors are numerous	**3.90**	1.22	**5**
Competitors are roughly equal in size and power	2.46	1.05	2
Industry growth is slow	**3.89**	.95	**4**
Industry's products have low switching costs for buyers	**3.71**	1.03	**4**
There is a tendency towards competing on price	**3.96**	.95	**4**
The exit bariers are high	3.10	1.05	3
The market competes in an above average competitive intensity compared to other markets in New Zealand	3.45	.92	**4**
The competitiveness of the company is above average, compared to other companies in the same market	3.58	.87	**4**

Table 18: Speed of Change

Description	Mean	Std Dev	Mode
Customers' preferences for product features	3.08	.98	3
Competitors' marketing strategies	3.06	.92	3
Introduction of new products/services	3.35	1.03	3

Appendix N

Results for Part A

Table 19: Gathering Competitive Intelligence (question 1)

Description	Mean	Std Dev	Mode
Informal rumours	3.27	.88	3
Attending informal lunches & talks by trade partners	2.62	.96	3
Personal contacts	**4.02**	.70	**4**
Presentations by competitors	2.33	1.12	2
Benchmarking	2.60	1.15	3
Consultants	1.90	.95	1
Talk to those who influence end user's purchases	**3.57**	1.00	**4**
Trade literature	**3.74**	.82	**4**
Newspapers & Magazines	3.44	1.05	**4**
Databases	2.23	1.23	1
Internet	2.15	1.27	1
Trade shows	3.15	1.03	3
Information from Government agencies (Tradenz, Statistics New Zealand)	2.49	1.15	3
Chamber of Commerce	2.12	1.12	1
Interviews with company employees	3.24	1.24	**4**
In-house marketing research	2.96	1.19	3
Commercial marketing research (customised)	1.95	1.14	1
Commercial marketing research (syndicated)	1.88	1.16	1

Table 20: Focus of Competitive Intelligence Activities (question 2)

Description	Mean	Std Dev	Mode
Existing competitors activities	4.04	.72	4
Future or Potential competitors' activities	3.39	.94	3
Profiles of competitors decision makers	2.32	1.03	2
Competitors' new products/services/brands	3.73	.89	4
Competitors' new technology & processes	3.31	1.07	4
Customers' existing perceptions	3.47	1.09	4
Customers' product preferences	3.73	1.01	4
Suppliers' new products/services/brands	3.80	.92	4

Table 21: Analysing and Processing of Competitive Information (question 5)

Description	Mean	Std Dev	Mode
Using experts from own company to analyse the data received	3.32	1.19	4
Using experts or consultants to analyse data received	1.84	.99	1
Storing Information & Intelligence in a Central database	2.61	1.20	3

Table 22: Dissemination of Competitive Intelligence (question 6)

Description	Mean	Std Dev	Mode
A lot of informal hall talk in this SBU concerns competitors' tactics or strategies	3.73	.99	4
Personnel in our business unit spend time discussing customers future needs with other departments	3.68	.87	4
Information on customers is disseminated at all levels in the company on a regular basis	3.48	1.02	4
Meetings are held several; times a year to discuss market trends and developments	3.80	1.01	4
When something important happens to a major competitor, the whole company knows about it within a short period of time.	4.12	.96	4

Table 23: Use of Competitive intelligence (question 7)

Description	Mean	Std Dev	Mode
It helped shape policies	3.60	.88	4
Improved implementation of new products or projects	3.64	.83	4
Improved our productivity	3.20	.83	3
Improved our understanding of the dynamics of the marketplace	3.83	.73	4
*Was rarely used	2.39	.97	2
Increased our understanding of how things work in our company	2.93	.89	3
Led to concrete actions	3.62	.91	4

(* Reversed question)

Table 24: Involvement of Top Management and Counter intelligence (question 9)

Description	Mean	Std Dev	Mode
Top management are directly involved in the intelligence function	4.12	.91	4
Our top and Senior management are regularly updated on information	4.15	.67	4
Our top and senior management prioritise their information needs	3.39	.95	3
We are very conscious of ensuring that other companies cannot get easy access to our information	3.67	.99	4
We have put counter intelligence measures in place	2.54	.87	2

Table 25: Approach to Competitive Intelligence

Description	Percentage of SBUs
Ad hoc Approach	62.1%
Syndicated Approach	8.1%
Project based Approach	-
Continuous Focused Approach	1.6%
Continuous Broad	4.0%
Overseas Provided	6.5%
Other	17.7%
Total	100%

Appendix O

Results for Part B

Frequencies

Statistics

		B13SG	B13PG	B13NPM	B13RTA	B13MS
N	Valid	115	115	113	103	101
	Missing	10	10	12	22	24
Mean		4.38	4.28	4.07	4.17	4.14
Std. Deviation		1.17	1.06	1.14	1.06	1.12

Frequency Table

B13SG

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	5.6	6.1	6.1
	2	5	4.0	4.3	10.4
	3	7	5.6	6.1	16.5
	4	14	11.2	12.2	28.7
	5	82	65.6	71.3	100.0
	Total	115	92.0	100.0	
Missing	System	10	8.0		
Total		125	100.0		

B13PG

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.4	2.6	2.6
	2	8	6.4	7.0	9.6
	3	11	8.8	9.6	19.1
	4	25	20.0	21.7	40.9
	5	68	54.4	59.1	100.0
	Total	115	92.0	100.0	
Missing	System	10	8.0		
Total		125	100.0		

B13NPM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.4	2.7	2.7
	2	12	9.6	10.6	13.3
	3	15	12.0	13.3	26.5
	4	27	21.6	23.9	50.4
	5	56	44.8	49.6	100.0
	Total	113	90.4	100.0	
Missing	System	12	9.6		
Total		125	100.0		

B13RTA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.4	2.9	2.9
	2	6	4.8	5.8	8.7
	3	14	11.2	13.6	22.3
	4	27	21.6	26.2	48.5
	5	53	42.4	51.5	100.0
	Total	103	82.4	100.0	
Missing	System	22	17.6		
Total		125	100.0		

B13MS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	3.2	4.0	4.0
	2	7	5.6	6.9	10.9
	3	12	9.6	11.9	22.8
	4	26	20.8	25.7	48.5
	5	52	41.6	51.5	100.0
	Total	101	80.8	100.0	
Missing	System	24	19.2		
Total		125	100.0		

Frequencies

Statistics

		B14SG	B14PG	B14NPG	B14RTA	B14MS
N	Valid	115	115	111	105	102
	Missing	10	10	14	20	23
Mean		3.8783	3.6522	3.5856	3.6762	3.8529
Std. Deviation		1.2988	1.2913	1.3175	1.2672	1.1380

Frequency Table

B14SG

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	13	10.4	11.3	11.3
	2.00	5	4.0	4.3	15.7
	3.00	11	8.8	9.6	25.2
	4.00	40	32.0	34.8	60.0
	5.00	46	36.8	40.0	100.0
	Total	115	92.0	100.0	
Missing	System	10	8.0		
Total		125	100.0		

B14PG

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	12	9.6	10.4	10.4
	2.00	8	6.4	7.0	17.4
	3.00	26	20.8	22.6	40.0
	4.00	31	24.8	27.0	67.0
	5.00	38	30.4	33.0	100.0
	Total	115	92.0	100.0	
Missing	System	10	8.0		
Total		125	100.0		

B14NPG

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	13	10.4	11.7	11.7
	2.00	9	7.2	8.1	19.8
	3.00	23	18.4	20.7	40.5
	4.00	32	25.6	28.8	69.4
	5.00	34	27.2	30.6	100.0
	Total	111	88.8	100.0	
Missing	System	14	11.2		
Total		125	100.0		

B14RTA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	9	7.2	8.6	8.6
	2.00	10	8.0	9.5	18.1
	3.00	22	17.6	21.0	39.0
	4.00	29	23.2	27.6	66.7
	5.00	35	28.0	33.3	100.0
	Total	105	84.0	100.0	
Missing	System	20	16.0		
Total		125	100.0		

B14MS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	6	4.8	5.9	5.9
	2.00	6	4.8	5.9	11.8
	3.00	20	16.0	19.6	31.4
	4.00	35	28.0	34.3	65.7
	5.00	35	28.0	34.3	100.0
	Total	102	81.6	100.0	
Missing	System	23	18.4		
Total		125	100.0		

Appendix P

Factors in Composite Competitive intelligence Score (CISCORE)

Element of CISCORE	Ques Tion	Fac tor	Description of variables in factor (mean used in equation for each factor)	Variance explain
GATscore	1	1	Internet + Tradeshow + Government bodies	13/70
		2	Consultants + Customised marketing research	11/70
		3	Presentations by competitors + Trade literature + Benchmarking + databases	10/70
		4	In-house research + interview with employees	10/70
		5	Rumous –chamber of commerce + personal contacts	9/70
		6	Talk to those who influence endusers	9/70
		7	Informal lunches	8/70
FOscore	2	1	Existing competitors actions + competitors new technology + customers' existing perceptions + suppliers new products/ services /brands	
ANscore	5	1	External experts + Internal experts + storing on a database	
DIscore	6	1	Informal hall talk + Discussing future customer needs with other departments + Customer information disseminated at all levels + Several meetings to discuss market trends + When something important happens to a competitor everyone knows very quickly	
USEscore	7	1	Improved understanding of market dynamics + Improved implementation of new projects/products + increased understanding of how things work in company – was rarely used.	
GENscore	9	1	Conscious of counter intelligence + Counter intelligence measures in place + Top management is directly involved + Top management prioritise needs.	

Appendix Q

Factors in Composite Competitive Intensity Score (COMSCORE)

Element of COMSCORE	Ques Tion	Fac Tor	Description of variables in factor (mean used in equation for each factor)
Change	18	1	Change in introduction of new products + change in competitors marketing strategies + change in customers' preferences.
Comp. Intensity	17	2	Tendency to compete on price + low switching costs for buyers
		3	Exit barriers are high + Above average competitive intensity compared to other markets
		4	Competitors are roughly equal in size + numerous competitors
		5	Above average competitive intensity compared to other companies in the same market

Appendix R

Correlation Coefficients for individual elements of CISCORE with Market share change

Element of CISCORE	Correlation coefficient	Variance
GATscore	(0.0375)	0.00
FOscore	(0.2777)*	0.08
ANscore	(0.1162)	0.01
DIscore	(0.1288)	0.02
USEscore	(0.1423)	0.02
GENscore	(0.0679)	0.01

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