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**STRATEGY-MAKING PROCESSES OF
SMALL AND MEDIUM ENTERPRISES
IN NEW ZEALAND**

**A thesis presented in partial fulfilment of the requirements
for the degree of**

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ABSTRACT

The concept of strategy-making in small and medium enterprises (SMEs) has been the source of much debate. Received wisdom suggests that strategy-making does not take place in SMEs, or is at best limited, often only for the purpose of attaining finance. Moreover, there is mixed evidence regarding the relationship between strategy-making in SMEs and firm performance. This thesis empirically addresses these hotly contested issues by asking:

What are the strategy-making processes of SMEs in New Zealand and how are these related to firm performance?

In order to answer this question the thesis uses the general literature on strategy-making processes and builds a framework tailored for SMEs drawing from the literature on strategic planning by SME scholars. Propositions derived from the framework are then empirically tested in a cross-industry sample of 477 SMEs in New Zealand.

Several important conclusions are drawn in this study. First, through confirmatory factor analysis, four modes of strategy-making process emerge as relevant to SMEs, namely the simplistic, adaptive, participative, and intrapreneurial modes. Second, these modes are related to firm performance. Causal modelling indicates that adaptive and participative strategy-making contribute to firm performance, while simplistic strategy-making results from firm performance. The intrapreneurial mode shows little relation with firm performance, unless it is used in combination with a differentiation strategy. Third, firms with capabilities in several modes of strategy-making outperform firms that are only good at one or no modes of strategy-making. Fourth, the relationships between firm performance and the modes of strategy-making employed are influenced by a variety of context factors such as the firm's structure and competitive environment as well as the business strategies used. Fifth, and most fundamentally, the study demonstrates that SMEs do make strategy.

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PART 1
INTRODUCTION

CHAPTER 1 - INTRODUCTION

Strategic management is an applied field of business and as such its survival and growth depend not only on its theoretical sophistication and the rigour of its methods, but also on its relevance to practitioners. Although studies such as that of Pekar and Abraham (1995) show that firms that are sophisticated users of strategic management are more successful than firms that have not yet acquired strategy-making skills, practitioners often do not perceive strategy-making as relevant to improving their firm performance (Heracleous & DeVoge, 1998). Yet, Eden and Ackermann (1998) propose that the strategy-making process may be the most important factor that determines the ability of a firm to realise its strategic intent and that it may have a profound impact on firm performance (Hart & Banbury, 1994).

In the past forty years strategic management scholars have investigated the strategy-making processes of firms and their impact on firm performance (e.g. Hart & Banbury, 1994; Miller & Friesen, 1982, 1983; Mintzberg & Waters, 1982). The resulting literature tends to focus on building models that explain, predict and facilitate the positive influence of strategy-making processes on the performance of the firm. An important question that strategy-making researchers should ask is how generalisable to small firms are those models that explain performance in large firms. If these models can be applied to small and medium enterprises (SMEs) with the same outcome, there is little benefit in pursuing research on small firms as a separate phenomenon.

Popular belief holds that SMEs do not make strategy. This may be even more true for the very small SMEs found in countries such as New Zealand. Because of this comparative smallness of SMEs by international standards (in Chapter Five New Zealand SMEs will be defined as those firms that employ fewer than 100 employees as compared to fewer than 500 employees in North America), the terms 'small firm' and 'SME' are used interchangeably in this thesis. This thesis argues that this belief may arrive from the inability of strategic management scholars to provide an all inclusive description of what strategy-making entails. Robinson and Pearce (1984) identify this as a major issue commenting that: 'before the finding that small firms do not plan is completely endorsed, it must be ascertained that methods for operationalizing planning

are both consistent and logically linked to small firm planning activity' (p. 135). This comment alludes to a misconception of terminology, probably arising from a preoccupation of business schools with a predominantly rational approach to strategy-making that propagates a deliberate, formal and step-by-step process (Mintzberg, Ahlstrand & Lampel, 1998).

During the 1970s and 1980s, however, researchers increasingly recognised that strategy-making cannot be regarded as a simple or rational design mechanism, but that different strategy-making processes may exist in different firms (Feurer & Chaharbaghi, 1995). This trend has continued throughout the 1990s (Dess, Lumpkin & Covin, 1997; Hart, 1991, 1992) and into the 2000s (Frese, Van Gelderen & Ombach, 2000). Following the terminology of Hart (1991), this thesis terms these different strategy-making processes 'modes of strategy-making' or 'approaches to strategy-making' and argues that an understanding of the approaches that may be more appropriate to their firms, may enhance the performance of SMEs (Greisler & Stupak, 1996). This may lead to managers choosing approaches that are more firm specific.

This is important since it can be safely assumed that not all strategy-making typologies that were developed for and in large firms can be applied to small firms without reservations (O'Gorman & Doran, 1999). A strategy-making typology is defined as a set of approaches to the strategy-making process that are presented as complementary to each other (Meyer, Tsui & Hinings, 1993). Few studies have investigated or developed typologies of strategy-making in SMEs (e.g. Cooper, 1979; McCarthy & Leavy, 1998/9). Where researchers have studied strategy-making in SMEs, the research tends to be prescriptive and focussed on discovering the degree to which formal strategy-making processes are employed in these firms (e.g. Storey, 1994). Marsden and Forbes (2003) explain the latter statement by suggesting that scholars who investigate planning in SMEs differ from those who study strategy-making in firms in general. Scholars who are interested in strategy-making in general seek to develop analytical models, typologies and concepts which are applicable to all firms, dependent on contingent factors such as size and industry (e.g. Bourgeois & Brodwin, 1984; Hart, 1991; Hendry, 2000; Lumpkin & Dess, 1995; Mintzberg, 1973). Scholars who are studying SMEs are interested in the causes of performance variation, one of which may be strategy-making processes (e.g. Anderson & Atkins, 2001; Gibson & Cassar, 2002; Robinson & Pearce,

1983). This distinction is important to this thesis which intends to use the detailed, richer literature and methodology developed by scholars of strategy-making process to develop and test a framework of strategy-making process which can be tested for its relevance in SMEs.

This thesis thus aims to identify the strategy-making processes that SMEs in New Zealand use and to explain which approaches are more likely to lead to success under different circumstances. It does this by providing a snap-shot of the state of strategy-making in SMEs in New Zealand. It does not pretend to be an all inclusive coverage of the field, but rather an initial investigation into a field of study, namely strategy-making process theory, that has been under-investigated in SMEs. The research question that it attempts to answer is:

What are the strategy-making processes of small and medium enterprises (in New Zealand) and how are these related to firm performance?

Answering the research question necessitates drawing on conceptual and empirical literature of strategy-making process; entrepreneurial orientation (EO); context factors that influence the processes; and the strategies that result from the processes (content). In doing so this thesis develops a framework for strategy-making in SMEs. The discussion of strategy-making process theory is influenced by Hart (1991, 1992) and Mintzberg's (1973) discussion of alternative strategy-making processes (called approaches or modes of strategy-making) that are available to firms. EO, which has been viewed as a firm level construct that exhibits some strategic management characteristics (Covin & Slevin, 1989, Lumpkin & Dess, 1996), will also be reviewed to enable an understanding of the influence of entrepreneurship on the strategy-making processes of SMEs. EO is also included in this study in an attempt to clarify the difference between entrepreneurial firms and SMEs. Similarly, context and content factors that influence or result from strategy-making processes in SMEs will be discussed. The key relationships between these constructs are explored and a framework proposed that provides an integrative approach to studying strategy-making processes and their relationship with firm performance. This framework will be tested empirically in SMEs in New Zealand, after which a discussion and the conclusions and recommendations that stem from this process will be presented.

This thesis is presented in five parts. **Part One** provides a short introduction to the study. **Part Two** contains the literature review. The literature review consists of two chapters, the first of which (Chapter Two) introduces the concept of strategy-making in firms in general, and SMEs specifically. Chapter Three discusses the EO concept and presents a brief overview of the contextual factors and types of strategies considered to impact on strategy-making in SMEs. **Part Three** consists of the research framework and research method. **Part Four** presents the data analysis while **Part Five** contains the discussion and conclusions to the study.

PART 2
LITERATURE REVIEW

CHAPTER 2 - STRATEGY-MAKING IN SMALL AND MEDIUM ENTERPRISES

2.1 INTRODUCTION

The purpose of the next two chapters is to familiarise the reader with the theoretical foundations of the strategy-making process. This chapter focuses on the strategy-making process literature while the next chapter presents the context and content literature that is of relevance to this thesis. This chapter will illustrate that strategy-making process theory has a growing body of literature in the mainstream management and strategic management journals. Led by Hart (1991), Lumpkin and Dess (1995), Miller and Friesen (1977) and Mintzberg (1973), this literature attempts to classify the modes of strategy-making that firms employ, calling these classifications typologies. This chapter attempts to integrate these typologies into one typology that is proposed to be most relevant to SMEs. In doing so it introduces the concept of typologies by providing a brief overview of the modes of strategy-making that are most often espoused in the literature, which builds on a table that summarises existing typologies. The resulting typology then forms the basis of discussion for the rest of the chapter, firstly by introducing the aspects (characteristics or dimensions) of strategy-making modes and then by describing each mode in terms of these aspects.

However, no discussion of strategy-making modes, as relevant to SMEs, will be complete without an investigation of the research that has been undertaken in SMEs. Therefore this chapter also discusses the literature on strategic planning in SMEs, as it is often referred to. This literature is compared and contrasted with the literature on strategy-making process typologies.

This chapter therefore starts by providing a brief background to the strategy-making process, which consists of an historical overview and an exploration of the terms surrounding strategy-making. The various modes of strategy-making that are available to a firm are discussed and classified. This is followed by a summary of research into strategy-

making in SMEs and a comparison of the general approach to strategy-making in SMEs with the array of approaches presented earlier in this chapter.

2.2 BACKGROUND TO STRATEGY-MAKING

Strategic management is a relatively new field of study that has evolved in creative and unpredictable ways over the past forty years. Within this field of study a distinct body of knowledge, namely that of strategy-making process, is found. This section aims to provide the reader with a background to and definition of strategy-making. An attempt of this nature will, however, be of lesser value if strategy-making is not placed within the context of the broader field of strategic management. Therefore, the subsequent discussion of the development and definitions of strategy-making process will commence with an overview of strategic management.

Even though strategic management has only been recognised as a distinct field of study since the early 1960s, its roots can be traced back as far as the ancient Chinese military strategy writings of Sun Tzu (400BC), published in 1971 as a book called 'The art of war'. Sun Tzu describes various maxims (similar to *strategies*) that are either general or in the form of ploys (*plans*), and which emphasise the importance of being informed about the enemy (*competitors*) and the place of battle (*market*). Included in his work are descriptions of strategic management terms that are popular today, such as position strategies, locating armies, environmental conditions, generic strategies, numerical strength (size), first mover advantage and also a recognition of the limits of generic thinking. The roots of the term strategy can be traced to this and other military influences such as Von Clausewitz (1780-1831), namely the Greek word 'strategos', meaning 'general' which in turn comes from στρατός (= army) and ἄγω (= I lead, guide). In addition to providing strategic management with its name, two distinct issues discussed by the military authors impact on strategic management today, namely the importance of the best *position* for the firm in the market, and the value of good *leadership*. The classical theorists (Ansoff, 1965; Chandler, 1962; Sloan, 1963) built their original theories of strategy on the military model and

complemented them with an intellectual inheritance from economics (Whittington, 1993) and the early management theorists.

Theories applied from economics include agency theory (Coase, 1937), competitive advantage (Schumpeter, 1947) and decision-making theories (Simon, 1947). Another economic theory, namely game theory (von Neumann & Morgenstern, 1947) is used in economics to examine competition and co-operation within small groups of firms. Game theory became popular in strategic management in the 1980s and is still valuable today when it deals with situations that permit simple questions (Mintzberg et al., 1998). Penrose (1959) explores the *resources* of the firm and resource differences between firms. A return to this early work of Penrose is seen in the 1980s and 1990s when authors such as Barney (1991), Eisenhardt and Martin (2000), Hamel and Prahalad (1993) and Wernerfelt (1984) investigate the competitive advantage, core competence and capabilities of the firm. An important influence from economics came in the early 1980s from the works of Michael Porter (Porter, 1979, 1980, 1981, 1985). He focuses on the *content* (competitive/generic strategies) of strategies and the *position* of the firm in its industry. Led by Porter (1980), these industrial organisation (IO) economists had a profound influence on the development of strategic management theory. Their view of strategic management, which in effect focus on 'strategy', is summarised by Porter. He defines strategy as

the creation of a unique and valuable position, involving a different set of activities (Porter, 1996, p. 68) and *creating fit among a [firm's] activities* (Porter, 1996, p. 75).

The influence from the early management authors is led by pioneers of management, such as Fayol (1918) and Barnard (1938) who described the basic activities including *forecasting, planning* and *organising* which take place in an organisation. These activities form the cornerstones of the strategic management process. Drucker (1955) describes the practice of management. He explains that *leaders* have to possess the intellectual depth and the conceptual skills to design a *realisable future status* and that they have to deliver a blend of path breaking charisma and managerial skill to oversee the advancement of their

firms toward this future. Newman was the first to illustrate the nature and importance of *strategy* (1951). His work is expanded by others such as Philip Selznick (1957) whose work is called 'Leadership in Administration' in which he describes some of the foundational principles of strategic management, namely *distinctive competence*, linking the internal state with external expectations (this view later manifested in environmental analysis and the so-called *SWOT* [strengths, weaknesses, opportunities, threats] *analysis*), and policy in social structure. Lindblom (1959) went further and suggested that policy-making in firms is not a neat, orderly, controlled process, but a messy one in which policymakers try to cope with a world that they know is too complicated for them.

When the concept of strategic management surfaced for the first time during the 1950s, researchers from a variety of backgrounds started to study it. It attracted the attention of scientists from backgrounds as varied as mathematicians and engineering (with their discipline focus on logic and decision making), psychology (with its interest in human behaviour), sociology (with its interest in organisational behaviour) and political science (with its interest in power and politics) (Ansoff, 1987). Towards the end of the 1950s there was a growing realisation that firms needed a more formalised manner to reach their desired end state (vision) and the stage was set for the development of a new field of study, namely strategic management. Although strategic management had not at that point been recognised as a field of study the elements to build upon (as indicated in *italics* above) already existed.

Strategic management, as it is known today, has its roots in the ideas of Alfred Chandler (1962), a business historian, Igor Ansoff (1965), a management theorist, and Alfred Sloan (1963), a businessman and the founder of General Motors. Two schools of thought were evident from the start of strategic management in the early 1960s, namely that of the Harvard Business School and that of the economists. The Harvard Business School researchers investigate the differences that managers make by using the case method and building theory. In contrast, the economists argue that managers do not matter, all firms are equal and the environment determines performance. These schools of thought are still evident today and most strategic management processes can be viewed as either pro-active

(managers deliberately planning for the future of the firm) or re-active (strategies emerging in reaction to environmental forces) (Mintzberg et al., 1998).

The definitive work on strategic management, 'Strategy and Structure' by Alfred Chandler, was published in 1962. It introduces strategic management as a field of study and stresses the relationship between strategy and structure as well as the four stages in the life cycle of firms, namely the acquisition of resources, more efficient use of these resources, growth, and shift in structure. Chandler coined one of the first comprehensive definitions of strategic management. He defines strategic management as:

the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for those goals (1962, p. 13).

Several definitions will be presented in this section to illustrate the progression of strategic management and later strategy-making thought over the past forty years, as the concept of strategic management has been defined in various ways. Earlier authors such as Ansoff (1965) view strategic management as a wider approach to strategy. This view includes internal and external factors, implementation, evaluation, control as well as planning. The purpose of this orderly, logical process is to generate and evaluate alternative options for accomplishing short-term objectives and long-term goals. Andrews (1971), however, focuses mostly on the planning and implementation aspects of strategic management, and defines strategic management as

the pattern of major objectives, purposes or goals and essential policies or plans for achieving those goals, stated in such a way as to define what business the company is in or is to be in and the kind of company it is or is to be (Andrews, 1971, p.28).

As alluded to before, the 1980s saw the rise of two strong views of strategic management, namely the industrial organisation (IO) economic view of Porter (1980) and the resource

based view (RBV) of Penrose (1959) reviewed by Wernerfelt (1984) and Barney (1991). While the first view focuses on the position of the firm in its industry, the second explores the importance of the internal aspects of the firm. The late 1990s and early 2000s see an integration of these two views with an increased recognition that concentrating on a single capability or process will not lead to the achievement of superior results for the firm (Feurer & Chaharbaghi, 1995). This means that both the external industry and internal resources of the firm are important to create sustained competitive advantage. This realisation is evident in the definition of Johnson and Scholes (1999) whose definition of strategic management can be summarised as

the direction and scope of a firm over the long term, which ideally matches its resources to its changing environment and in particular its markets, customers or clients so as to meet stakeholders with its offering.

The central theme of the preceding definitions is one of rationality during the strategy-making process. Mintzberg et al. (1998) explain that this approach is prescriptive and advocates deliberate, formal strategy-making processes that are initiated by management. Rationality in strategy-making infers the gathering of all possible information, comprehensively generating alternatives, systematically evaluating alternatives, choosing strategies, and implementing and controlling these strategies. But even though the above definitions demonstrate the same theme, a distinct growth in the principles underlying strategic management can be observed. Chandler (1962) provides a broad definition of strategic management, but does not distinguish between the strategic management process and the content of the strategies that are formulated. Andrews (1971) overcomes this, but in turn focuses on the external opportunities and threats to the firm and suggests that the firm has to adapt to its environment. These criticisms seem to be largely met by the above definition of Johnson and Scholes (1999). Yet, all these definitions still only espouse values of rationality and formality.

A change from this single, rational approach to strategic management can be found in the strand of strategic management literature that investigates firm's approaches to strategy-

making. This change signalled a broadening in the scope of strategic management research and is represented by Henry Mintzberg (1967, 1973) who wrote the first significant article that uses the term 'strategy-making'. Following his 1967 article that defined the concept as 'the process of making important organizational decisions' (p. 71), the 1973 article profoundly influenced the development of strategic management as a field of study. It is called 'Strategy making in three modes' and describes how strategies can be made in an entrepreneurial, planned or adaptive manner, called modes of strategy-making. It introduces the idea of different ways for a firm to make strategy. These ways, approaches or modes can, according to Mintzberg (1973), be used on their own or in various combinations with each other. This work of Mintzberg is the first significant reference that uses the term strategy-making, but unfortunately no specific definition of the term is given. Mintzberg (1973) and subsequent authors such as Miller and Friesen (1977, 1978) and Dess et al. (1997) use the term 'strategy-making' as one would use the term 'decision making', that is, to refer to a process that is undertaken by an individual or firm. Mintzberg (1973) compares strategy-making in business to policy-making in government where the outcome of the process is an implementable policy. Mintzberg supplemented his 1973 article with another, 'Patterns in strategic formation' (1978), in which he suggests a strategy formation model with intended, realised and unrealised strategies, as well as deliberate and emergent strategies. These articles have a common thread, namely that strategy-making is a process leading towards specific outcomes, intended strategies, which may be realised or unrealised. Therefore strategy-making and strategy formation, as used in this thesis, refer to the same concept and it encompasses strategy formulation and implementation.

An important aspect of strategy-making that arises from Mintzberg's (1973, 1978) works, is that it can be viewed as different modes or approaches. This is different from the field of strategic management that espouses a central theme of rationality as explained earlier. The entrepreneurial, planned (also 'rational' or 'deliberate') and adaptive views are just three approaches to the strategy-making process that are promulgated in the strategic management literature. Mintzberg therefore introduces three modes of strategy-making. The planned mode is similar to what has been termed rational strategy-making. The other two modes, the adaptive and entrepreneurial modes, are hence by default viewed as 'non-

rational', meaning that strategy-making under either one of these processes is not formed in a linear and systematic manner. Using Mintzberg's terminology, these are not deliberate processes. But this thesis will argue that such a view may be an overly simplified presentation of reality. Rather than categorising all modes of strategy-making that are not rational as non-rational (as is often done in the SMEs strategic planning literature), it is important to investigate each individual mode and to define and describe its aspects. This is done in the next section of this chapter.

Extending the approach introduced by Mintzberg, other authors describe additional approaches to strategy-making. These are discussed in the next section. The question is whether these approaches are fundamentally different processes of strategy-making or different parts of the same process. According to Mintzberg and Lampel (1999) they are both different processes and part of the same process. This is evident in the manner in which Mintzberg (1987) reveals that strategy cannot be explained with one definition. He presents five aspects of strategy, namely a plan (a deliberate intended course of action), a ploy (a manoeuvre intended to outwit a competitor), a pattern (a consistent stream of actions), a position (locating the firm in an industry) and a perspective (a way of perceiving the world). This attempt to define strategy from various points of view is a precursor to a similar approach to be followed in the deconstruction of strategy-making in this thesis.

Viewing strategy-making as different approaches that a firm can employ separately, or in various combinations, partly explains the relationship between strategic management and strategy-making. The above definitions suggest that strategic management is closely related to the rational or planned approach to strategy-making. Although strategy-making process is only representative of one aspect of strategic management, as explained below, it is regarded as a broader concept in the sense that it can be applied to a variety of the modes of strategy-making, for example Mintzberg's (1973) adaptive and entrepreneurial modes. It is also important to note that strategy and strategy-making are different concepts. Strategy as defined by Mintzberg (1987) refers to the content aspect of strategic management, in other words the actions that firms undertake, whereas strategy-making refers to the process aspect. Strategy-making process is therefore one part of strategic management. This

statement warrants an explanation of the content, context and process aspects of strategic management.

Pettigrew (1987) is one author who explains the meaning of strategic content, context and process. Pettigrew suggests that strategic aspects can be divided into the categories of context, content and process. He argues that studies of this nature can be more useful if not only the 'process' is investigated, but also the 'context' in which it takes place, and the 'content' that results. Process is defined as the actions, reactions and interactions of the stakeholders of the firm. Context refers to the environment in which the firm operates and is divided in an 'outer' (external) context, which refers to the social, economic, political and industry environments of the firms, and an 'inner' (internal) context, which refers to the structure, culture and politics of the firm. Content refers to the content of the strategic plan and may be viewed as including the goals, corporate and competitive strategies of the firm (Pettigrew, 1987). This framework of content, process and context provides a useful way to examine strategy-making and most strategic management research is conducted in one or more of these areas (Regnér, 2003). For example, various authors focus on the content (Miller, 1988) or context (Dess & Beard, 1984) that is related to the strategy-making process. In this thesis all three of these areas will be examined, but strategy-making itself is especially concerned with the process aspect of the above framework, and will therefore be the central focus of the study.

Figure 2.1: An overview of the strands of strategic management research

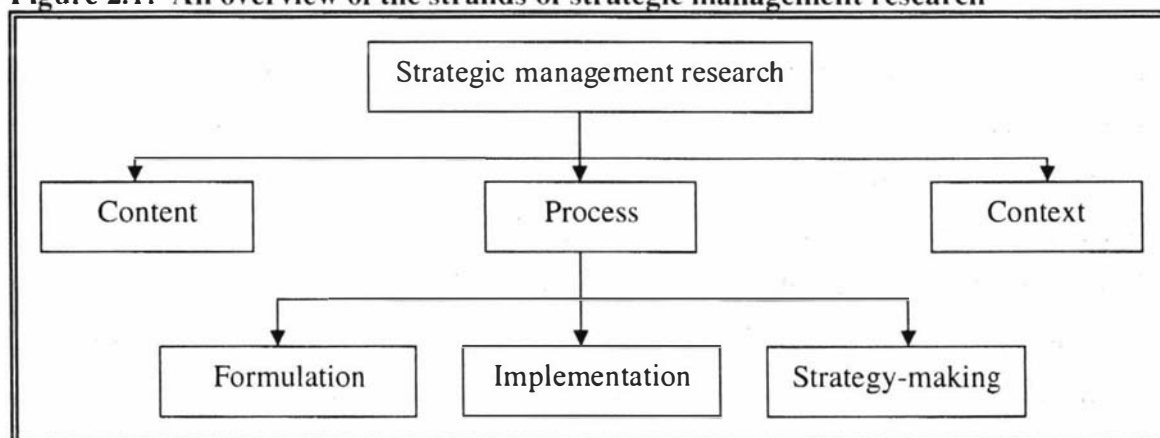


Figure 2.1 summarises the content, context and process aspects of strategic management research and shows how the strategy-making process aspect can be divided into a further three streams of research, as identified by Dess and Lumpkin (2001). The first two streams explore aspects of strategy formulation or decision-making and implementation or change. The third stream is of primary relevance to this thesis and addresses strategy-making as patterns, modes or dimensions that can be identified and described across firms (Hart 1992; Miller & Friesen, 1978; Mintzberg, 1973). This thesis explores the third strategy-making process stream of research, namely the approaches to strategy-making adopted by firms and attempts to link it to content and context. But at the same time it argues that the division into three streams may be artificial, with the formulation and implementation streams informing the strategy-making process stream in terms of the details of the processes. Lumpkin and Dess (1995) provide a definition that represents the latter stream of research and define strategy-making as ‘an organisation-wide phenomenon that involves decision making by top managers and other organization members’ (p. 1387).

For Lumpkin and Dess strategy-making includes decision making as one aspect of the overall process, whereas Mintzberg’s (1973) view of process can be interpreted as a process that is made up of decisions. The latter interpretation is limiting since it does not incorporate the inactive parts of the process such as the motive for the decision. But, Mintzberg’s (1978) later view of emergent strategies overcomes this issue by suggesting that not all processes are made up of deliberate decisions, and that some strategies may be the result of the actions or behaviour of firm members which were not deliberately intended by management. This thesis therefore defines strategy-making as

a process that involves the range of activities that firms engage in to formulate and enact their strategic mission and goals (Dess & Lumpkin, 2001, p. 4).

From the above discussion several issues that contribute to a definition of strategy-making are identified. Firstly, it is a broad concept that may be defined as being similar to strategic management, but which includes various approaches to strategy-making beyond the rational view. These approaches are introduced and explained in the next section.

Strategy-making is thus a broader concept than strategy formulation or planning. Secondly, it can be viewed as a process that takes place in a firm, but is strongly linked to the content and context aspects of strategic management as evident from Mintzberg's (1973) presentation, namely that strategy-making is the manner in which firms make important decisions (process) that lead to strategies (content) within a certain environment (context). This means that it can also be viewed as a narrower concept within the field of strategic management, just one aspect thereof. Lastly, it is worthwhile to remember that the approach to strategy-making may differ among firms. Hart and Banbury (1994) explain that 'strategy-making is typically portrayed in 'either/or' terms' (p. 251). An example of this is either rational or incremental processes.

In summary, strategic management as a field of study has evolved over the past 40 years, drawing from a variety of disciplines, but building on the theories of the IO economists and early management authors. While strategic management has rationality as its central theme, strategy-making process theory espouses different approaches to strategy-making for different firms or circumstances. The above section has clarified these terms for use in the remainder of this thesis.

2.3 STRATEGY-MAKING PROCESSES

The previous section alluded to the existence of multiple modes of strategy-making. Various authors point out that different firms, or firms in differing circumstances, will use varying strategy-making modes (Hart, 1992; Ketelhöhn, 1995; Mintzberg, 1973). Dess and Lumpkin (2001) suggest that strategic decisions may emerge from a limited set of organisation processes, called modes of strategy-making. In this section these modes are reviewed with the intention of providing a typology of strategy-making modes that can be used in this thesis. The lay-out of this section is as follows:

In Section 2.3.1 a brief rationale for the typology used in this study is provided. A typology is defined as a number of approaches to the strategy-making process, such as those by Mintzberg (1973) that is presented as complementary to each other (Meyer et al.,

1993). This rationale uses the works of Hart (1991, 1992) and Mintzberg (1973) as its basis. Both these works identify typologies consisting of several approaches to strategy-making, which are termed 'modes' of strategy-making. Hart's works are chosen for their comprehensiveness and Mintzberg's because it is viewed as a seminal work in the area of strategy-making. A table that is based on a similar table provided by Hart (1992) is used to indicate how the modes of strategy-making are trimmed down to only those that are relevant to SMEs. At the end of Section 2.3.1 five modes of strategy-making are identified for their proposed relevance to SMEs. Section 2.3.2 argues that all modes of strategy-making are made up of a number of aspects, dimensions or characteristics. These aspects are introduced and defined. In Section 2.3.3 each of the five modes of strategy-making identified in Section 2.3.1 are explored in terms of these aspects and defined. In Chapter Four the different modes of strategy-making are further explored for their relationships with the context and content variables that are introduced in Chapter Three, as well as firm performance.

2.3.1 A typology of strategy-making processes

A bewildering array of typologies (conceptually derived) or taxonomies (empirically derived) of strategy-making processes have been developed over the past 40 years (Hart, 1991). This proliferation of typologies has produced several problems for researchers in this area. According to Hart (1991) the 'lack of methodological consistency and confusion over typologies that focus on similar phenomena from different points of view' (p. 99) are the most significant of these problems. Another issue identified in this thesis is the limited number of attempts that have been made to validate these typologies empirically or to test their effectiveness in a business setting. This leads to a dilemma for this study in terms of which typology to use for discussion in this chapter, as well as for proposition development and testing in the subsequent chapters.

In this section, a brief introduction to and rationale for the typology that will be used in this thesis is provided. This section uses the methodology developed by Hart (1991, 1992) when conceptualising a strategy-making typology. This means that the existing typologies

and taxonomies are investigated and summarised in Table 2.1. This table summarises existing works under a number of headings, indicating the huge amount of overlap in typologies. The rationale for the placement of modes of strategy-making in Table 2.1 is explained when the table is introduced. After the table has been introduced, it is explained how these modes can be further reduced to provide a typology of strategy-making processes that may be relevant to SMEs. But first a brief introduction to the different modes of strategy-making is provided.

An interpretation of the brief background to strategy-making in Section 2.2 shows that strategy-making theory and teaching initially centred on a model of *rationality*. Rationality, as explained by the early authors (e.g. Andrews, 1971; Ansoff, 1965), implies that the decision maker(s) analyse the firm and its environment; consider all the possible alternatives or strategies; evaluate the consequences from the adoption of each alternative; select the most appropriate strategy; and implement and control that strategy.

Even though rationality was, and to some extent still is, the dominant theoretical mode of strategy-making, some authors (e.g. Mintzberg, 1973; Quinn, 1978) question the extent to which it is actually practised this way in firms. These authors suggest that strategy-making may also be made in a less rational, step-by-step approach. Mintzberg (1973) terms this mode of strategy-making *adaptive* and Quinn (1978) *logical incrementalism*. This mode implies that top-management provides the broad direction that the firm will follow, but that the detail of that strategy emerges over time through the actions of the employees of the firm. The broad direction is called the vision or an umbrella strategy (Mintzberg & Waters, 1985).

As well as supplying direction to firms that employ adaptive strategy-making processes, vision also provides direction to firms that employ *command* strategy-making practices. Hart (1992) describes the command mode as a mode of strategy-making in which 'a strong individual leader or a few top managers exercise total control over the firm' (p. 335). In this mode employees are seen as followers who carry out the commands of the leader without question.

The opposite of the command mode is the *intrapreneurial* mode of strategy-making. Also termed the 'generative' mode of strategy-making (Hart, 1992), this mode implies independent behaviour by innovative employees who are encouraged and sponsored by top-management to experiment and take risks with, for example, product ideas. However, the independent existence of the command and intrapreneurial strategy-making modes are questioned by some authors (e.g. Dess et al., 1997). The presence of top-managers who encourage and sponsor in the intrapreneurial mode implies some sort of induced (top-down) behaviour. Authors such as Dess et al. (1997) therefore argue that this command aspect means that this mode is more likely to occur than an intrapreneurial mode. This mode is labelled *entrepreneurial strategy-making* by Dess et al. Entrepreneurial strategy-making is a mode of strategy-making in which a strong leader oversees a firm in which practices such as innovation, risk-taking and pro-activeness at the lowest levels of the firm are prevalent (Dess et al., 1997). Instead of the total autonomous behaviour of the intrapreneurial mode, this mode advocates direction provided by a strong leader as organisation members develop strategic initiatives like new products. The entrepreneurial mode is therefore a combination of the intrapreneurial and command modes of strategy-making. Whereas the intrapreneurial mode indicates the independent actions of innovative employees, the entrepreneurial mode suggests that top-management provides direction to these innovative employees. According to Mintzberg (1973) this mode may be most relevant to SMEs, a point that will be explored in this chapter.

The entrepreneurial mode identifies one way in which employees can be involved in the strategy-making process of the firm. In this mode employees come up with product and other ideas, but have little further input in the strategic direction of the firm. However, a strong trend towards the involvement of employees and even other stakeholders of the firm, in strategy-making does exist (Hart, 1992; Parnell, Carraher & Holt, 2002; Wooldridge & Floyd, 1990). Involvement in strategy-making is widely viewed as a political process that occurs in firms (Bourgeois & Brodwin, 1984; Shrivastava & Grant, 1985). Dess et al. (1997) and Khandwalla (1976/77) call this mode of strategy-making *participative* or democratic and indicates that decision-making involves employees on different levels and

across functions in the firm. While a participative mode depends on a high level of involvement in strategy-making, often through political processes, the *symbolic* mode relies on a strong organisational culture, defined by the vision, basic philosophy and values of the firm (Hart, 1992). In a symbolic mode the vision and culture provide employees with a sense of how things are done in this firm, and strategy therefore follows culture.

Table 2.1: Mapping the typologies on the suggested modes of strategy-making

Citation	Mode	Entrepreneurial				
		Rational	Adaptive	Participative	Simplistic	Intrapreneurial
Allison (1971)	Rational		Organisational, Bureaucratic			
Ansoff (1987)	Systematic		Reactive Ad hoc Change	Collaborative		Organic
Bourgeois & Brodwin (1984)					Cultural	Commander
Chaffee (1985)	Linear		Adaptive		Interpretive	
Dess et al. (1997)			Adaptive	Participative	Simplistic	Entrepreneurial
Grandori (1984)	Optimising		Satisficing Incremental		Cybernetic	Random
Hart (1991, 1992)	Rational		Transactive		Symbolic	Command
Hendry (2000)	Rational		Action		Interpretive	Generative
Khandwalla (1976:77)	Neo-scientific Quasi-scientific		Muddling through	Democratic		Conservative Entrepreneurial
Miller & Friesen (1977, 1978, 1984)	Analysis Integration Multiplexity Futurity Consciousness		Adaptiveness		Traditions	Industry expertise Innovation Pro-activeness Risk-taking
Mintzberg (1973, 1978)	Planning		Adaptive			Entrepreneurial
Mintzberg (1990)	Planning, Design, Positioning Cognitive		Environmental Political Configur-tional	Political	Cultural	Learning Entrepreneurial
Mintzberg & Waters (1985)	Planned		Process	Consensus Imposed	Ideological Umbrella	Unconnected Entrepreneurial
Nonaka (1988)	Deductive				Compressive	Inductive
Nutt (1981)	Bureaucratic		Behavioural, Adaptive	Group		Normative
Shrivastava & Grant (1985)	Systematic bureaucracy		Adaptive planning			Managerial autocracy Political expediency

Source: Adapted from Hart (1992, p. 336)

The rational, adaptive, participative, symbolic, command and intrapreneurial modes of strategy-making (see row three of Table 2.1) are found in most of the strategy-making typologies (Verreynne, 2005). A summary of the typologies of previous authors and how they have addressed these modes can be found in Table 2.1. Using the same method as

Hart (1992), the matrix maps the existing typologies of strategy-making commentators chosen from the literature for their high citation rate against the modes of strategy-making identified in this section. In the first two rows of Table 2.1, it is indicated that some of these modes can be combined to form two alternative modes, namely the entrepreneurial or simplistic mode of strategy-making. An explanation for this action is provided further on in this section. It is also important to comment that the terms that have been used in the research summarised in Table 2.1 is often complex, ambiguous and representative of concepts that are very similar, but not necessarily the same. Table 2.1 follows the approach set out by Hart (1991, 1992) in order to classify and simplify the existing research and to provide a conceptual basis that can be used in this thesis. In doing so, it is possible that some oversimplification may occur, but this is a necessary step in the process of proposing a conceptual typology for this research.

Table 2.1 adds to Hart's matrix by including the works by Dess et al.'s (1997) and Hendry (2000) which were completed after 1992. It also includes the participative and entrepreneurial modes of strategy-making which is evident from the discussion above. A few of the types of strategy-making from previous authors have also been reassigned, mainly to account for the inclusion of the two extra modes. This table serves the additional purpose of providing a point of reference for the discussion of the modes of strategy-making that is contained in Section 2.3.3.

The independence of the command and intrapreneurial modes of strategy-making was questioned earlier in this section. Similarly the independence of the command and symbolic modes of strategy-making modes can be questioned. Dess et al. (1997) argue that the command and intrapreneurial modes included in Table 2.1 are in effect the same mode of strategy-making as entrepreneurial strategy-making when combined. They further argue that the command and symbolic modes can also be combined as the simplistic mode of strategy-making. This argument is in line with the earlier suggestions by Hart (1992) and Mintzberg (1973) that it is entirely possible that some modes can be used at the same time by a firm. Similarly, it is possible that two modes may be integrated to the extent that they are in effect the same mode. However, this thesis questions the simultaneous combination

of the command mode of strategy-making with both the intrapreneurial and symbolic modes in one study in order to create the entrepreneurial and simplistic modes of strategy-making, as done by Dess et al. (1997). This argument is supported through an investigation of the factor-analysis of Dess et al. which indicates that their simultaneous combination was not supported by their data. This thesis argues that the entrepreneurial mode is more relevant to SMEs than the simplistic mode, as suggested by Mintzberg (1973). For this reason, five modes of strategy-making, namely the rational, adaptive, entrepreneurial, participative and symbolic modes will be used in this study. A variety of names are used to describe the same mode in Table 2.1, for example, the rational mode is also called planning, design (Mintzberg, 1990), deductive (Nonaka, 1988) and bureaucratic (Nutt, 1981). The terms that are used most often in the literature was chosen for the purposes of clarity, and will therefore be used from this point forward in this thesis, namely rational, adaptive, entrepreneurial, symbolic and participative modes.

The typology consisting of the rational, adaptive, participative, symbolic and entrepreneurial modes introduced above, builds on existing typologies. Each of these modes is defined by a number of aspects (characteristics, attributes or dimensions). The next section defines these aspects so that they can be used to describe the different modes of strategy-making. Thereafter the five modes of strategy-making will be discussed in more depth in Section 2.3.3 and the aspects of each mode will be identified.

2.3.2 Aspects of the strategy-making process

As shown above, strategy-making research tends to focus on opposites such as deliberate versus emergent strategy or top-down versus bottom-up behaviour. These opposites represent some of the underlying aspects of most strategy-making processes (Hart, 1991). Hart uses the word 'dimensions' to refer to the characteristics or aspects of the strategy-making process that a firm uses. If this is taken one step further, it can be said that a number of these aspects, when combined, will make up a mode of strategy-making. Noteworthy is that one aspect may underlie more than one mode of strategy-making, for instance, the rational, entrepreneurial and symbolic modes of strategy-making may all

require a long term time horizon. The notion of the existence of underlying aspects to the modes of strategy-making is supported by Dess et al. (1997) who say that 'the concept of strategy-making as a gestalt or pattern of dimensions [aspects] is suggested by the idea of strategy-making modes' (p. 679).

Several such aspects have been identified, namely top-down (induced) versus bottom-up (autonomous) behaviour (Hart, 1991), emergent versus deliberate strategies (Mintzberg & Waters, 1985), pro-active versus reactive behaviour (Mintzberg, 1973), and involvement or political versus ideologically driven (Mintzberg et al., 1998). Except for these aspects, a few others have been identified, but have not received much attention elsewhere in the literature. These aspects include risk taking and time horizon and are also briefly discussed at the end of this section.

a) *Top-down (induced) versus bottom-up (autonomous) behaviour*

Bourgeois and Brodwin (1984), Burgelman (1983) and Hart (1991) identify the difference between strategy-making processes that are induced by top-management versus those processes that present autonomous strategic behaviour by employees. Top-down behaviour implies that strategy-making is the result of the use of structure or systems to induce employees to behave in a way that is consistent with the strategy expectations of top management. Bottom-up behaviour suggests that employees introduce improvements, business opportunities or ideas and attempt to convince managers to support these ideas (Hart, 1991). Autonomous or bottom-up processes therefore refer to the freedom of firm members to make decisions on the job (Brock, 1997). The dichotomy between top-down and bottom-up processes in strategy-making seems to be a classic theme in the sense that it often dictates the debate (e.g. Marsden & Forbes, 2003) in strategy-making. In this study, it is only viewed as one of the important issues in strategy-making, and it is recognised that these aspects are two opposite points on a continuum, with many possibilities in between.

b) *Deliberate versus emergent strategies*

Mintzberg and Waters (1985) distinguish between deliberate and emergent strategies. Deliberate strategies are strategies that are purposeful or dictated from the top, while emergent strategies are patterns that are realised as strategies, either despite, or in the absence of top management intentions. Simply put, deliberate strategies form part of the formal processes of the firm and although they do not have to be carried out by top-management, they are more likely to be dictated by top management. However, deliberateness refers to the extent of analysis and formality in the process, while the top-down aspect on the other hand refers to autocratic behaviour. In contrast emergent strategies are patterns of behaviour that are potentially realised as strategies and are therefore mostly part of the informal processes. Emergent strategies can therefore be harvested by managers as in the entrepreneurial mode. This means that these patterns can therefore result from the behaviour of any employee, but may include the actions of top-managers. Thus, unless emergent strategies are guided by a vision from the top, they are usually formed through bottom-up behaviour.

Top-down and bottom-up behaviour and deliberate and emergent strategies seem to be similar concepts but can be distinguished in terms of the ability of top-managers to guide or harvest emergent strategies. It is therefore argued that deliberate strategies and induced behaviour are therefore placed close to each other, while emergent strategies are placed closest to autonomous behaviour, but slightly towards induced behaviour on the continuum.

c) *Pro-active versus reactive behaviour*

Mintzberg (1973) identifies the 'motive' for the decision as a possible aspect of strategy-making. Although Mintzberg terms this aspect 'motive' for the decision, he defines it as an 'attitude' towards decisions. This view is similar to other authors such as Fredrickson (1985) who also investigates decision motives. These motives can be either pro-active or reactive. Pro-active decision making is often likened to the existence of a vision in a firm. For example, Drucker (1985) suggests that some firms have a vision that encompasses the

proactive identification of innovative ideas. However, more often vision is likened to having a long-term time horizon, and therefore it will be discussed in section (e). Proactive behaviour suggests that the firm acts in anticipation of issues in the environment (Lumpkin & Dess, 1996), a dimension often related to entrepreneurial behaviour. The opposite of pro-active behaviour can be either reactive or passive behaviour. For the purposes of strategy-making process, reactive behaviour seems to be a more appropriate interpretation (Mintzberg, 1973). Reactive behaviour means that the firms react by changing their strategy to be in line with environmental needs (Miller & Friesen, 1978). Mintzberg (1973) supports this assertion, adding that a lack of time, resources or confidence may be the causes of reactive behaviour during strategy-making.

d) Ideological versus political driven

Mintzberg (1987), Mintzberg et al. (1998) and Richardson (1994) argue that the ideological and political aspects can be placed on the opposite sides of a continuum. Shrivastava (1986) defines ideology as referring 'to those aspects of idea systems that obscure interests served by ideas and facilitate the establishment and maintenance of domination' (p. 365). Some authors equate an ideological aspect of strategy-making to the existence of a clear and compelling vision and mission in the firm (Hart, 1992). In this case the vision provides 'meaning to the [firm's] activities and provides a sense of identity for employees.... [and therefore] defines the basic philosophy and values of the firm (Hart, 1992, p. 336).

The political aspect can be found on the other side of this continuum. This aspect refers to the involvement of the firm with its internal and external stakeholders during the strategy-making process (Richardson, 1994). Khandwalla (1976/77) identifies two views of the political aspect, namely participative management and coercion. Participative management is described as the ability of a firm to use its human resources to ensure survival and growth, an aspect that is mostly internally directed. He explains further that whereas 'participation and peer pressure are the means by which commitment and compliance are sought in highly participative managements, fear and dominance are the primary mechanisms by which compliance is secured in coercively oriented managements' (p. 24).

In summary, both the ideological and political aspects comment on aspects of influence during the strategy-making process, albeit from opposite points of view. This thesis reasons that in the ideological aspect this influence is guided by the organisational culture and vision, which is the way that people within the firm see themselves and the values that they share. These shared values drive the implicit control system that aligns the efforts of the employees. Employees therefore know, either consciously or instinctively, what the 'correct' strategic decision should be against the backdrop of the organisational culture and/or vision. On the other hand, according to the political aspect, strategic decisions are actively influenced through interaction with other individuals or groups. This interaction can be consultative and positive (participation), or imposed and negative (coercion).

e) Time horizon

Mintzberg (1973) identifies a number of aspects that were not explained above. One of these aspects is pertinent to strategy-making processes, namely decision horizon, in other words whether typical strategies are long-term or short-term. Whereas early authors (e.g. Andrews, 1971) were more prescriptive in terms of the length of a long or short term time horizon, it is now recognised that a long term orientation is more closely related to a strong vision in terms of the future direction and activities of the firm. Various authors identify vision as an aspect of strategy-making processes in firms (e.g. Chaffee, 1985; Covin & Slevin, 1991). They describe vision as being more concerned with the broad objectives that must be attained than the specific strategies needed to achieve these objectives. This is similar to the umbrella strategy defined by Mintzberg and Waters (1985). One possibility is that this vision is then translated into targets, to which the members of the firm aspire, but it may also serve purely as guidance for emergent actions by firm members. Either way it then has the capacity to alter the firm's strategy (Nutt, 2001). The vision therefore provides a frame of reference to employees and other stakeholders to understand the firm and its intentions (Hart, 1992) and to act pro-actively when making decisions.

It is important to note that vision, as it is used in this thesis, refers to this frame of reference that exists in firms to provide the stakeholders of the firm with direction and not to the short statement called a vision that can sometimes be found at the beginning of a strategic plan. These two interpretations of vision may, however, refer to the same concept when the vision is carefully crafted and instilled throughout the firm.

f) Risk-taking

Researchers identify several other aspects that receive less attention in the literature. An example of this is Khandwalla (1976/77) who identifies risk-taking as an important aspect of management style. He states that high risk taking shows a propensity for entrepreneurship. Xu and Ruef (2004) distinguish between risk tolerance and risk aversion. Like Khandwalla, they explain that entrepreneurs actively prefer outcomes with a low probability and high payoff. However, entrepreneurs may learn about risks and how to manage it, in which case they are risk tolerant rather than risk seeking as suggested by Khandwalla. Risk-taking is discussed further in Section 3.3.3. The next section explains the relevance of these aspects to the different strategy-making modes identified earlier in this section.

2.3.3 Modes of strategy-making

The previous section covers the possible aspects that a mode of strategy-making may exhibit. Using these aspects, this section describes five modes of strategy-making which incorporate the typologies that were summarised in Table 2.1. A mode of strategy-making is synonymous with an approach to strategy-making or a strategy-making process. Simply put, a mode of strategy-making explains the typical aspects of the process that a firm goes through in order to decide on its strategic direction and to operationalise that direction. These aspects are identified in the previous section and include deliberateness, pro-activity and risk-taking. That means that the various modes of strategy-making processes that are identified in Section 2.3.1 each display a mix of the aspects of strategy-making that are explained in Section 2.3.2.

The remainder of this section provides an explanation of each of these modes of strategy-making processes and identifies the most important aspects of each of the modes. Where possible the discussion is related to the relevance of these modes to SMEs. Each of the five modes of strategy-making is explained below.

a) Rational strategy-making

The rational mode of strategy-making assumes that strategic decision-making takes place in a number of steps, usually and exhaustive analysis of the environments, comprehensive formulation and evaluation of alternatives and the choice of one or more of these alternatives for implementation (e.g. Ansoff, 1965). The rational mode uses tools such as the SWOT analysis to develop strategy. It is important to strategic management teaching, research and practice because of its well developed concepts, theories and models.

Several authors identify the rational mode of strategy-making. Mintzberg (1973) calls it the planning mode and delineates three characteristics of this mode, namely that analysts play an important role in strategy-making; analysis of competing proposals is systematic; and decisions and strategies are integrated. Politics in this type of firm is low, with the power system being hierarchical. Mintzberg et al. (1998) argue that the rational mode of strategy-making is prescriptive because it is prescribed by academics and consultants to firms and seldom occurs in practice. Ansoff (1987) calls this mode systematic. He disagrees with Mintzberg in terms of whether this mode is prescribed and states that it is based on the 'observation of systematic planning which emerged in so called leading firms during the late 1950s' (p. 505). Both of these studies are conceptual in nature.

Some empirical studies also identify the rational approach to strategy-making. Miller and Friesen (1977, 1978) use factor analysis to identify eleven archetypes of strategy-making. The data come from a study of 81 case studies that were clustered and coded to investigate the environment, structure and strategy-making process of the firm. They examine the firm and environmental context in which the strategy-making process occurs, and isolate eleven

aspects of strategy-making. These are used as a means to identify archetypes of firms, each archetype consisting of a strategy-making mode, environmental variables and firm variables, such as an organic structure. An archetype is therefore a configuration that describes a firm or group of firms. The aspects of this study that are indicative of the rational strategy-making mode are as follows:

- *Integration* of decisions which is an explanation of how well decisions in one part of the firm integrate with the other parts of the firm;
- *Analysis* of major decisions which is an examination of the extent of the analytical processes involved in problem-solving and decision-making;
- *Multiplexity* of decisions which is a reflection of the breadth of the range of factors that are taken into account during decision-making;
- *Futurity* of decisions which is an examination of how far ahead (long term) the firm thinks when making decisions; and
- *Consciousness* of strategies which is an investigation into the explicitness of corporate strategy and the commitment of managers to those goals and strategies.

As a first empirical work in this field the results are exciting. This work also used a ground-breaking case analysis method. Unfortunately the end result is the development of 'archetypes' of firms which does not provide fine-grained modes of strategy-making. These archetypes typically consist of context factors such as size and environmental dynamism, business strategies and strategy-making modes and testing is not focussed on validating the existence of the modes of strategy-making on their own. As part of a typology of strategy-making, these dimensions therefore remain largely untested (Hart & Banbury, 1994).

Mintzberg and Waters (1982) use a single case study of a Canadian supermarket chain to track the strategies and strategy-making processes of a single firm over a period of almost 60 years. Building on the work of Mintzberg (1973) they identify the three approaches to strategy-making process as the entrepreneurial, planning and adaptive modes. The *planning mode* uncovered by Mintzberg and Waters reflects the rational mode forwarded in

the present study. Mintzberg and Waters depict the planning mode as a rational, orderly and integrated process with explicit strategies. This study uses a qualitative research method and provides an excellent attempt at theory building. Unfortunately, no subsequent large-scale studies could be found that generalised these results. The lack of further research is particularly important since the firm studied was very specifically classified as an entrepreneurial firm in its early stages which further limits generalisability. Partial support for this study can be found in Hart (1991, 1992).

Hart (1992) examines rationality (comprehensive and bounded), vision and involvement in strategy-making. Using these four aspects to define modes, he proposes a typology of strategy-making that comprises five modes of strategy-making, namely command, symbolic, rational, transactive and generative. Hart suggests that these modes can be placed on a deliberate/emergent continuum as follows: rational, command, symbolic, transactive, and generative. This conceptualisation was tested empirically in 1988 in a sample of almost 1000 firms of all sizes and the results were reported by Hart (1991) and Hart and Banbury (1994). One of the modes identified through this process is the rational mode, which is a comprehensive mode with a high level of information processing, separated means and ends and organisational structure that follows strategy. Strategy is implemented through detailed action plans. This mode is very similar to the type of strategic management taught in business schools. The studies by Hart (1991, 1992) and Hart and Banbury (1994) take a 'systems' view of strategy-making (Dess et al., 1997). This means that the roles of top management and firm members, as well as the interrelationships between them are investigated. The result is a useful typology of strategy-making process. Furthermore it provides some empirical validation for the existence of the adaptive (transactive) – discussed next - and planned (rational) approaches to strategy-making (Mintzberg, 1973). Based on the preceding discussion, a rational approach to strategy-making can be defined as:

a rational, orderly and comprehensive process of strategy-making which exhibits a high level of analysis and information processing and results in integrated strategies and goals which are implemented in a systematic manner.

The following aspects of the rational approach to strategy-making can be identified, namely:

- *Top-down behaviour*: strategies are consciously formulated by top-managers or their delegates (planners) and other levels of the firm are expected to show commitment by implementing the strategies;
- *Deliberate strategies*: strategy-making takes place in a number of steps in which formulation is clearly followed by implementation through detailed plans, that is a rational, orderly and integrated process;
- *Pro-activeness*: futurity of decisions is an examination of how far ahead the firm thinks when making decisions and indicates a pro-active decision motive;
- *Politics*: rationality does not allow for the influence of internal politics;
- *Ideology*: there is a recognition that the beliefs and preferences of the managers who formally lead the firm, may influence the outcomes of decisions, but once again this is variable between firms;
- *Time horizon*: the time horizon is long-term; and
- *Risk taking*: analysts play an important role in strategy-making and a variety of factors are taken into account during decision-making, risk is therefore generally contained through analysis.

This approach has been criticised (Mintzberg et al., 1998) for its simplicity which may be more suited to stable, benign environments. It also assumes a linear relationship between decision and actions (Hendry, 2000) which has not been proven empirically. Furthermore, as it will become evident in the discussion on strategy-making in SMEs, this mode may not be relevant to SMEs since it requires knowledge, experience, time and money which may pose difficulties for small businesses in which a manager's time is typically occupied with operational issues (Hannon & Atherton, 1996). However, authors such as Robinson and Pearce (1983) find evidence of formal strategy-making processes in SMEs and therefore rational strategy-making is included in the proposed typology for this study. Thus, rather

than discarding this mode that has been the basis of strategy-making process research, this is one of the important issues that the empirical part of this study explores.

b) Adaptive strategy-making

Various authors have referred to strategy-making processes that are more adaptive in nature. March and Simon (1958) and Cyert and March (1963) portray strategy-making as reactive and incremental. Mintzberg (1973) first coined the term adaptive mode, but it has also been referred to as an organic perspective of strategy (Farjoun, 2002) and incremental strategy (Quinn, 1980).

Mintzberg (1973) distinguishes four major characteristics of the adaptive mode of strategy-making, namely the absence of clear goals; strategy is driven by political forces; strategy-making is reactive rather than pro-active; decisions are made in incremental steps; and decisions are disjointed. Mintzberg and Waters (1982) agree, explaining that the adaptive mode is one that has to accommodate many decision-makers with conflicting goals, driven by stakeholder concerns. Such an accommodation produces incremental, disjointed strategies. Butler, Astley, Hickson, Mallory and Wilson (1979) argue that these decision-making processes either do not move forward or do so incrementally. They conclude that this process satisfies rather than optimises, and that strategies are often changed shortly afterwards.

Quinn (1980) disagrees with this reactive view of adaptive strategy-making. He portrays this mode as a mode in which management guides the strategy development which takes place in incremental steps and calls it logical incrementalism. The absence of goals or a vision as espoused by Mintzberg (1973) is therefore questioned. Johnson (1988) also discusses incrementalism. He largely agrees with Quinn (1980) and stresses the role of culture, which he terms an 'organisational action' view, in adaptive strategy-making. Quinn explains his logical incrementalism as a political process in which strategy evolves analytical through political consensus. It also has no beginning or finite end, is therefore cyclical and is often discontinued for periods. During these periods the firm has the

opportunity to adapt to changes in the environment that affect the direction of the firm. Simply put, the logical incrementalism is a piecemeal approach to strategy-making that has an underlying element of rationalism in the manner in which it adapts to external changes logically.

Another approach to adaptive strategy-making that is gaining popularity is that of 'real time planning' (Kaplan & Beinhocker, 2003). In an in-depth study of 30 firms, most of which were large, Kaplan and Beinhocker found that very few of the strategic choices made by these firms take place in a formal context, indicating informal interaction with stakeholders. Barney (1991) posits that 'those who study these informal strategy-making processes tend to agree about their rareness and inimitability' (p. 113). He also argues that formal and informal strategies are suited for different settings and that informal strategy-making processes may be a source of sustainable competitive advantage. These authors thus agree that strategy-making does not have to be rational in order to be worthwhile to undertake.

Several other authors have studied adaptive strategy-making and described its nature. Miller and Friesen (1977, 1978) identify adaptiveness of decisions as an indicator of the responsiveness of the firm and the decisions that it makes to the environment. Hart (1992) calls the adaptive mode the 'transactive' mode and explains that it is based on interaction between staff as well as personal and organisational learning. In the transactive mode strategy formulation and implementation cannot be separated because of the learning process, which implies that the firm and/or its employees learn, act, learn from their actions and act again. Also, strategy-making is made based upon interaction with employees and other stakeholders, similar to the political or involvement aspects described in the preceding section. Strategy is facilitated by cross-functional communication between employees. All this interaction necessitates an iterative learning process (Hart, 1992). Similarly to Mintzberg (1973) the transactive mode of Hart (1992) includes aspects of both the participative (interaction with stakeholders) and adaptive strategy-making modes of this study.

Bourgeois and Brodwin (1984) conceptualise five approaches to strategic implementation. Closer scrutiny of this article reveals that these are in fact approaches to strategy-making in general, variously focusing on formulation and implementation processes. The mode of Bourgeois and Brodwin that exhibits the most similarities with the adaptive mode is the change mode. The change mode is defined as similar to what is traditionally viewed as strategy implementation, not because of the topic of the research, but rather because this approach to strategy-making can be viewed as one where strategy formulation and implementation are so intertwined that they cannot be distinguished. They define the characteristics of this mode as a suitable structure and organisational culture, and a planning system that can be adapted easily as typical of this structure.

Dess et al. (1997) aim specifically to provide support for the existence of an entrepreneurial strategy-making approach but also make reference to other modes. In a study of 32 firms (with three respondents each), they found some support for the existence of adaptive strategy-making as well as three other approaches to strategy-making, namely entrepreneurial, participative and simplistic strategy-making. Adaptive strategy-making in this study suggests that the firm focuses externally to adapt to customer needs and other opportunities or threats that may be presented. This view is similar to that of Hart (1992) who proposes that some aspects of stakeholder involvement can be found in the 'transactive' mode. Dess et al. (1997) provide some validation for the existence of entrepreneurial strategy-making, but do not support the rational mode of strategy-making and have mixed support for the adaptive mode. Its generalisability from a sample of 32 firms can also be questioned. By summarising the above, the following definition is provided for adaptive strategy-making:

Adaptive strategy-making is a mode of strategy-making in which strategy takes place in a reactive, incremental manner through interaction with stakeholders.

The aspects of adaptive strategy-making identified from the preceding discussion are as follows:

- *Bottom-up behaviour*: strategy-making is the result of interaction with internal and external stakeholders of the firm, but the impetus for the interaction can be bottom-up or top-down;
- *Emergent strategies*: decisions are made in incremental steps; and are often, but not always (see Quinn, 1980) disjointed, but as above, it cannot be conclusively claimed that the resulting strategies are more deliberate than emergent or the other way around;
- *Reactive*: strategy-making is a reaction to stakeholder demands and/or suggestions;
- *Politics*: due to the involvement of stakeholders such as customers, suppliers, and government in the strategy-making process, strategy is driven by political forces;
- *Ideology*: a common set of beliefs may be the driver of adaptive strategy-making in some firms, but since this has not been clarified it is not included as an aspect of the mode;
- *Time horizon*: can be seen as an informal managerial process with a short time horizon; and
- *Risk taking*: risk taking as an aspect of adaptive strategy-making is not discussed in the literature, but it can be argued that the reactivity to stakeholders would limit risk.

Hendry (2000) argues that the adaptive mode is limited because it rules out decisions as a phenomenon. This approach has further been criticised for its absence of strategy or purposefulness. It has also been argued that it can on occasions undermine working strategies, and that it may lead to groupthink (Mintzberg et al., 1998). Logical incrementalism (Quinn, 1980) deals with some of these criticisms by providing a method that allows for broad goals or a vision to guide the emergent strategy-making. Adaptive strategy-making, as explained in this section, is a mode of strategy-making in which incremental changes are made as a reaction to interaction with the stakeholders of the firm. This suggests that it may be particularly relevant to SMEs. This will be explored later in this chapter.

c) *Participative strategy-making*

Participative approaches to strategy-making process have only received attention in the literature in the last few years (Hart, 1991), maybe with the exception of Bourgeois and Brodwin's (1984) collaborative mode. Even so, while employee participation has received much attention over this period (Crane, 1976; Parnell, Bell & Taylor, 1992; Parnell et al. 2002; Sashkin, 1976; Wooldridge & Floyd, 1990), there is little reference to the explicit role of employees in the strategy-making process. However, Bonn (2001) stresses the importance of dialogue and participation in strategic thinking and therefore strategy-making.

Participation in the strategy-making process can be undertaken by employees, managers (Floyd & Wooldridge, 1992), shareholders or corporate boards (Cutting & Kouzmin, 2000), or other stakeholders. Participation can further be viewed as either 'relational' or 'political' (Hillman & Hitt, 1999). As explained earlier, the political view espouses that coercion takes place, while the relational view explains the influence that one party has on another.

Although participative strategy-making has not been researched to any great extent, some authors have investigated certain aspects of it. In terms of the *relational* view, Sashkin (1976) conceptualises a typology of participative approaches and methods for organisational change. Participation in four areas is identified, namely goal setting, decision making, problem solving and change. All four of these areas are closely related to the strategy-making process. Participation in these areas, it is claimed, leads to advantages such as improved quality of information flow, increased employee commitment, continuous support of participation and increased adaptive capacity for the firm. This positive impact is supported by Nutt (2001) who finds that participation is used in less than one of five decisions on average, but when it is used, it is very effective. This effectiveness is dependent on the degree of involvement as well as the role of the participants.

Bourgeois and Brodwin (1984) identify the collaborative (participative) mode in which the 'CEO employs group dynamics and 'brainstorming' techniques to get managers with

differing points of view to provide their inputs to the strategic process' (p. 248). The involvement of front line managers provides more accurate information for the strategy-making process, and increases buy-in into the resulting strategic plan. It is furthermore an appropriate mode to follow under uncertain environmental circumstances. It is important to note that in the collaborative mode, the emphasis is on participation by top levels of management, which is more limited than the definition adopted by this study for the participative mode.

Another angle is investigated by Bechtold (1997) who theorises how chaos theory can be applied as a model for strategy-making. She explains that this is done through a participative process that changes strategy-making from a planning to a strategising process. During this process strategy emerges from the natural growth of the firm, is a continuous process, and improves aspects such as environmental fit, flexibility, feedback, opportunity identification and change through the involvement of employees and other stakeholders in the strategy-making process.

Wooldridge and Floyd (1990) take a slightly different approach in their study of the involvement of middle-managers of 20 firms in the strategy-making process. Their main finding indicates that this type of participation is associated with improved firm performance. Wooldridge and Floyd explain that the improvement in firm performance is a result of one or two scenarios, namely path A in which involvement leads to improved decision-making, superior strategies and therefore improved performance, or path B in which involvement leads to higher strategic consensus, improved implementation and therefore improved performance. Path A refers to the political aspect of participation, while path B refers to the relational aspect. They further report on the same research (Floyd & Wooldridge, 1992) that in this type of participative approach to strategy-making there is a pattern that develops through an interactive learning process. Middle managers play four important roles in this situation, namely as champions of strategic alternatives; providing information to higher and lower levels in the firm; facilitating adaptability and flexibility of the strategy; and implementing the deliberate strategy.

The *political* aspect identified by Wooldridge and Floyd (1990) is similar to that defined by Hillman and Hitt (1999) and implies that some form of coercion takes place during the strategy-making process. Other authors have studied various issues regarding this political aspect of participative strategy-making. Mintzberg (1983) conceptualised corporate democracy in US firms. Corporate democracy informs the participative strategy-making debate from the stakeholder involvement point of view. Mintzberg identifies four basic forms of corporate democracy based on whether the parties involved are internal or external to the firm, and whether the focus of the attention is on the Board of Directors or the internal decision-making processes. These forms are: worker or pluralistic representative democracy; and worker or pluralistic participator democracy. He argues that corporate democracy, or participation in decision-making, can help to resolve conflict, controversy, and lack of creativity in large firms. This work is, however, conceptual and does not explain much about what firms do and how it impacts on performance.

Pettigrew (1977) also comments on the political view and describes strategy-making in firms as a continuous process which is contextually based and political in nature. It is political because firm members debate which dilemmas should receive attention, which methods should be employed to resolve the dilemmas, and if sufficient power can be mobilised for specific solutions (strategies). Eisenhardt and Zbaracki (1992) continue the political theme and add that politics occur because coalitions of people exist with competing interests in a firm, and that decisions are typically reflective of the desires of the most powerful people or coalitions in the firm. Eden and Ackermann (1998) also discuss the issue of political feasibility, which is a result of a rational proposal that creates agreement because of its ability to demonstrate the relationship between the means and ends of a strategic plan. Such a rational proposal is the result of management attention to power and politics, rational and just procedures, participation and group support and is intended to create commitment in firm members.

Lastly, Fahey (1981) investigated the nature of strategic decisions in 11 large US firms. He proposes that more emphasis is placed on the development of strategic options and goals than on the analytical processes considered necessary to choose between these options.

These developmental processes are considered to be problematic, and more political than rational. Political activity ranges from legitimate concerns about the consequences of the decision, for example the impact of the decision on performance on other parts of the firm, to other concerns, such as an individual's own interest. The reason for the political activity may therefore be rational or political, but the manner in which it is conducted is still political and it has an impact on the time it takes to make a final decision. Daniels and Bailey (1999) describe the political aspect of strategy-making in which power and influence by stakeholders influence strategic outcomes. It is thus evident that the literature on participative strategy-making has focused mainly on the debate between the relational and the political processes of participation. Although this field is in its infancy, it is important to have a working definition before the empirical research takes place. The preceding research can be summarised in the following definition:

Participative strategy-making can be defined as a mode of strategy-making in which strategies are the result of the inclusion of various stakeholder views in the different stages of the strategy-making process. In some organisations the interaction between mostly internal stakeholders leads to political activity.

From the previous studies, participative strategy-making can be articulated as follows:

- *Top-down/bottom-up behaviour:* top management involves firm members in decision-making; middle managers act as intermediaries who disseminate information and influence results;
- *Emergent strategies:* a continuous process in which the input of stakeholders in the process adjust the direction incrementally;
- *Pro-active:* no comment on this aspect could be found in the literature, but this thesis argues that a participative process can be pro-active or reactive, depending on how this mode is utilised by a particular firm;
- *Politics:* the use of power to affect the outcome of the strategy-making process;
- *Ideology:* culture does not impact on strategy-making directly, but indirectly as through how different types of cultures affect the political or relational environment;

- *Time horizon*: although comments about the time horizon of this mode could not be found, it is suggested that participative practices will limit the opportunity to make long term plans; and
- *Risk taking*: risk is minimised through the input of stakeholders.

Unfortunately, the research in this mode lacks rigour, detailed explanation and significant theory development. Furthermore, negotiated outcomes result by definition in a trade-off which may not always provide the best strategic options to the firm (Bourgeois & Brodwin, 1984). But, received wisdom leads to the belief that SME, through their close physical proximity and small size lend themselves to participation.

d) Symbolic strategy-making

The symbolic mode of strategy-making mainly takes its cue from the ideological aspect of strategy-making. As stated, this aspect implies that top managers create a compelling vision which leads to a specific culture in the firm. Symbols and emotions are central to this process that is driven by vision, rapid growth, dynamism and radical change (Hart, 1991, 1992). Hart (1991) explains that the symbolic mode therefore ‘reflects the deliberate intentions of top management[aimed at] motivating organizational members to create the future’ (p. 109).

The symbolic mode of strategy-making has been poorly conceptualised in the literature – there are as many different takes on it as there are authors that discuss it. For instance, Bourgeois and Brodwin (1984) explain that their cultural mode takes the participative aspects of the collaborative mode to other levels in the firm. The vision of the CEO provides the framework for strategy-making, whereafter employees participate in designing their own work procedures to fit into the framework. To these authors the symbolic mode of strategy-making is therefore similar to a participative mode of strategy-making that is driven by a clear vision that provides a framework for decisions.

A few other authors postulate the existence of a symbolic strategy-making approach in firms. Dess et al. (1997) identify a simplistic approach to strategy-making that indicates a well-established yet limited strategy-making process that utilises traditional solutions, values and routines. Lumpkin and Dess (1995) describe aspects such as a narrow focus based on limited constraints and a clear vision and goals that limit the range of possible decisions; variance; dominance and range. To these authors the symbolic mode of strategy-making therefore consists not only of the cultural aspects of strategy-making, but also of the command aspects that Hart and Banbury (1994) identified. These command aspects include more than a strong vision. They entail the existence of a blueprint for strategy-making, a long-term orientation and a strong leader who influences all aspects of strategy-making. Lumpkin and Dess therefore see the symbolic mode as exhibiting more rationality and less participation.

Another group of authors provide an explanation that is more closely related to how symbolic strategy-making is defined in this study. Miller and Friesen (1977, 1978) describe it as a tradition which is an explanation of the firm's commitment to past strategies and approaches. Daniels and Bailey (1999) describe the cultural aspect of strategy-making as a 'process based on managerial experience, expectations, and beliefs' (p. 31). This results in shared 'frames of reference' which are applied to the strategy-making process and influence the outcomes of the process. Johnson (2000) argues that these approaches 'fit more closely with the observed patterns of strategy development' (p. 404). As illustrated in Table 2.1, other authors such as Chaffee (1985) do include modes in their typologies that show some similarities to the symbolic mode of strategy-making. Unfortunately none of these modes provide further clues to the understanding of this mode. As a result of this brief explanation of the research on the symbolic mode of strategy-making it is now defined as:

A mode of strategy-making in which the vision of the firm drives the process and strategies are formed by managers or employees to fit with the values, experience, traditions and past strategies of the firm.

The most important aspects of symbolic strategy-making are as follows:

- *Top-down/bottom-up behaviour*: shared 'frames of reference' or culture influence the outcomes of the process, top managers are focal to creating this culture, which provides firm members with the opportunity to create strategy from the bottom up;
- *Deliberate strategies*: the strategy-making process is limited, but a reflection of the deliberate intentions of top management;
- *Pro-activeness*: top management creates a compelling organisational vision that drives the direction of the firm;
- *Politics*: participation may play an *ad hoc* role in some cases but this is not typical; and
- *Ideology*: symbols, emotions and values are central to the process;
- *Time horizon*: this mode includes the development of a long term strategic vision; and
- *Risk taking*: this behaviour is low due to the commitment to past strategies.

This study agrees with the critique of Hendry (2000) who says that this approach to strategy-making does little to answer the practitioner's questions on how to best make strategy. Johnson (2000) also states that cultural, just like the political, approaches to strategy-making are obscure, conceptual and hard to access for managers, and therefore not optimally used. But, it is very likely that some interpretations of the symbolic mode of strategy-making, such as Lumpkin and Dess's (1995) simplistic mode of strategy-making may be applicable to SMEs. This will be explored further in subsequent chapters.

e) *Entrepreneurial strategy-making*

Entrepreneurial strategy-making as an approach to strategy-making has been under-investigated in the literature (Dess et al., 1997). However, Dess et al. and Mintzberg (1973) are responsible for much of the research that has been carried out. Most research in this area is conceptual in nature (e.g. Mintzberg, 1973) and where it has been tested empirically (e.g. Dess et al., 1997), the research is exploratory and has only employed a small sample. Furthermore, entrepreneurial strategy-making has not been studied in the firms where

Mintzberg (1973) first suggested that it would fit best, namely SMEs. This type of research may be very important to SMEs who have been accused of neglecting strategic planning (Robinson & Pearce, 1983), probably because they do not engage in rational strategy-making. Such research may also be able to provide answers to performance differences in SMEs that employ different approaches to strategy-making.

Most of the research on the topic of entrepreneurial strategy-making has been undertaken by Mintzberg. In his 1973 conceptual work, Mintzberg states certain conditions for an entrepreneurial strategy-making mode. These include strategy-making authority that rests with one powerful individual; a yielding, uncertain environment; a growth orientation; and strategy that must be able to shift boldly if the entrepreneur decides to change it. Strategising is dominated by an active search for opportunities; pro-activity; strategy-making is long term orientated and flexible; and growth is the dominant goal. He further proposes that an entrepreneurial strategy-making mode is typical of firms that are small or young or in some cases firms that are experiencing difficulties. These firms are usually business firms, but entrepreneurial strategy-making can also be found in an institution or government body with a powerful leader. Mintzberg's view of entrepreneurial strategy-making can therefore be summarised as a mode driven by a powerful leader, typified by growth goals, and which requires bold, confident decisions, made by the entrepreneur faced by an uncertain future.

Other authors also have identified the existence of an entrepreneurial strategy-making mode through empirical studies. Miller and Friesen (1977, 1978) identify product-market innovation as a measure of innovativeness based on the number and novelty of new products, services and markets of the firm; pro-activeness of decisions as a comparison of the relationship between the firm and its environment, whether the firm attempts to shape the environment, or merely react to it; and risk-taking as an explanation of the degree of risk that managers are willing to take with the resources of the firm.

Later Mintzberg and Waters (1982) confirmed the items from Mintzberg's (1973) earlier conceptual work in their study of a Canadian retail chain over a 60 year period and identify

its strategy-making mode as mostly entrepreneurial for the first period of its existence. At that time, the firm could also be classified as entrepreneurial. Growth is hectic, but uneven and cyclic and major strategic reorientations take place during this period. Entrepreneurial strategy-making in the firm is experimental in nature ('test-the-water' first). The leader has intimate knowledge of the business and knows intuitively what to do. He/she is fully in charge of the firm, committed to the long-term and can be classified as a visionary. Interestingly, Mintzberg and Waters describe entrepreneurial strategy-making as the mode of strategy-making that provides the highest degree of deliberateness, strategy integration and clear and complete vision. The leader is also involved in all aspects of the strategy-making process, including the day to day implementation thereof. Their view of entrepreneurial strategy-making is best explained in their own words as 'the interplay of a leader and an environment, with structure bringing up the rear' (p. 497).

Hart (1991, 1992) and Hart and Banbury (1994) discuss two modes of strategy-making that exhibit aspects of entrepreneurial strategy-making. The first, the 'command' mode has a strong leader with perhaps a few top managers that consciously make strategy and exercise control over the firm. Strategy-making is deliberate, analytical; strategies are fully formed and ready to be implemented by the employees. The second, the 'generative' mode implies that the employees act autonomously; and that strategy-making is facilitated by intrapreneurial employees who allow ideas to flow upwards in the firm. Experimentation and risk-taking are encouraged. This mode is typically found in professional bureaucracies such as universities and hospitals, but some manufacturing firms have implemented it successfully (Mintzberg et al., 1998). Managers seek and nurture high potential strategies. As argued in Section 2.3.1, these modes are both representative of entrepreneurial strategy-making.

Bourgeois and Brodwin (1984) approach entrepreneurial strategy-making from the same perspective as Hart (1991, 1992). They identify the 'commander' mode (similar to the command mode) and the 'crescive' mode (similar to the generative mode). The commander mode is defined as being rational in the sense that the CEO holds considerable power, has access to complete information, and makes decisions based on economic

realities. The authors do, however, explain that vision and goals only provide the broad direction, and that strategies emerge within these boundaries. The CEO of a firm that employs the *crescive* (literally meaning 'growth') mode, defines the purpose of the firm (as before), and then challenges employees to come up with innovative ideas on how to attain the set goals. This mode has advantages, such as, the CEO does not have to monitor all the opportunities and threats, there are more developmental opportunities for employees but the approach does have disadvantages such as complicated reward systems and strategies that are based on perception, rather than fact.

Mintzberg et al. (1998) describe six premises of what they termed the 'entrepreneurial school' of strategy-making. These are the existence of strategy in the mind of the leader as a vision; strategy that is consciously conceived by the leader; the vision that is promoted single-mindedly by the leader and the implementation is also controlled closely; strategy that is a deliberate vision but emergent in the details; the firm structure is simple/organic; and that a focus strategy is generally followed. Mintzberg and Waters (1982) and Mintzberg et al. (1998) describe entrepreneurial strategy-making and the entrepreneurial school of strategic management thought with basically all the same aspects, with one identifiable difference, namely: is strategy-making is deliberate or emergent? Unfortunately other authors, such as those discussed in this section, do not answer this question either. This study investigates Hart (1991, 1992), but finds that the modes that constitute entrepreneurial strategy-making, namely the command and generative modes, are also different in this one aspect. The command mode has deliberate strategy-making as an aspect, while the generative mode has emergent strategy-making as an aspect. An answer to this issue is found in an inspection of the factor-analysis undertaken by Dess et al. (1997). This indicates that they view entrepreneurial strategy-making with emergent strategy-making as an aspect. Harris, Forbes and Fletcher (2000) also find an extensive use of emergent strategies in these firms. It has therefore been decided to include emergent, rather than deliberate strategy-making, as an aspect of entrepreneurial strategy-making in this thesis.

The study by Dess et al. (1997) suggest that entrepreneurial strategy-making is a valid construct in the strategy-making literature and that it exists independent of the level of participation and degree of adaptiveness or the simplicity that the firm uses in its strategy-making process. They define entrepreneurial strategy-making as a mode of strategy-making characterised by 'opportunity seeking, risk-taking and decisive action catalysed by a strong leader' (p. 679). Jennings and Lumpkin (1989) find in a study of 28 savings and loans banks that decision-making in entrepreneurial firms is more participative, reliant on specialised personnel, objectives are developed through a shared process by employees, and managers are not penalised if risky projects fail as they possible would be in conservative firms. This participative aspect contradicts Dess et al. (1997) but should not be discounted without further empirical investigation where SMEs are concerned. It will, however, not be included in the conceptualisation of entrepreneurial strategy-making in this section since no further evidence of its relevance to entrepreneurial strategy-making could be found.

Other authors examine strategy-making in entrepreneurial firms. Although this is not necessarily the same as entrepreneurial strategy-making, it may provide further clues to the characteristics of entrepreneurial strategy-making. Barringer and Bluedorn (1999) find that these firms have the flexibility to change the strategic direction of the firm. Burgelman (1983) identifies several approaches to the design and management of entrepreneurial systems such as institutionalising innovation through organisational learning, individual entrepreneurship, experimentation and selection, managing the strategic context and organisational design. It can, however, be questioned whether an entrepreneurial firm necessarily employs an entrepreneurial strategy-making mode, and therefore these results will be treated with caution.

Last, Khandwalla (1976/77) describes entrepreneurial management as a style characterised by 'bold, risky, aggressive decision making, charismatic leaders, a strong commitment to growth, an emphasis on administrative flexibility, reliance on intuitive judgments rather than those based on elaborate technical analysis, and not too strong a belief in institutionalized participatory decision making' (p. 25). This view of entrepreneurial management shows a strong similarity to entrepreneurial strategy-making. Based on the

preceding discussion, entrepreneurial strategy-making for the purpose of this study is defined as:

A mode of strategy-making, driven and controlled by a strong leader and characterised by the use of vision or umbrella strategies to set the direction of the firm, while more specific strategies, entrepreneurial in nature, emerge from within the firm.

From the preceding discussion and that on emergent strategy and vision, the following aspects or behaviours of entrepreneurial strategy-making are identified:

- *Top-down behaviour:* strategy-making authority lies with one powerful individual who takes decisive action;
- *Emergent strategies:* extensive use of emergent strategies to detail the umbrella strategy; learning and experimentation are also widespread;
- *Pro-active:* the use of a clear vision or umbrella strategy to guide the firm to a pro-active search for opportunities;
- *Politics:* little opportunity for participation or influence of decisions through politics since power lies with the entrepreneur/CEO;
- *Ideology:* culture is driven by the vision of the entrepreneur and may be entrepreneurial in nature (see discussion in Chapter Three);
- *Time horizon:* as argued before, the presence of a compelling vision suggests a long term orientation; and
- *Risk taking:* risk-taking; innovation; and an active search for opportunities are aspects of this mode.

Criticisms against the existence of entrepreneurial strategy-making include issues such as that strategy formation in this approach remains a black box. This approach relies on the positive image of entrepreneurial behaviour which is debatable. It is also likely that the leader may get locked up in operational issues and forget about strategic management (Mintzberg et al., 1998). Furthermore, many loose running strategy initiators can lead to a

corporate mess (Bourgeois and Brodwin, 1984), a criticism that is also true of the adaptive mode. Yet, this approach remains beneficial in the early years of a firm's existence when strategic decisions have to reflect full knowledge of the firm and may be relevant to small businesses for the same reason as suggested by Mintzberg (1973).

Table 2.2 summarises how the aspects identified in Section 2.3.2 are applicable to the major strategy-making modes that are used in this thesis using the same five headings than the preceding section.

Table 2.2: Aspects of strategy-making processes

Mode	Rational	Symbolic	Adaptive	Participative	Entrepreneurial
Aspects					
Top-down/Bottom-up	Top-down	Bottom-up	Both	Bottom-up	Top-down
Deliberate/Emergent	Deliberate	Deliberate	Both	Emergent	Emergent
Pro-active/Reactive	Pro-active	Pro-active	Reactive	Both	Pro-active
Political/Ideological	Low politics	Ideological	Political	Political	EO ideology
Long-term/Short-term	Long term	Long term	Short term	Short term	Long term
Risk taking	Variable risk	Variable risk	Low risk	Low risk	High risk

In this section, five possible modes of strategy-making in SMEs were presented. These modes are representative of the modes that were identified in previous research, whether conceptual or empirical. Very little of those research projects had SMEs in mind or were undertaken in a SME environment. Although it can be conceptualised that all of these modes, with perhaps the exception of the rational mode, may exist in SMEs, it is important to present the literature that focuses on strategy-making in SMEs first. In the following section strategy-making in SMEs is investigated and briefly compared to the rational, adaptive, entrepreneurial, participative and symbolic approaches to strategy-making.

2.4 STRATEGY-MAKING IN SMEs

It is arguable whether typologies of strategy-making that were developed for large firms can be generalised to small firms (Dean, Brown and Bamford, 1998). That is because it is possible that the correlates of performance differ between large and small firms

(Castrogiovanni & Justis, 2002). In the New Zealand context where SMEs are defined as firms with fewer than 100 full-time equivalent employees (FTEs), it may also differ from research undertaken in US and Canadian SMEs which are defined as firms with fewer than 500 FTEs and even Australian and European research where SMEs are defined as firms with fewer than 250 FTEs (Analoui & Karami, 2002; Curran & Blackburn, 2001; Miller & Toulouse, 1986; Ogunmokun, Shaw & FitzRoy, 1999). While the size of New Zealand SMEs is discussed in Section 5.2, it should be noted that little research on strategy-making in New Zealand SMEs or even SMEs with less than 100 FTEs could be found. This section therefore draws on studies of firms with less than 500 FTEs. Where studies focus on larger SMEs the results are treated with caution and only serve as a basis for discussion and ultimately the formulation of propositions.

Generally speaking research into strategy-making in SMEs has been haphazard, often descriptive and lacking a strong theoretical framework. This section aims to provide support for the preceding statement by summarising the research on strategy-making in SMEs, and the likelihood that some of the modes of strategy-making process identified earlier in this chapter may be used by SMEs.

The nature of strategy-making in SMEs cannot be investigated without acknowledging the disagreement in the literature about whether it takes place at all. Most studies that investigate strategy-making behaviour in SMEs agree that these firms do not engage in 'traditional' or 'formal' strategic planning (Ogunmokun et al., 1999) as rational strategy-making is often called when the phenomenon is investigated in SMEs. The lack of strategic planning in small businesses is attributed to a variety of factors, including a lack of time and know-how. Robinson and Pearce (1983) point out that it is highly personalised and influenced by the owner or manager who may get locked up in operational issues and consequently neglects strategic planning. But they find no significant difference between the performance of small banks that engage in strategic planning and those who do not. A study undertaken by Orpern (1985) in 58 small businesses found that there is no significant correlation between any of the performance measures used and long-range planning. Results like this may influence the motivation of the firm to engage in formal planning.

This notion is supported by Ogunmokun et al. (1999) who found in a study of 48 small Australian businesses that another factor that may also contribute to the lack of motivation to plan, namely the rewards that were expected from doing planning.

This performance expectation when making strategy is a common thread in a number of studies. Storey (1994) explains that growing firms tend to plan more, but he is not able to explain whether it is the growth that leads to planning, or the planning that leads to growth. Entrepreneurial or new ventures that need outside finance have to create a business plan for financing purposes. These plans are not perceived as anything but a tool to acquire finance (Anderson & Atkins, 2001), but there is empirical evidence that suggests that the extent and quality of these plans is a critical factor in the success of new ventures (Frank, Plaschka & Roessl, 1989).

SMEs may also choose to engage in strategy-making to outperform firms that do not employ any strategy-making practices. In these firms, owners or managers do not make a distinction between strategy formulation and implementation (Beaver & Jennings, 2000) which implies that either an adaptive or an entrepreneurial process is used. According to Frost (2003) it can be argued that a small firm's commitment to strategy-making is crucial and that SMEs can improve their performance significantly through strategy-making. This argument does not dictate the manner in which strategy-making occurs, since this will be influenced by various factors such as firm size, age and the nature of the firm environment.

From the preceding discussion it is clear that SMEs, just like large firms, place differing emphases on strategy-making and may employ different modes of strategy-making. Researchers are also not able to provide a definitive answer on the question of what the likelihood is that strategy-making will lead to improved firm performance (e.g. Orpern, 1985). Although such a relationship can be hypothesised, strong empirical evidence still has to be found. More importantly, empirical evidence for the association between the individual modes of strategy-making, identified in the preceding section, and firm performance also has to be found. Where such evidence has been found, it mostly focuses

on formal processes and does not explain how other strategy-making processes are related to firm performance (Bracker & Pearson, 1986).

Several authors comment on the nature of the strategy-making processes employed by small firms. Strategy-making processes in smaller firms can be described as special and frequently unique (Beaver & Jennings, 2000; Cooper, 1979). Robinson and Pearce (1983, 1984) characterise strategic planning in small firms as informal, unstructured, irregular, incomprehensive, short term and reactive. According to them a competitive advantage arises as a result of the specific operating circumstances of the firm. Strategy-making in SMEs, according to Beaver and Jennings (2000), is an adaptive process. This means that efforts do not focus on changing the environment, but rather on adapting quickly to it through suitable tactics. Strategy-making is therefore practised more instinctively and informally relative to large firms. Sexton and Van Auken (1985) describe planning behaviour in SMEs as unstructured, irregular, incomprehensive, incremental, sporadic and reactive. McCarthy and Leavy (1998/9) report an in-depth, longitudinal study of nine SMEs with fewer than 120 employees from different industries. They show that there are two distinct types of owners/entrepreneurs in these businesses, and that they make strategy in different ways. The charismatic owner makes strategy in a visionary, idealistic and intuitive manner. The pragmatic owner makes strategy in a rational, planned and analytical manner. The pragmatic owner's thinking is conservative; they are concerned about the economy and driven by skills and knowledge. Miller and Toulouse (1986) find that successful Canadian SMEs have specific strategies that coordinate, unify and motivate middle managers, longer planning time horizons and more detailed decision analysis. It is, however, noteworthy that SME in a Canadian context, means 500 or fewer employees. A common theme that arises from these studies is the use of an *adaptive* mode of strategy-making. The last two studies do, however, point towards the use of either a *symbolic* or a *rational* mode of strategy-making.

A variety of other studies is noteworthy, but adds little that is new to the discussion. Anderson and Atkins (2001) suggest that small firms can use one or more of the following approaches to strategy-making, namely robustness (similar to the umbrella strategy of

Mintzberg and Waters, 1985, or entrepreneurial strategy-making of Mintzberg, 1973); flexibility (adaptive strategy); the 'butterfly' strategy (experimentation followed by learning); and the 'lottery' strategy (experimentation alone). Anderson and Atkins's study is conceptual in nature but the purpose behind the development of this typology is the perceived inability of current modes of strategy-making to cope with environmental uncertainty. This is one of few typologies developed specifically for SMEs, but except for new terminology it adds little that is new to the debate on strategy-making modes in SMEs.

De Vries and Margaret (2003) report on the strategic management practices of New Zealand SMEs from a study of 20 interviews with firms from the furniture manufacturing industry. Unfortunately this study focuses on the development of a research framework for future research and provides no specific information about the strategy-making practices of New Zealand SMEs. The 'Competitive Advantage New Zealand' research project (e.g. Campbell-Hunt, 2001) also investigates strategic issues in New Zealand firms of all sizes but does not focus specifically on strategy-making process. Noteworthy is the study by Massey, Ashby, Coetzer, Harris and Lewis (2005) which find that 44 per cent of their sample of small and medium sized New Zealand firms report that they have a strategic plan. Although the existence of such a plan has not been found to correlate with the presence of strategy-making processes in firms, it does, however, indicate that some strategic activities occur in these firms – even if it is just to contract a consultant to provide such a plan. More to the point, in a report from the Ministry of Economic Development, Knuckey and Johnston (2002) investigate the business practices and performance of 2 756 New Zealand firms. Firms with six or more FTEs were included in the study and although no average firm size is reported, it can be assumed that it would be similar to the average size of this study, since most New Zealand firms have less than 100 FTEs. The result of the study suggests that New Zealand firms focus on the short to medium term. Only 18 per cent of firms set formal goals that span more than one year and ANOVA results suggest that this number is even lower for SMEs.

In a study by Chen and Hambrick (1995) it is explained that smaller businesses initiated competitive challenges more actively, and are speedier and more secretive in executing

their challenges than larger firms. Spillan and Ziemnowicz (2003) studied 40 small Guatemalan retail firms through in-depth interviews. The largest firm in their sample had 37 employees. Most of these firms participate in a variety of strategic management activities, but mostly in an informal manner. Twenty six of these firms are strongly committed to pro-active strategy-making. Both these studies suggest an approach similar to Hart's (1991) generative strategy-making, thus an aspect of *entrepreneurial* strategy-making.

This brief overview of strategy-making in SMEs makes mention of all five modes of strategy-making identified earlier in this chapter, with the exception of the participative mode of strategy-making. It is, however, reasonable to propose that participation may be a critical mode of strategy-making that SMEs employ because of their small size and close proximity of staff. Chapter Four provides further arguments for the use of these five modes of strategy-making by SMEs and formulate propositions to this effect.

2.5 SUMMARY

This chapter presents the reader with a historical background to strategic management and strategy-making and define these concepts. It is suggested that firms in general, and SMEs specifically, may employ different modes of strategy-making. A set of strategy-making processes that is developed for use in a research project such as this is called a typology of strategy-making. Several such typologies from past studies are identified in this chapter and summarised as a new typology which can potentially be used when researching strategy-making in SMEs. The typology for this study consists of the rational, adaptive, participative, symbolic and entrepreneurial modes of strategy-making. It is explained that each mode of strategy-making is characterised by a number of aspects, such as bottom-up or top-down behaviour, emergent or deliberate strategies, pro-active or reactive behaviour, time horizon and risk taking. The chapter concludes with an overview of the research of strategy-making in SMEs, indicating that the five modes identified in this chapter may be relevant to SMEs.

CHAPTER 3 - THE ENTREPRENEURIAL ORIENTATION, CONTEXT AND STRATEGIES OF SMALL AND MEDIUM ENTERPRISES

3.1 INTRODUCTION

Strategy-making processes provide only one clue to how the strategic management practices of firms affect their performance (Pettigrew, 1987). Although these processes are the focus of this study, a more realistic solution to the research question can be provided by including some context and content variables. Several such variables have been identified in past studies, and will form the basis for discussion in this chapter.

The purpose of this chapter therefore provides a brief overview of a selection of context and content variables that may affect the success of the various modes of strategy-making in SMEs. Context variables refer to the factors in the external, industry and internal environments of the firm that may influence the strategy-making process of a firm. The firm level variables that have been linked most often to performance in SMEs are included in this chapter to ensure that a comprehensive research framework can be built in the next chapter. Specifically, the concept of entrepreneurial firms is explored because of the overlap in references to entrepreneurial and small firms in the literature.

This chapter also presents the types of strategies that may result from strategy-making processes. In this regard the focus is on business strategies, also termed competitive or generic strategies (Porter, 1980). It is important to note that since these concepts are not the primary focus of this study, they are merely introduced and defined in this chapter so that they can be used as part of the research framework that is developed in the next chapter. First the concept of entrepreneurship is introduced as a basis for the discussion on entrepreneurial firms that will follow.

3.2 ENTREPRENEURSHIP

The study of entrepreneurship goes back as far as the writings of Knight (1921) on risk and uncertainty, Schumpeter (1934) on new combinations and creative destruction, and Penrose (1959) on entrepreneurial services and product opportunities. These economists were the first to recognise the importance of entrepreneurship. In 1974 entrepreneurship as a field of study was recognised by the Academy of Management's business policy division. The 1990s has seen development in disparate fields such as corporate entrepreneurship, entrepreneurial orientation (EO), macro environmental linkages, pioneering advantages, international entrepreneurship and career alternatives. As a field of study entrepreneurship draws from similar disciplines as does strategic management, for example economics (e.g. job or wealth creation and market entry), psychology (e.g. trait theory), organisational behaviour (e.g. entrepreneurial teams), and finance (e.g. firm performance) (Hitt & Ireland, 2000).

Entrepreneurship as a field of study has been hampered by uneven development in different aspects of entrepreneurship, lack of consistency of terminology and method, and its relative isolation from informing fields of study such as marketing, management and psychology (Brazeal & Herbert, 1999). It has further been associated with individuals, groups and firms, which makes it particularly hard to define (Lumpkin & Dess, 1996). A unified, unfragmented perspective on entrepreneurship as a field of study still remains to be developed, but since that is not the purpose of this thesis to provide such a definition, definitions of entrepreneurship that focus on the characteristics of entrepreneurship (individual level), or the outcome thereof (firm level) will be provided.

Entrepreneurship can be studied in the context of either individual or firm behaviour. Early studies in entrepreneurship focused on individual characteristics and personality traits of individual entrepreneurs, and their role in economic development (Brazeal & Herbert, 1999; Shane & Venkataraman, 2000). Representative of this first group, is the definition of Schumpeter (1934) that defines an entrepreneur as a person who carries out new combinations that may take the form of the products (or services), processes, markets,

organisational forms, or sources of supply. Sharma and Chrisman (1999) also fall into this group with their definition of entrepreneurs as 'individuals or groups of individuals, acting independently or as a part of a corporate system, who create new [firms] or instigate renewal or innovation within an existing [firm]' (p. 17). These definitions concentrate on the entrepreneur as an individual or part of a group. What is of importance to this study is that many of these definitions indicate that an entrepreneur makes use of strategic practices (Carland, Hoy, Boulton & Carland, 1984). Since this study will concentrate on entrepreneurship as a firm level phenomenon, the second group of definitions discussed next is of more value.

This firm level approach is becoming increasingly important and explains how a firm can behave in entrepreneurial ways (Covin & Slevin, 1991) and since substantial disagreement exists in the literature on the identification and measurement of individual entrepreneurship (e.g. Carland et al., 1984), this thesis will employ firm level entrepreneurship to establish the entrepreneurial behaviour of firms. Firm level entrepreneurship has been associated with a revolutionary invention (Kilby, 1971), corporate entrepreneurship (Guth & Ginsberg, 1990), entrepreneurial orientation (Lumpkin & Dess, 1996), entrepreneurial strategy-making (Dess et al., 1997), entrepreneurial management (Stevenson & Jarillo, 1990), firm level entrepreneurship (Morse, 1996), strategic renewal (Guth & Ginsberg, 1990), corporate venturing (Biggadike, 1979), internal corporate entrepreneurship (Jones & Butler, 1992), pioneering-innovative management (Khandwalla, 1987), and new entry (Lumpkin & Dess, 1996).

Venkataraman (1997) defines the study of entrepreneurship from a firm level perspective when he describes it as a scholarly field that investigates how opportunities that may lead to new products or services are discovered, created and exploited, by whom this is done, and what the consequences thereof are. Chrisman, Bauerschmidt and Hofer (1998) define entrepreneurship as the creation of new ventures, and entrepreneurs as the creators of new ventures. Shane and Venkataraman (2000) define entrepreneurship as an activity that is 'concerned with the discovery and exploitation of profitable opportunities' (p. 217). Miller (1983) defines entrepreneurship as 'the process by which organizations renew themselves

and their markets by pioneering, innovation and risk-taking' (p. 770). Sharma and Chrisman (1999) also provide a definition that defines entrepreneurship as 'acts of organizational creation, renewal, or innovation that occur within or outside an existing [firms]' (p. 17). They continue to provide a more comprehensive definition of entrepreneurship that includes the three important parts of entrepreneurship, namely the sources of opportunities, the processes and the individuals involved. This definition will be utilised as a general definition of firm-level entrepreneurship for the purposes of this study:

Entrepreneurship [explains] how, by whom and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited
(Sharma & Chrisman, 1999, p. 18).

As explained before, EO is one such example of firm level entrepreneurship. Briefly explained, EO refers to the extent to which firms are inclined to act innovatively, pro-actively and engage in risks (Covin & Slevin, 1989). Various authors use different words for EO, but define it similarly. It is important to explain the concept of EO before it is defined for this study. Of the terms used to describe firm level entrepreneurship, several refer to EO specifically. These include corporate entrepreneurship (as used by Covin & Miles, 1999), strategic posture (Covin & Slevin, 1989), entrepreneurial management (Stevenson & Jarillo, 1990), entrepreneurial intensity (Morris & Kuratko, 2002), and internal entrepreneurship (Vesper, 1984). Covin and Miles (1999) for instance say that corporate entrepreneurship includes phenomena such as corporate venturing, intrapreneurship and EO. Yet, in their empirical study, they use the measurement scale that measures the EO of a firm to measure what they termed corporate entrepreneurship – clearly they are referring to EO and not corporate entrepreneurship as defined by Burgelman (1983 – see Table 3.1). This study will therefore incorporate the studies that use terms that refer to EO.

Table 3.1 provided definitions of the various types of firm level entrepreneurship concepts that are found to be most closely related to EO. The last column identifies the most important aspects of each of these concepts as explained by the author of that definition.

Table 3.1: Examples of definitions of firm level entrepreneurship compared for this study

Name of concept	Author(s)	Definition	Aspects/ constructs
Corporate entrepreneurship (CE)	Burgelman (1983, p. 1349)	CE refers to 'the process whereby the firms engage in diversification through internal development. Such diversification requires new resource combinations to extend the firm's activities in areas unrelated, or marginally related, to its current domain of competence and corresponding opportunity set'.	<ul style="list-style-type: none"> • Diversification • Unrelated domain • Opportunity
	Sharma & Chrisman (1999, p. 18)	CE 'is the process whereby an individual or a group of individuals, in association with an existing [firm], create a new [firm] or instigate renewal or innovation within that [firm]'.	<ul style="list-style-type: none"> • Create new firm • Innovation/ Renewal
	Covin & Miles (1999, p. 50)	'The presence of innovation plus the presence of the objective of rejuvenating or purposefully redefining organizations, markets, or industries in order to create or sustain competitive superiority'.	<ul style="list-style-type: none"> • Sustained regeneration • Organisational rejuvenation • Strategic renewal • Domain redefinition
Internal CE	Jones & Butler (1992, p. 734)	Internal CE 'refers to entrepreneurial [behaviour] within one firm'.	<ul style="list-style-type: none"> • Entrepreneurial behaviour
Entrepreneurial orientation	Lumpkin & Dess (1996, pp. 136-137)	'An EO refers to the processes, practices, and decision-making activities that lead to new entry [and] involves the intentions and actions of the key players functioning in a dynamic generative process aimed at new-venture creation'.	<ul style="list-style-type: none"> • Innovativeness • Risk-taking • Pro-activeness • Autonomy • Competitive aggressiveness
	Covin & Slevin (1989, p. 77) (based on Miller, 1983)	'The EO of a firm is demonstrated by the extent to which the top managers are inclined to take business related risks, to [favour] change and innovation and to compete aggressively with other firms'.	<ul style="list-style-type: none"> • Risk-taking • Innovativeness • Pro-activeness
Corporate venturing	Biggadike (1979, p. 104)	'A corporate venture is defined as a business marketing a product or service that the parent company has not previously marketed and that requires the parent company to obtain new equipment or new people or new knowledge'.	<ul style="list-style-type: none"> • New product/service • Require new resources
Strategic renewal	Zahra (1993a, p. 321)	'Renewal has many facets, including the redefinition of the business concept, [reorganisation] and the introduction of system-wide changes for innovation Renewal is achieved through the redefinition of a firm's mission through the creative redeployment of resources, leading to new combinations of products and technologies'.	<ul style="list-style-type: none"> • Redefinition of business concept • Change in resources and systems
Marketing orientation	Miles & Arnold (1991)	A business orientation that refers to a customer orientation, customer satisfaction, coordinated or integrated marketing and a focus on profitability.	<ul style="list-style-type: none"> • Customer satisfaction • Integrated marketing
Pioneering advantage	Song, Di Benedetto & Zhao (1999)	The competitive advantages that a firm that pioneer new products stand to gain from for example economies of scale and scope, a leader reputation and distribution channel relationships.	<ul style="list-style-type: none"> • Competitive advantage • New products

When these definitions are compared with the definition of EO provided in the same table, it is clear that these concepts inform EO, but are different enough not to be considered in this study. The exception is studies of corporate entrepreneurship that use the same scale to measure corporate entrepreneurship as EO as indicated before (Covin & Miles, 1999). This means that even though the concepts are labelled differently, their content is the same in those cases. This may, however, be a case of incorrect labelling if the above definitions are considered to be representative of the broad corporate entrepreneurship literature.

This section set the background for the study of EO in this thesis. It introduced the concept of individual and firm level entrepreneurship and discussed the various types of firm level entrepreneurship. In the subsequent section, EO and entrepreneurial firms are explored in more depth.

3.3 ENTREPRENEURIAL ORIENTATION (EO)

The preceding discussion infers that an entrepreneurial firm will exhibit the characteristics or aspects of an EO, and will therefore have a high level of EO. This approach is characteristic of one approach to defining EO. In this approach EO is seen as a type of business orientation of the firm. One dictionary definition of orientation is that it is 'an integrated set of attitudes and beliefs' (Miller, Fellbaum & Teng, 1997). A sister word for this type of orientation is culture, the attitudes and behaviour that are characteristic of a firm. Several business orientations can exist in firms, either independently, or alongside each other. A firm's business orientation is 'those underlying philosophies that determine the nature and scope of its activities and plans' (Miles & Arnold, 1991, p. 49). These business orientations may include customer orientation, competitive orientation or a marketing orientation. A close link has been found between the EO of a firm and some of these orientations, such as a marketing orientation. Marketing orientation encourages behaviours that ensure superior value for buyers, and therefore superior firm performance (Narver & Slater, 1990). This relationship has been conceptualised in many ways, for example that EO is a more proactive marketing orientation or that marketing is a means of

achieving corporate entrepreneurship, or that EO is a complement to marketing orientation (Becherer & Maurer, 1997). If a similar approach to defining EO is followed, it can be viewed as indicative of an organisational culture that the firm exhibits or possesses, and is represented by or creates certain behaviours such as risk-taking, innovativeness and pro-activeness.

Schein (1985) explains that organisational culture consists of the artefacts and creations (e.g. technology, rituals and stories), values (e.g. creativity, integrity, achievement or individualism), and basic assumptions (e.g. about the nature of relationships or human nature) held by the firm. These components are collectively held by most employees of the firm. Cornwall and Perlman (1990) define organisational culture in their book about organisational entrepreneurship as a firm's basic beliefs and assumptions about what it is about, how its members should behave and how it views its relationship with its environment. Cornwall and Perlman describe certain aspects of an entrepreneurial culture, such as risk-taking, attention to detail, empowered leadership, integrity, trust, credibility, effectiveness and efficiency. Peters (1997) adds aspects such as experimentation, innovation, involvement and customer focus. The research on an entrepreneurial culture is still in its infancy, but the relationship with EO is clear, and following the arguments of authors such as Miles and Arnold (1991) and Narver and Slater (1990), this thesis maintains that EO is indicative of an entrepreneurial culture in a firm, that is, an entrepreneurial firm.

Another approach to defining EO is to view it as a process. Proponents of this approach are Lumpkin and Dess (1996) who propose that whereas entrepreneurship can be compared to the 'content' concept of strategic management, EO can be compared/equated to the 'process' concept of strategic management. 'That is, new entry explains what entrepreneurship consists of, and entrepreneurial orientation describes how new entry is undertaken' (p 136). Authors such as Covin and Slevin (1989) and Miller (1983) use strategy-making process concepts to model a firm's entrepreneurial orientation. The aspects that they identify are autonomy, risk-taking, innovativeness, pro-activeness and competitive aggressiveness. According to Covin and Slevin (1989) these make up the

'strategic posture' of an entrepreneurial firm. All these factors may be present when a firm enters a market, but the environmental and organisational context may influence which factors will make a particular entry successful (Lumpkin & Dess, 1996). This view of EO as a process is different from the view of EO as an organisational culture, and adds to the confusion between EO and entrepreneurial strategy-making which is discussed in Section 3.4 of this chapter. For the purposes of this study, the term EO will be used to describe a philosophy that permeates an entire firm's outlook and operations – its culture, while entrepreneurial strategy-making will refer to the strategic management process. Such an EO consists of aspects such as risk-taking, innovativeness, pro-activeness (Covin & Slevin, 1989), aggressive competitiveness and autonomy (Lumpkin & Dess, 1996).

From the preceding discussion, EO can now be defined. EO has been described as the organisational processes, methods and styles used to implement the firm's strategy and can be viewed as the culture of the firm (Lee, Lee & Pennings, 2001). This view of EO as an organisational culture opposes the view of EO as a firm process, and will be followed in this study. EO is therefore defined as:

an organisational culture which is represented by autonomous, risk-taking, innovativeness, pro-activeness and competitive aggressive behaviour.

Firms with high levels of EO, as shown before, are known as entrepreneurial firms (Morris & Kuratko, 2002). Stevenson and Jarillo (1990) propose that an entrepreneurial firm is a firm that pursues opportunity, regardless of whether it has the resources to do so successfully. Mintzberg and Waters (1982) describe it as a firm that has a simple structure, is small, personalised, flexible, and knowledge-based. Miller and Friesen (1982) posit that both entrepreneurial and non-entrepreneurial (or conservative) firms exist and that they would act differently in relation to several aspects, such as structure and strategy-making. For example, entrepreneurial firms usually have organic organisational structures whereas non-entrepreneurial firms mostly have mechanistic organisational structures. Covin and Slevin (1989) explain that entrepreneurial firms are firms in which certain behavioural

patterns, such as risk-taking, innovativeness and pro-activeness, reoccur. This is supported by other authors, such as Khandwalla (1976/77) and Mintzberg (1973).

This study bases the definition of an entrepreneurial firm upon Miller and Friesen's (1978) 'innovators', Miles and Snow's (1978) 'prospectors' and Mintzberg's (1973) 'entrepreneurial firms'. An entrepreneurial firm will therefore display characteristics such as innovation, centralised decision-making (vision or command mode), organic organisational structure, and risk-taking. It can be defined as

a firm in which particular [behavioural] patterns are recurring (Covin & Slevin, 1991, p. 7). These patterns are entrepreneurially orientated and include aspects such as innovativeness, risk-taking, pro-activeness, competitive aggressiveness and autonomy.

In the remainder of this section the five aspects of an EO, as identified in the definition of EO and entrepreneurial firms, are explained.

3.3.1 Autonomy

Autonomy is both the reason why individuals choose to be entrepreneurs and something that fosters entrepreneurship in firms. It 'refers to the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion' (Lumpkin & Dess, 1996, p 139). It manifests itself in small firms as the autocratic behaviour of the owner who has a vision for the firm and commands it towards that vision (Hart, 1992; Mintzberg, 1973). Another manifestation that can also occur in larger firms is the emergent strategies/ideas that members of the firm develop and pass on to management (see Hart, 1992 for 'generative strategy'; Mintzberg & Waters, 1985 for 'emergent strategies'). Autonomy of the entrepreneur differs from the discussion of organisational actor autonomy in Section 2.3.2. Although both these concepts refer to the ability of an individual to undertake independent action and having the authority to follow through on his/her convictions, autonomy of the entrepreneur is concerned with the actions of a person

or a team that leads to the creation of a new idea or venture, while autonomy of organisational actors refers to the ability of a person or a team within a firm to influence the strategic direction of the firm, which is typically the result of a facilitating, participative culture.

3.3.2 Innovativeness

Innovativeness 'reflects a firm's tendency to engage in and support new ideas, novelty, experimentation and creative processes that may result in new products, services or technological processes' (Lumpkin & Dess, 1996, p. 140). Innovativeness is a central construct of entrepreneurship (Miller & Friesen, 1978; Schumpeter, 1934). Lumpkin and Dess (1996) suggest that innovativeness can fall in different places on a continuum, ranging from willingness to experiment to a passionate commitment to master the latest in new products or technological advances. Innovativeness is one commonality that can be found between all firms that are classified as entrepreneurial. Entrepreneurial innovativeness can be defined as the 'willingness to support creativity and experimentation in introducing new products/services, and novelty, technological leadership and research and development in developing new processes' (Dess & Lumpkin, 2001, p. 431). These authors further explain that momentum is a pervasive force in firms, and that a firm with a propensity for innovativeness (entrepreneurial firms) will become more innovative over time unless there are key obstacles acting to stop it. These obstacles may come from scanning or control systems that reveal it to be wasteful or expensive, analysis of decisions, environmental conditions and structural factors (see Miller and Friesen, 1982 for a full discussion). Innovativeness as used in this context refers to the characteristics and behaviour of the firm and differs from innovation as a strategy which is concerned with the introduction of new ideas as a means to an end (usually profitability, growth or survival). However, the latter is likely to be a consequence of innovativeness (Hitt, Hoskisson & Kim, 1997). Covin and Miles (1999) argue that the central place of innovativeness in the EO concept may mean that the other aspects could be antecedents, consequences or correlates that assist in defining the domain of EO.

3.3.3 Risk-taking

Risk-taking can be defined as ‘the degree to which managers are willing to make large and risky resource commitments those which have a reasonable chance of costly failures’ (Miller & Friesen, 1978, p 923). The definition encompasses high leverage from borrowing and heavy commitment of resources that are both typical of firms with an entrepreneurial orientation (Lumpkin & Dess, 1996). To distinguish between risk levels, authors refer to concepts such as risk perceptions, risk preference and risk propensity (Sitkin & Pablo, 1992). Risk propensity is important to the EO of a firm and the way risk should be viewed for the purposes of this study. Risk propensity in EO is interpreted as a moderate or calculated risk (Dess & Lumpkin, 2005; Morris & Kuratko, 2002). According to Marino, Strandholm, Steensma and Weaver (2002), high risk projects are too uncertain and low risk projects are not challenging enough and the pay-off may be too small. This is especially true for SMEs that have a small margin for error because of their limited resources.

In a conceptual article on a contingency model of strategic risk-taking, Baird and Thomas (1985) view risk-taking as extremely complex when firms formulate and realise strategies. Risk-taking in firms can be viewed from multiple perspectives. Palmer and Wiseman (1999) identify two distinct views, namely managerial risk-taking which describes managerial choices associated with uncertain circumstances, and organisational risk, which is a result of volatile income streams. Managerial risk-taking is more relevant to EO.

3.3.4 Pro-activeness

Miller and Friesen (1978) decide whether a firm is pro-active by asking the question: ‘Does it shape the environment by introducing new products, technologies, administrative techniques, or does it merely react?’ (p. 23). Lumpkin and Dess (1996) state that ‘a pro-active firm is a leader rather than a follower, because it has the will and foresight to seize new opportunities, even if it is not always the first to do so’ (p. 143). They also note that the opposite of pro-activeness in terms of an entrepreneurial culture is passiveness, rather

that reactivity, because re-activeness 'suggests a response to competitors' (p 143). Pro-activeness has not received as much attention in the EO literature as the previous two aspects, yet, entrepreneurship centres on the recognition of and pursuit of favourable opportunities (Dess & Lumpkin, 2001). Pro-activeness is closely related to Miles and Snow's (1978) prospectors which are viewed as entrepreneurial firms. This indicates the importance of pro-activeness, often called first-mover advantages, to the EO construct. Various studies have supported the importance of first-mover advantages to the performance of a firm (Lieberman & Montgomery, 1988, 1998; Porter, 1980). Pro-activeness is therefore an important aspect of EO which should be exhibited consistently in entrepreneurial firms.

3.3.5 Competitive aggressiveness

Competitive aggressiveness is essential to the success of new entrants (Porter, 1985). It refers to 'a firm's propensity to directly and intensely challenge its competitors to achieve entry or improve position' (Lumpkin & Dess, 1996, p. 145). Competitive aggressiveness is characterised by responsiveness, willingness to be unconventional, scanning of the environment, and overcoming competitors. Some authors argue that competitive aggressiveness should form part of the pro-activeness aspect of EO (e.g. Knight, 1997), but Lumpkin and Dess (1996) find empirical support for its existence as an independent aspect.

This section defined EO as an organisational culture that exhibits aspects such as risk-taking, autonomy, competitive aggressiveness, pro-activeness and innovativeness. The purpose of defining EO was twofold. Firstly, a definition of EO would enable firms to be classified as entrepreneurial or non-entrepreneurial by measuring the level of the EO in the firm. Secondly, EO has to be defined in order to compare it to entrepreneurial strategy-making. The clarification of the latter is the objective of the subsequent section.

3.4 COMPARING ENTREPRENEURIAL STRATEGY-MAKING AND EO

While entrepreneurship and strategic management have mostly developed independently of each other, both fields of study focus on how firms adapt to environmental change and exploit opportunities created by uncertain environmental conditions to create wealth (Hitt, Ireland, Camp & Sexton, 2001). Many authors (e.g. McGrath & MacMillan, 2000; Meyer & Heppard, 2000) argue that these two fields are inseparable and should be integrated in research. Strategic management (or 'strategy-making', the term preferred in this thesis) provides the context for entrepreneurial actions. Entrepreneurship is about creation or innovation while strategy-making is about how the product or service that has been created, is advanced or commercialised (Hitt et al., 2001).

Two concepts that exist at the intersection between strategy-making and entrepreneurship have been discussed in the literature review. The discussion of entrepreneurial strategy-making and EO reveal several similarities. Many of the aspects of EO and entrepreneurial strategy-making constructs from Sections 2.3.3 (e) and 3.3 are repetitive because both these constructs are aspects of firm level entrepreneurship. This section aims to clarify the similarities and differences between EO and entrepreneurial strategy-making before they are investigated in the empirical part of this study.

The aim of strategy-making is the growth and improvement of the firm, which is similar to that of entrepreneurship which focuses on growth and innovation. Strategy-making seeks competitive advantage which may lead to growth. Entrepreneurship fulfils strategy-making's search for competitive advantage through various innovations. Both entrepreneurship and strategy-making are dynamic processes that examine the behaviour and performance of the firm (Ireland, Hitt, Camp & Sexton, 2001). The two constructs that typify the intersection of these two fields of investigation are entrepreneurial strategy-making and EO. These two constructs have developed alongside each other and informed each other on several occasions (e.g. Covin & Slevin 1991; Miller, 1988) over the past thirty years.

The entrepreneurial strategy-making stream has its foundation in the research of Mintzberg (1973) who describes three modes of strategy-making in firms, of which one is the entrepreneurial mode. Entrepreneurial strategy-making, according to Mintzberg, is executed by a powerful leader and has aspects such as vision, pro-activeness and risk-taking. Other research substantiates the existence of entrepreneurial strategy-making as an approach to strategy-making in firms. These include Dess et al. (1997), Miller and Friesen (1984) and Mintzberg (1990).

The EO stream builds on the work of Khandwalla (1976/77) and explains entrepreneurship as a business philosophy that exists at the firm-level. This construct is called EO. The seminal work on EO is that of Covin and Slevin (1989) who identify three aspects of EO, namely pro-activeness, risk-taking and innovativeness. They also develop a scale, based on the work of Miller (1988) that is used in most research on EO and entrepreneurial firms. Other authors, such as Lumpkin and Dess (1996) who add another two aspects to EO, namely autonomy and competitive aggressiveness, explore this construct further.

The relationship between EO and entrepreneurial strategy-making can now be argued by comparing the aspects and definitions from the previous sections. Firstly, the aspects of entrepreneurial strategy-making and EO are compared. Table 3.2 indicates how these aspects overlap by summarising and comparing the aspects of entrepreneurial strategy-making and EO. A slightly different exposition of aspects is used from that in Chapter Two, because EO is not expected to be a mode of strategy-making. Observation of Table 3.2 indicates that all the aspects of EO, namely pro-activeness, autonomy, innovativeness, competitive-aggressiveness and risk-taking can also be found in the entrepreneurial strategy-making construct. Entrepreneurial strategy-making does, however, exhibit several aspects that are not part of the EO construct. The most important of these are the use of vision or umbrella strategies with more detailed strategies emerging informally from within the firm; and the flexibility and adaptiveness of the entrepreneurial strategy-making process. These aspects clearly indicate the processual nature of the entrepreneurial strategy-making construct versus the more static, philosophical nature of the EO construct.

Table 3.2: A comparison of the aspects of entrepreneurial strategy-making and EO

Aspects	Construct	Entrepreneurial mode of strategy-making	EO
1. Top-down vs. bottom-up		Power in the hands of entrepreneur	Autonomy
2. Process of analysis		Bold decisions and risk-taking	Risk-taking
3. Competitive action		Search for opportunities	Competitive aggressiveness
4. Innovativeness		Innovation	Innovativeness
5. Interaction with environment		Pro-activeness, flexible and adaptive	Pro-activeness
6. Focus of strategies		Focus strategies	
7. Use of vision		Visioning and umbrella strategies	
8. Emergent/deliberate strategies		Emergent strategies, learning, participation and experimentation	
9. Time horizon		Long-term orientated	
10. Nature		Process	Organisational culture

Source: Verreyne and Monin (2004)

The differences are further exacerbated when the definitions of the two constructs are compared. It becomes clear that entrepreneurial strategy-making is a strategy-making process that a firm can adopt. It is very likely that a firm that employs entrepreneurial strategy-making as a strategy-making process will have an EO as its culture, or part thereof, and would therefore be an entrepreneurial firm. Lastly, the items in the scales that are typically used to measure EO and entrepreneurial strategy-making (see Appendix A) are compared. Once again it is clear that the EO scale includes items that use words such as ‘philosophy’, ‘approach’ and ‘emphasis’, while the items in the strategy-making scale that inform entrepreneurial strategy-making are all actions, referring to a process. Thus, an entrepreneurial orientation is a culture or philosophy that provides a foundation for a firm’s strategy-making process (Becherer & Maurer, 1997).

This relationship has several implications. Firstly, EO is a culture that facilitates entrepreneurial strategy-making, but entrepreneurial strategy-making can also have a strategy to instil EO as an organisational culture. Secondly, overlapping aspects may have different meanings. An example of this is innovation which is a strategy that is often followed by firms that employ an entrepreneurial strategy-making mode (Burgelman, 1983), but in EO innovativeness is a behaviour which facilitates or improves the likely

success of innovation as a strategy. Thirdly, EO is central to entrepreneurial strategy-making in a firm where both constructs exist. It does not mean that EO cannot exist without entrepreneurial strategy-making, or even with another mode of strategy-making, in the same firm. This is explored in the empirical part of this study. The other aspects of the firm context that are addressed in this study have been well conceptualised in the literature and are briefly introduced below.

3.5 THE FIRM CONTEXT

Research constantly examines how the environment influences a firm's strategy (e.g. Venkatraman & Prescott, 1990), its strategy-making processes (e.g. Miller & Friesen, 1983) and its EO (e.g. Zahra, 1993a). Covin and Slevin (1988) for instance argue that the relationship between firm performance and entrepreneurial management is enhanced if there is a good fit with certain contextual factors. The discussion of a firm's context that follows is divided into a brief examination of specific external, industry and internal factors that influence the relationship between strategy-making processes and firm performance.

3.5.1 External environment

According to Smircich and Stubbart (1985) the environment constitutes some 'set of forces to be adapted to, co-aligned with, controlled, or controlled by' (p. 725). The relationship between an enterprise and its environment can be viewed through many different conceptual frameworks including contingency theory, transaction cost economics, resource dependence theory, network approaches, organisational ecology, and new institutionalism angle (Davis & Powell, 1991). Strategic management literature describes a firm as an open system that exists in the environment (Smircich & Stubbart, 1985). This view of an organisation as an open system is most prevalent in the first three conceptual frameworks mentioned above. Furthermore, many researchers (e.g. Covin & Slevin, 1989; Miller, 1983) have argued that entrepreneurial firms are pro-active in their approach to the environment. In this regard, pro-active is the opposite of passive, and not reactive as is the

case when strategy-making is investigated. Whether firms are pro-active or passive in their approach to the environment may depend on the level of environmental uncertainty.

Dess et al. (1997) characterise the uncertainty that the environment holds for firms along aspects such as unpredictability, dynamism and heterogeneity. These aspects refer to the nature and scope of change in a firm's environment that arises from factors such as government regulations, competition and technological progress (Zahra, 1993a). Firms react or cope with environmental uncertainty in various ways. These include risk-taking, innovative behaviour, pro-active strategies and pioneering (Khandwalla, 1987, Miller, 1983). Dess and Beard (1984) use three aspects, namely complexity, dynamism and munificence to describe the nature of the environment. Khandwalla (1976/77) uses dynamism, hostility, heterogeneity, restrictiveness and technological sophistication. Covin and Slevin (1989) classify external environments on a continuum of hostile to dynamic and benign environments. This taxonomy has been used in subsequent studies (e.g. Dess et al., 1997) and suits this study because it addresses the characteristics of the environment in a reasonably parsimonious and quantitative manner which is in harmony with the quantitative approach followed in this study. These taxonomies are similar since the definitions of hostility, unpredictability and complexity, and (absence of) heterogeneity, benignment, and munificence are similar. Benign or munificent environments provide the firm with opportunities and resources for innovation, and should lead to firm profitability, regardless of the firm's strategy. Dynamic environments are unstable even though they may change in predictable ways or have relatively simple structures. Hostile environments are dynamic, complex and change in unpredictable ways (Hart & Banbury, 1994). The external variables in the proposed model will therefore be environmental dynamism, environmental hostility and environmental stability – the preferred term in this study. The influence that the various types of environments may have on the constructs of this study is explained in Chapter Four.

3.5.2 Industry

Since the late 1970s, industrial organisation (IO) theory has formed the basis for much of the research into firm performance. This was legitimised by the important research into the structural characteristics of industries as primary determinants of firm performance by Porter (1980). The IO theorists developed a theoretical framework called the structure-conduct-performance (SCP) model, which proposes a causal relationship between the industry structure and firm performance (Hawawini, Subramanian & Verdin, 2003).

IO economics literature therefore provides a well-established framework for the study of a firm's industry and the effects of industry structural characteristics on a firm. Most IO research on business, corporate and industry level aim to establish the causes of differences in performance (Rumelt, 1987). At the industry level, relationships between industry concentration and industry profitability are sought. Various industry determinants are used in studies such as the present study. For instance, Bain (1959) identifies industry concentration, the degree of product differentiation and entry barriers as three such determinants. Hofer (1975) adds the stage of product or industry life cycle which, according to his theory, may be the most important determinant. The stage of the industry life cycle refers to the components of industry growth and evolution. This means effectively that growth rates will correspond closely to certain life cycle stages (Robinson & McDougall, 2001). Hawawini et al. (2003) adds industry sector to the industry factors that may affect firm performance. Although it is important to account for the effect of industry factors on strategy-making process, few of the above mentioned determinants have been proven to be useful in this regard. It is difficult to theorise that something such as industry concentration might affect strategy-making processes in SMEs. The two industry factors that seem to have the ability to influence strategy-making, namely industry sector and industry life cycle will therefore be examined in this thesis for their impact on the relationship between strategy-making and firm performance.

3.5.3 The internal organisation

Three internal organisational factors, namely structure, age and size keep recurring in the strategy-making literature as issues that may influence the relationships between strategy-making process and firm performance (e.g. Gibson & Cassar, 2002; Lyon, Lumpkin & Dess, 2000; Miller, Dröge & Toulouse, 1988) and are discussed as follows:

a) *Organisational structure*

Organisational structures can be placed on a continuum, ranging from formal to informal. Burns and Stalker (1961) call it mechanistic and organic structures. Mechanistic structures are typically found in stable conditions and exhibit characteristics such as specialisation of tasks, well defined reporting lines, control, authority, an established hierarchy which is reinforced by the location of knowledge of actualities at the top, a tendency for vertical interaction, and an insistence on loyalty and obedience to superiors. This structure is not expected to be as prevalent in SMEs as the organic structure. An organic structure is characterised by flexible administrative relations, informality and delegation. These structures are believed to facilitate innovation. SMEs often have organic structures that 'develop around the interests and abilities of the entrepreneur and are likely to be organic and loosely structured' (Beaver & Jennings, 2000, p. 399). Many authors suggest that organic organisational structures allow for rapid organisational response to changing external forces in unpredictable environments, something that is not typical of mechanistic structures (Burns & Stalker, 1961; Covin & Slevin, 1989; Lawrence & Lorsch, 1976).

The pervasiveness of organic structures in small businesses is supported in the literature. Mintzberg (1979) describes his simple structure as organic with little formalisation, standardisation and one or a few top managers. He further explains that this firm must be flexible because it usually operates in a dynamic environment. These firms are young, small and often vulnerable. Mintzberg proposes that entrepreneurial firms are classic examples of firms with this structure. The simple structure of Mintzberg is similar to the organic structure of Burns and Stalker. Dess, Lumpkin and McGee (1999) describe three

organisational designs that are effective in reducing boundaries, namely the modular type that focuses on its core functional activities and outsources non-core activities to outside specialists, the virtual type that is part of a continuously evolving network of independent businesses, sometimes also called the networked-organisation, and the barrier-free type that typically has fewer layers of management, smaller business units, process teams or interdisciplinary work groups, empowerment, open communications and management willingness to seek close integration and co-ordination internally and externally. This study therefore explore SMEs for the existence of organic structures in small businesses which may impact on managerial processes, including strategy-making, that are used by these firms. In this study, the structure of SMEs will be measured on a scale ranging from mechanistic to organic, and its relationship with strategy-making will be investigated.

b) Age

Research has found that firm actions may vary at different stages of its existence. Greiner (1972), for example, suggests that this may be a result of institutionalisation of behaviours and attitudes, and that few practices can be maintained over a long period of time. Mintzberg (1979) proposes that older firms will exhibit more formal behaviours. More specifically, Cooper (1979) describes the strategy-making processes of small firms in the earlier and later growth stages. He explains that in the earlier growth stages methods are informal, with few policies and direct control. Furthermore, assumptions underlying decisions are sometimes faulty because they are based on little information about the situation. In the later growth stages, delegation of some duties by the founder occur and his/her job becomes more strategic in nature. More formal processes are introduced in communication, policies and control. Even though the growth may free the founder up to be more involved in planning, he/she may also 'lose touch' which may hamper environmental analysis and strategy implementation. At the same time firms that are growth orientated may engage more in innovation because their processes are still far less formal than that of large firms. It is therefore possible that strategy-making and its antecedents may differ depending on the age of the firm. This study investigates whether firm age influences the strategy-making process in SMEs.

c) *Size*

Size is one of the determining factors of this study as the research focuses on firms with fewer than 100 employees. Researchers have maintained for many years that large firms possess numerous advantages over small firms (Baumol, 1967; Hall & Weiss, 1967, Hart & Banbury, 1994), also in regard to their likelihood to make strategy. They base their argument on an assumption that strategy-making is a formal process which does not suit small businesses. Furthermore, it has been argued that strategy-making has to be a formal process to lead to firm success. Whether this argument is valid is one of the questions posed in this thesis.

However, more recent strategy-making research has shown that certain advantages accrue to smaller firms with low market share (Dean et al., 1998). In a comparative study of 28 small and large airlines, Chen and Hambrick (1995) find that competitor actions and responses differ according competitor size. Smaller businesses initiate competitive challenges more actively, are speedier and more secretive in executing their challenges. Other advantages that small firms possess over larger firms, include their ability to seek out protected market niches that are too small or not important enough for larger firms (Porter, 1980), that they are seen as quicker due to structural simplicity, streamlined operations and the limited number of competitive moves (Chen & Hambrick, 1995), a lack of structural inertia (Hannan & Freeman, 1984), entrepreneurial and risk orientated leadership (Hitt, Hoskinsson & Harrison, 1991) and innovativeness. The inability of small businesses to bring their innovations to the market is one of their most limiting weaknesses (Dean et al., 1998). However, Chen and Hambrick (1995) caution that small firms can only be as successful as their larger rivals if they employ competitive strategies that are suitable for them. The impact of firm size on the relationship between the mode of strategy-making and firm performance is therefore extremely important to this study which focuses on small firms.

This section identifies a selection of factors from the firm's external, industry and internal environments that can possibly have an influence on the relationships between strategy-making and firm performance. These factors represent what Pettigrew (1987) terms the 'context' factors of strategic management. In the subsequent section the 'content' factors in the form of business (competitive) strategies will be discussed.

3.6 STRATEGY TYPOLOGIES

Strategies are the 'intended or unintended actions taken to match the [firm] with its environment' (Segev, 1987, p. 565) 'that enables it to achieve its goals and objectives (Chrisman, Hofer & Boulton, 1988, p. 414). Chrisman et al. (1988) explain that 'strategy represents the content outcome of the strategy formulation process' (p. 143). Firms can have single or multiple strategies, and these strategies can exist on corporate level (corporate or grand strategies), business level (business, competitive or generic strategies) and functional level. Although SMEs employ a variety of functional strategies, these strategies seldom determine the strategic direction of the firm. Researchers, as shown in this section, therefore concentrate on the impact and effect of corporate and business strategies on SME performance. However, few smaller firms can divide their organisation and therefore strategies into a formal corporate and business level (Hofer, 1975). Furthermore, most studies that investigate the strategies of SMEs focus on business strategies. Hence, this section investigates the business strategies that are employed by SMEs.

3.6.1 Business strategies

Although it is recognised that strategies exist on all these levels, most research has focussed on business strategies (Parnell, 2002; Porter, 1980; Segev, 1987). Business strategies show how single firms or individual business units of larger firms compete in a specific industry or market (Bowman & Helfat, 2001). Of these, the typologies described by Miles and Snow (1978) and Porter (1980) are most widely used.

Miles and Snow's (1978) typology has received significant attention and is often used in hypothesis development (Hart & Banbury, 1994). It explains the different ways in which firms define and adapt to their markets and the structures and processes to achieve success in this domain (Slater & Olson, 2000). It consists of the following four modes:

- *Prospectors* seek and exploit new products or services and market opportunities;
- *Analysers* follow prospectors into new markets in a cautious manner, while still defending their existing market;
- *Reactors* respond, albeit inconsistently, to the market; and
- *Defenders* concentrate on a section of the market with a stable set of products and customers.

These strategies can be placed on a continuum between pro-activity and reactivity from prospectors, analysers, defenders to reactors. According to Miles and Snow (1978) there will not be any difference in performance between prospectors, analysers and defenders, but reactors will be a failure. Burgelman (1983) exposes that prospectors are likely to use an entrepreneurial mode of strategy-making. He identifies several approaches to the design and management of entrepreneurial systems through prospecting, such as institutionalising innovation through organisational learning, individual entrepreneurship, experimentation and selection, managing the strategic context and organisational design.

Miles and Snow's (1978) typology is interesting, but unfortunately vague about the details of the strategic content. This is rectified by Porter (1980) who suggests that firms can maximise performance by employing one of the following strategies:

- *Differentiation* which aims to create uniquely attractive products or services by using strong marketing capabilities, creative designs, quality, image, and market channel co-operation;
- *Cost-leadership* which aims to produce products and services at a lower cost than competitors through reductions in manufacturing, research and development and other

costs. The products or services that result from this strategy is standard, high-volume and competitively priced; and

- *Focus* which is a niche strategy that focuses the firm's attention on a specific type of customer, product or service, or geographical area.

According to Porter (1980) differentiation and cost-leadership strategies can be placed on opposite sides of a continuum and therefore they will seldom be utilised simultaneously. The middle of the continuum is aptly called 'stuck in the middle'. Furthermore, both of these strategies can have different degrees of focus. He also posits that small firms do not have economies of scale, and will therefore follow either differentiation, or focus differentiation strategies. Several authors find empirical support for Porter's (1980) competitive or generic strategies (Hambrick, 1983; Kotha & Vadlamani, 1995; Miller, 1988). Conversely, Kotha and Vadlamani (1995) find that another competitive strategy typology, namely that of Mintzberg (1988), has better predictive power than that of Porter (1980). Mintzberg's typology consists of six strategies, namely differentiation by price, image, design, quality, support and undifferentiation. Differentiation by price is similar to Porter's cost-leadership, undifferentiation to focus, and the other four are fine-grained versions of Porter's differentiation strategy. Porter's strategies have been criticised for its unrefined nature and inability to explain all competitive strategies. It has also been questioned whether cost-leadership and differentiation should be viewed as mutually exclusive (Hill, 1988) and the simplicity of the typology is also criticised (Mintzberg, 1988).

Researchers of business strategies commonly follow one of two approaches when they investigate the business strategy – firm performance relationship (Parnell, 2002). One approach is to use either Porter's or Miles and Snow's typology or an extension thereof. The other approach is to explore the common ground between the two typologies. One such example is the 1989 study by Segev, who compares the typologies of Porter (1980) with those of Miles and Snow (1978) and finds that differentiation can be compared to prospectors, and cost leadership to defenders. Reactors can be likened to 'stuck in the middle' and analysers would fall somewhere between defenders and prospectors on the

continuum. If this logic is followed, entrepreneurs will follow differentiation strategies. In this study the typology of Porter (1980) is used rather than that of Miles and Snow (1978) or Mintzberg (1988) because most comparable studies use this typology and such an approach would therefore improve the development of hypotheses and comparisons with other studies (Chrisman et al., 1988; Miller, 1988).

3.7 SUMMARY

This chapter presented an overview of the context and content factors that may influence the relationship between strategy-making and firm performance. Contextual factors at the firm, industry and external environmental level were presented. These factors were all chosen for their prevalence in the literature and include firm age, size, entrepreneurial orientation, structure, industry sector and environmental uncertainty. It is suggested that these factors may moderate the relationship between strategy-making and firm performance. Content factors, or specific strategic options, were also presented. In this regard Porter's business level strategies were chosen because they are used most often in research of this nature. It is suggested that these strategies will mediate the relationship between strategy-making and firm performance. The inclusion of the contextual and content factors in this study, allows for the creation of a configurational approach to the investigation into the strategy-making practices in SMEs. This is explained in the next chapter which presents the research framework for this study.

PART 3
THE RESEARCH FRAMEWORK AND METHOD

CHAPTER 4 - THE RESEARCH FRAMEWORK

4.1 INTRODUCTION

The previous two chapters provided a background to the literature that concerns this thesis. Chapter Two used the strategy-making literature, as created by strategic management scholars, to provide a framework for the study of strategy-making processes in firms. It continued with an exploration of the strategic planning literature, as created by SME scholars, to compare this literature to the strategy-making typology provided earlier. Chapter Three outlined the context and content factors that may influence strategy-making process and/or firm performance.

The purpose of this chapter is to provide an exposition of the theoretical relationships that exist between the constructs that were discussed in the previous chapters. In doing so, it focuses on studies undertaken in a SME environment where possible. The key relationships between strategy-making processes, EO, environmental, industry, and firm level constructs (context), business strategy (content), and firm performance are explored. This is done by justifying and presenting propositions to this effect. Throughout the chapter the various propositions are related to the objectives of the study. The chapter concludes with a framework that provides an exploratory and integrative approach to research strategy-making in SMEs, but first the level of analysis of this study is clarified.

4.2 LEVEL OF ANALYSIS

In Part Two the issue of the level of analysis was raised and it was indicated that both strategy-making and entrepreneurial orientation will be investigated at the firm level in this thesis. It is important to clarify the level at which terms are defined and analysed before any attempts can be made to develop propositions and a research framework.

Managerial events or processes can occur at different levels inside and outside the firm (Ivancevich, Olekalns & Matteson, 1997). In this section it is explained that strategic management and entrepreneurship research can be conducted external to the firm at the industry and strategic group level, while internal to the firm research can be conducted at the firm, business, group or individual level. At the *individual* level research is conducted into issues such as managerial experience and entrepreneurial characteristics, for instance creativity. This type of research studies how the individual acts alone or in one-to-one interaction with other individuals. At the *group* level teamwork, power, politics, and leadership are investigated. The nature of interaction between group members (inter-group) or groups (intra-group) is the theme of this kind of research. At the *firm or business* level firm concepts such as entrepreneurial orientation, firm decision-making processes, and organisational culture are researched. In this case the behaviour of the firm manifests in actions which can be measured, intervened with or controlled (Lyon et al., 2000) by researchers. Economists (Dess & Davis, 1984; Peteraf & Shanley, 1997; Reger & Huff, 1993; Stuart, 2000) argue that research can also be attempted at the *strategic group or industry* level. Strategic groups are firms within an industry that share the same market, product or service and that exhibit similar characteristics (Peteraf & Shanley, 1997). Researchers at this level research the factors that cause the success of strategic groups or industries as a whole, such as government policies or economic indicators. Strategic management research is mostly conducted at the firm, strategic group and/or industry level, while entrepreneurship research is mostly conducted at the individual or firm level.

Strategic management research has focused increasingly on the firm level of analysis (Hawawini et al., 2002). This move to the study of firm level phenomena is taking place because of the inability of industrial organisation (IO) theory to explain differences in performance between firms. Strategic management research is increasingly recognising that firms will not necessarily act similarly because they belong to the same industry or strategic group, and that firm level analysis is required to explain the intricacies of inter-firm variations in performance. For this reason firm level research is becoming the norm in strategic management.

Whereas the study of strategic management on the firm level is now considered normal practice, the study of entrepreneurship is more complicated. This study explores this issue because of the inclusion of the EO variable as explained earlier. Zahra (1993b) explains that entrepreneurship has been studied at the corporate, business unit, functional and individual level of analysis. Although much of the empirical research has focused on the individual level of analysis, more recently researchers have started to investigate firm level behaviour (Wiklund, 1999). Covin and Slevin (1991) and Lyon et al. (2000) list several advantages in adopting a firm level model over the more traditional entrepreneurship research models that focus on the traits of the individual entrepreneur. The advantages they provide are:

- Firstly, entrepreneurial effectiveness is a firm level phenomenon that can be measured in terms of firm performance as will be explained in Chapter Five of this study;
- Secondly, firm behaviours, rather than attributes, give meaning to the entrepreneurial process. Firm level entrepreneurial theories are better at explaining behaviour, while individual level entrepreneurial theories mainly explain traits;
- Thirdly, these authors argue that firm level entrepreneurship can be measured reliably, verifiably and objectively, and even though it is arguable if this is such a straight forward process, it can at least be done more objectively than at the individual level;
- Fourthly, other firm level behaviours such as strategy-making can only facilitate or impede entrepreneurial activity; they do not make the firm entrepreneurial. The latter is, however, a complicated argument that has to consider the ability of strategy-making processes to change the culture of a firm, something that does not fall within the scope of this thesis; and
- Finally, firm level entrepreneurial behaviour is affected by the strategies, structures, systems and cultures of the firm. These influences are examined in subsequent sections of this chapter.

There are also other reasons which are more specific to this study that can be added to those set out above. These include the many studies that show a strong relationship between EO and firm performance (Lumpkin & Dess, 1996; Wiklund, 1999); the recognition that New

Zealand firms are very entrepreneurial (Frederick, 2003), but that SMEs may lack the ability to translate ideas into commercial success; and to improve comparison between entrepreneurial strategy-making and EO which are both firm level constructs. Lastly, the failure of individual level studies which assume that entrepreneurship is an extension of the founder and investigate the predictive value of the characteristics of entrepreneurs in relation to the performance of small firms (Lee et al., 2001) and for which no substantial evidence has been found remains an issue.

Lyon et al. (2000), however, identify some drawbacks to the examination of firm level entrepreneurship. Firstly, the autonomous, risk-taking, competitive aggressiveness, innovativeness and pro-activeness actions may be affected by different actors within and outside the firm, and secondly, by emphasising actions taken by the firm, entrepreneurship is put into a management framework. But this drawback can also be interpreted as positive since it allows the researcher to seek correlates for entrepreneurship in a wider field than what is directly related to the individual, which is important for this study (Wiklund, 1999).

All the preceding arguments for and against a firm level operationalisation of the research in this thesis provide a good basis from which a decision can be made. The last, but probably most important argument cannot be found in the research quoted in this section, which mostly focus on issues in large firms. This argument maintains that the actions of the strategist (owner-manager) and the firm cannot really be clearly distinguished in the small firms that are investigated in this study. Support for this argument is found in Watson (2003) who undertook a case study of one SME. He argues that in this firm the strategies of the strategist and firm were closely intertwined. This study will therefore not examine the individual level characteristics of the entrepreneur, but rather the firm level extension thereof, namely entrepreneurial orientation as well as the firm level approach to strategic management.

4.3 A RESEARCH FRAMEWORK FOR THE STUDY OF STRATEGY-MAKING IN SMEs

Many variables have been identified that could be included in the research framework for this study – variables drawn from existing models of strategy-making and EO. To select variables for the study, the following criteria suggested by Covin and Slevin (1991) were applied:

- The relevance of the variables has to be proven in previous strategy-making and/or entrepreneurial research;
- Variables must be clearly defined and there must be theoretical justification for their inclusion in the model;
- There should be an indication that the constructs are of importance in the SME context;
- The ultimate dependent variable is *firm performance* since it is the contention of both entrepreneurship and strategy-making literatures that individually or combined they lead to competitive advantage and therefore improve firm performance;
- The framework should include context and content variables; and
- The framework could include direct, mediating and moderating effects.

All the variables identified in Chapter Two and Three adhere to the above selection criteria. A central tenet of strategic management literature is the influence that the congruence of strategy, structure, processes and systems have on organisational performance (Chrisman et al., 1998). Firm performance is used as the dependent variable in most studies of this nature (e.g. Sandberg & Hofer, 1987).

This section provides a framework for understanding the concept of strategy-making in SMEs. This framework is only intended as a guide for the empirical study, and does not pretend to be an all inclusive model of strategy-making and firm performance in SMEs. It builds on the main themes that have emerged from the literature review in order to answer the research question, namely:

What are the strategy-making processes of small and medium enterprises (in New Zealand) and how are these related to firm performance?

A set of research objectives and propositions are formulated. The reader is reminded that the term 'firm' in the propositions refer to 'New Zealand SMEs'. The purpose of the propositions is to facilitate the operationalisation of each objective. These objectives and relevant propositions are summarised in Table 4.1 and justified and presented in the remainder of this section.

Table 4.1: Research objectives and propositions

OBJECTIVES	PROPOSITIONS
1. To present the demographical and other contextual factors of the SMEs in the study, in particular the level of EO of the firms.	<i>P1 SMEs in NZ have high levels of EO</i>
2. To determine the strategy-making processes that New Zealand SMEs employ as well as their relationship with firm performance.	<i>P2a The rational, adaptive, entrepreneurial, symbolic and participative strategy-making processes are important strategy-making modes that SMEs may exhibit</i>
	<i>P2b The entrepreneurial mode of strategy-making will be most favoured by SMEs</i>
	<i>P2c Firms that employ the rational mode of strategy-making will perform well</i>
	<i>P2d Firms that employ more than one mode of strategy-making will perform well</i>
3. To investigate how a selection of contextual factors affect the relationship between strategy-making processes and firm performance.	<i>P3a Environmental uncertainty will impact on the relationship between strategy-making and performance (moderating factor)</i>
	<i>P3b Environmental uncertainty will influence the mode of strategy-making that a firm employs, specifically, firms in dynamic and hostile environments will employ adaptive and entrepreneurial processes</i>
	<i>P3c Stage of industry life cycle and industry sector will influence the mode of strategy-making that a firm employs</i>
	<i>P3d EO, firm size, firm age and organicity of structure will influence the relationship between strategy-making and performance (moderating factor)</i>
4. To compare the strategy-making processes of firms of different sizes, age, structures and levels of EO.	<i>P4a EO will influence the mode of strategy-making that a firm employs, specifically, entrepreneurial firms will employ an entrepreneurial mode of strategy-making</i>
	<i>P4b Size will influence the mode of strategy-making that a firm employs, specifically, smaller SMEs will employ adaptive and participative processes, while larger SMEs will employ rational and entrepreneurial processes</i>
	<i>P4c Age will influence the mode of strategy-making that a firm employs, specifically, younger SMEs will employ entrepreneurial and adaptive processes, while older SMEs will employ rational and symbolic processes</i>
	<i>P4d Firm structure will influence the mode of strategy-making that a firm employs, specifically, firms with organic structures will employ entrepreneurial modes of strategy-making</i>
5. To investigate how a selection of business strategies (content variables) affect the relationship between strategy-making processes and firm performance.	<i>P5a The mode of strategy-making that a firm employs will influence the choice of strategy (content) which will influence firm performance (mediating factor)</i>
6. To establish the direct relationship that some of the context and content factors may have with firm performance.	<i>P6a Entrepreneurial firms (firms with a high level of EO) will outperform non-entrepreneurial firms</i>
	<i>P6b Contextual factors, including EO, size, age, structure, environmental uncertainty and industry life cycle, will impact on the strategies (content) that a firm chooses, specifically smaller and, younger firms will employ focus strategies, while entrepreneurial firms or firms with organic structures will employ differentiation strategies</i>
7. To investigate the configurational relationships between the variables of the study.	<i>P7a It is possible to create a configurational model of strategy-making, external and internal context variables and strategy types that will predict firm performance.</i>
	<i>P7b It is possible to create archetypes that empirically classify the firms of the study.</i>

OBJECTIVE 1: TO PRESENT THE DEMOGRAPHICAL AND OTHER CONTEXTUAL FACTORS OF THE SMEs IN THE STUDY, IN PARTICULAR THE LEVEL OF EO OF THE FIRMS

When the findings are presented in Chapter Seven statistics on sample firms, such as firm age and size, will be presented in order to describe the sample. No propositions are formulated to this effect. However, one of these characteristics, namely the entrepreneurial orientation of SMEs, warrants the formulation of a proposition because of its potential direct link with firm performance (Covin & Slevin, 1989).

4.3.1 The EO of SMEs in New Zealand

New Zealanders pride themselves on their innovative nature (Frederick, Carswell, Mellalieu & Macken, 2001). They use the term 'number eight wire' to embody the idea that Kiwis are equal to any challenge, and that they possess the ability to think and act laterally. According to previous Global Entrepreneurship Monitors (hereafter GEM) New Zealand has the second highest (Frederick et al., 2001), sixth highest (Frederick, Carswell, Henry, Chaston, Thompson, Campbell & Pivac, 2002), and fifth highest (Frederick, 2003) level of individual entrepreneurship of the countries that participate in the investigation. It is, however, not certain whether this innovative nature necessarily translates to an EO in firms. In the 2003 GEM report, a measure of firm level entrepreneurship is included. This report rates New Zealand fourth on the firm level entrepreneurship measure that subsumes intrapreneurship, corporate entrepreneurship, and corporate venturing. The average number of employees in the firms included in this sample is 17 employees, indicating a prevalence of SMEs. This thesis aims to discover the level of EO in New Zealand SMEs in order to compare entrepreneurial and non-entrepreneurial firms with each other. Although the inclusion of intrapreneurship as part of firm level entrepreneurship was questioned in Chapter Three, the 2003 GEM report is taken as indicative of the firm level entrepreneurship in New Zealand firms. Therefore, drawing on the high level of individual entrepreneurship in New Zealand and using the small size of firms in the 2003 GEM study it is proposed that:

P1 SMEs in NZ have high levels of EO

OBJECTIVE 2: TO DETERMINE THE STRATEGY-MAKING PROCESSES THAT NEW ZEALAND SMES EMPLOY AS WELL AS THEIR RELATIONSHIP WITH FIRM PERFORMANCE

In order to determine the strategy-making processes that SMEs in New Zealand employ, this study started by drawing from two streams of literature that comment firstly on strategy in firms in general and secondly on strategy-making in SMEs specifically. Whereas the first stream of research literature has been well conceptualised (e.g. Ansoff, 1987; Hart, 1991; Mintzberg, 1973) and tested empirically (e.g. Dess et al., 1997; Hart & Banbury, 1994), the literature on strategy-making in SMEs is sparse (e.g. Frese et al., 2000) and commonly exploratory (e.g. Gibson & Cassar, 2002). Robinson and Pearce (1984) call SME strategy-making 'woefully inadequate' (p. 128) and 20 years have done little to change that assertion. The words 'strategy-making' are also seldom used in a SME context, rather the term that seems to be prevalent is 'planning'. Furthermore, both streams of research literature have gaps which limit its usefulness for building models and making definitive assumptions and conclusions based exclusively on those findings. These limitations include the use of small samples (e.g. Dess et al., 1997 who use responses from 32 firms and subsequently used data analysis techniques intended for larger sample sizes), samples intended for other purposes (e.g. Miller & Friesen, 1978 use teaching case studies in their data analysis), and the use of individual level analysis which limits the usefulness of results for this study (e.g. Frese et al. 2000). However, researchers commonly use previous studies, albeit with care, to identify themes and trends and to build a set of propositions based on the findings, though not perfect, from these studies. Scientific rigour is then assured through a carefully executed empirical study that may find support for some or all of these propositions.

In this section, several propositions are formulated to facilitate the operationalisation of Objective Two, concerning the modes of strategy-making that SMEs in New Zealand employ and their relationship with firm performance. Propositions are formulated by using the strategy-making typology (consisting of five modes of strategy-making) that was provided through a review of the first stream of literature, namely the research of strategy-

making in firms in general. This framework is then applied to the research on strategic planning in SMEs to investigate the incidences of these modes in SMEs.

4.3.2 The strategy-making process

Five modes of the strategy-making processes were introduced in Chapter Two. They are the rational, adaptive, entrepreneurial, symbolic and participative processes. Various authors have investigated these processes, in large firms and also in SMEs.

As explained before, *rational* strategy-making processes are often mistaken for the only kind of strategy-making process that exists or assumed to be the normative ideal. When authors therefore discuss the absence or presence of strategy-making in a SME without clarification, they are usually referring to either the compilation of the business plan for attaining finance, or to a formal, rational strategy-making process. As discussed earlier, the main argument in the SME planning (strategy-making) literature centres on the absence or presence of rational strategy-making processes in SMEs. Several studies focus on the use of these rational processes. Frost (2003) for example, found in a study of 331 Australian SMEs with fewer than 100 employees that the use of strategic tools and a strategic plan was significant. But the range and depth of the tool usage were disappointing, especially when compared to previous studies in larger firms, such as that carried out by Clark (1997). Nevertheless, some evidence for the existence of a more formal, or rational mode of strategy-making in SMEs exists.

There is also an argument for the use of *adaptive* processes in SMEs. This strand of thought is usually closely related to the absence of strategy-making and paints the adaptive strategy-making process as one of indecision and reactivity. For example, Harris, Forbes and Fletcher (2000) find that strategy-making in SMEs is mainly reactive and reliant on personal relationships. Keeley and Roure (1990) tested 36 new technological based firms and proposed a structural model of the influence of management, strategy, and industry structure on firm performance. They found that, in these new firms, strategy implementation has a greater impact on firm performance than strategy formulation. This

may be interpreted as indicative of a more adaptive than rational approach. But, Barney (1991) posits that 'those who study these informal strategy-making processes tend to agree about their rareness and inimitability' (p. 113). Barney (1991) argues that rational and adaptive processes are suitable for different settings and that less formal processes such as adaptive strategy-making processes may be a source of sustainable competitive advantage. Also, Chen and Hambrick (1995) explain that smaller firms are more responsive when attacked and implement their competitive reactions faster. This study argues that the adaptive mode of strategy-making indicates an active engagement of external stakeholders in the direction of the firm which is often employed by SMEs because of their dependence on these stakeholders, which typically include customers and suppliers. This engagement may be less formal than when a rational strategy-making process is followed, but may nevertheless exhibit elements of strategic thinking, as suggested by Quinn (1980).

Neilsen and Rao (1987) describe the *symbolic* (interpretive) mode of strategy-making as an approach 'in which strategy statements convey meanings' (p. 523) which motivate stakeholders positively. There is some dissent in the literature as to whether these symbolic strategy-making processes are relevant to SMEs. Common sense dictates that it is possible that Neilsen and Rao's description may be relevant, since a symbolic process would suggest that a firm has a strong culture which prevails when decisions are made and which may manifest as doing things in the same way they have always been done and having set practices that are followed year in and year out. Keeley and Roure (1990) argue though that SME managers generally have limited vision, even when highly qualified, which does not provide strong support for the entrepreneurial and symbolic modes of strategy-making. But McCarthy and Leavy (1998/9) identify the existence of charismatic owners with a visionary, idealistic and intuitive manner in their longitudinal study of SMEs with fewer than 120 employees, which may indicate some support for the symbolic mode of strategy-making.

Two other modes of strategy-making were identified in Chapter Two. The *entrepreneurial* mode of strategy-making was discussed in some depth and a comparison was made to show the similarities between the use of this mode of strategy-making and the SME planning

literature. In order to avoid repetition, this section draws on the arguments in Section 2.4 and states that entrepreneurial strategy-making is very likely to occur in SMEs. The other mode of strategy-making is a *participative* mode of strategy-making. As explained before, this mode indicates that strategy-making occurs mainly from the bottom of the firm upwards, or in the case of organic firms, through teamwork. Participative strategy-making is not indicative of rationality, but rather of an informal, but inclusive, decision making process. As indicated already, participation is often conceptualised as being political in nature, but in very small firms it is unlikely to be the norm. Participative strategy-making in SMEs has not been mentioned in articles very often, but one study that provides a typology of strategy-making processes employed in small firms and its impact on firm performance (Frese et al., 2000; Van Gelderen, Frese & Thurik, 2000) makes mention of it. Research on 80 owners of small start-up firms in the Netherlands investigated the use of ‘complete planning’ (rational), ‘critical point’ (closest related to participative strategy-making), ‘opportunistic’ (entrepreneurial), ‘reactive’ (closest to adaptive), and ‘routine’ (symbolic) strategy-making process. This study can serve as partial support for all the modes of strategy-making identified in the literature review of this thesis, including participative strategy-making.

The brief discussion presented above builds on the literature that was presented in Chapter Two and suggests that the five modes of strategy-making identified in the literature review are likely to exist in SMEs. Collectively, these findings suggest therefore that:

P2a The rational, adaptive, entrepreneurial, symbolic and participative strategy-making processes are important strategy-making modes that SMEs may exhibit

Mintzberg and Lampel (1999) describe entrepreneurial strategy-making as a visionary process, where strategy-making is centred on the CEO, and the process is intuitive. Strategy-making in this case is a vague vision, sometimes even a metaphor. The leader also controls the implementation of the vision. In Section 2.4, research on strategy-making in SMEs was introduced. That section concluded that the argument by Mintzberg (1973)

that entrepreneurial strategy-making is most appropriate in SMEs may be accurate. When the aspects of entrepreneurial strategy-making and strategy-making in SMEs are compared, it is clear that they exhibit similarities such as a strong influence from the manager/owner, the use of emergent strategies, and the use of vision to set the general direction. It is therefore proposed that:

P2b The entrepreneurial mode of strategy-making will be most favoured by SMEs

The next interesting question would be what the relationship is between strategy-making and firm performance. Although the literature identifies the existence of the aforementioned processes in SMEs such identification is of little consequence if these processes do not have the potential to improve firm performance. Several studies investigate the effect of strategy-making processes on firm performance. Note that a full discussion of firm performance is provided in Chapter Five.

The general consensus seems to be that processes that are more *rational* in nature will be strongly associated with firm performance. For instance Miller and Toulouse (1986) found in a study of 97 small firms in Canada that successful small firms have more explicit strategies, longer planning horizons and more detailed decision analysis, that is, rational processes. Hart and Banbury (1994) also find in a study of 720 firms of all sizes that only the rational mode of strategy-making has a significant correlation with firm performance. Van Gelderen et al. (2000) find that rational processes will impact on performance and that performance will in turn lead to more rational strategy-making processes. Knuckey and Johnston (2002) find that leading New Zealand firms (good performers) are more likely to employ long term planning practices than lagging firms (poor performers). In general it seems as if the support for a strong relationship between rational strategy-making and firm performance is quite conclusive.

All these studies strongly support the relationship between rational strategy-making and firm performance. Furthermore Harris et al. (2000) found in a study of 26 entrepreneurs in

SMEs that where a combination of rational and adaptive processes is used, it is strongly associated with growth. These authors advocate the mixed use of rational and adaptive processes in SMEs. Other authors only look at the relationship between *adaptive* strategy-making and firm performance. As explained before, Barney (1991) suggests that adaptive strategy-making is a rare and inimitable process that will lead to competitive advantage. This is supported by Hart (1991) who finds in a study of 916 firms of all sizes and from all industry sectors that the adaptive (transactive) mode of strategy-making is more highly associated with firm performance than the rational and generative (entrepreneurial) modes. But Van Gelderen et al. (2000) found that not only does adaptive (reactive) strategy-making lead to poor performance, but poor performance leads to reactive strategies. The support for the relationship between adaptive strategy-making and firm performance is therefore mixed and may depend on the conceptualisation of adaptive strategy-making in a particular study.

Participative and symbolic strategy-making have also received some attention in this regard. Parnell and Crandall (2001) raise the possibility that *participative* decision-making techniques may improve decision quality and therefore organisational effectiveness. Frese et al. (2000) found that critical point (participative) strategy-making is the most highly related to firm success and that critical point and opportunistic (entrepreneurial) strategy-making is the combination that is most highly related to firm success. This supports the previously mentioned study by Wooldridge and Floyd (1990) who found that participation in strategy-making is associated with improved firm performance. Hart (1991) found that the *symbolic* mode of strategy-making is highly associated with performance. Unfortunately the discussion surrounding these two modes is limited and the support for their relationship with firm performance is as yet unsubstantiated.

Lastly, there has also been much debate about the performance outcomes of an *entrepreneurial* mode of strategy-making. Beaver and Jennings (2000) posit in this regard that the 'relationship between enterprise performance, management actions (or inaction) and the value and contribution of strategy is extremely tenuous and very difficult, if not impossible, to demonstrate conclusively' (p. 400). Much of what has been written about

entrepreneurial strategy-making and its performance implication in both the popular press and academic journals assume that entrepreneurial strategy-making will lead to growth and profitability for the firm (Covin & Slevin, 1991; Peters & Waterman, 1982). But other research such as that carried out by Dess et al. (1997) and Hart (1991) found empirically that it may impede performance. The inconclusive evidence or evidence that suggest negative performance outcomes for all the modes of strategy-making except for the rational mode, leads to the conclusion that:

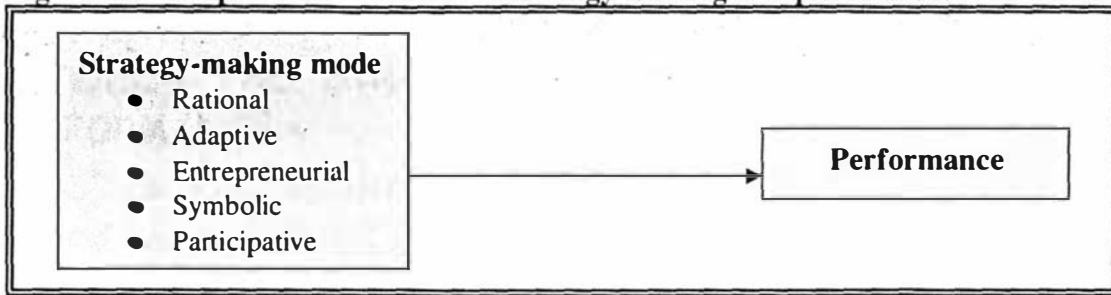
P2c Firms that employ the rational mode of strategy-making will perform well

Another interesting possibility that is mostly raised in conceptual studies (e.g. Mintzberg, 1973) or in the discussion of empirical studies (e.g. Harris et al., 2000; van Gelderen et al., 2000) is the combined effect of strategy-making modes on firm performance. While the above authors all agree that the use of more than one mode should lead to better performance than the use of only one mode of strategy-making, only Hart (1991), Hart and Banbury (1994) and van Gelderen et al. (2000) have tested this assumption empirically. They found support for their proposition that capabilities in more than one mode of strategy-making will improve performance and it is therefore proposed that:

P2d Firms that employ more than one mode of strategy-making will perform well

Figure 4.1 summarises the overall contribution of the four propositions collectively called Proposition Two to the overall framework for this research. The overall framework will be presented in Figure 4.7. Figure 4.1 indicates that strategy-making, either in the form of a single mode such as rationality, or combined, as suggested in Proposition 2d, will have an influence on firm performance.

Figure 4.1: Proposition 2 – Modes of strategy-making and performance



OBJECTIVE 3: TO INVESTIGATE HOW A SELECTION OF CONTEXTUAL FACTORS AFFECT THE RELATIONSHIP BETWEEN THE STRATEGY-MAKING PROCESS AND FIRM PERFORMANCE

And

OBJECTIVE 4: TO COMPARE THE STRATEGY-MAKING PROCESSES OF FIRMS OF DIFFERENT SIZES, AGE, STRUCTURES AND LEVELS OF EO

Two objectives are investigated simultaneously in this section. This is done to avoid repetition. Objective Three ascertains whether context variables moderate the relationship between strategy-making and firm performance. Sections 4.3.3 and 4.3.4 inform this objective. It does, however, not explain how different types of firms make strategy. This is explained in the last part of this section and answers to Objective Four.

The investigation of the impact of the mode of strategy-making on firm performance is interesting, but it has been well argued in the literature (e.g. Dess et al., 1997; Miller & Friesen, 1978; Sandberg & Hofer, 1987) that firm performance is more likely to be influenced by a combination of factors than just the strategy-making process alone. As Hannon and Atherton (1996) suggest; 'no planning process operates outside a specific context' (p. 106). This section presents a number of these factors that may contribute to firm performance in combination with strategy-making, and also formulates a set of propositions to this effect.

4.3.3 The firm context

Several studies have examined the separate or combined effects of contextual variables on the independent (strategy-making) and dependent (performance) variables of this study. In this section propositions are formulated that pertain to the context in which strategy-making

takes place. It is important to note that all these propositions will examine relationships with the strategy-making construct and that no interactions that are independent from strategy-making will be examined (e.g. organic structure and hostile environments). The latter is considered to be outside the scope of this study.

a) *External environment*

Three aspects of the external environment, namely environmental hostility, dynamism, and stability are used in this study. An overview of the research articles that compare strategy-making process, external environment and firm performance generally reveals that the external environment is considered as a moderating factor on the strategy-making – firm performance relationship. Simply put, this means that certain modes of strategy-making will have a greater impact on performance in, for instance, a hostile than a dynamic environment. The available research on this topic focuses on Mintzberg's (1973) three modes of strategy-making, namely the planned (rational), adaptive and entrepreneurial modes of strategy-making, and therefore the following discussion is limited to those modes.

First the *rational* mode of strategy-making is investigated. The general idea of the research is that rationality is more likely to occur in more stable environments. Rationality implies formalisation, specialisation and formal policies and procedures (Miller et al., 1988). These prerequisites are more likely to exist in stable environments than dynamic or hostile environments. A long time frame is required to complete a formal (rational) strategy-making process, consisting of environmental scanning, followed by extended decision-making processes and strategy-implementation. This is unlikely to work in a hostile or dynamic environment which may have changed long before the rational processes is completed. But the conventional wisdom has been questioned in a number of studies. For instance, Van Gelderen et al. (2000) found that complete planning (rational strategy-making) will be pursued more often in hostile environments and less often in dynamic environments. Eisenhardt (1989) also disagrees with the assertion that rationality is more likely to occur in less hostile environments. She studied fast decision-making in eight firms in the microcomputer industry, recognised as a high-velocity environment. The

research included interviews with CEOs and top managers, as well as questionnaires and secondary data. She found that, although decisions are made quickly in successful firms in order to keep up with the pace of change in the environment, it is the result of more, not less, information and a deep knowledge of the firm and its environment by executives. These executives use a variety of techniques to speed up the analysis of alternatives, but still do it, and integrate decision-making and tactical planning (part of implementation). While the speed of the decision and the integration of formulation and implementation may indicate an adaptive mode of strategy-making, the process that Eisenhardt (1989) describes has more similarities with logical incrementalism (Quinn, 1980) and rationality (Hart, 1991). This is, however, not strong enough support to counteract the presumption that rational strategy-making will be more successful in a stable environment.

The reason for this is that Eisenhardt's approach may also be more indicative of the use of *adaptive* strategy-making in hostile or dynamic environments. This notion is supported by Van Gelderen et al. (2000) who find that the absence of stability will lead to the use of an adaptive (reactive) mode of strategy-making. Although inconclusive, it is therefore likely that adaptive strategy-making is more likely to occur in dynamic or hostile environments.

Similar contradictions exist when the relationship between *entrepreneurial* strategy-making, the environment and performance is investigated. Dess et al. (1997) find that entrepreneurial strategy-making will have a positive association with performance when it is combined with both the appropriate strategy and environmental conditions. Van Gelderen et al. (2000) find that entrepreneurial strategy-making (opportunistic) is more likely in a dynamic environment and less likely in a hostile environment. Khandwalla (1977/78) finds in his study of 103 public Canadian companies that firms in hostile environments employ the entrepreneurial mode of strategy-making, while firms in dynamic environments employ entrepreneurial and rational strategy-making. Hart (1992) proposes that the command and generative modes (which when combined are referred to as entrepreneurial strategy-making) are unlikely to be associated with high performance unless it is a small firm in a stable environment (command mode), or in complex environments where prospecting is important (generative mode). Miller (1982) finds in a

study of 52 entrepreneurial firms that entrepreneurial strategy-making can lead to success in small firms in its earlier years in a dynamic environment. This is consistent with the findings of Miller (1988). Although the results from the previous studies are contradictory, it seems that the entrepreneurial mode of strategy-making will occur in a dynamic environment and that environment has some influence on the relationship between entrepreneurial strategy-making and performance.

Lastly, Hart and Banbury (1994) find that firms that employ a combination of all modes of strategy-making perform better in hostile (turbulent) environments. The preceding results are contradictory and do not lend themselves to the creation of straightforward propositions. The decision has therefore been made to formulate a Proposition 3a that is conservative in nature and to explore it further with a more definitive Proposition 3b. It is therefore proposed that:

P3a Environmental uncertainty will impact on the relationship between strategy-making and performance (moderating factor)

P3b Environmental uncertainty will influence the mode of strategy-making that a firm employs, specifically, firms in dynamic and hostile environments will employ adaptive and entrepreneurial processes while firms in stable environments will employ a rational mode of strategy-making

b) The industry

Even though IO studies such as the one by Robinson and McDougall (1998) found that industry measures are related directly to performance, this study is more concerned with the combined effects of strategy-making and the industry on performance which have been addressed in studies such as Chrisman et al. (1998). Two industry measures, namely industry life cycle and industry sector are investigated.

Robinson and McDougall (2001) argue that the *industry life cycle* stage will moderate the relationship between entry barriers and firm performance. But they find only partial

support for this hypothesis. More closely related to the objectives of this study are the findings of Miller and Friesen (1984). They studied a sample of 161 periods of history from 36 firms to ascertain how decision-making, strategy and structure will change over the corporate life cycle of a firm. Their findings conclude that firms in the introductory phase tend to be more pro-active, like to take risks and are innovative, in other words, are more likely to employ the entrepreneurial mode of strategy-making. Firms in the growth phase become more analytical, multiplex and are integrated, in other words more rational although aspects of participative strategy-making is also present. This continues through the maturity phase, although the rationality becomes more instinctive, which may be indicative of a symbolic of simplistic mode of strategy-making. In the decline stage, strategy-making is more a reaction to the problems that the firm faces and therefore almost adaptive. This study clearly indicates that the corporate life cycle will influence the mode of strategy-making that a firm uses, but it is doubtful that this translates to industry life cycle and on its own, does not provide enough support to formulate propositions that indicate the specifics of the relationship between industry life cycle and strategy-making. The proposition that is formulated at the end of this section will therefore just refer to the general nature of the relationship.

Other authors have investigated the differences in strategy-making between *industry sectors*. Smirchich and Stubbart (1985) state that 'many, if not most, really novel and exciting new strategies that invade an industry, are perpetrated by outsiders who do not know the rules' (p. 729). This statement creates interest in the nature of the influence of industry sector on strategy-making. Gibson and Cassar (2002) attempt to explain this relationship and by analysing the data from the first three years of the Australian Business Growth and Performance survey. The firm size for this study is less than 200 FTEs which makes it somewhat relevant to this study. They find significant differences in the incidences of planning among industry groups. It is argued that this may be a result of the unique business environment as a result of the context specific influences in the different industries. This study intends to investigate the ability to replicate these results in smaller SMEs. It therefore draws on the preceding research and proposes that:

P3c Stage of industry life cycle and industry sector will influence the mode of strategy-making that a firm employs

4.3.4 Strategy-making and the internal contextual factors

It is not only the external conditions of a firm that influence the mode of strategy-making, but also the internal conditions that prevail. Four internal factors have been identified in the literature review, namely EO, firm size, firm age and the organicity of the organisational structure. In this section the propositions that accompany both Objectives Three and Four are investigated. That means that all four factors are investigated for their moderating influence on the strategy-making – firm performance relationship, but also for how strategy-making will differ depending on the type of firm, namely its EO, organicity, size or age. Firstly, the entrepreneurial nature of the firm is investigated.

a) Strategy-making and EO

The entrepreneurial nature of a firm may influence the relationship between strategy-making and firm performance as well as the approach to strategy-making that a firm employs. Entrepreneurial firms have been found to employ a number of modes of strategy-making. For instance, Barringer and Bluedorn (1999), in a study of 169 manufacturing firms, find support for their hypothesis that a positive relationship exists between a high level of employee involvement in planning and the intensity of EO. They also find support for their hypothesis that a positive relationship exists between planning flexibility and EO intensity. They therefore find that entrepreneurial firms use participative and adaptive modes of strategy-making. This is supported by Ciavarella (2003) who argues that participative or high-involvement processes may be crucial to entrepreneurial firms to enable them to extend desired organisational life stages such as growth, and therefore delay the onset of unwanted stages such as decline. Although conceptual, this is one of few studies that link these kinds of processes to smaller or entrepreneurial firms and this study suggests that they may hold advantages such as greater innovation, worker motivation, higher customer satisfaction and loyalty and therefore firm performance.

But, reflecting on Section 3.4, the strongest support is found for the use of entrepreneurial strategy-making processes in entrepreneurial firms. This section provides an in-depth analysis and comparison, which is summarised in Table 3.2, of the entrepreneurial strategy-making and EO constructs. This table compares the characteristics of entrepreneurial strategy-making with the aspects of an EO and strategy-making in SMEs. It clearly indicates that the EO and entrepreneurial strategy-making constructs are inexplicitly linked through reoccurring themes such as innovation, risk-taking, autonomy and pro-activeness. At the same time, EO and entrepreneurial strategy-making are not the exact same constructs as some studies suggest (e.g. Dess et al., 1997).

Building on the arguments put forward in Section 3.4, the relationship between these two constructs is better described as follows:

EO is an organisational culture that facilitates the use of entrepreneurial strategy-making processes to make strategy and may lead to the choice of strategies such as growth or differentiation strategies.

This means that entrepreneurial firms will follow an entrepreneurial strategy-making approach. It can therefore be proposed that:

P4a EO will influence the mode of strategy-making that a firm employs, specifically, entrepreneurial firms will employ an entrepreneurial mode of strategy-making

b) *Size and strategy-making*

Size has also been found to influence strategy-making and firm performance. As indicated earlier, the general consensus is that large firms are more likely to use rational processes while smaller firms are more likely to use adaptive or participative processes or no strategy-making at all. It is even possible that size may be a moderating factor in studies of firm

performance in SMEs (Covin & Covin, 1990). According to Chen and Hambrick (1995) size is one of the most important variables in firm level studies and its relationship with other variables, such as structure and EO, has been studied widely. The authors explain that firms can be described as small in terms of their number of employees or industry market share. These two approaches are conceptually different but empirically related. This study uses FTEs to determine the size of the firms in the study.

Rational and *entrepreneurial* processes require investment in resources by the firm, usually in the form of human resources and/or money. These resources are used for tasks such as environmental scanning, strategy formation processes, innovative processes and to fund risk-taking activities. This indicates a requirement for a larger firm with more resources. This notion is supported by Gibson and Cassar (2002) who find that larger firms with greater sales are more likely to employ formal planning. Mintzberg (1979) also hypothesises that larger firms will have more formalised behaviours and structures and Schumpeter (1947) suggests that large firm size is a prerequisite for innovation and other entrepreneurial activities. This indicates a requirement for a larger or more resource rich firm. But, not everyone agrees that this requirement exists for entrepreneurial strategy-making. For instance, Khandwalla (1976/77) finds in his study of 103 public Canadian companies that entrepreneurial strategy-making is more descriptive of small and medium than large firms. Nevertheless, with SMEs in a Canadian context referring to firms with less than 500 employees it can be assumed that rational and entrepreneurial strategy-making are more likely to occur in larger firms.

Adaptive and *participative* processes on the other hand can be integrated into the day-to-day tasks of the firm and may therefore be more appropriate in smaller firms (Hannon & Atherton, 1996; Harris et al., 2000; van Gelderen et al., 2000). It is worthwhile to note that other issues may further complicate an exploration of the relationship between size, strategy-making and firm performance. Studies such as that of Glancey (1998) hypothesise that small firms will display lower levels of profitability if entrepreneurs are motivated by life style, or when the firm grows faster than what the entrepreneur can manage successfully. Glancey also states that a positive relationship will exist between size and

growth where the owner/entrepreneur exhibits greater levels of entrepreneurial acumen and managerial ability and the firm nears the size that the entrepreneur feels comfortable with.

In commenting on Objective Three, it can also be noted that size has been treated as a moderating variable in various other studies such as Covin and Covin (1990) who find that size has a moderating effect on the relationship between competitive aggressiveness, environmental hostility and firm performance. Hofer (1975) also identifies size as a moderating variable on the relationship between strategy and performance. Lastly, Hart and Banbury (1994) find in a study of 720 firms of all sizes that smaller firms (one to eight employees) perform better when using single or double modes, while large firms perform better when using three of four modes of strategy-making. It can therefore be proposed that:

P4b Size will influence the mode of strategy-making that a firm employs, specifically; smaller SMEs will employ adaptive and participative processes, while larger SMEs will employ rational and entrepreneurial processes

c) Age and strategy-making

It has often been hypothesised that younger firms will act entrepreneurially, while *rationality* is something that develops over time (e.g. Mintzberg, 1973). The assumption is that formal planning requires experience and resources, which may not always be available to a young firm. However, Gibson and Cassar (2002) who studied the effect of age on planning practices in SMEs find that very young firms and much older firms employ formal planning processes. This indicates a U-shaped relationship between age and formal planning in small firms. They explain that at the outset of the business this may be a result of the importance of business and project plans, which aim to attract funding, whereafter planning will decline. As the owners/managers of the firm become more experienced and the firm has better resources, planning increases again. One should, however, treat the assumption that the development of a business plan for the purpose of attaining finance

necessarily equates to strategic planning with caution. It seems therefore that this study indicates that older firms are more likely to plan formally or rationally. Hannon and Atherton (1996) also propose that older SMEs will exhibit more formalised strategy-making behaviours. A similar argument can be followed for *symbolic* strategy-making, which by definition assumes the existence of a well established culture or way of doing things. This is unlikely to be the case in a young firm.

With the exception of business plans that new businesses have to prepare to attract funding, it is more likely that young firms will be so caught up in operational issues and that they may adapt to their environment in order to survive, which is indicative of *adaptive* strategy-making. Similarly *entrepreneurial* strategy-making, as defined in this study, remains beneficial in the early years of the firm when strategic decisions have to reflect full knowledge of the firm. These findings support the suggestion that:

P4c Age will influence the mode of strategy-making that a firm employs, specifically; younger SMEs will employ entrepreneurial and adaptive processes, while older SMEs will employ rational and symbolic processes

d) Organisational structure and strategy-making

Lastly, the organicity of the organisational structure may also affect the strategy-making – firm performance relationship. Organicity is often studied together with entrepreneurial strategy-making. Authors such as Covin and Slevin (1988), Dess et al. (1997), Miller and Friesen (1978) and Mintzberg (1973) all indicate that entrepreneurial strategy-making processes are more successful in firms with organic organisational structures. Unfortunately Mintzberg's study is conceptual, while the other three other studies draw their samples mainly from larger firms.

These studies do, however, provide a basis for the proposition that is formulated in this section. Covin and Slevin (1988) find in a study of 80 firms that an organic organisational structure moderates the entrepreneurial style and firm performance relationship. Small firms in this study are defined as firms with less than 500 FTEs. This means that this

relationship may be less likely to be positive in New Zealand SMEs (with less than 100 FTEs). According to Miller (1988), contingency theorists have argued that innovation and/or uncertain environments are usually associated with required organic, intensively integrated, differentiated and decentralised structures.

One study that investigated organisational structure, planning behaviour and firm performance in small firms is Chaston (1997). He finds support for his hypothesis that an organic structure and entrepreneurial management style together will improve firm performance. Although this entrepreneurial style is slightly different from entrepreneurial strategy-making, it does strengthen the argument that an organic structure and entrepreneurial strategy-making have a combined positive effect on firm performance. This study draws on the works of Chaston (1997) and Dess et al. (1997) as well as the arguments from Section 3.2.3 to hypothesise that:

P4d Firm structure will influence the mode of strategy-making that a firm employs, specifically; firms with organic structures will employ entrepreneurial modes of strategy-making

Furthermore the last four sections can be drawn together to propose that:

P3d EO, firm size, firm age and organicity of structure will influence the relationship between strategy-making and performance (moderating factor)

Figure 4.2: Proposition 4 – The influence of size, age, structure and EO on the mode of strategy-making

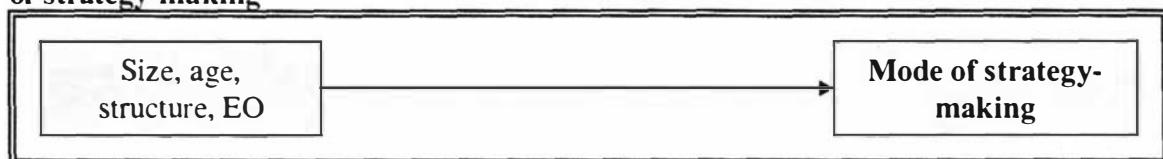
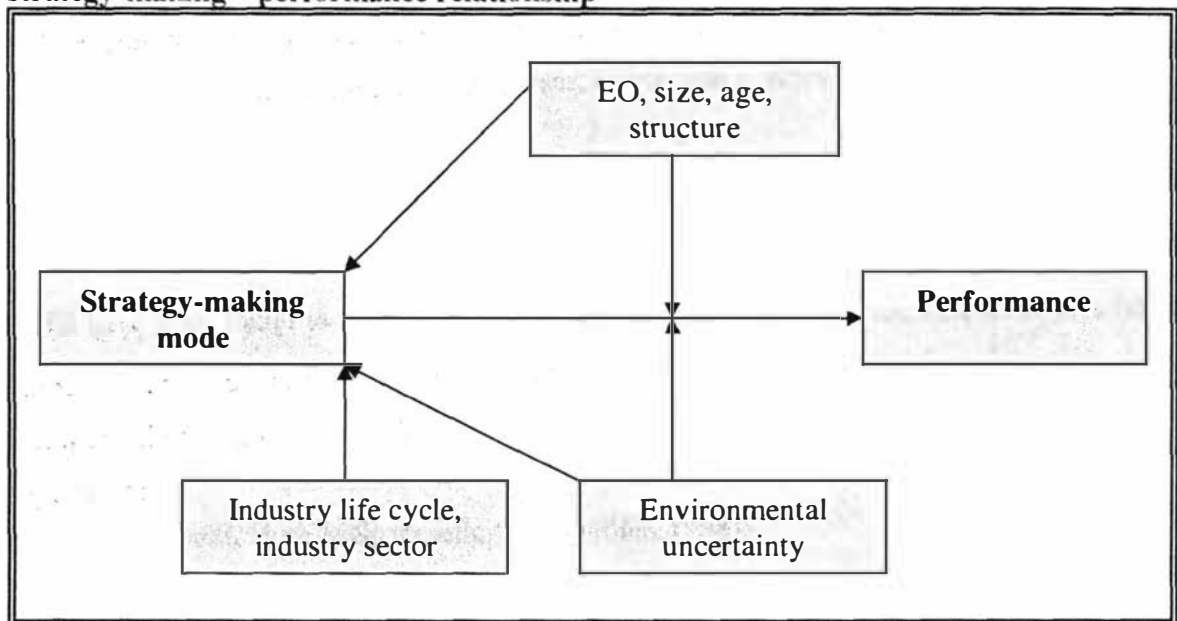


Figure 4.2 shows how the four sub parts of Proposition Four contribute to the overall framework for this study. It shows that the internal contextual factors, namely firm size,

age, organicity and EO may have a direct effect on the mode of strategy-making. Figure 4.3 extends this relationship to include Proposition Three and its subsections to show the moderating effects of the same four internal factors as well as environmental dynamism on the modes of strategy-making – firm performance relationship. It also indicates that industry life cycle and industry sector will have a direct influence on the mode of strategy-making.

Figure 4.3: Proposition 3 – The influence of contextual factors on the modes of strategy-making – performance relationship



OBJECTIVE 5: TO INVESTIGATE HOW BUSINESS STRATEGIES (CONTENT VARIABLES) AFFECT THE RELATIONSHIP BETWEEN STRATEGY-MAKING PROCESSES AND FIRM PERFORMANCE.

Once again, firm performance is unlikely to be affected by the mode of strategy-making and context variables alone. Specifically, firm performance is more likely to be influenced by the actions of the firm, called the strategies (e.g. Hofer, 1975; Porter, 1980). This section presents a number of strategies that act as mediators in the relationship between strategy-making and firm performance. Simply put, it examines how the strategies that result from a firm's strategy-making processes, affect firm performance.

4.3.5 Business strategies

SMEs have been found to employ both corporate and competitive (business) strategies but this section focus on business strategies in order to limit the scope of the research. In terms of business strategies, the focus is on the typology of Porter (1980), which includes differentiation, focus and cost-leadership strategies, for its prevalence in the literature (e.g. Beal, 2000; Borch, Huse & Senneseth, 1999; Miller, 1988).

Firstly, the use of *cost-leadership* as a strategy is investigated. The general consensus is that cost-leadership is not a suitable strategy for SMEs. Miller and Toulouse (1986) found in a study of 97 SMEs in Quebec, that marketing differentiation and cost leadership held no benefits for small firms, most probably because these businesses cannot benefit from economies of scale. Miller (1988) also finds that cost-leadership has a negative relationship with uncertainty in high performing firms and may thus not be suited to SMEs in dynamic and hostile environments. Therefore it seems less likely that cost leadership should be investigated in a study such as this one that focuses on SMEs

But, not everyone concurs with this assertion. Some studies suggest that any strategy is acceptable, as long as the firm is not 'stuck-in-the-middle'. Baum, Locke and Smith (2001)

find in a study of 307 owner-operated firms from one industry that firms that emphasise only one of Porter's (1980) strategies achieve the highest growth. This is supported in a study of 60 new ventures by Sapienza and Herron (1990) who find that entrepreneurial firms that follow low-cost or differentiation strategies outperform those that are stuck-in-the-middle. They have, however, not supported their hypothesis that ventures that are further toward the differentiation end of the generic strategy spectrum will have higher performance.

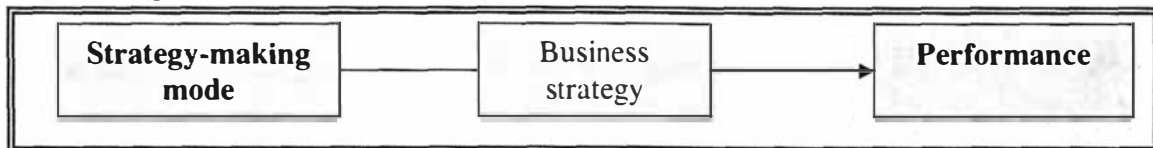
More specifically, the relationship between entrepreneurial strategy-making and competitive strategies has also been investigated. Dess et al. (1997) find in their study of entrepreneurial strategy-making in 32 firms, that entrepreneurial strategy-making and performance had a positive association with a low-cost strategy, depending on the environmental conditions, but that 'differentiation strategies and entrepreneurial strategy-making processes are more congruent strategic constructs' (p. 692). Contrary to popular belief they find that although many entrepreneurial firms favour *differentiation* strategies, these strategies do not lead to high firm performance. The findings are not conclusive, but their explanation is that firms that use state-of-the-art process technologies and recent business practices like business process improvement, core process design and reengineering, are innovative, pro-active and therefore improve their cost position relative to that of competitors. They also argue that this finding is supported by Hamel and Prahalad (1989) who state that successful firms have layers of advantage and that both entrepreneurial strategy-making and low-cost strategy are bases for competitive advantage in firms.

As argued earlier, strategies are viewed as the outcome of strategy-making processes, and therefore act as a mediating factor between strategy-making and firm performance. Although the support for a positive relationship between modes of strategy-making, differentiation- and focus strategies, and performance is not conclusive, this study is still interested in investigating the following proposition for SMEs:

P5a The mode of strategy-making that a firm employs will influence the choice of business strategy (content) which will influence firm performance (mediating factor)

Figure 4.4 illustrates the suggested mediating effect of strategies between the mode of strategy-making and firm performance. Essentially this means that the relationship between a mode of strategy-making and firm performance can be strengthened by employing an appropriate strategy. This will be investigated in Chapter Seven.

Figure 4.4: Proposition 5 – The mode of strategy-making – content – performance relationship



OBJECTIVE 6: TO ESTABLISH THE DIRECT RELATIONSHIP THAT SOME OF THE CONTEXT AND CONTENT FACTORS MAY HAVE WITH FIRM PERFORMANCE

It is possible that some of the contextual and content variables that were identified in the previous sections impact on firm performance or vary with each other independently from the mode of strategy-making. This possibility is investigated in the subsequent section.

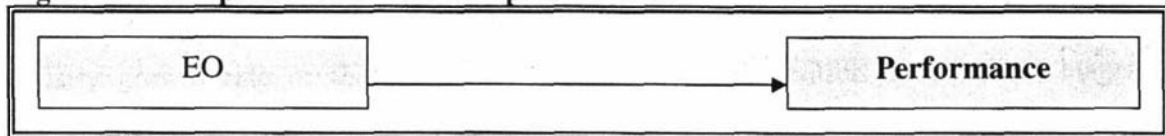
4.3.6 Entrepreneurial orientation

The value of entrepreneurial actions as a contributor to firm performance became important in the literature during the late 1980s and for most of the 1990s (Kuratko, Ireland & Hornsby, 2001). During this period, various authors have explored the relationship between EO and performance. Several of these studies support the positive link between EO and performance. One such study is that of Zahra (1991) who finds a positive association between EO and profitability, even when one- and two-year lags were considered. This finding is supported by Zahra and Covin (1995). In a study of 108 firms, they identified a positive and strengthening relationship between the longitudinal impact of entrepreneurial orientation and subsequent financial performance. Lee et al. (2001) find a positive and statistically significant effect of EO on performance in a study of 137 Korean technological start-up firms. Covin and Slevin (1991) argue that firms adopt an EO in the hope that it will help to create or sustain a high level of performance. Wiklund (1999) finds that there is a positive relationship between EO and performance. In his longitudinal study of 630 Swedish firms, the relationship increases over time and therefore appears to be a long term and persistent relationship, rather than a quick fix. This concurs with the findings of Zahra and Covin (1995). Many other studies suggest (conceptual) or find (empirical) a positive effect of EO on performance (Covin & Slevin, 1989; Lumpkin & Dess, 1996; Zahra, 1991). It can therefore be proposed that:

P6a Entrepreneurial firms (firms with a high level of EO) will outperform non-entrepreneurial firms

This proposition is summarised in Figure 4.5 which illustrates a direct effect of EO on firm performance.

Figure 4.5: Proposition 6a – EO and performance



4.3.7 The firm context and strategies

In this section propositions are formulated that pertain to the context in which strategies are carried out. It is important to note that all these propositions will examine relationships of strategies with the context variables and that no interactions that are independent from strategy will be examined (e.g. organic structure and hostile environments). The latter is considered to be outside the scope of this study. One summative proposition is formulated at the end of this section.

a) *External environment and strategy*

Firstly, the effect of *environmental uncertainty* on the type of strategies that firms choose is explored. Venkatraman and Prescott (1990) tested the effect of strategy and environment on firm performance in two samples from the PIMS database, totalling almost 2500 firms. They find that a coalignment (fit) between environment and strategy may improve firm performance. Furthermore, Miller (1988) studied 89 SMEs and undiversified firms in the province of Quebec, Canada to explore the relationships between structure, environment and Porter's (1980) generic strategies. He finds that innovation and marketing differentiation strategies have a positive association with environmental uncertainty, unpredictability and dynamism.

Most studies that investigate the impact of *industry* structure on firm strategies were undertaken in new ventures. Sandberg and Hofer (1987) find in their study of new venture proposals, that industry structure and strategy, separately and combined, influenced new venture performance. New ventures in heterogeneous industries are more successful than those in homogeneous (stable) industries. They are also more successful in the introductory and growth phases of the industry life cycles. This may be a result of the industry growth rate or the fluidity of the bases of competition during these stages. Chrisman et al. (1998) propose that industry structure will have a direct and moderating effect on new venture survival. Both studies do, however, question whether their model and results can be applied to any other firm but a new venture.

Miller and Friesen (1984) investigated the strategies that firms employ during the different phases of the corporate life cycle. In the introductory phase, innovation and focus strategies seem to be prevalent, and in the growth phase, market development, product development and diversification are employed. In the maturity phase, minor product development, reacting to competition and market development are utilised, while in the decline phase firms mainly cut their prices to maintain sales. Collectively these results suggest that external and industry environmental factors will influence the strategy that a firm uses.

b) The internal organisation and strategy

The same four internal factors that were explored in previous sections may also influence the type of strategy that a firm uses. First, *age and size* are investigated. The issue of firm size is very important in this study as it focuses on small firms with less than 100 employees. It is, however, also possible that within these small businesses, further differences may be attributed to smaller or larger SMEs. It is furthermore possible that these size differences may be influenced or enhanced by the age of the firm. Rutherford, McMullen and Oswald (2001) analyse a public data set containing 4637 firms and find a strong relationship between size and age. Young firms, just like small firms, are expected

to use focus strategies to make up for their lack of resources and experience (Cooper, Willard & Woo, 1986).

But, Schumpeter's (1947) theory that large firm size is essential for innovation and other entrepreneurial activities has been discredited in various studies (e.g. Kamien & Schwartz, 1975; Tushman & Nelson, 1990). This may, however, be explained by the definition of entrepreneurial activity used by Schumpeter (1947) which may be interpreted as confining (Link, 1980). Yet, it is hard to critique this definition that describes the entrepreneurial process as involving one or more of the following, namely the introduction of a new product, method of production, organisational form, market, source of supply, or the new organisation of an industry (Schumpeter, 1947). With such conflicting evidence, it suffices to state that size and age may have an influence on strategy, and it is likely that small and young firms may employ focus strategies.

The structure and culture of a firm may also influence the type of strategy that a firm uses. In terms of the *organicity* of organisational structure Miller and Toulouse (1986) find in a study of 97 SMEs in Quebec, Canada, that delegation of authority (a characteristic of organic structures) relates strongly to all elements of performance. Borch et al. (1999) find that firms with high structural formalisation are analysers and employ market strategies, whilst firms with no distinct competence are reactors and do not favour any specific strategy. They are 'stuck-in-the-middle' (Porter, 1980). Firms with organic structures are prospectors, which is similar to using differentiation strategies as argued in Chapter Three. This suggests that firms with organic structures are more likely to innovate or differentiate.

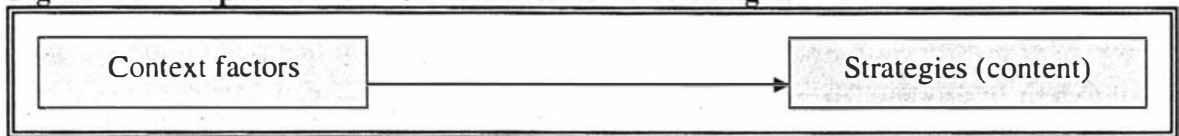
Various studies compare an *entrepreneurial nature* in firms with the competitive strategies followed by SMEs. The relationship between entrepreneurial firms and differentiation and focus strategies is supported by Covin (1991) who finds that differentiation strategies such as high price or high product quality contribute to competitive advantage in organisations with an entrepreneurial strategic posture. Mosakowski (1993) finds that entrepreneurial firms with focus and differentiation strategies outperform their competitors. It seems therefore that it is likely that entrepreneurial firms, or firms with high levels of EO, will

follow differentiation strategies, even if they are small. The above sections can be summarised as follows:

P6b Contextual factors, including EO, size, age, structure, environmental uncertainty and industry life cycle, will impact on the strategies (content) that a firm chooses; specifically smaller and younger firms will employ focus strategies, while entrepreneurial firms with organic structures will employ differentiation strategies

Figure 4.6 summarises Proposition 6b and shows that context factors will have a direct impact on firm strategies. This proposition will be explored further at a later stage in this study.

Figure 4.6: Proposition 6b – Context factors and strategies



OBJECTIVE 7: TO INVESTIGATE THE CONFIGURATIONAL RELATIONSHIPS BETWEEN THE VARIABLES OF THE STUDY

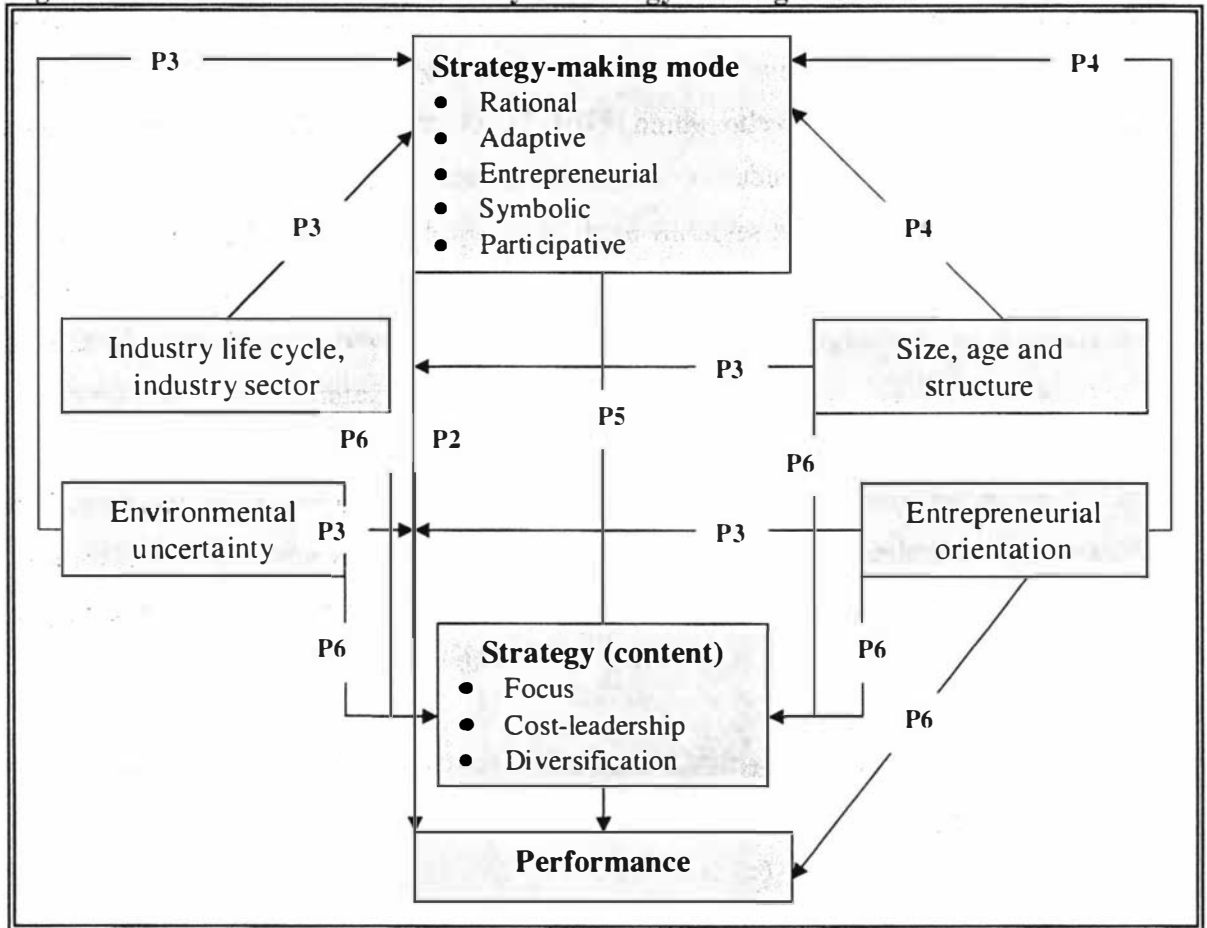
4.4 THE RESEARCH FRAMEWORK

Byrne (2001) suggests that ideally models that are prepared as a guide for an empirical study should be based on a rigorous exploration of the theory underlying the constructs and concepts under study. Therefore, this section contains a research framework that is posited *a priori* to the empirical part of this research to address the research question of this thesis. Figure 4.7 presents the proposed theoretical framework for the study. This framework draws on several research studies, such as Borch et al. (1999), Covin and Slevin (1988), Dess et al. (1997), and Hart (1991) as well as the researcher's own interpretation of the research to date on the relationship between strategy-making in SMEs and firm performance and is the culmination of the propositions in the sub-sections that were introduced throughout this chapter. Dess et al. (1997) argue that this is what would be termed a 'configurational framework – as opposed to a contingency [if-then relationships] approach [- and is suited to] the purpose of further developing normative and descriptive theory' (p 691). Simply put, it is a framework that uses a combination of variables and their interactions with each other and firm performance, in an attempt to predict firm performance. By compiling such a framework it is suggested that:

P7a It is possible to create a configurational model of strategy-making, external and internal context variables and strategy types (content) that will predict firm performance.

In this framework of strategy-making in SMEs (Figure 4.7) the arrows represent paths along which influence may occur. Each of these arrows represents one or more propositions that describe this influence. A direct arrow indicates a direct influence. An arrow that connects to another arrow indicates a moderating influence. A square positioned on a line with an arrow represents a mediating influence. The use of the word influence indicates that it is a casual relationship, and the arrow indicates the proposed direction of the relationship.

Figure 4.7: A framework for the study of strategy-making in SMEs



The presentation of a framework such as that contained in Figure 4.7 is one way of presenting a configuration of process, content and context variables. Another method is suggested by Hart (1991) and Miller and Friesen (1977, 1978). Miller and Friesen suggest that a configurational approach means that strategy-making is studied in its context in an attempt to find a number of causal models that can be defined as archetypes, or 'frequently occurring relationships amongst a broad host of such variables' (Miller & Friesen, 1978, p. 17). Hart and Miller and Friesen approach the formation of these archetypes from two different points of view.

Hart (1991) suggest that archetypes will differ in the intensity of their use of strategy-making, that is, some archetypes will use all or many modes of strategy-making, while others will use few or no modes of strategy-making. Furthermore, Hart only includes

modes of strategy-making in their archetypes and compares the resulting archetypes then with firm performance. This is not a pure interpretation of the concept, since no context or content variables are included and therefore it is not configurational, but rather contingent in its approach. Miller and Friesen (1977, 1978) on the other hand include environmental, organisational, strategy-making and performance variables in the creation of their archetypes. In essence they find a spread of these variables across archetypes, for instance an example of a successful archetype is the 'dominant firm' which is represented by a large size, stable environment, powerful executives, a mechanistic organisational structure and conscious but adaptive strategy-making.

Both Hart and Miller and Friesen use cluster analysis as their analytical technique and this study suggests that both of these studies may add to a more comprehensive and realistic solution. To hypothesise about the exact nature of that solution at this stage may be untimely, and it suffices to propose that:

P7b It is possible to create archetypes that empirically classify the firms of the study.

4.5 SUMMARY

In conclusion, this chapter built on the preceding literature review and developed a set of propositions that support the research question and objectives of this study. Propositions were introduced step by step throughout the chapter to include the strategy-making, context, content and performance concepts that were identified in previous chapters. In the final instance, these propositions were summarised in a research framework that heeded the call for a configurational approach to the study of strategy-making in firms. Chapter Five provides an overview of how these propositions are tested in an empirical study.

CHAPTER 5 - RESEARCH METHOD

5.1 INTRODUCTION

This study is designed to contribute toward the cumulative tradition of strategic management research. The general approach is to build on relevant previous research in the area and to avoid 'reinventing the wheel' where possible. An examination of the most important studies in the areas of relevance to this thesis (Burgelman, 1983; Covin & Slevin, 1988, 1989; Dess et al., 1997; Hart, 1991; Khandwalla, 1976/77; Miller, 1983; Miller & Friesen, 1982) reveals a predominantly positivist (quantitative) approach where survey data is collected with the use of (mostly mail) questionnaires, and where the data are analysed with the help of multivariate statistical techniques. The purpose of this analysis is to provide support for the presented propositions.

This study therefore has one of two choices. It can use the same technique as the above studies, but introduce an element of novelty in the proposition development or the type of firm, in this case SMEs. Alternatively, it can employ a more in-depth exploration through case studies or in-depth interviews which can provide insights into 'why' and 'how' the details of strategy-making in SMEs are structured. The first approach is deemed more appropriate for this study for several reasons. Firstly, as was explained in the first four chapters of this thesis, this study approaches strategy-making from an angle that is uncommon in SMEs, thereby an element of novelty is introduced. Secondly, because of the absence of previous studies on strategy-making in SMEs in New Zealand, this study is in essence exploratory in nature. It therefore only attempts to give a superficial overview of 'what' these firms do, rather than the more in-depth 'how' and 'why' answers that qualitative research provides. Thirdly, the use of a similar research method to previous studies on the topic allows for improved comparison of results. Fourthly, quantitative studies on process appear to be more acceptable in a SME setting than in a large firm setting (Dennis, 2003). In small firms most firm level variables are likely to behave consistently across the firm because these firms are unlikely to have many diverse products and do not compete in many different industries. Lastly, this study attempts to provide an explanation of the interaction of various variables in the strategy-making approach in SMEs, something that is best done

through quantitative research methods. This does, however, mean that it is not the purpose of this study to describe the detailed workings of any of the processes that have been investigated.

This chapter describes the various aspects of the research method. First, a description of the New Zealand business environment and New Zealand SMEs is given, followed by a summary of the research framework. The research design is then outlined. This includes a discussion of the sampling method; instrument design; data collection and entry; and the statistical procedures utilised for data analysis.

5.2 SMALL AND MEDIUM ENTERPRISES IN NEW ZEALAND

The following section provides the reader with a background to the New Zealand business environment and industry sectors after which a working definition of New Zealand SMEs is introduced for the purpose of this study.

5.2.1 The New Zealand business environment

New Zealand is a group of small islands in the South Pacific Ocean, similar in size to Japan, with a population of just over 4 million people. Until 1769 it was inhabited only by Maori. From 1769, but especially after 1840 when the Treaty of Waitangi was signed, more European (mostly British) people settled in New Zealand. Today it has a multi-cultural society with Maori, European, Pacific Island and Asian people living alongside each other. New Zealand is a parliamentary democracy. It is heavily reliant on the export of especially agricultural products, such as meat and dairy, and tourism. In the past twenty years the export of merchandising products mainly to Australia, the USA and Japan has grown significantly (Ministry of Economic Development, 2003). The unemployment rate is low at around five to six per cent and the average weekly income in 2004 was around \$554 (Statistics New Zealand, 2004).

Gross domestic product (hereafter GDP) in 2001 was US\$13,100 per capita. According to the Ministry of Economic Development (2003) the focus of the past 17 years has been towards establishing an open, modern, stable and deregulated economy. Monetary

policy aims to ensure price stability and targets a yearly inflation rate of between zero and three per cent. In the last five years, several factors have slowed economic growth. These include:

- The Asian economic downturn in 1998;
- The summer drought of 1998;
- The September 11 terrorist attacks in the US in 2001;
- The Iraqi war in 2003; and
- The severe acute respiratory syndrome (SARS) outbreak in 2003.

Despite these factors, a growth rate of between 3.5 per cent and four per cent has been maintained in 1999 and 2000, 2.5 per cent in 2001 (New Zealand Treasury, 2002) and the rise has continued in 2004 to 4.5 per cent (Statistics New Zealand, 2004).

5.2.2 Industry sectors

Industrial development in New Zealand was initially based on the extraction of raw natural sources. Gradually, these basic activities became complemented by more and more processing of the natural resources (Bollard & Pickford, 1998). The agricultural, horticultural, forestry, mining, energy and fishing industries play a fundamentally important role in New Zealand's economy, particularly in the export sector. The agricultural sector, including the production and manufacturing of primary produce, comprises ten per cent of GDP. However, related downstream activities mean that it plays an even greater part in the New Zealand economy. The main agricultural activities are dairy, meat, horticultural crops (such as apples and kiwifruits), forestry, fishing and wool. New Zealand has significant natural energy resources, with good reserves of coal, natural gas and oil/condensate, extensive geothermal fields, and a geography and climate which have supported substantial hydroelectric development. The main minerals mined, in addition to coal, are gold, silver, iron sand, various industrial minerals and gravel for construction. The manufacturing industry accounts for 16 per cent of both employment and GDP. This industry sector has grown significantly in the past ten years. The service sector makes up a large proportion of the economy. Within the service sector, retail and wholesale trade, restaurants and hotels

comprise a major subcomponent, accounting for around 30 per cent of service sector activity. Other important sub-sectors are transport, communication, and financial services. Tourism is the second most important source of foreign exchange. Tourists come mainly from Australia, the UK, the US, and Japan (Ministry of Economic Development, 2003).

5.2.3 Defining SMEs in New Zealand

SMEs all over the world play a significant role in the economic development and growth, both in terms of contribution to GDP and proportion of the labour force employed in their host countries. Yet, those same SMEs are faced with an increasingly challenging external environment. In New Zealand, SMEs have increased in significance because of the downsizing of firms that want to compete in international markets, less job security, and people who choose to engage in small business at retirement or as a lifestyle choice (Ministry of Commerce, 2000). It is important for this study to define exactly what is meant by SMEs, since there is considerable disagreement between countries about the size of SMEs. A general definition for a SME in New Zealand will include the following dimensions:

- Personal ownership and management;
- Few, if any, specialist managerial staff;
- Not being part of a larger business enterprise (Ministry of Commerce, 2000, p. 3); and
- Fewer than 100 full time equivalent employees (FTEs) (0-49 small and 50-99 medium enterprise)(Cameron & Massey, 1999).

The latter dimension espouse above differ from the definition of the Ministry of Commerce, which defines SMEs as firms with fewer than 20 FTEs. It is, however, in accordance with the definition that can be found in academic literature (McGregor & Gomes, 1999). Cameron and Massey (1999, p. 5) make one of the few comprehensive definitions of SMEs in New Zealand, namely 'a business that is independently managed by the owners, who own most of the shares, provide most of the finance and make most of the principal decisions'. In quantitative terms, they define a micro business as having

five or fewer employees, a small business as having six to 49 employees and a medium size business as having 50 to 99 employees. Employees are described as full time equivalent employees (FTEs). This is an employee who works 40 hours per week. Cameron and Massey explain the lack of agreement in terms of a definition as a result of varying industry factors, and the many bases for definitions such as employee numbers, assets, turnover, legal format (such as partnerships) and whether the business is managed by the owner or an agent. This study uses the accepted academic definition by Cameron and Massey for various reasons that range from more practical reasons (a larger population to draw from), to its acceptability in the local academic community (McGregor & Gomes, 1999).

Firms with fewer than 100 employees account for 99.5 per cent of all the enterprises in New Zealand, employ 62 per cent of the workforce that is currently employed (Statistics New Zealand, 2004) and account for 55 per cent of the total output in the economy. SMEs are mostly located in the larger centres, such as Auckland and Wellington, but generate the highest proportion of employment in the Tasman and Northland regions of New Zealand. Although data show a high attrition rate for SMEs (only 40 per cent of SMEs started in 1995 survived into 1999), these numbers include businesses that were registered but never started, geographic transfers, changes of ownership, temporary closures and closure due to health or personal reasons (Ministry of Commerce, 2000). According to the Ministry of Economic Development (2003) SMEs in New Zealand are more predominant than in other countries, and have levelled out at an average size of six FTEs.

Small firms offer some advantages over larger firms, such as their ability to seek out protected market niches that are too small or not important enough for larger firms (Porter, 1980). They are seen as quicker to react to changes in their environment because of their structural simplicity, streamlined operations and the limited number of possible competitive moves (Chen & Hambrick, 1995), a lack of structural inertia (Hannan & Freeman, 1984), entrepreneurial and risk orientated leadership (Hitt et al., 1991) and innovativeness. The inability of small businesses to bring their innovations to the market is one of their most limiting weaknesses (Dean et al., 1998), but, the advantages mentioned above may lead to small firms possessing a competitive

advantage over larger firms in some cases. Strategy-making would be a way in which such a competitive advantage could be attained and is crucial to this study.

5.3 THEORETICAL FRAMEWORK

The objective of this study is to clarify the issues and concepts implied in the research question, while also contributing to the existing body of knowledge. This was done through a literature survey and a survey of the SMEs in New Zealand. The purpose of the survey was to establish what the strategic management processes of SMEs in New Zealand are and how they relate to the performance, content and contextual factors of these firms. The dependent variable was defined as firm performance. A theoretical framework for this study was developed around the seven key objectives stated in Chapter Four. This framework drew on a variety of research from areas such as strategic management, entrepreneurship and performance measurement. This framework was presented in model form in Figure 4.7 and propositions to explain the model were presented. The theoretical framework and propositions form the basis for the empirical research that is described in this chapter.

5.4 RESEARCH DESIGN

Historically strategic management research tends to focus on either content or process (Moore, 1995; Schendel, 1992) or in some cases on the context in which strategic management takes place (Robinson & McDougall, 1998). Content represents the view of strategy that focuses on the development of competitive superiority through the reconfiguration of resources, competencies and linkages. Process examines the management processes that result in strategic change and innovation (MacIntosh & MacLean, 1999). Context examines the influence that factors such as firm size, structure or industry have on the performance of the firm. The fact that studies tend to focus on one or the other, has been criticised by many authors (MacIntosh & MacLean, 1999; Mintzberg, 1994; Moore, 1995). This study will examine the strategy process and will try to relate this to context and content. The following steps explain how this will be achieved.

5.4.1 Literature study

This study firstly examined the existing literature on strategy-making in SMEs. It found that the literature on this topic is descriptive, disparate, and lacks a clear framework for examining this phenomenon. The findings from previous studies on strategy-making in SMEs show a significant overlap with the entrepreneurial mode of strategy-making mode as proposed by Mintzberg (1973). The importance of this finding is further strengthened by the proposition of Mintzberg (1990) that this mode of strategy-making is most suited to small firms. The unsatisfactory nature of the literature on strategy-making in SMEs meant that the literature survey was extended to the strategy-making literature in general. It was found that an extensive array of strategy-making typologies were conceptualised, mostly by North-American researchers (e.g. Ansoff, 1987; Mintzberg, 1973), and a few of these had been tested empirically (e.g. Hart, 1992; Mintzberg & Waters, 1985), albeit mostly on larger firms. It was decided to examine the typologies and to synthesise them into a typology that could be tested empirically. This typology was compared to the literature on strategy-making in SMEs (provided by Europeans such as Storey, 1994 and North-Americans such as Covin & Slevin, 1989 alike) and some conclusions were drawn at the end of Chapter Two. Chapter Three examined the context and content of strategy-making. It concentrated on the perceived entrepreneurial nature of SMEs, a selection of contextual variables such as environmental uncertainty, industry life cycle, firm size, age and organisational structure. These variables were chosen because of their prevalence in previous studies. In terms of content, the typology of Porter (1980) was examined alongside that of Miles and Snow (1978) and it was decided to use Porter's typology in the empirical study.

The literature review in Chapters Two and Three therefore provides an exposition of strategy-making in general and in SMEs specifically (process); EO, external environment, industry and firm factors that influence these processes (context); and business strategies that result from these processes (content). A framework was developed from these factors in Chapter Four. This framework is multi-dimensional and shows different aspects of how SMEs make strategy.

It was imperative to conduct a comprehensive literature search to identify all the

relevant issues pertaining to the research question. The literature review made use of historical and current information (books and journal articles) from libraries and electronic resources such as ABI Inform, Business Source Premier, Digital Dissertations, Science Direct and Emerald with which local and overseas journals and articles can be accessed through the internet or by using CD-roms from the library. Some of these databases include articles by the early researchers in strategic management and entrepreneurship in PDF format. Information was also gathered to develop the items and scales for the questionnaire and the research method that are explained in this chapter.

5.4.2 Survey

A survey was also undertaken. The framework and propositions that were developed through the literature were examined empirically to determine their relevance. Data for this part of the study were collected by means of the detailed mail questionnaire (see Appendix A). Section 5.6 explains the aspects of the survey in more detail, while Section 5.8 provides a brief introduction to the data-analysis techniques utilised by this study.

5.4.3 Ethical issues

The most important ethical issue that impacted on this research was confidentiality. Confidentiality of information from the survey was preserved by not including the name of the organisation or the person who completed the questionnaire. Non-identifying information was used to describe firms, such as size, industry and type of firm. The usage of the data was restricted to the purpose of the thesis and research papers that may result from it. Ethics approval was received from Massey University (MUAHEC 01/043) and confirmed by Auckland University of Technology, the employer of the student (AUTECH 03/115).

5.5 SAMPLING PLAN

This section explains the population, sampling plan and data-collection process employed in this study.

5.5.1 The population

The population for this study is SMEs in New Zealand. As explained in Section 5.2.3, these are firms with fewer than 100 FTEs. Some of the firms that can be classified as SMEs according to the number of employees were excluded from the study. These exclusions are as follows:

- Firms that do not operate in New Zealand exclusively, or at the very least have their main operations in New Zealand were excluded from the study.
- Farming operations were excluded for several reasons. Firstly, they are excluded from the statistics on SMEs provided by Statistics New Zealand; secondly, no database including these firms could be found; and thirdly, and most importantly, no comparable studies of SMEs that include farming operations in the population could be found. Therefore, the exclusion of these firms also allows for improved comparison with previous studies.
- Not-for-profit and public firms were excluded because a different approach would be required to measure the performance of these firms. Performance measurements for these firms are conceptually different and include issues such as fundraising efficiency and public support (Ritchie & Kolodinsky, 2003). Furthermore, in the case of some governmental firms, stakeholder input into certain aspects of the strategy-making process is required by law which would skew the approach employed by these firms.

A cross-industry study was undertaken because industry sector was defined as one of the research variables. In order to identify a list of target population firms (sampling frame), the 2003 Kompass database was consulted. This is a comprehensive database of 16 000 firms in New Zealand. In order to capture the variables of interest to this study, a population of firms was needed which was readily accessible, sufficiently plentiful

and had clearly defined formal leaders. The target of the sampling plan was managers, managing directors, owners, chief executive officers or their delegates. These are the persons who have, or were most likely to have, access to reliable information on the variables that have been studied in this thesis.

5.5.2 The sample and data-collection

Postal questionnaires were sent to 2000 owners or managers of SMEs in New Zealand. Information on these firms came from the Kompass database. Respondents with the characteristics listed in Section 5.5.1 were selected randomly by employing the functions of the database. The reason for this large sample was to ensure that at least 300 questionnaires were returned for a margin of error of 5.7 per cent (Page & Meyer, 2000). This expected response rate of 15 per cent was based on previous studies in SMEs, such as that by Covin and Slevin (1988) (15.8 per cent), Beal (2000) (20 per cent). Furthermore, the questionnaire was lengthy and it was expected that this would impact negatively on the response rate. Data collection took place during May and June 2003. The questionnaire was addressed to the CEO or owner of each firm, which is appropriate in SMEs where such a person should have sufficient information about and understanding of the firm. A follow-up letter was sent to all non-responding firms. In total, responses were received from 504 firms, giving a response rate of 25.2 per cent. Even though only firms with fewer than 100 FTEs were targeted, some firms (seven in total) presumably had an increase in employees since the database was compiled and therefore had more than 100 FTEs. These firms were excluded. Similarly, not-for-profit firms (12 in total) were removed. The questionnaires were also examined for missing data. This procedure is described in Section 5.8.2. Eight questionnaires that had more than five per cent missing data were removed. The total usable responses were 477, which is 23.85 per cent of the original sample. The firms that responded to the survey represented a broad cross-section of firms from various industries, firm sizes and ages. Their demographics are presented in Chapter Seven.

Power analysis was used to evaluate the probability that the Type II error (failing to reject a false null hypothesis – explained in Section 5.8.4) would not be made (Rosenthal & Rosnow, 1991). Tests of the reliability, validity and generalisability to

the population of the firms that responded to the survey were undertaken and will be discussed in Chapter Six.

5.6 ISSUES IN ESTIMATING FIRM PERFORMANCE

The measurement of firm performance is often a contentious issue in strategic management research. This section provides a brief background to firm performance and the issues in estimating it, specifically in SMEs. The word 'performance' is used widely across management disciplines, yet the meaning is seldom defined and varies widely. Performance has been understood to mean effectiveness and efficiency, lean production competitiveness, cost reduction, value creation, growth, survival and job creation (Lebas & Euske, 2002). Lebas and Euske discuss various definitions of performance and then define it as

'the sum of all processes that will lead managers to taking appropriate actions in the present that will create a performing [firm] in the future' in other words, 'doing today what will lead to measured value outcome tomorrow' (2002, p. 68).

Performance in this study is treated as the dependent variable and defined as above. It is, however, important to note that performance is a social construct and will therefore be defined differently by each manager.

A key research issue in strategic management is to explain the performance differences between firms. This is because 'improving firm performance is the primary purpose of strategic management' (Robinson & McDougall, 1998, p. 1079). Similarly, firms act in an entrepreneurial manner in an attempt to improve performance (Kuratko et al., 2001). Therefore adequate means of performance measurement are necessary to undertake rigorous research within strategic management and entrepreneurship.

The performance implication of strategy-making is always of concern to those involved in the process. Performance can be viewed from multiple perspectives, including sales growth, market share, profitability, goals, aspiration levels, reputation, public image,

goodwill, commitment and satisfaction of employees, overall performance and stakeholder satisfaction (Brown & Laverick, 1994; Rockmore, 1996). This section investigates the use of perceptions to measure performance and different firm performance measurements used in this type of research.

5.6.1 Use of perceptions to measure performance

According to Clark (2002) an unresolved debate exists between using subjective (perceptions) and objective measures of performance. Performance data for SMEs can, according to Cooper (1979), be difficult to interpret. Many reasons are given for this, mostly to do with the nature of SMEs. These include heavy investment in development, the interrelationship between the firm and the owner, the delayed nature of performance testing, and the goal of the owner which may not be growth, but life-style (Cooper, 1979). Not all entrepreneurs will pursue profit maximisation and growth (Glancey, 1998). Owners of new ventures and small businesses can choose to either grow their business or to maintain it. This becomes a lifestyle choice and a decision to maintain control for the entrepreneur, and firm performance may be judged by basic financial criteria such as cash flow, or even survival (Lumpkin & Dess, 1996). Furthermore, some business-orientated entrepreneurs may also choose not to expand their businesses beyond some level that they can control without delegation of key functions (Glancey, 1998).

In research that studies SMEs subjective measures of performance as described by Covin and Slevin (1989), Dess et al. (1997) and Dess and Robinson (1984) can be used over objective data for the following reasons:

- Inability of SMEs to provide information from archival sources;
- Unwillingness of SMEs to share the archival data they may have;
- The data for SMEs are not available publicly to compare with questionnaire data;
- The data provided by SMEs may be hard to interpret, for example, it may not be the objective of the firm to gain market share;
- Varying accounting procedures may be followed in SMEs, which can make comparisons difficult; and

- The cross-sectional/industry nature of the study means that information was affected by industry related factors, and that objective financial measures would therefore not be comparable.

The use of perceptual measures of strategic constructs, including performance, has been supported by various studies (Clark, 2002; Dess et al.; 1997; Lebas & Euske, 2002; Lyon et al., 2000). Some of these advantages are important to a study undertaken in SMEs and are briefly explored next:

- Researchers can ask questions that directly address the underlying nature of a construct. This leads to a high level of validity;
- A sufficient set of items to represent a construct can be included without making it an onerous process for the respondent to complete the questionnaire. This serves to enhance validity;
- Managerial perception of performance may be a better indicator of future behaviour than an objective measure;
- Objective measures are prone to reporting rules that may result in inaccurate measures of performance. This is especially true in SMEs which may have different reporting rules to adhere to and which may further be reluctant to divulge information that they are not usually required to share with third parties;
- Managers will concentrate on performing well in areas that are important to them. It is therefore questionable to evaluate their performance by using measures of areas that are not important to them (Clark, 2002). This may mean that when performance is measured across firms, different firms may be evaluated on different measures; and
- Since performance has different meanings to different people, it can only be evaluated inside the firm through perception.

Although these advantages are important, the most compelling reason for using perceptions of performance in a SME study is the vast diversity in how SME manager-owners perceive what good performance means to their specific firm. This study argues that SME manager-owners may have varying goals for their firms, ranging from growth goals to ensuring enough profit to sustain their lifestyle. Firm performance can only be

measured accurately when compared to the intentions of the firm, namely its goals. It is therefore impossible for a researcher to make a judgement call from objective performance measures whether a SME is successful. Unfortunately the use of perceptions to measure performance is not without disadvantages. Lyon et al. (2000) identifies some of the limitations of this approach:

- Perceptions gathered through direct interviews render less valid results because it is harder to link answers to specific constructs;
- Self-reporting leads to disadvantages such as subjectivity and single respondent error;
- It presents difficulty in identifying sources of variation in responses;
- Perceptions of top managers may differ for issues such as risk-taking; and
- Perceptions may be subjected to 'retrospective bias and other attributional phenomena' (Clark, 2002, p. 33).

Most of these limitations have been accounted for in the research design, for example questionnaires were used instead of interviews and more than one measure of performance was included to compare for issues such as variation in responses, bias and single respondent error. Furthermore, Dess and Robinson (1984) found a strong correlation between the use of subjective and objective measures of firm improvement and decline over a five year period. This is supported by Hart and Banbury (1994). This study will therefore employ subjective measures (perceptions) of firm performance.

5.6.2 Measures of performance

Performance constructs that are not multi-dimensional, may result in theory building that is misleading, normative and descriptive (Lumpkin & Dess, 1996). Performance can be viewed from multiple perspectives, including sales growth, market share, profitability, goals, aspiration levels, reputation, public image, goodwill, commitment and satisfaction of employees, overall performance and stakeholder satisfaction (Brown & Laverick, 1994; Rockmore, 1996). Bonoma and Clark (1988) found that the most frequently used firm level performance measures were profit, sales, market share and

cash flow. Murphy, Trailer and Hill (1996) examine 51 empirical studies that measured performance in SMEs and found a number of measures that are used commonly in these studies. The most popular of these measures are used in this study, namely:

- Efficiency, for example return on investment, return on equity, and return on assets;
- Growth, for example market share growth, change in sales, and change in employees;
- Profit, for example return on sales, net profit margin, and gross profit margin;
- Liquidity, for example sales level, ability to fund growth, and cash flow level; and
- Success/failure, for example discontinued business.

This thesis therefore captures for analysis perceptions of financial measures such as return on investment, return on equity, return on sales, profitability, ability to fund growth from profit and overall firm performance. This approach is in line with Murphy et al.'s (1996) suggestion that multiple measures of performance should be used in entrepreneurial studies.

5.7 THE SURVEY INSTRUMENT

This section provides an exposition of the survey instrument employed in this study. The process that was followed to ensure that the instrument and its scales are suitable for use with SMEs in New Zealand is explained. Then a brief overview of the type of variables that the instrument measures is provided whereafter the different scales that were chosen to represent the constructs of the study are introduced.

5.7.1 Development of the survey instrument

A survey instrument was developed to measure the constructs of interest to this study. This instrument can be perused in Appendix A of this thesis. The items and scales were chosen from scales used for measuring similar constructs in theses and published articles. The advantage in using these scales was the consistent use of particular scales in strategy-making process and EO studies (Covin & Slevin, 1988, 1989; Dess et al.,

1997; Hart, 1991; Khandwalla, 1976/77; Miller, 1988; Miller & Friesen, 1982). The latter reason is important because the results of this study can be compared to the results of previous studies. The items in the survey instrument were designed and improved by subsequent authors to capture data which operationalise propositions similar to those set out in Chapter Four.

All of the relevant scales were mostly developed and used in a North American setting. Therefore it was important to consider issues of functional, conceptual and instrumental equivalence (Singh, 1995). Functional equivalence implies that a construct serves the same function in different settings. Conceptual equivalence exists when a construct is expressed in similar attitudes and behaviours in different countries. Instrumental equivalence is present when the scale items, response categories and questionnaire stimuli are interpreted similarly between settings. Although New Zealand is essentially a western, English speaking society like the United States and Canada, and these three issues are less of a threat to equivalence than they would be in a setting that was vastly different from the North American setting, there was still the chance that equivalence does not exist. Therefore, a few steps were taken to improve equivalence.

The scales that were chosen to be included in the instrument, as well as the compiled instrument, were evaluated by a number of academics from the management and statistics disciplines at two New Zealand tertiary institutions in terms of content validity. In order to evaluate the face validity of the measurement instrument for the chosen population in the New Zealand business environment a sample of ten owners/managers was asked to complete the questionnaire and was interviewed, in-depth, afterwards to probe for their understanding of the questions. This was done to ensure that the questionnaire tests the constructs that it was intended to test. Issues that were addressed included terminology comprehension, interest, and the flow of the questions and sections within the questionnaire. Two statisticians and four management academics also examined the questionnaire and provided some suggestions. As a result of the feedback on the in-depth interviews and the suggestions from the academics, several of the measures were refined to make them more meaningful in a New Zealand context. None of these changes impacted on the intended meaning of any of the scales. Strictly speaking no further testing for validity and reliability was necessary at this stage since existing scales that have received satisfactory levels of validity and reliability in

previous studies were used. However, statistical validity and reliability tests were conducted on the data of this study as discussed in Chapter Six.

5.7.2 Variables

The research question suggests that there is a dependence relationship that needs to be examined. The literature review suggests that there are at least one independent variable, one dependent variable and multiple mediating and moderating variables that need to be considered in an attempt to answer the research question. A few references are made to various kinds of variables in the preceding discussion. This section explains the meaning of the types of variables and indicates how the constructs of this study present these types of variables.

- *Dependent variable:* According to Page and Meyer (2000), the dependent variable 'expresses the presumed effect in a study' (p. 68). As explained before, this study employs firm performance as the dependent variable.
- *Independent variable:* The independent variables can be used to predict the value of the dependent variable (Hussey & Hussey, 1997). The strategy-making modes of SMEs are considered to be the independent variables in this study.
- *Moderating variables:* Becherer and Maurer (1998) define a moderator as 'a variable that specifies the form and/or the magnitude of the relationship between an independent and a dependent variable' (p. 52). Simply put, moderating variables are variables that modify the effect of the response of the independent variable on the dependent variable (Page & Meyer, 2000). Several variables are deemed to be moderators in this study, including environmental hostility, dynamism, and heterogeneity; industry sector or life cycle; EO; organisational structure organicity; firm age; and firm size.
- *Mediating variables:* Mediating variables provide a causal link between two other variables, and can therefore be used to explain a relationship (Page & Meyer, 2000). The mediating variable employed in this study is business strategy.
- *Extraneous variables:* Extraneous variables are variables that may influence the dependent variable (Hussey & Hussey, 1997), but are not included in the study. In this thesis owner/manager characteristics are considered to be the most

important of such variables, since the influence of this person in small firms can be considerable. The decision to exclude such individual level characteristics was discussed in Chapter Four.

5.7.3 Components of the survey instrument (questionnaire)

This section provides an explanation of the scales included in the survey instrument. Table 5.1 provides an exposition of the seven scales in Sections B to F of the questionnaire employed in this study, the article that they were published in, the concept or study that they are based upon and the areas that these scales address.

Table 5.1: Scales used for the survey instrument

Survey Section	Author(s)	Construct of interest	Basis of scale	Areas addressed
B	Covin and Slevin (1989)	Entrepreneurial orientation	Items 1, 2, 3, 7, 8 from Miller & Friesen (1982) and Khandwalla (1976/77)	<ul style="list-style-type: none"> ● Innovativeness ● Pro-activeness ● Risk-taking
C1	Khandwalla (1976/77)	Environment and industry	Managerial perceptions	<ul style="list-style-type: none"> ● Technological sophistication ● Dynamism ● Hostility ● Stability ● Industry differentiation ● Industry concentration
C2	Covin and Slevin (1989)	Organisational structure	Khandwalla (1976/77)	<ul style="list-style-type: none"> ● Organic vs. mechanistic ● Result: organicity index
D	Miller (1988)	Business strategies	Porter (1980)	<ul style="list-style-type: none"> ● Competitive tactics ● Generic items
E	Dess et al. (1997)	Strategy-making process scales	Modification of Hart (1991)	<ul style="list-style-type: none"> ● Strategy-making practices and processes ● CEO style ● General management orientation
F1	Covin and Slevin (1989)	Performance	Managerial perceptions based on Gupta and Govindarajan (1984) and Covin and Slevin (1989)	<ul style="list-style-type: none"> ● Importance of performance criteria ● Satisfaction with performance criteria
F2	Dess et al. (1997)	Performance	Managerial perceptions based on Khandwalla (1976/77)	Performance over five years measured against competitor performance

The survey instrument was divided into seven sections. Section A measures mostly demographical data, including industry life cycle. Section B measures EO, Section C contextual factors, Section D competitive strategy, Section E strategy-making mode, Section F performance and Section G provides respondents with the opportunity to request a summary of the research results.

Table 5.2: Linkages between constructs, scales and items

Scale	Combinations (see Table 2.1)		Constructs	Construct items
Strategy-making (SM)			Rational SM	E1, 22, 2, 25, 16, 14
			Adaptive SM	E3, 5, 6
			Participative SM	E4, 10, 11, 13, 18, 19, 24
	Simplistic SM	Entrepreneurial SM	Intrapreneurial SM	E14, 21, 12
			Command SM	E2, 25
			Symbolic SM	E1, 8, 9, 23
Business strategies		Differentiation	D1, 2, 3, 4, 5, 6, -(15, 16, 17)	
		Cost-leadership	D7, 8, 9, 10	
		Non-breadth (focus)	D12, 13, 14 (all negative)	
EO		Innovation	B1, 2(a & b)	
		Risk taking	B4(a), 5 (a), 6(a)	
		Pro-activeness	B3(a, b, c)	
Environmental uncertainty		Hostility	Ca, b, c, d, e	
		Dynamism	Cf, g, h, i	
		Stability (non-heterogeneity)	Cj, k, l, m, n, o (first negative)	
Structure		Organic versus mechanistic	Cq, r, s, t, u, v, w	
Performance		Performance perception	Section F	
Demographical variables		Age	A2,3	
		Size	A4,5,6	
		Industry category	A1	
		Industry life cycle	A9	

Each of the studies mentioned in Table 5.1 reported the loadings of the scale items onto the factors that the scales measure. The linkages between each construct, the survey scales and items are listed in Table 5.2 above. In terms of the independent variable 'strategy-making', the modes (factors) from both the studies that used the scale employed in this study are reported. In particular, Table 5.2 shows in columns two and three how the 'command' factor has the potential to load with either the intrapreneurial (to make up the entrepreneurial mode), or the symbolic (to make up the simplistic mode) factors. Although the literature review proposes that it will load with the intrapreneurial mode, it is important to acknowledge that the other option is a

possibility. The scales that were used to develop the survey instrument are subsequently discussed.

a) *Strategy-making scale*

Strategy-making mode was measured with the Hart (1991) scale as modified by Dess et al. (1997). Hart (1991) developed this scale to test for the five strategy-making modes as described in Chapter Two. Dess et al. (1997) modified the scale and found that four modes resulted from their factor analysis. Their scale consists of 25 items and is scored on a five point Likert scale, ranging from 1 'Strongly disagree' to 5 'Strongly agree'. The scale is based on the two aspects that Hart (1991) argued as 'central to [conceptualising] and understanding strategy-making processes: (1) top management 'intentionality', and (2) [organisational] actor 'autonomy'' (p. 104). Dess et al. (1997) found through factor analysis (see complete results in Table B.6 in Appendix B) that the questions numbered 12, 13, 14, 20 and 21 in both scales loaded with correlations of higher than 0.40 on what they termed the entrepreneurial strategy-making mode. They argue that question 14 related to overall EO, question 21 to innovativeness, risk-taking and pro-activeness, question 12 to risk-taking, question 20 to competitive aggressiveness and question 13 to autonomy, and that therefore EO is a salient strategy-making mode in firms. The four modes that Dess et al. (1997) have identified, namely participative, entrepreneurial, adaptive and simplistic strategy-making processes, are consistent with four of the five dimensions of management styles identified earlier by Khandwalla (1976/77), namely risk-taking (entrepreneurial strategy-making), technocracy (opposite of simplistic), organicity (adaptive) and participation (participative). The only one that does not correspond is the coercion aspect which 'has no direct [analogue] in the current research' (Dess et al., 1997, p. 686). They further applied tests to ensure that their factors were valid and found positive results in this regard. This study delivered four modes that are similar to those of Dess et al., but the entrepreneurial mode is termed the 'intrapreneurial mode', which is deemed a more appropriate term, as will be explained in Chapters Six and Seven. The factor scores for the four modes of strategy-making, namely simplistic, adaptive, intrapreneurial, and participative were calculated by adding the items in Table 5.2 and dividing each factor by the number of relevant items. The results from the EFA and CFA on this scale are presented in Chapter Six.

b) *Business (generic) strategies*

Porter's (1980) generic strategies were tested with the seven-item scale developed by Miller (1988). Miller (1988) based this scale on the works of Hambrick (1983) and Dess and Davis (1984). The scale is a seven-point Likert scale, ranging from 1 'Not important at all' to 7 'Extremely important'. Once again, the results of the EFA and CFA conducted on this scale are presented in Chapter Six. The factor scores for the three strategies, namely differentiation, cost-leadership, and focus were calculated by adding the items as in Table 5.2 and dividing each factor by the number of relevant items.

c) *Entrepreneurial orientation (EO)*

The EO scale used in this thesis is that of Covin and Slevin (1988, 1989). This scale is based on the works of Khandwalla (1976/77) and Miller and Friesen (1982). This scale consists of nine items, three each measuring innovativeness, pro-activeness and risk-taking. Lumpkin and Dess (1996) argue that some of these measures are actually better representations of the other two aspects of EO, namely competitive aggressiveness and autonomy and therefore they added them to the EO construct. There is some disagreement on how to label Covin and Slevin's (1989) measurement scale and what type of concept it really represents because it represents a mix of past behaviours and current attitudes (Wiklund, 1999). But at the same time it has been used extensively in empirical research and conceptualises a wide gamut of a firm's entrepreneurial activities. This scale has been operationalised in various consequent studies (e.g. Barringer & Bluedorn, 1999; Becherer & Maurer, 1997; Naman & Slevin, 1993) and shows high levels of reliability and validity. Covin and Slevin (1989) and Miller (1983) explain that the items in this scale should be aggregated together because EO can be viewed as a 'basic, uni-dimensional strategic orientation' (p. 79). Some authors have proposed using this scale as a multi-dimensional measure (e.g. Kreiser, Marino & Weaver, 2002; Lumpkin & Dess, 1996) where each of the sub-aspects of EO is treated individually. These authors argue that a truly entrepreneurial firm would exhibit high levels of each aspect. They have also found empirical support for this approach. While that is possible, it does not serve the propositions set out in this study, and therefore the

uni-dimensional approach will be followed. However, since the scale measures different aspects of EO, it was factor analysed in order to assess its dimensionality (factor validity). This is described in Section 6.4. Principle component factor analysis revealed just one factor for this scale with all the items loading strongly (.568 or more) onto one factor. Firms were classified as entrepreneurial or non-entrepreneurial (conservative) firms, by following the process as set out by Miller and Friesen (1982). The ratings on the EO-scale were used for this purpose and firms that scored above the mean (37.28) were classified as entrepreneurial. Firms that scored below the mean were classified as non-entrepreneurial.

d) *Environmental level variables*

The scale developed by Khandwalla (1976/77) was used to measure environmental hostility, dynamism, and heterogeneity (opposite of stability). The respondent's ratings on each sub-set of items were averaged to arrive at a single index for each of the three aspects above. The higher the index, the more hostile, dynamic, or stable the firm's environment was. All three factors loaded as expected, with the exception of two items, namely 'competition in product quality' and 'technological sophistication'. Both these items were deleted to improve the alpha coefficients of the factors. The EFA and confirmatory factor analysis (CFA) of this scale are explained in Chapter Six. The factor scores for the three types of environment, namely hostility, dynamism, and stability were calculated by adding the items as in Table 5.2 and dividing each factor by the number of relevant items.

e) *Industry level variables*

At the industry level, firms were asked to identify the industry sector that they belong to from the list provided by Statistics New Zealand. This list is called the Australian and New Zealand Standard Industrial Classification (ANZSIC). The PIMS life cycle model classification, which is utilised by the vast majority of strategic management and entrepreneurship research (Biggadike, 1979; Robinson & McDougall, 2001), was also employed for this study. The four stages are introduction, growth, maturity and decline. Respondents were asked to rate the core activity of their firm on this scale.

f) Firm level variables

At the firm level, size, age, EO and organicity were considered as potential moderator variables. Following the approach of Covin and Slevin (1989), the number of employees was used to measure the size of the firm. Size was calculated by multiplying the number of part time employees with the average number of hours worked by these employees and dividing it by 40 hours (the average working week in New Zealand). This calculation gave a number of part-time employees which was added to the number of full time employees. Age of the firm was measured in number of years of firm existence. Two other variables at the firm level were calculated. The measurement of the first, EO, has been explained earlier, while organicity is explained next.

To measure structure, a seven-item scale by Khandwalla (1976/77) that measures the organicity of a firm's structure was used for this study. Respondents were asked to indicate on a seven-point Likert scale to what extent each item measured the collective management style of the firm. The items of the scale were aggregated to measure the extent of each firm's organicity of structure. This was confirmed with exploratory factor analysis (EFA) with all the items loading strongly onto one factor (see Tables B.3 and B.4). The higher the index, the more organic the firm's structure. Firms were divided into organic and non-organic firms by classifying firms with an organicity index higher than the mean (31.11) as organic and those with a lower score as mechanistic.

g) Performance measurement

The dependent variable, performance, was measured by using the financial performance scale developed by Covin and Slevin (1989) and Gupta and Govindarajan (1984). Covin and Slevin had SMEs in mind when they developed this scale. Respondents had to indicate the 'importance' of ten financial measures, namely sales level, sales growth rate, cash flow, return on shareholder equity, gross profit margin, net profit margin from operations, profit to sales ratio, return on investment, ability to fund business growth from profits, and overall firm performance, to the firm. Thereafter they were asked to indicate their satisfaction with the firm's performance for the same ten performance measures. The 'satisfaction' scores were multiplied by the 'importance' scores and

aggregated in order to compute a weighted average performance index for each firm. Weighing satisfaction with importance scores is the same method followed by Covin and Slevin (1988, 1989). The higher the aggregate score on this relative index, the better the perceived level of firm performance.

The *perception of performance* scale has a potential range of ten to 250. The mean of this scale as used in this thesis is 139.22, therefore, firms with scores of 130 and lower are considered as 'low performers' (38.2 per cent), while 150 and higher are regarded as 'high performers' (39 per cent). Firms with scores between 130 and 150 fall into a 'grey area' and were termed 'medium performers' (22.8 per cent). Once again, this is the same method that was employed by Covin and Slevin (1989).

A second method of measuring performance was used and discarded as unsuitable to SMEs, potentially because this scale was developed with large firms in mind. Based on the method of Khandwalla (1976/77) and Dess et al. (1997) respondents were asked to indicate the rating of how their firm compared to the industry average for the past five years on the same ten measures from above. The score was aggregated for each firm, and this index was compared to the Covin and Slevin (1989) index. The two indices were correlated ($r = 0.676$; $p = 0.001$). However, the inability of some respondents to complete the second set of questions, lead to the use of the first index in all the testing that included performance.

5.7.4 Preliminary data analysis

The first step in the data analysis is the assessment of the measurement instrument for validity and reliability. Also included in this section is the testing of the data for normality, homoscedasticity and linearity. These topics are grouped together because they represent the preliminary data analysis.

a) Reliability

As explained before, most of the scales that were included in the final instrument were selected because they are generally accepted as the best scales that measure each of the

constructs of this study. It was, however, still important that these scales received acceptable levels of reliability in previous studies and the current study. Constructs, measured by scales, are reliable if the measurement error that is associated with the constructs is within certain parameters.

Table 5.3: Coefficient alpha reliabilities for subscales from previous studies

Scale	Study	Participants	Factors	Coefficient Alpha
Strategy-making	Hart (1991)	Cross section of US firms, 916 respondents	Rational mode	0.72
			Transactive mode	0.74
			Symbolic mode	0.64
			Generative mode	0.75
	Hart & Banbury (1994)	Cross section of US firms, 720 respondents	Command mode	0.67
			Symbolic mode	0.70
			Rational mode	0.76
			Transactive mode	0.70
			Generative mode	0.61
	Dess et al. (1997)	Cross section of US firms, 32 firms, 96 executives responded	Participative	Not indicated
Entrepreneurial			0.64	
Adaptive			Not indicated	
Miller (1988)	Undiversified, autonomous firms, cross-industry, 89 responses	Porter's generic strategies	Not indicated	
			Only individual factor results, ranging from 0.47 to 0.82	
Entrepreneurial orientation	Covin & Slevin (1989)	Singly industry, independently owned firms, 344 responses	EO	0.87
	Becherer & Mauer (1998)	Cross section of US small businesses, 215 respondents	EO	0.87
	Barringer & Bluedorn (1999)	US manufacturing firms, 169 responses	EO	0.87
	Wiklund (1999)	Cross section of Swedish firms, 132 responses	EO	0.64
Environment	Covin & Slevin (1989)	See above	Hostility	0.73
	Becherer & Mauer (1998)	See above	Dynamism	0.73
			Hostility	0.59
Wiklund (1999)	Cross section of Swedish firms, 132 responses	Dynamism	0.69	
Structure	Covin & Slevin (1988)	Single industry firms, 80 respondents	Organicity	0.79
	Covin & Slevin (1989)	See above	Organicity	0.80
Performance	Covin & Slevin (1989)	See above	Satisfaction importance x	0.88
	Dess et al. (1997)	See above	Comparative performance	Not reported

In SPSS Cronbach's coefficient alpha is used to calculate the reliability of a scale. Cronbach's alpha and the alpha-if-item-deleted were calculated to establish reliability. Cronbach alpha ranges between zero and one and is inversely related to the amount of random error and should, in an exploratory study such as this, be at least 0.50 (Nunnally, 1967), but preferable above 0.70 (Nunnally, 1978). Reliability thus explains the internal consistency of a scale, in other words, the extent to which the scale measures the true value of the construct in question (Hair, Anderson, Tatham & Black, 1998). The rationale is that the items of any of the scales (see Table 5.3) should measure the same construct and should therefore be highly correlated. Reliability reflects the precision or consistency of measurement in social sciences; simply put, it is the percentage of true variance in the observed variance for any particular scale. As indicated in Table 5.3, the scales that have been used in this study have generally received acceptable levels of reliability in previous studies. The coefficient alpha from the reliability testing of the data from the current study is presented in Chapter Seven.

b) Validity

Cooper and Schindler (1998) explain that validity refers to the extent that an instrument measures what actually has to be measured. Validity is ensured when there is a thorough understanding of what is to be assessed, and these constructs are then measured as accurately as possible. The external and internal validity of an instrument should be measured. *External validity* refers to the generalisability of the results obtained from the measurement instrument across time and settings (Page & Meyer, 2000). Because this is the first New Zealand study it is not possible to test the external validity of these constructs in the New Zealand context. However, Table 5.3 shows that these scales were appropriate support for the external validity of these constructs in the US and Sweden context which is good support for their external validity.

Internal validity reflects the extent to which the differences found with a measuring instrument truly reflects the differences among respondents (Cooper & Schindler, 1998). Internal validity comes in the form of content, criterion-related and construct validity. *Content validity* is typically undertaken through a panel evaluation and inspects the degree to which items adequately represent all the possible relevant items under the study. *Criterion-related validity* examines the degree to which the predictor

can explain the variance in the criterion and is usually tested with correlations. Bartlett's test of sphericity was undertaken for this purpose. *Construct validity* attempts to identify underlying constructs and how well the items represent them. This is usually done with factor analysis and tests of differences between groups. Construct validity is also tested by assessing the reliability of the constructs, but it should also be established using convergent and discriminant validity. *Convergent validity* is established when the scores that are obtained by two instruments that measure the same concepts are highly related. Convergent validity was therefore established for the performance scale by testing the correlation between the two different performance measurement scales. Although these two scales use different approaches to measure firm performance, they still both attempt to determine the same construct. *Discriminant validity* is established when two constructs that are theoretically unrelated are found to be uncorrelated (Page & Meyer, 2000). Since all the scales of this study were chosen because they are likely to be correlated, it was not appropriate to measure discriminant validity by correlating any of the scales. But, convergent and discriminant validity can also be established by comparing means and this method was therefore used.

c) ***Tests for normality, homoscedasticity and linearity***

All the parametric tests that are explained in the next section depend on certain assumptions (Hair et al., 1998). If these assumptions are not valid the results of these tests are unreliable, and in this situation less powerful nonparametric tests must be used instead.

The first assumption is that the sample should be *randomly* chosen and, consequently, representative of the research population. Secondly, these tests assume a normal distribution for each dependent variable for each group. *Normality* is assessed by exploring the normal probability plot, which compares the distribution of the actual data with a normal distribution. Two violations, namely kurtosis or skewness can occur. *Kurtosis* refers to peaks or flatness in the distribution, while *skewness* refers to a lack of symmetry that presents as an arc above or below the diagonal in the normal probability plot (Hair et al., 1998). Normality is especially important when tests such as ANOVAs and t-test that use the F and t statistics are undertaken. A Kolmogorov-Smirnov test can be used to test for normality.

Thirdly, *homoscedasticity* which relates to the constancy of the variance of the dependent variable across independent variables has to be satisfied. The spread of the dependent variable (mostly metric) across independent variables is important when the independent variable is metric in, for example multiple regression, as well as in situations when the independent variables are non-metric, in for example ANOVA and MANOVA. For MANOVA tests there is an additional assumption of equal correlations between the dependent variables in the population for each group. Homoscedasticity is tested with Levene's test.

The last assumption that commonly underlies parametric testing is *linearity*. Any test that is based on correlation measures of association assumes linearity in the relationship between the dependent and independent variables. These tests include multiple regression, factor analysis, and SEM. Hair et al. (1998) explain that this is important because correlation type tests consider only the linear association between variables. Non-linearity will therefore result in an underestimation of the actual strength of the relationship. Linearity is estimated with the use of scatterplots. The tests for normality, homoscedasticity and linearity are presented in Section 6.3.

5.8 DATA ANALYSIS

This section explains the data entry protocols that were employed and provides a brief introduction into the data analysis methods utilised in this study.

5.8.1 Data entry

Data from the questionnaires were entered into SPSS. Data were entered twice and the two sets of data were compared for accuracy using Microsoft Excel. A total number of 681 out of 59 640 entries were identified as incorrect in either one of the two data-sets (1.14 per cent). All the mistakes that were identified in this manner were rectified. Incomplete questionnaires were identified, and, where possible, were completed by using the demographical data from the original database. Questionnaires that could not be completed in this manner (eight responses) were deleted (as described in the next

section) from the dataset. Responses from firms with 100 or more employees (seven) and not-for-profit firms (13) were also eliminated. From the 504 questionnaires received, 477 were included in the final dataset.

5.8.2 Missing values and other questionable responses

Missing values were dealt with prior to data analysis. Any returned questionnaire with more than five per cent of the values missing were eliminated from the analysis. Eight questionnaires were eliminated in this manner. Less than 1.7 per cent of values were missing from the retained returned questionnaires. The patterns of missing data were examined and found to be completely random. This conclusion was reached because of the low percentage of missing data and the absence of a pattern in the missing data. Various techniques were used to impute the missing data (Hair et al., 1998). Firstly, missing demographical data, for example industry, were found in the database that the sample was drawn from. The reference to the original database was destroyed after this exercise to address the ethical concerns of anonymity. Secondly, the mean of other construct items was used to replace a missing item value when only one item was missing from a particular construct. If more than one item was missing from a particular construct, the sample mean for each missing item was used. When the construct mean is used, the correlation between items is increased. When the sample mean is used, this correlation may be depressed. So the two methods affect correlations in different directions. This, together with the low number of missing values, ensures that this whole process has very little effect on the overall results of the study.

5.8.3 Data analysis techniques

Three computer packages were utilised at different stages of this study. Firstly, data were entered into SPSS 11.5 for Windows as described above. SPSS was also used to conduct the descriptive, exploratory, univariate and multivariate statistics. Microsoft Excel 2002 was used for data-checking. Structural-equation modelling (SEM) was conducted using AMOS 5 (Arbuckle & Wothke, 1999). AMOS is a computer programme that performs covariance structure analysis allowing the testing of hypotheses about the relationships between manifest and latent variables. Since the data

are reasonably normal in distribution, parametric techniques could be employed throughout the statistical analysis.

Programmes such as SPSS and AMOS test two kinds of hypotheses (Cooper & Schindler, 1998), namely null and alternative hypotheses. The tests produce p-values. Page and Meyer (2000) define the p-value as 'the probability of obtaining results no more supportive of H_0 [the null hypothesis] than those found in the sample, when the null hypothesis is true' (p. 167). The null hypothesis is often a statement that no difference exists between the parameter and the statistic that it is compared to, or that no difference exists between groups. Alternative hypotheses are often a statement of what the researcher actually predicts to be true. Statistical tests accept or reject the null hypothesis, and in doing so pragmatically reject or accept the alternative hypothesis. A null hypothesis is generally accepted if $p \geq 0.05$ (the probability value), and rejected if $p < 0.05$. This thesis does, however, test a large number of hypotheses and employs many different tests for this purpose. Therefore it is necessary to reduce the probability of a Type I error by lowering the cut-off for rejection of a null hypothesis to $p < 0.01$. This issue is further addressed by using MANOVA-tests whenever a large number of variables are simultaneously tested for differences in means (Page & Meyer, 2000).

Whenever a researcher interprets results, two errors may occur. The probability of a Type I error is the probability that the null hypothesis is rejected when it is true, or a 'false negative' (Hair et al., 1988) will occur. This study controls for Type I error by setting significance level at $p \leq 0.01$, which is much lower than the accepted $p \leq 0.05$ (Boyd, Gove & Hitt, 2005). A Type II error is the opposite, that the null hypothesis is 'accepted' when it is actually false. Type II error is related to the issue of effect size or statistical power (Cohen, 1977). Hair et al. (1998) define effect size as the estimation of the degree to which the phenomenon under study exists in the population, for example the difference in population means. In simple terms, the size of tests can be lower when the sample size is large because smaller differences become significant when sample size is increased. This is relevant to this study with its large sample size ($n = 477$), which means that even smaller differences will be judged significant, and Type II error is therefore unlikely to occur (Boyd et al., 2005).

Furthermore, it is important to establish levels for practical as well as statistical

significance (Hair et al., 1998). It is not only important to show that a relationship between variables is statistically significant, but that the relationship has practical significance. This was largely addressed by only testing propositions that were developed through a thorough investigation of the literature. Lastly, the relationship between two variables can be directional or non-directional (Cooper & Schindler, 1998). One-tailed tests indicate direction, while two-tailed tests do not. The remainder of this section describes the data analysis techniques that are employed in this study.

a) *Descriptive statistics (exploratory data analysis)*

The primary purpose of the initial exploratory data analysis is to describe, summarise and present the data in some format such as tables or graphs (Hussey & Hussey, 1997). In this study frequency distributions were employed to present the demographics, such as size, age and industry, of the sample. Furthermore, the means for EO and performance were calculated and used to split the sample into high and low performing or EO groups as explained earlier. These groups were analysed separately when, for example, Pearson's correlations were performed, following the method of Covin and Slevin (1989). The mean (\bar{x}) is 'the arithmetical average of a frequency distribution' (Hussey & Hussey, 1997, p. 203). Cross-tabulations were also run to improve the understanding of the nature of the data. Except for the above-mentioned tests, the standard descriptive statistics were calculated for all the constructs of the study, the results of which are presented in Table 7.2. This includes the mean, minimum, maximum, and standard deviation (square root of the average deviation from the mean) of every construct.

b) *Factor analysis*

Factor analysis looks for patterns among the items in a scale to discover if an underlying combination of the items can summarise the original set and provide a new set of variables, called factors (Cooper & Schindler, 1998). Two types of factor analyses were utilised in this study. Confirmatory factor analysis (CFA) was used to confirm the factor analysis results of previous studies. CFA was conducted with the help of AMOS as explained in (f). Anderson and Gerbing (1988) explain that CFA is a restrictive form of factor analysis in which a measurement model is estimated *a priori*. Exploratory

factor analysis (EFA) was used to explore all the scales employed in this study in order to identify the underlying constructs. Exploratory factor analysis divides the responses to the items in a scale into a common component (shared with other items) and a unique item component (Page & Meyer, 2000). In this study, the principal factors method with varimax rotation was used for EFA. Varimax rotation assumes that the underlying dimensions are uncorrelated. Factor analysis derives factors based on latent roots (eigenvalues). Eigenvalues measure the variation explained by each factor. Factors should be added until the total variation explained is greater than 60 per cent (Page & Meyer, 2000). Ideally factors with eigenvalues of one or more should be included in the final factor structure. The square of the factor loading is the percentage of variance in an original variable that is explained by the factor and should preferably be higher than nine per cent corresponding to a loading of 0.30 (Cohen, 1977). This means that the variable shares more than nine per cent of its variance with the factor. When factors are extracted, an unrotated solution is obtained first, whereafter a rotated (varimax) solution may be obtained. The varimax rotation ensures that factors are orthogonal (uncorrelated) and simple to interpret due to relatively few loadings above 0.30, which means that it was easy to identify items that loaded well. In the case of all the scales utilised in this study all items with factor loadings below 0.40 were ignored in the interpretation of the factors because the loading patterns were so strong. The results of the EFA are presented in Section 6.2.3 and the CFA in Chapter Seven.

c) Testing for differences in the distribution of two or more groups

A variety of tests that measure difference are available to the researcher. Non-parametric tests such as Kruskal Wallis can test for significant differences between sample distributions when the variables are not normally distributed, whereas independent sample t-tests assume normality and test for significant differences between two sample means. One sample t-tests were used to test the significance of the mean differences for New Zealand levels of EO and those from other countries as obtained from previous studies (Section 7.2.2). Significant differences are usually identified when estimated significance values (p-values) are lower than 0.05. However, when the number of tests performed is large a smaller cut-off is required as stated before. For example, if five tests are performed 0.05 should be divided by five, and therefore the p-value should be lower than 0.01 in order to retain the overall probability of a Type I

error at a reasonable level. A chi-square test for goodness of fit was undertaken as another measure of the validity of the data. The data pertaining to firm size and industry from firms that responded was compared to the New Zealand SME statistics (Statistics New Zealand, 2004). The results of these tests are presented in Section 6.6.

Parametric tests that measure the differences between more than two groups were also employed, specifically ANOVA (analysis of variance) and MANOVA (multivariate analysis of variance) tests. ANOVA compares the effects of one or more factors on one continuous dependent variable (Cooper & Schindler, 1998). Again, significant differences between the group means were identified for p-values less than one per cent. Like ANOVA, MANOVA is concerned with estimating the differences between groups. Whereas ANOVA is a univariate procedure that can only test for significant group differences for a single dependent variable, MANOVA is a multivariate procedure because it can assess group differences across multiple dependent variables simultaneously (Hair et al., 1998). These tests were employed where propositions stated that different groups of firms would make strategy differently or use different types of strategies, for example older versus younger firms.

d) *Measuring associations*

Techniques such as cross-tabulations, correspondence analysis and Pearson's product moment correlations were used to measure associations between variables. *Cross-tabulation* is a non-parametric technique that can be used for testing the association between two categorical variables, such as industry life cycle and industry for significance (Cooper & Schindler, 1998). Cross-tabulation uses tables with rows and columns that correspond to the frequencies for each category, for example, the first column may contain the number of firms from each industry that are in the introductory phase of the industry life cycle. If the p-value from the associated chi-squared test is less than five per cent the association is usually regarded as significant.

Simple *correspondence analysis* was also undertaken to show the association between categorical variables (Page & Meyer, 2000). Correspondence analysis provides a plot that illustrates the proximity of the rows and columns from a cross-tabulation. It can be undertaken when both variables have more than two categories and are particularly

helpful in a study such as this where there are a large number of categories and it becomes an onerous task to interpret the cross-tabulation. Although the position of rows and columns cannot be directly compared in this plot, the relative position of these points in terms of the axes of the plot can be compared. For instance, if a row and column category is graphed with high or low values of component one it means that these categories tend to be positively associated with each other. However, if a row category is graphed with a high value of component one and a column category is graphed with a low value of component one, then these categories are negatively associated with each other. Component one always explains more of the row /column association than component two so more emphasis should be placed on component one associations than component two associations.

Pearson's product moment correlation coefficient (r) is used to measure the strength of association between two interval variables. It measures 'how well the relationship between two interval variables can be described by a straight line' (Page & Meyer, 2000, p. 154). The correlation coefficient varies from +1 to -1. The sign does not indicate size, only direction, for example a negative sign for a correlation between EO and performance would indicate a negative association, that is EO is not associated with high, but rather with low performance. Only data with interval or ratio status can be measured for association through Pearson's correlation (Hussey & Hussey, 1997). Tests of significance for these correlation coefficients assume normality and are interpreted as for a cross-tabulation. A significant correlation or association does not establish causation (Hussey & Hussey, 1997).

e) ***Regression analysis***

The performance, organicity and EO indices (the computation of these is explained in Sections 5.7.3 and 6.2) and the factor scores for strategy-making, environment and business strategy (explained in (b) above and Chapter Six) are used to test for the moderating influence of the environment and firm factors on the strategy-making/firm performance relationship. Moderated regression analysis (MRA) was chosen for two reasons. Firstly, it is a straightforward method. Secondly, it is 'regarded as a conservative method for identifying interaction effects in the sense that interaction terms are tested for significance after other independent variables are entered into the

regression equation' (Covin & Slevin, 1989, p. 80). This means that the interaction effect is only deemed significant if it explains a much greater portion of the variance in the dependent variable than the variance already explained by the other independent variable(s). Regression analysis requires the satisfaction of homoscedasticity, normality and linearity (Hair et al., 1998). These assumptions can be validated by checking the residuals for constant variance, normality and random behaviour. If the residuals fall randomly in a horizontal band when plotted against predicted values and input variables the regression assumptions are valid and the regression results can be regarded as reliable.

In Chapter Four it was argued that the mode of strategy-making influences firm performance. Therefore performance was treated as the dependent variable, or as Covin and Slevin (1989) term it, the criterion, with one of either environment, industry life cycle, age, size, structure or EO as well as strategy-making as the predictors (see Figure 4.7). The MRA equations must include cross-products for the independent and moderator variables (Pettit, Goris & Vaught, 1997). In practice the dependent variable is regressed on the main (independent and moderator) variables and the cross-product (interaction variable) of those main variables. For example, where Y is firm performance, X is the mode of strategy-making, Z is EO, and a to d are constants, the MRA equations are as follows:

1. $Y = a_1 + b_1X$
2. $Y = a_2 + b_2X + c_2Z$
3. $Y = a_3 + b_3X + c_3Z + d_3XZ$

Note that the estimated coefficients are expected to differ for each equation. EO is then a moderator only if equations two and three are significantly different from each other. For example, the regression coefficient d has to be significantly different from zero to claim that mode of strategy-making and EO interact and this interaction influences Y (firm performance). EO is called a pure moderator if d is significantly different from zero and c is not, or a quasi moderator if c and d are both significantly different from zero. If d is positive it means that the mode of strategy-making impacts more on firm performance in firms with a high EO index, while a negative d would mean the opposite. If equations two and three are similar to each other, but different from

equation one, EO is an independent predictor and not a moderating variable. An F-test is used to determine whether there are significant differences between the R^2 values of the three equations. This same method was followed for all the proposed (see P3) moderating variables. The results from the MRA are presented in Chapter Seven.

f) Cluster analysis

Cluster analysis was undertaken to provide a taxonomy of the firms in the study as required by Proposition 7b and also to further identify relationships between observations which are not revealed by other data analysis techniques (Hair et al., 1998). A taxonomy is an empirically based classification of firms. Following the examples of Hart (1991) and Miller and Friesen (1978) the taxonomies are named 'archetypes' of firms. The two-step clustering method was used for this purpose. Two-step clustering automatically selects the best number of clusters and places the most similar observations into groups (Hair et al., 1998). This method's main advantage is its ability to handle both categorical and interval data. It satisfies the call from a variety of authors such as Dess et al. (1997) who argue for studies that are configurational in nature, instead of only showing contingency relationships. This argument was explored in Chapter Four.

g) Structural equation modelling

Structural equation modelling (SEM) is the term used to describe a family of models that includes covariance structure analysis, latent variable analysis, first-order confirmatory factor analysis (Hair et al., 1998) and second-order confirmatory factor analysis (Jöreskog, 1970). SEM is 'used to solve a series of dependence relationships simultaneously' (Page & Meyer, 2000, p. 231) and can be used to solve other multivariate models such as regression, principal components, canonical correlation, and MANOVA. SEM has two characteristics that makes it useful, namely that it handles multiple dependent variables as well as variables that function as both independent and dependent variables, and its ability to represent the unobserved concepts in these relationships and to account for the measurement error in the estimation process (Hair et al. 1988).

SEM takes a confirmatory approach to the analysis of a theoretical structure of some phenomenon such as the modes of strategy-making. A confirmatory approach suggests that the theoretical structure is designed *a priori* and then tested with SEM. This theoretical structure is typically of a causal nature, implying that one variable leads to a change in another variable (Byrne, 2001) but it can also just consist of a simple factor structure. SEM implies that 'the causal processes under study are presented by a series of structural equations, and that these structural relations can be modelled pictorially to enable a clearer conceptualisation of the theory under study' (Byrne, 2001, p. 3). The most important principle that underlies SEM is that it is not used to develop models, but rather to confirm models that were developed through a rigorous analysis of the literature and are therefore theoretically justified (Hair et al. 1998). SEM in this study was conducted with the help of AMOS 5. AMOS is an abbreviation for Analysis of Moment Structures (Arbuckle & Wothke, 1999). Causal and CFA models are considered.

CFA involves the specification and estimation of one or more models with a factor structure. These models propose a set of latent variables or factors to explain the covariances among a set of observed variables (Doll, Raghunathan, Lim & Gupta, 1995). SEM uses path diagrams or equations to enter theoretical models such as those developed in Chapter Four of this thesis and tests whether the data support these models. Three strategies can be followed when conducting CFA or causal modelling. One can either develop a single model using EFA and/or regression and confirm it using SEM; or develop competing models and determine which model is best supported by the data; or improve an existing model through modifications of the structural and/or measurement models (Hair et al., 1998). Hair et al. and Page and Meyer (2000) state seven steps in the development of a structural equation model, namely the development of a theory-based model; construction of a path diagram of causal relationships; conversion of the path diagram into a set of structural equations; the use of co-variances or correlations to estimate the proposed model; check for the symptoms of an incorrectly identified model; evaluate the goodness of fit; and modify and interpret the model. The detailed, step by step application of this process is described in Section 7.3.

Basically, the goodness-of-fit measures of a SEM analysis report the extent to which the data fits the theorised models. Goodness-of-fit measures are either absolute fit measures, incremental fit measures, or parsimonious fit measures (Hair et al., 1998).

Absolute fit measures assess the overall model fit but do not adjust for any degree of overfitting. The first measure that is reported is the *Chi-square* (χ^2). A non-significant χ^2 indicates a good fit between a model and the data, but this test is affected by sample size. Because of the high number of responses ($n=477$) the chi-square was high for all the models tested suggesting a poor fit. For large sample sizes, usually above 200 (Hair et al., 1998) χ^2/DF provides a better indication of fit, and should be below five, but ideally below three. Next the *degrees of freedom* (*DF*) are reported. *DF* is a measure of parsimony (simplicity) when read relatively to the chi-square as stated earlier. A high number of *DF* indicates a simple model which is not lacking in parsimony and therefore achieves better model fit for each estimated coefficient. *P* is a p-value for testing the proposition that the model fits perfectly in the population. Even though the concept of 'perfect fit' has been contested hotly in the literature (see Arbuckle & Wothke, 1999), the p statistic is still a useful indication of model support.

ECVI (expected cross-validation index) is an information-theoretical measure. *ECVI* approximates what goodness-of-fit the estimated model would achieve in another sample of the same size. *ECVI* has no specified range of acceptable values; and is therefore only used when comparing models. In that case the lowest value indicates the best model (Byrne, 2001). *RMSEA* (root mean square of approximation) is sensitive to model parsimony and is a measure of the lack of model fit per degree of freedom in a model. It indicates the discrepancy per degree of freedom. *PCLOSE* is another p-value which tests if the *RMSEA* is no greater than 0.05, suggesting a close fit. Ideally the *RMSEA* should be 0.06 or lower to indicate a strong model fit (Hu & Bentler, 1999). Arbuckle and Wothke (1999) are also of the opinion that a value of around 0.08 or lower indicates a reasonable error, but that no model with a *RMSEA* of greater than 0.1 should be employed. Hair et al. (1998) argue that the *RMSEA* is best suited for use in CFA or competing models with larger samples.

Incremental fit measures compare the proposed model to another model proposed by the researcher. *NFI* (normed fit index) and *CFI* (comparative fit index) are practical

standpoint goodness of fit statistics and should be higher than 0.90 (Bentler, 1990). The NFI is a measure of the percentage of observed covariation explained by the structural model. The CFI (and NFI) represents comparisons between the estimated model and a null or independence model.

Parsimonious fit measures adjust the measures of fit in order to compare models with differing numbers of estimated coefficients. This step is undertaken to determine how much fit each estimated coefficient achieves. *PNFI* (parsimonious normed fit index) and *PGFI* (parsimonious goodness-of-fit index) are examples of parsimonious fit measures. The PNFI and PGFI vary between zero and 1.0, with higher values indicating greater model parsimony and better fit.

Other forms of information are also useful to ensure models are well specified. The first of these, modification indices capture evidence of model misfit (Byrne, 2001). Amos provides a modification index for each fixed parameter that is specified. The modification index presents the expected drop in the χ^2 if that parameter was freely estimated in a subsequent run. Modification indices are chi-square statistics with one degree of freedom. Values of above 6.634 are significant at a one per cent level. More information can be obtained from *critical ratios*. Critical ratios are calculated by dividing each parameter estimate by the standard error, and indicate statistical significance when less than -1.96 or greater than 1.96 (Hair et al., 1998).

Hair et al. (1998) summarise the discussion on the use of goodness-of-fit measures by reminding the reader that this is a developing area of statistics, and that it is important to use a number of measures. They do, however, suggest that some general criteria are applicable, namely that χ^2 should be non-significant for sample sizes smaller than 200 ($p > 0.05$, perhaps 0.10 or 0.20); incremental fit indices should be greater than 0.90; RMSEA should be low (0.05, perhaps 0.06 to 0.08); and that parsimonious fit indices favour simpler models. The results of the SEM models developed in this study are presented in Chapter Seven.

5.9 SUMMARY

This chapter provides an overview of the research method that was used for this study. It includes a background to the research population and the sampling procedures. Furthermore, it explains issues of measurement, specifically firm performance and concludes that the best approach to measuring SME performance is the use of respondent perception. The measurement instrument, its origins and the variables that it measures are presented. The data analysis techniques that are employed in Chapter Six and Seven are defined and briefly explained, including explanations of the tests for normality, reliability and validity. In the next chapter the findings from the empirical study are presented.

PART 4
RESULTS

CHAPTER 6 - PRELIMINARY ANALYSIS OF DATA

6.1 INTRODUCTION

The purpose of this chapter is to report the preliminary analyses done on questionnaire data to prepare the data for further analysis, which will follow in Chapter Seven. The statistical packages and data analysis techniques employed in this study were introduced in Chapter Five. This chapter presents the results from the preliminary analysis, which includes the reliability and validity testing of the measurement instrument. The preliminary stages of data analysis started with the transformation of data into a format that is useful for proposition testing. Then, the nature of the data was investigated to ensure that the assumptions underlying parametric analysis were met. These tests are presented in the first part of this section. Thereafter, the reliability and validity of the measurement instrument are explained.

6.2 DATA TRANSFORMATION

The measurement instrument consisted of 123 items (see Appendix A). These items had to be transformed into a format that would be useful for data analysis. This section summarises the transformation of the data that was explained in Chapter Five and captured in Table 5.2. Except for the transformation of demographical items, which is explained first, scales were transformed in one of two ways. Some scales were summed to provide one new variable: an index. Other scales were factorised to provide more than one new variable: factors.

Demographical variables were derived or calculated from the data obtained in Section A of the instrument. The age of the firm and length of service of the manager in years were recorded and analysed as ratio variables. Industry life cycle was recorded and analysed as a nominal variable. Firm size in full time equivalent (FTE) employees was calculated as follows: $(\text{number of full time employees}) + [(\text{number of part time employees} * \text{average number of weekly hours})/40]$. Size (FTEs), age and length of service were categorised for certain tests, such as ANOVA as follows: one to five, six to 10, 11 to 20, 21 to 30, 31 to 50, and 51 and more. These variables were named 'size

category', 'age category' and 'length of service category'. Industry sector was recorded and analysed as a nominal variable. However, to facilitate interpretation these 21 ANZSIC categories were collapsed into four new categories, namely services, manufacturing, construction and property, and retail and wholesale for certain tests such as ANOVA. This variable was named 'industry categories'.

Four *indices* were calculated. The first performance index 'perception of performance' was calculated by multiplying the 'importance' and 'satisfaction' columns of a list of performance variables and adding them (Sections F1 and F2). The use of this method has been supported by many researchers (e.g. Covin & Slevin, 1989; Naman & Slevin, 1993). It was, however, decided to also run a number of statistical procedures with alternative ways of calculating this performance index, to ensure that this method of calculating perception of performance with not adversely affect the results of this thesis. All the tests that include perception of performance were repeated by (1) only adding the satisfaction scores to provide an index, and (2) by weighting the satisfaction scores of each firm with the average of the importance scores across firms. The results of the tests ran with both these alternative indices were in each case more significant (in the same direction) than the tests ran with the index as employed in this thesis. Another two tests were employed as a final check. The correlations for the importance and satisfaction scores of each indicator showed that the scores for all the indicators, except sales and cash (one and three), were correlated at the 0.01 level of significance – indicating that firms generally rated indicators similar for importance and satisfaction. Furthermore, the Cronbach alpha for the products of the importance and satisfaction scores was 0.91 and when the weights were applied it was 0.82. Collectively these results show that the calculation of the index used in this thesis is more conservative than alternative methods. EO, organicity and the second performance index ('compared performance') were calculated by adding the items in Sections B, C2 and F3 respectively. The EO and organicity indices were subsequently divided into two categories (high and low each) by using the means as the split point. Perception of performance was divided into three categories (high, medium and low) by using the means. Firms that scored ten above or below the mean were categorised as 'medium performers' (130 to 150). Firms with less than 130 were termed 'low performers' and those with more that 150 'high performers'. All these calculations were explained in detail in Chapter Five.

A number of *factors* were also calculated. The environment scale (Section C1) was factorised into 'hostile', 'dynamic' and 'stability' factors. The strategy scale (Section D) consists of three factors, namely 'differentiation', 'cost-leadership', and lack of breadth ('focus'). Because the last factor measures breadth but is used to represent the opposite (focus), most of the tests containing this factor had negative signs (e.g. Table E.1). The last set of factors was derived from the strategy-making scale (Section E) and is named simplistic, adaptive, intrapreneurial and participative strategy-making modes. The extraction of factors is explained at a later stage in this chapter. Once the items that make up a specific factor were decided, they were added and divided by the number of items, for example, three items made up the adaptive mode of strategy-making. The three items were added and divided by three to give a number out of five (the number of choices on the Likert scale) which could be compared to other factors from the same scale. The scales for modes of strategy-making were also combined into sets of two, three and four modes to inspect the combined effect of these modes by, for instance, adding the scales for two modes and dividing by two.

These variables, indices and factors are used for statistical testing in the next chapter and are first inspected for normality, linearity and homoscedasticity.

6.3 TESTS FOR NORMALITY, HOMOSCEDASTICITY AND LINEARITY

Two issues were explored when considering the suitability of the data for parametric analysis, namely the type of data and the distribution of the data. In terms of the type of data, the data collected for this study were measured using ordinal and ratio scales. As explained before, this approach was also employed in similar previous studies. All of the ordinal data were, however, transformed into indices and factors which can be regarded as interval variables (Page & Meyer, 2000). In terms of the distribution of these data, homoscedasticity, linearity and normality were investigated.

Homoscedasticity means that the dependent variable exhibits constant variance across the range of independent variable values (Hair et al., 1998). Levene's test for homoscedasticity was undertaken with size, age and industry sector as the independent factors. This test is robust to outliers and any departures from normality. The results

for this test are contained in Tables 6.4, 6.5, and 6.6. None of the results were significant with the exception of the organicity index in the test for differences between industry groups. This indicates that for all the scales, constant variance exists across all age and size categories.

Linearity assumes a one-dimensional relationship between variables, and therefore examines the ability of the correlation coefficient to adequately represent the relationship (Hair et al., 1998). Scatterplots for the relationships analysed in Tables 6.4, 6.5 and 6.6 were examined and no evidence of non-linearity was found.

Tests for *normality of distribution* were undertaken to establish whether the Pearson correlation test assumption is reasonably valid. The frequency distribution of a variable can be symmetrical or skewed. If a distribution is perfectly normal, the skewness statistic will be zero. Kurtosis measures the extent of clustered observations in the tails (Foster, 2001). If the kurtosis value is positive it indicates that the distribution of the scores has heavier tails than a normal distribution curve. The skewness and kurtosis values should be close to zero if the distribution is normal.

Table 6.1: Tests for normality

Section	Scale	Measures	Skewness (St Er 0.112)	Kurtosis (St Er 0.223)	Kolmogorov- Smirnov Z	2-tailed significance
A	Demo- graphics	Size (FTEs)	1.692	2.553	3.602	0.000
		Age (years)	1.982	4.537	4.402	0.000
B	EO	EO index	-0.338	0.053	0.986	0.285
C1	Environ- ment	Hostility	0.094	-0.532	1.272	0.079
		Dynamism	-0.140	-0.715	1.697	0.006
C2	Structure	Organicity index	-0.227	-0.129	0.955	0.322
D	Competi- tive Strategy	Differentiation	-0.291	0.318	1.236	0.094
		Focus	-0.060	-0.430	1.363	0.049
E	Strategy- making mode	Simplistic SM	-0.585	1.278	2.422	0.000
		Adaptive SM	-0.378	-0.034	2.940	0.000
		Intrapreneurial SM	-0.106	0.368	2.395	0.000
		Participative SM	-0.812	1.564	2.336	0.000
F	Perfor- mance	Performance index	-0.043	0.153	0.870	0.436

Next, Hair et al. (1998) state that if the z-value that results from the Kolmogorov-Smirnov test exceeds 2.58, the assumption about normality can be rejected at the 0.01 significance level. A critical value of 1.96 corresponds with the 0.05 significance level.

The Kolmogorov-Smirnov test is, however, very sensitive to departures from normality and in multivariate studies it is common practice to ignore these test results (Foster, 2001) and it may be of more value to examine the skewness and kurtosis values. These values should certainly lie between plus one and minus one. If all of these critical values are taken into account, the normality of the age, size and participative strategy-making variables can be questioned (see Figure 6.1).

It is clear when inspecting the Q-Q plots (Figure 6.1 and 6.2) for these three variables that the age and size Q-Q plots are very skew, while the participative strategy-making plot seems to be normal. There is an initial steep increase in the curve which flattens out towards the end for both plots. This is expected, since there are more small and young firms in New Zealand, as explained earlier.

Figure 6.1: The Normal Q-Q plots for firm age and size

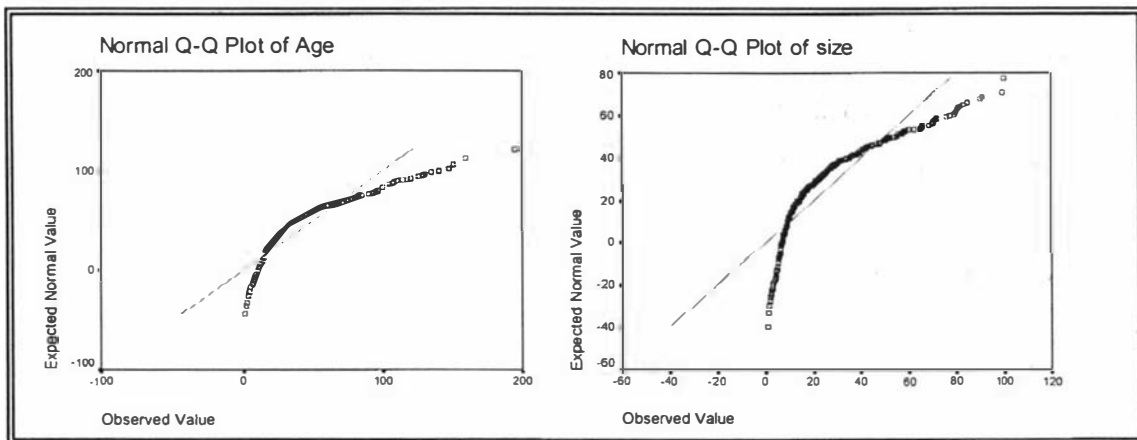
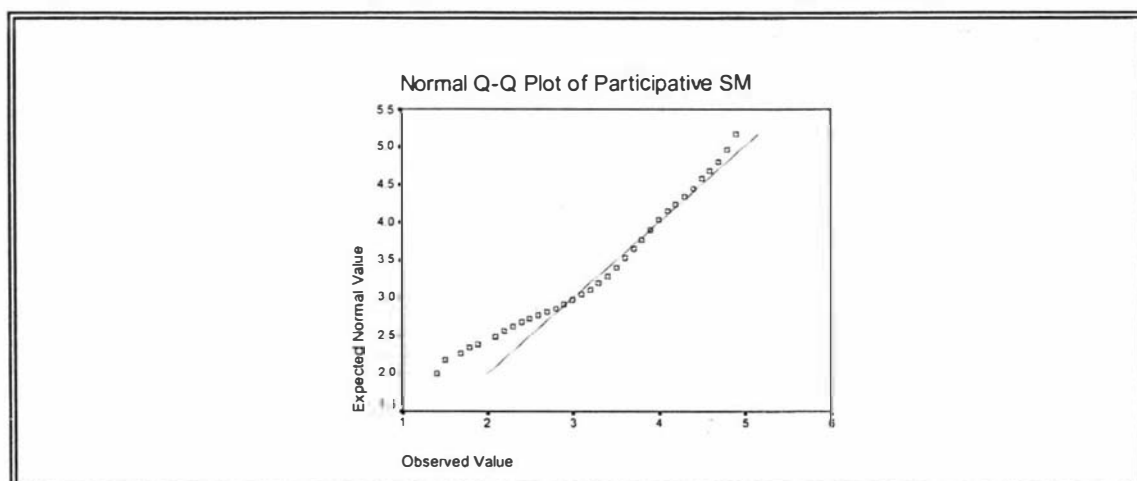


Figure 6.2: The Normal Q-Q plot for Participative strategy-making



But, age and size are only considered as dependent variables in their categorical form in ANOVA testing, therefore the normality of this data is not considered to violate the assumptions for parametric testing and it can therefore be used in parametric testing. Correlations and regression analysis may, however, be problematic. Therefore, square root and natural log transformations for age and size were also obtained. The square root solution improved linearity somewhat (Figure 6.3), but the natural log transformations (Figure 6.4) provided linear Q-Q plots.

Figure 6.3: The Normal Q-Q plots for the square root of age and size

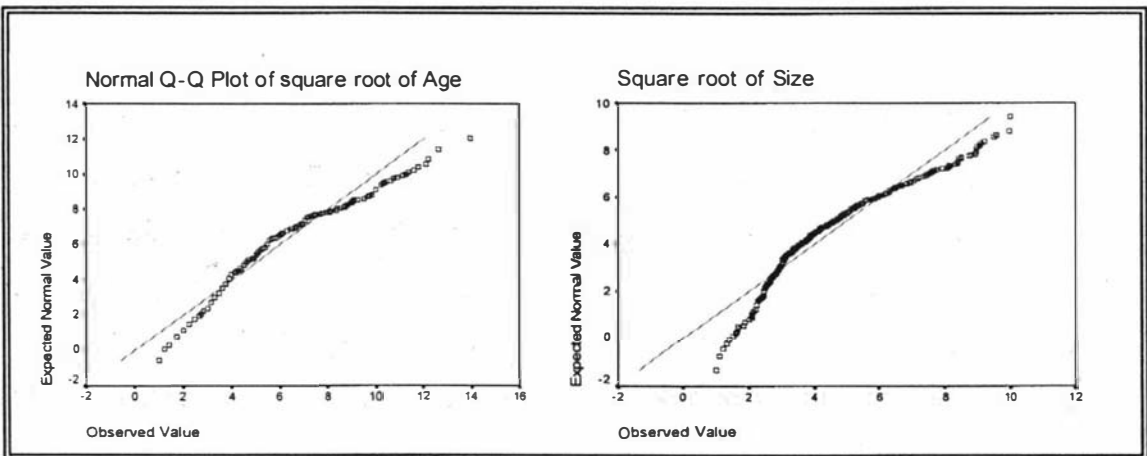
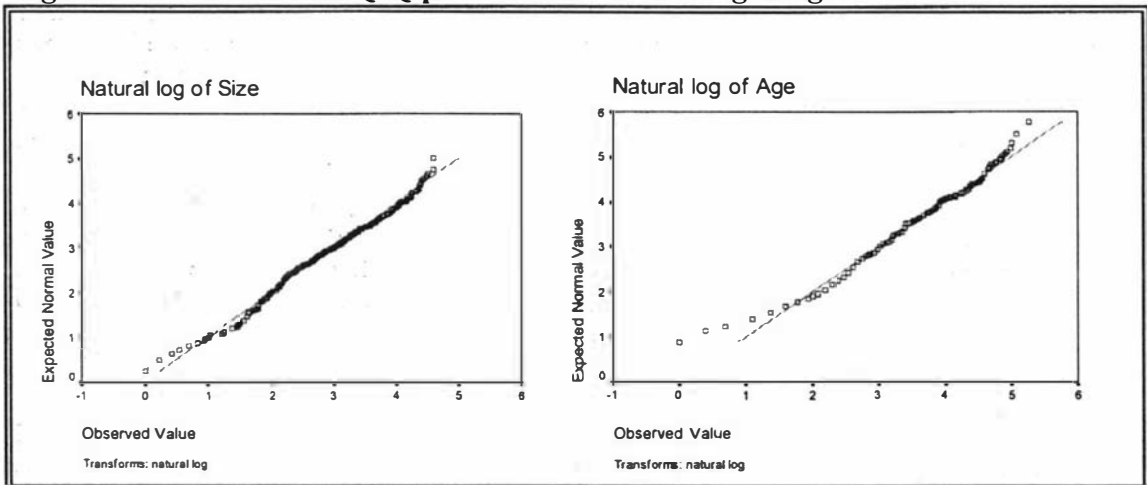


Figure 6.4: The Normal Q-Q plots for the natural log of age and size



The natural log values of age and size were therefore used to test for correlations and regression. Normality for EO, organicity, size and age categories was also inspected. Box-plots were employed for this purpose. All of these box-plots exhibited a normal distribution.

It can therefore be concluded that the data satisfy the requirement for a normal distribution, homoscedasticity and linearity and that parametric tests can be used to test the propositions in the next chapter. This is fortunate, because parametric techniques are generally considered to be more powerful than non-parametric techniques (Page & Meyer, 2000).

6.4 RELIABILITY TESTING

Reliability explains the extent to which a research instrument can replicate the same results on a continuous basis (Page & Meyer, 2000). A Cronbach's coefficient alpha was calculated to evaluate the reliability of the indices and factors as shown in Table 6.2, presenting each scale utilised in the survey instrument. The level of alpha can be used to measure a scale's internal consistency, which is the extent to which the items are related to each other and therefore make up a factor that measures a single underlying construct. An alpha level of 0.70 or above is generally accepted (Nunnally, 1978) but for research in new settings such as this, it can be reduced to 0.60 (Hair et al., 1998) and even as low as 0.50 (Nunnally, 1967).

Table 6.2: Alpha levels of the scales utilised in the measurement instrument

Section	Scale	Number of items	Mean	Standard deviation	Coefficient of variation	Cronbach Alpha
B	Entrepreneurial orientation	9	37.28	8.81	23.63	0.84
	Innovation	3	11.97	3.81	31.83	0.70
	Pro-activeness	3	13.33	3.38	25.36	0.66
	Risk-taking	3	11.97	3.27	27.32	0.76
C1	Environment	16	62.53	11.40	18.23	0.71
	Hostility	5	3.613	1.051	29.10	0.73
	Dynamism	4	4.065	1.368	33.65	0.81
	Stability	6	4.175	.9387	22.48	0.54*
C2	Structure	7	31.10	7.02	22.57	0.78
D	Business strategy	17	67.21	9.99	14.86	0.61
	Differentiation	6	4.326	.9067	20.96	0.76
	Cost-leadership		3.906	.9862	25.25	0.37*
	Focus	3	4.225	1.269	30.04	0.67
E	Strategy-making mode	25	88.58	9.46	10.68	0.79
	Simplistic	7	3.75	0.52	13.87	0.66
	Intrapreneurial	3	3.29	0.66	20.06	0.65
	Adaptive	3	3.49	0.71	20.34	0.62
	Participative	10	3.72	0.57	15.32	0.82
F	Performance					
	Index 1	20	139.92	38.62	27.60	0.89
	Index 2	10	35.89	7.22	20.12	0.94

* Below critical value of 0.60

All the scales in the survey exceeded the minimum threshold of 0.60, with the exception of the cost-leadership factor ($\alpha = 0.37$) in the strategy-scale, and the stability factor in the environment scale ($\alpha = 0.54$). A summary of the means, standard deviations, coefficient of variance, and alpha levels can be found in Table 6.2. The mean is an average for each variable, while the standard deviation is the square root of the variance (Foster, 2001). The coefficient of variance was calculated by dividing the standard deviation with the mean and multiplying it with 100 in order to get a percentage value, which provides a value that can be compared to that of the other factors. The mean, standard deviation, and coefficient of variation for each measure are included to illustrate dispersion or variation in the set of scores. An investigation of these measures for dispersion reveals that respondents were less likely to choose high or low values for the strategy-making and business strategy scales than for instance the performance, EO and structure scales.

Cronbach alphas can be sensitive to the number of items contained in a factor, and therefore it was a positive result to achieve alphas of 0.62 and higher for factors such as adaptive and intrapreneurial strategy-making which have only three items each. A comparison of the Cronbach alphas in Table 6.2 with those in Table 5.3 for previous studies, show that the results of this study are comparable to previous studies. Two subscales rendered a suspect result, namely stability and cost-leadership. These factors were eliminated from any further SPSS analysis. Nonetheless, as part of a complete model in SEM with acceptable goodness-of-fit measures they were included in AMOS analysis.

6.5 FACTOR ANALYSIS FOR CONSTRUCT VALIDITY

Reliability is a necessary, but not sufficient, condition for construct validity. Construct validity tests how well the measures in the questionnaire represent the construct of the study (Scandura & Williams, 2000). EFA was undertaken for the purpose of assessing the construct validity of the overall model fit, data reduction and identification of variable clusters that describe the underlying dimensions of the utilised scales. EFA results in a set of items which form coherent subscales (factors) of the scale. The various subscales should be relatively independent of each other. This approach is

similar to the approach followed by the authors of the various scales utilised in this study. The results of the factor analyses can be found in Appendix B. For the purpose of this thesis principle component analysis was used to identify the number of factors in each scale whereafter Varimax rotation was employed to provide a simpler, uncorrelated interpretation for the factors.

Factor analysis requires a minimum number of respondents in the data set. This number varies depending on the source that is consulted. The general consensus (e.g. Hair et al., 1998; Tabachnick & Fidell, 2001) is that the respondent group should be at least 300 or that there should be five respondents for every item (that is 125 for the strategy-making scale which is the largest of the scales employed for this study). The sample for this study exceeds both these requirements.

A check for the factorability of the data was performed for each scale. The two measures that are used to assess factorability are the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954). The KMO should have a minimum value of 0.50 and Bartlett's test of Sphericity should be significant at $p < 0.05$. The results for these tests can be found in Table 6.3. These results indicate that all the data from the different scales are highly factorable. All the factors from the various scales had eigenvalues greater than one and no single factor was dominant, except for the EO scale.

Table 6.3: Factorability of the data

Scale	Kaiser-Meyer-Olkin (KMO)	Bartlett's Test of Sphericity (p value)	Degrees of Freedom (df)	Number of components to explain 60% of variance	Number of eigenvalues above 1	Scree plot results
EO	0.85	0.000	36	3	1	1
Environment	0.80	0.000	120	6	5	3
Structure	0.81	0.000	21	2	2	1
Strategy	0.81	0.000	136	6	4	3
Strategy-making	0.89	0.000	300	8	6	4
Performance index 1	0.89	0.000	190	4	4	1
Performance index 2	0.93	0.000	45	1	2	1

The items of the *EO scale* loaded in a similar manner to that suggested by Covin and Slevin (1989), namely onto one single factor. High loadings were attained by all the items, the lowest still being more than 0.5 (see Table B.1). The scree plot also

confirmed the dominance of one factor. Although factor one explained only 45% of the variance, it was decided that a single index for EO was justified. The factor items thus were collapsed into a single scale (Covin and Slevin, 1989). Furthermore, observation of the Cronbach coefficient alpha in Table 6.2 provides strong evidence that the combined EO scale is a stronger factor solution than a three factor solution. This factor is called EO and measures the entrepreneurial nature of the firm. Nevertheless, the KMO and Bartlett's test confirmed that this scale is factorable as does the Cronbach alphas that were attained for the three theorised subscales (see Table 6.2), which satisfies the requirements for construct validity.

In the *environment scale* all the items loaded onto the same factors that are suggested by Khandwalla (1976/77) with the exception of item C(1), namely 'competition in product quality' which was subsequently deleted. The lowest loading exceeded the lower limit of 0.3 specified by Black (2002) and Page and Meyer (2000) (see Table B.2). But the item with this low loading (C (17) - 'technological sophistication') was also deleted to improve the Cronbach alpha results of the factors used for proposition testing. By deleting these factors and reducing the factor analysis, the eigenvalues suggested three factors. This, together with the scree plot, provided the confidence to use a three factor solution. The three resulting factors are called 'hostility', 'dynamism' and 'stability'. As explained before, the Cronbach alpha for stability is suspect, and this factor should be treated with caution. Because this scale consisted of more than one factor (as opposed to EO) a CFA model (Figure F.5) was also constructed for environment. Section 7.3.1 contains a step-by-step explanation of how SEM models were constructed for the purpose of this study. At this stage it can be noted that all the items loaded strongly on the 'hostility' and 'dynamic' factors with standardised weights (SWs) of above 0.5. On the 'stability' factor, the standardised weights ranged between 0.3 and 0.59, which once again indicates that this factor is suspect. Furthermore, the stability factor explained the least of the variance in the overall environment construct, while hostility explained the most.

The *structure scale* also achieved satisfactory results for KMO and Bartlett's test of Sphericity results. Once again, the scree plot confirm that this scale loaded strongly onto one factor (see Table B.3) with no item attaining a lower loading than 0.4. Placing more value on the results of the scree plot than the eigenvalue-greater-than-one rule is in

line with the findings of Zwick and Velicer (1986) in the so-called 'Monte Carlo' studies which indicate that the latter test consistently overestimates the number of factors. Therefore, although EFA suggested two factors, this appeared to be an artificial, unnecessary split of variables as shown in Table B.4. As a result it was decided that a single index should be used as was done in previous studies. This result is consistent with the intention of Covin and Slevin (1989) who used the structure scale as an index of organicity, or the level of an organic organisational structure in a firm.

The factor analysis of the *strategy content scale* is shown in Table B.5. The results of this factor analysis rendered mixed results. The fourth factor had only one item and the scree plot suggested that a three factor solution would be more appropriate. An *a priori* three factor solution was not perfect either. The items that measure a focus strategy loaded in a similar manner to previous studies (Miller, 1988), six of the nine items that should measure differentiation loaded onto that factor, but no cost-leadership factor resulted from the factor analysis. This is consistent with the low Cronbach alpha that was attained when the reliability analysis was performed on the items that should make up cost-leadership. But this is not a negative result for this study since a proposition that utilises cost-leadership as a variable was not formulated. Furthermore, a CFA model was constructed in AMOS (Figure F.6) for the strategy construct. Items were loaded onto the same three factors identified above. The three items that loaded onto the 'focus' factor, did so with SW values ranging between 0.58 and 0.7, which suggests that they explain the variance in the factor well. The SW values that loaded onto 'differentiation' were not as good, with four items exhibiting values below 0.50. With nine items that explain this factor, this was not considered to be a problem. The 'cost-leadership' factor was, however, poorly explained with only one item with a SW value of above 0.5. This confirms the results from the EFA.

The strategy-making scale assessing modes of strategy-making process was factor analysed. The factor analysis of the *strategy-making scale* was the most complicated of all the factor analyses that were undertaken. This was expected since none of the previous studies that utilised this scale rendered consistent results. Furthermore, this study argues that strategy-making will be completely different in small firms than in the larger firms in which these studies were undertaken. The number of factors to be extracted was determined after three, five and six factor solutions were examined and

proved incapable of producing meaningful results. The scree plot indicated that four or six factors may be appropriate, whereas the eigenvalue suggested six factors if the *a priori* criterion was absent.

Careful consideration of the resulting four factors revealed that these factors still describe similar constructs to those defined by Dess et al. (1997), namely participative, entrepreneurial, simplistic and adaptive strategy-making. Table B.6 in Appendix D compares the results of this study with the results from Dess et al. (1997). All of the variables have significant factor loadings (≥ 0.30) (Hair et al., 1998). The interpretation and labelling of the dimensions presented by the different questions were reasonably straightforward when compared to the modes of strategy-making processes identified in the preceding literature. The first factor, 'Participative SM' (strategy-making) includes aspects such as similar values, set practices, input from employees in decisions, equality, cooperation, teamwork, consensus and a negative conflict suppression. Participative SM in this context was therefore considered as internally directed participation. The second factor, 'Intrapreneurial SM' includes aspects such as risk-taking, a dynamic process, and experimentation. Although the terminology (intrapreneurial SM) differs from that used by Dess et al. (entrepreneurial SM), the factor loadings are very similar. This study argues that Dess et al. labelled this particular factor incorrectly, since the command aspect that should form part of the entrepreneurial mode (Dess et al., 1997; Mintzberg, 1973) actually loaded negatively in the Dess et al. study (see Table B.6). Both the findings of this thesis and Dess et al. are therefore consistent with previous definitions of intrapreneurial (generative) strategy-making (e.g. Hart, 1992) but not with those of Mintzberg (1973) who originally conceptualised the construct. The third factor, 'Adaptive SMP', includes aspects such as adaptation, ongoing process, and listening and involving stakeholders. Adaptive SMP in this context was therefore externally directed participation and adaptation. The fourth factor was termed 'Simplistic SMP' (compare Dess et al., 1997). This factor includes aspects such as a blueprint of strategies exist, top down behaviour, an internal process, set practices and the fact that the CEO takes decisions. It can therefore be considered to be a simplified combination of the command and symbolic modes which were described in the literature review. At this point it can be concluded that the scale is factorable and that it is consistent with at least one previous study, but further analysis

should be undertaken to solve the discrepancies noted. Such analysis is undertaken with CFA in AMOS in Chapter Seven.

Although factorability tests were performed on the two *performance scales*, no factor analyses were undertaken since these scales are intended to be used as indices and not as factors. Once again the KMO and Bartlett's test of Sphericity rendered satisfactory results. It can therefore be concluded that the scales used in this study satisfy the criteria for construct validity or reliability.

6.6 VALIDITY TESTING

Validity is the extent to which the differences found from a questionnaire are reflective of the true differences among the respondents being tested (Cooper & Schindler, 1998). Simply put, validity explains whether an instrument measures the construct that it intends to measure accurately. Kreiser et al. (2002) question the validity of instruments, such as those employed in this study because they were developed for a North American setting and are now being applied in other settings/countries. But their study provides support for the cross-cultural validity of the EO scale employed in this study in six countries, including Australian SMEs. Several tests for validity were performed on the questionnaire and data. Validity tests can be divided into tests for either internal or external validity. Internal validity or reliability refers to the internal consistency of the items in the scale (Page & Meyer, 2000). Testing procedures for this were explained in the previous section.

External validity refers to generalisability across times, settings and firms (Scandura & Williams, 2000). *External validity* was addressed in two ways. First, the constructs were chosen after an extensive review of the literature. Sekaran (2000) explains that when measures that are validated in other studies are used, the validity does not have to be reestablished in subsequent studies. Chapter Five (Section 5.7) contains an explanation of the previous studies where the scales that were utilised for this study, were employed. Second, research results were actively discussed with supervisors, fellow researchers and knowledgeable peers. There was high agreement with the final instrument (see Section 5.7.1), which provided external validity of the results. Since

minor adjustments, such as New Zealand spelling and local expressions, were made to the wording in some of the items, it was decided to further check the validity of the scales used in this study, specifically through convergent and discriminant validity tests.

Convergent and discriminant validity can be established when there is a high degree of similarity between the different groups responding to the same measure. For example, this means that when firms of different sizes or industries within the sample are compared, their responses should be similar unless proposed to be different. Tables 6.4, 6.5 and 6.6 show the MANOVA, ANOVA and Kruskal Wallis tests that compare the means between age, size and industry groups. As explained earlier, MANOVA tests indicate the likelihood that subsequent ANOVA tests will render significant results.

In terms of age the ANOVA test shows a significant difference for focus strategies, while the Kruskal Wallis test shows a significant difference for intrapreneurial strategy-making. Both these differences are at the 0.05 level, which is a conservative level as explained before. The box-plots for these variables were investigated, and intrapreneurial strategy-making exhibited a normal distribution with similar box and whisker links, suggesting that the more powerful ANOVA test is reliable.

Table 6.4: Tests of differences between age groups (MANOVA: $F=16.582$, $p \leq 0.000$)

Variables	ANOVA F (5, 471)	ANOVA (p value)	Kruskal Wallis Chi- Square	Kruskal Wallis (Sign)	Levene's homosce- dacticty	Levene's (Sign)
Size	5.849	0.000	27.575	0.000	0.279	0.925
Organicity index	0.331	0.894	2.522	0.773	1.363	0.237
Hostility	1.264	0.278	6.810	0.235	1.802	0.111
Dynamism	0.624	0.681	3.357	0.645	0.587	0.710
Differentiation	1.551	0.172	9.256	0.099	0.660	0.654
Focus	0.632	0.675	2.552	0.769	1.068	0.377
EO index	1.872	0.098	8.881	0.114	1.386	0.228
Simplistic SM	0.663	0.651	6.837	0.233	0.645	0.665
Adaptive SM	0.976	0.432	4.782	0.443	0.301	0.912
Intrapreneurial SM	2.312	0.043	11.642	0.040	1.246	0.286
Participative SM	0.454	0.811	1.806	0.875	0.776	0.567
Performance index	1.441	0.208	7.849	0.165	0.212	0.958

Both the ANOVA and Kruskal Wallis tests show significant levels for size (Table 6.5). It is, however, to be expected that firm age and size will vary together. Levene's test

confirms the ANOVA assumption of homoscedasticity. Therefore, it can be concluded that the different age groups responded similarly for all of the measures displayed in Table 6.4, except focus strategies at the 0.05 level. This was an expected result, since a smaller business cannot serve a broad market and younger firms tend to be smaller. In terms of the differences between firm size groups, both the ANOVA and Kruskal Wallis tests display a significant difference for focus strategies and age. It can therefore be concluded that the different size groups responded similarly to all the construct measures in Table 6.5 except for focus strategies as was expected. This supports the convergent validity of the measures (Sekaran, 2000). Importantly, no significant differences were found at the 0.01 level.

Table 6.5: Tests of differences between size groups (MANOVA: $F=1.449$, $p \leq 0.000$)

Variables	ANOVA F (5, 471)	ANOVA (Sign)	Kruskal Wallis Chi- Square	Kruskal Wallis (Sign)	Levene's homosce- dacticty	Levene's (Sign)
Age	3.512	0.004	11.916	0.036	1.495	0.190
Organicity index	1.531	0.179	7.719	0.172	1.125	0.346
Hostility	0.937	0.456	4.612	0.465	0.639	0.670
Dynamism	0.693	0.629	3.570	0.613	0.860	0.508
Differentiation	1.275	0.273	7.324	0.198	0.546	0.741
Focus	2.917	0.013	12.953	0.024	1.682	0.137
EO index	1.191	0.313	5.823	0.324	0.648	0.663
Simplistic SM	2.130	0.061	9.057	0.107	1.242	0.288
Adaptive SM	2.055	0.070	10.489	0.063	0.366	0.872
Intrapreneurial SM	1.143	0.337	4.338	0.502	0.391	0.855
Participative SM	1.068	0.377	4.806	0.440	1.058	0.383
Performance index	0.580	0.715	2.357	0.798	0.564	0.728

However, the tests for differences between the four collapsed industry categories did render very poor validity results (Table 6.6) if similar responses were expected at a five per cent significance level. Seven variables in total exhibited significant differences between industry categories at a five per cent level and three categories at a one per cent level. In general, these results showed that retail or wholesale firms have high means for organicity, hostility, differentiation strategies, EO, participative strategy-making and performance and low means for focus strategies. Service firms have low means for performance and organicity, while construction firms have low means for hostility, differentiation, EO and high means for focus strategies. The three variables that were

significant at the one percent level, namely EO and focus and differentiation strategies, are expected to differ between industry groups, because the nature of an industry is likely to affect how firms compete in the industry (Porter, 1980).

Table 6.6: Tests of differences between industry categories (MANOVA: $F=2.553$, $p \leq 0.000$)

Variables	ANOVA F (3, 473)	ANOVA (Sign)	Kruskal Wallis Chi- Square	Kruskal Wallis (Sign)	Levene's homosce- dacticty	Levene's (Sign)
Organicity index	3.759	0.011	7.903	0.048	6.301	0.000
Hostility	3.382	0.018	10.448	0.015	0.403	0.751
Dynamism	1.340	0.261	3.781	0.286	0.548	0.650
Differentiation	9.057	0.000	24.644	0.000	0.674	0.568
Focus	6.224	0.000	19.351	0.000	1.833	0.140
EO index	7.152	0.000	21.195	0.000	0.484	0.694
Simplistic SM	1.474	0.221	2.468	0.481	0.681	0.564
Adaptive SM	1.470	0.222	4.253	0.235	0.539	0.656
Intrapreneurial SM	2.543	0.056	9.814	0.020	1.199	0.309
Participative SM	3.931	0.009	13.545	0.004	0.465	0.707
Performance index	3.658	0.013	14.676	0.002	0.702	0.551

Convergent validity is also established when the scores obtained by two scales that measure the same concept are highly related. In this regard a Pearson's correlation coefficient for the two scales that measure performances was obtained (Table D.1). The coefficient was 0.729 at a significance level of 0.00, supporting the requirement for convergent validity. Rosenthal and Rosnow (1991) suggest that further convergent validity is claimed when the Cronbach coefficient alpha for each combined scale is sufficient. Table 6.2 provides the Cronbach coefficient alpha for each of the scales when their constructs are combined. All of these results exceed the 0.60 limit set by Hair et al. (1998) which further supports the convergent validity of the measures.

Other forms of validity testing formed part of the instrument evaluation process that was described in Chapter Five. *Face validity* investigates the sensibility of the items from the view of either the researcher or the subject. This examines the logic and conceptual accuracy of the items (Page & Meyer, 2000). The results of this investigation were explained in Section 5.6.1. *Content validity* is the extent to which the measurement instrument provides adequate coverage of the topic that is being studied (Cooper &

Schindler, 1998). Content validity, according to Cronbach (1990), is subjectively evaluated by the researcher. In this study, a rigorous examination of previous empirical studies in the areas of importance to the study was undertaken. The relevant constructs and the scales that are used most often to measure these constructs were identified and included in the questionnaire. When a sensible collection of scales is used, an instrument has content validity (Nunnally, 1978).

Non-response bias is relevant to any study such as this that depends on voluntary responses from the firms in the sample. Non-response bias was assessed on the basis that later respondents are more closely related to non-respondents than early respondents (Armstrong & Overton, 1977). Therefore the early respondents were compared to the late respondents. Firms were divided into three groups, namely those that responded in the first two weeks after the questionnaire was distributed, those that responded in the last two weeks before the deadline, and the rest, which formed the middle group.

Table 6.7: Tests of differences between early, middle and late respondents

	ANOVA F (2, 474)	ANOVA (Sign)	Kruskal Wallis Chi-Square	Kruskal Wallis (Sign)
Age	1.438	0.238	2.703	0.259
Size	1.215	0.298	5.166	0.076
Organicity index	0.304	0.738	2.015	0.365
Hostility	0.469	0.626	1.031	0.597
Dynamism	0.764	0.466	1.253	0.534
Differentiation	0.278	0.758	0.845	0.656
Focus	3.566	0.029	6.214	0.045
EO index	0.358	0.699	0.375	0.829
Simplistic SM	0.023	0.977	0.293	0.864
Adaptive SM	0.313	0.731	0.522	0.770
Intrapreneurial SM	0.018	0.982	0.268	0.875
Participative SM	0.370	0.691	0.509	0.775
Perceptperindex	1.089	0.337	1.352	0.509

Once again, both the parametric (ANOVA) and non-parametric (Kruskal Wallis) tests for mean differences were employed. It was found that only at a five per cent significance level one difference exists between date groups (early, medium and late respondents), namely for the focus factor (see Table 6.7). The mean for early

responders was 4.16, middle responders, 4.62 and late responders 4.47. This factor actually measures market breadth, which is the opposite of focus. This means that early responders were more likely to serve larger market segments than medium and late responders. Focus strategy was investigated further with the use of a scatter plot which revealed that later respondents to this test tended not to choose the top values of the scale. This is understandable when considering that small firms that respond later may have fewer resources to complete a questionnaire such as the instrument used in this thesis and may be less likely to target a wide market. This result is therefore unlikely to indicate a difference that impacts on the result of the data analysis. But, once again, at the 0.05 level, this result is not very significant.

Table 6.8: Goodness of Fit test for the study sample and population

	New Zealand Population		Thesis Sample		Difference between sample and population
	Number of firms	%	Number of firms	%	Chi square
Size	293605		477		
1-5	253655	86.39	66	13.8	Chi-square =
6-9	19286	6.57	92	19.3	3297.7
10-19	12704	4.33	122	25.6	DF = 4
20-49	6350	2.16	139	29.1	P = 0.000
50-99	1610	0.55	58	12.2	
Industry	288505		477		
Services	163149	56.55	127	26.6	Chi-square =
Manufacturing and agricultural	22890	7.93	200	41.9	765.506
Construction and property	52398	18.16	80	16.8	DF = 3
Retail and wholesale	50068	17.35	70	14.7	P = 0.000

Tests for differences between the study sample and the population of New Zealand firms were also undertaken to test for *representativeness*. Two demographical variables were compared. Age categories were explored as set out in Table 6.8. Industry categories were reclassified in order to make the data comparable and four new categories, namely services, manufacturing and agricultural, construction and property services, and retail and wholesale were created. Two goodness-of-fit tests were undertaken to compare the size and industry data. In this case the distribution of the sample differs from the population (Table 6.8). The sample is not representative of the New Zealand SME population because of a response bias in favour of larger and manufacturing firms. This result was expected because these firms should typically have more resources to devote to non-core tasks such as completing questionnaires for

PhD students. Adjustments in the interpretation of results will therefore be made to take the representativeness issue into consideration.

6.7 SUMMARY

This chapter explains how data were prepared for the proposition testing that will be conducted in Chapter Seven. Firstly, the data were investigated to ensure that they satisfy the underlying assumptions for parametric testing. It was concluded that the assumptions for random sampling, normality, linearity and homoscedasticity were satisfied. The measurement instrument was also tested for reliability and validity. The results from the tests for reliability were conclusive and it could be assumed that the scales employed in this study are reliable. The tests for validity were acceptable. External and content validity was assumed since existing scales were used, and these scales were validated by experts. Convergent and discriminant validity were tested through a variety of tests that compare the means from different groups. In general, it was found that convergent and discriminant validity was satisfied, with the exception of industry groups and focus strategies for which explanations were provided. Representativeness was tested by comparing the size and industry groups from the population and sample. The result of this test suggested that generalisations should be made with caution. This test did, however, show that there is a good spread of firms across size and industry groups, which may be of more value to this study.

CHAPTER 7 - PROPOSITION TESTING

7.1 INTRODUCTION

The purpose of this chapter is to analyse and discuss the results from the survey. A variety of univariate and multivariate statistical tests were used to test the propositions that were formulated in Chapter Four. These tests were explained in Chapter Five. It is important to note that none of the propositions are stated in the null hypothesis format. However, the statistical tests that are conducted all test the null hypotheses and a rejection of these is assumed to indicate that the research hypotheses can be accepted. The goals of the empirical study are to test whether the framework presented in Chapter Four will predict firm performance successfully; to test whether each separate section of the framework will contribute to the prediction; and explore other relationships that may exist between these constructs. The results are presented according to the same seven objectives that were introduced in Chapter Four. Table 7.1 presents the research objectives and propositions of this thesis and the statistical tests employed to test each proposition.

Table 7.1: A summary of the research objectives, propositions and statistical tests employed

OBJECTIVES	PROPOSITIONS	STATISTICAL TESTS
1. To present the demographical and other contextual factors of the SMEs in the study, in particular the level of EO of the firms.	P1 <i>SMEs in NZ have high levels of EO</i>	Frequencies, descriptive statistics P1 Independent sample t-tests
2. To determine the strategy-making processes that New Zealand SMEs employ as well as their relationship with firm performance.	P2a <i>The rational, adaptive, entrepreneurial, symbolic and participative strategy-making processes are important strategy-making modes that SMEs may exhibit</i> P2b <i>The entrepreneurial mode of strategy-making will be most favoured by SMEs</i> P2c <i>Firms that employ the rational mode of strategy-making perform well</i> P2d <i>Firms that employ more than one mode of strategy-making will perform well</i>	P2a CFA with AMOS P2b Highest means, frequency of mode used, CFA P2c Correlations, causal modelling P2d Cross-tabs, correlations, ANOVA
3. To investigate how a selection of contextual factors affect the relationship between strategy-making processes and firm performance.	P3a <i>Environmental uncertainty will impact on the relationship between strategy-making and performance (moderating factor)</i> P3b <i>Environmental uncertainty will influence the mode of strategy-making that a firm employs, specifically, firms in dynamic and hostile environments will employ adaptive and entrepreneurial processes</i> P3c <i>Stage of industry life cycle and industry sector will influence the mode of strategy-making that a firm employs</i> P3d <i>EO, firm size, firm age and organicity of structure will influence the relationship between strategy-making and performance (moderating factor)</i>	P3a Moderated regression analysis P3b Cross-tabs, correlation P3c Cross-tab, ANOVA P3d Moderated regression
4. To compare the strategy-making processes of firms of different sizes, age, structures and levels of EO.	P4a <i>EO will influence the mode of strategy-making that a firm employs, specifically, entrepreneurial firms will employ an entrepreneurial mode of strategy-making</i> P4b <i>Size will influence the mode of strategy-making that a firm employs, specifically, smaller SMEs will employ adaptive and participative processes, while larger SMEs will employ rational and entrepreneurial processes</i> P4c <i>Age will influence the mode of strategy-making that a firm employs, specifically, younger SMEs will employ entrepreneurial and adaptive processes, while older SMEs will employ rational and symbolic processes</i> P4d <i>Firm structure will influence the mode of strategy-making that a firm employs, specifically, firms with organic structures will employ entrepreneurial and participative modes of strategy-making</i>	P4 Correlations, cross-tabs, ANOVA
5. To investigate how a selection of business strategies (content variables) affect the relationship between strategy-making processes and firm performance.	P5a <i>The mode of strategy-making that a firm employs will influence the choice of business strategy (content) which will influence firm performance (mediating factor)</i>	P5a Causal modelling
6. To establish the direct relationship that some of the context and content factors may have with firm performance.	P6a <i>Entrepreneurial firms (firms with a high level of EO) will outperform non-entrepreneurial firms</i> P6b <i>Contextual factors, including EO, size, age, structure, environmental uncertainty and industry life cycle, will impact on the business strategies (content) that a firm chooses, specifically smaller and younger firms will employ focus strategies, while entrepreneurial firms or firms with organic structures will employ differentiation strategies</i>	P6 Correlations, ANOVA
7. To investigate the configurational relationships between the variables of the study.	P7a <i>It is possible to create a configurational model of strategy-making, external and internal context variables and strategy types that will predict firm performance.</i> P7b <i>It is possible to create archetypes that empirically classify the firms of the study.</i>	P7a Causal modelling P7b Cluster analysis

OBJECTIVE 1: TO PRESENT THE DEMOGRAPHICAL AND OTHER CONTEXTUAL FACTORS OF THE SMEs IN THE STUDY, IN PARTICULAR THE LEVEL OF EO OF THE FIRMS

7.2 SMEs IN NEW ZEALAND

This section aims to provide the reader with some background to the firms that are included in the sample of this study. Firstly the demographical statistics are provided, after which the first proposition of this study is investigated.

7.2.1 Demographics and descriptive statistics

A total of 477 respondents were included in the final dataset for this study. The process that was followed to arrive at this number is described in Section 5.8. In this section a description of the demographical characteristics of these firms in the sample are provided.

The average firm size of the respondent firms is 23 FTEs. This is much higher than the average size of six FTEs of New Zealand firms in general. The majority of firms that responded to this survey had between ten and 50 employees (55 per cent) while fewer than seven per cent of New Zealand SMEs overall fall into this category. This anomaly was expected, since few firms with fewer than ten employees were expected to have the time to complete a questionnaire such as this.

Ninety per cent of respondent firms saw their major product or service in the growth or maturity phases of the industry life cycle. This corresponds with the high average age of firms which was 33 years and the average number of years that managers or owners have been managing their firm, namely for 14 years. No indication of the average age of New Zealand SMEs in general could be found, but with the number of firm deaths at almost half of the number of start-ups on a yearly basis, it is considered that this number is probably towards the high end of the spectrum. This is in line with the finding in terms of size. It is therefore clear that the focus of this study is not start-up firms.

Ninety per cent of the participants indicated that their firms were in the growth or maturity stages of the industry life cycle. Fifty-five per cent of firms were categorised by respondents as the manufacturing (31 per cent), wholesale (14 per cent) or construction (10 per cent) industry sectors, with sectors such as communication, consultation, property and business services, and retail presenting between five and ten per cent of the participants. When the industry sectors were condensed into four industry types, namely service, manufacturing and production, construction, and wholesale and retail, 46 per cent fell into the manufacturing and production category, and 27 per cent into the services category. Industry sectors were condensed to improve ease of use. Once again, the industry sectors of the respondent firms and SMEs in New Zealand were significantly different from each other. For example, whereas 57 per cent of New Zealand SMEs are classified as part of the service industry as reclassified in this study, only 27 per cent of the firms in the sample could be classified as from the service industry. Similarly, 31 per cent of the firms in the sample could be classified as manufacturing and production versus 25 per cent for all NZ firms. Appendix B provides an illustration of the demographical data of this study.

Table 7.2 provides the comparable means (expressed as percentages), means, minimum and maximum values, and standard deviations for all these variables, including indices and factors used in this study. Comparable means were calculated by changing group means into percentages in order to improve ease of comparison and interpretation.

Preliminary investigation of the descriptive statistics of the factors employed in this study (see Table 7.2) reveals a few tentative observations. For instance, when the means for the four basic modes of strategy-making are compared, it seems that the simplistic or participative modes of strategy-making may be slightly more popular than the adaptive or entrepreneurial modes of strategy-making. Similarly, it seems that more firms are operating in dynamic than stable and hostile environments and that more firms employ differentiation strategies than focus and cost-leadership strategies. The comparisons can be made since the scores for each item that contribute to each factor variable were added up and divided by the number of items and reworked into percentage form. These results are interesting, and will be investigated further in subsequent sections.

Table 7.2: Descriptive statistics of demographical variables, indices and factors

Type of variable	Variables	Compara-ble mean %	Mini-mum	Maxi-mum	Mean
Internal environment	Age		1.00	195.0	33.20
	Length of service		0.00	60.00	14.03
	Size		1.00	100.0	23.19
	EO index	59.17	9.00	59.00	37.28
	Organicity index	63.49	8.00	49.00	31.10
Modes of strategy-making (SM)	Intrapreneurial SM	65.72	1.00	5.00	3.285
	Adaptive and Intrapreneurial SM	67.78	1.50	5.00	3.389
	Adaptive SM	69.85	1.33	5.00	3.492
	Participative & Adaptive & Intrapreneurial SM	69.96	1.61	4.97	3.498
	Participative & Intrapreneurial SM	70.02	1.53	4.95	3.500
	Simplistic & Adaptive & Intrapreneurial SM	70.19	1.76	4.86	3.509
	Simplistic & Intrapreneurial SM	70.34	1.81	4.93	3.517
	Simplistic & Participative & Intrapreneurial SM	71.08	1.74	4.85	3.583
	All SM modes	71.22	1.74	4.87	3.561
	Adaptive & Participative SM	72.09	1.42	4.95	3.604
	Simplistic & Adaptive & SM	72.42	1.48	4.79	3.621
	Simplistic & Adaptive & Participative SM	73.05	1.62	4.82	3.652
	Participative SM	74.32	1.40	4.90	3.715
Simplistic & Participative SM	74.66	1.59	4.88	3.732	
Simplistic SM	74.99	1.29	5.00	3.749	
Strategy	Cost leadership	55.80	1.00	6.50	3.906
	Focus	60.37	1.00	7.00	4.225
	Differentiation	61.81	1.00	6.78	4.326
External environment	Hostility	51.61	1.20	6.40	3.613
	Dynamism	58.07	1.00	7.00	4.065
	Stability	59.65	1.00	6.83	4.175
Performance	Performance index 1	55.97	21.00	250.0	139.9
	Performance index 2	71.77	13.00	50.00	35.88

7.2.2 The EO of New Zealand SMEs

As explained in Chapter Five, the nine items in the EO scale were summed to calculate the EO index that is used in the propositions that include EO. A major shortcoming in the EO scale is that high levels of risk are viewed as indicative of a high EO. But, as explained in Chapter Three, entrepreneurial firms are seen as taking moderate levels of risk by some authors (Marino et al., 2002; Morris & Kuratko, 2002). Ideally, the three items in the scale that represent risk-taking behaviour should be recoded to change moderate risk to represent high levels of EO. This will, however, complicate

First, the theoretically based competing models for strategy-making process were developed. Proposition 2a suggested one such model, but since EFA (see Chapter Six) suggested that this model (hereafter referred to as the 'Theoretical Model') may not best predict the strategy-making modes of New Zealand SMEs, competing models were designed as alternatives to Proposition 2a. In order to be complete, four additional models were designed, three based on models that exist in the literature (Dess et al., 1997; Hart & Banbury, 1994; Mintzberg, 1973) and the fourth model (hereafter referred to as the 'Realised Model') based on an alternative interpretation of the literature summarised in Table 2.1. The five competing models were constructed as follows.

- The Dess (Figure F.1) model used the same scale to the one employed in this study. Therefore the items were loaded onto factors in exactly the same way as done in that study, namely onto the simplistic, adaptive, participative and entrepreneurial factors.
- The Hart (Figure F.2) model used a similar strategy-making scale to the one employed in this study. Therefore, the items were loaded onto factors in the same way as done in that study, namely onto the command, symbolic, generative, rational and transactive factors.
- The Mintzberg model (Figure F.3) was based on the 1973 conceptual study by Mintzberg. This article was reviewed thoroughly and 19 of the items were loaded onto the three factors identified in this study, namely the planned, adaptive and entrepreneurial factors.
- The Theoretical Model (Figure F.4) was constructed using the literature review in Chapter Two and consist of five factors, namely the rational, adaptive, participative, symbolic and entrepreneurial factors. In this model, some items were loaded onto more than one factor as the literature review suggested. This solution fits the data better than a solution where each item is only loaded onto one factor.
- The Realised Model (Figure 7.1) was constructed using an alternative interpretation of the literature summarised in Table 2.1. Following the findings of Dess et al. (1997) and the results of the EFA, four potential modes of strategy-making were identified. This meant that firstly, rationality was not included as a factor (mode of strategy-making). Secondly, the command mode was taken out of the entrepreneurial mode (which means it is now the

intrapreneurial mode as suggested in Table 2.1). Thirdly, the command mode was added to symbolic strategy-making as suggested by Dess et al. and renamed as simplistic strategy-making. Lastly, participative strategy-making was still included in the model, albeit without the political aspects suggested in the literature review. This means that the Realised Model can be viewed as an alternative interpretation of the literature in Chapter Two, which include four factors, namely the simplistic, adaptive, participative and intrapreneurial factors.

Second, path diagrams of the five models for strategy-making were constructed. The items of the questionnaire are contained in rectangles. The constructs in this section are the different strategy-making modes. Constructs are represented by an oval. Errors are contained in circles which are linked to items and constructs which are to be predicted (have arrows going into them). Next, straight arrows were used to indicate a direct causal relationship from one construct to another. A straight arrow with two heads indicates a reciprocal relationship between constructs (employed in later sections).

An important decision that had to be taken at this stage was in what direction the arrows between the factors and the overall construct, in this case strategy-making, should be going. Law, Wong and Mobley (1998) suggest that a multidimensional construct is only well defined if the relations between the overall construct and its dimensions (also called factors or facets) are specified. They define a construct as 'multidimensional when it consist of a number of interrelated attributes or dimensions and exists in multidimensional domains' (Law et al., 1998, p. 741). As Law et al. suggest, several constructs exist in the management literature in which the relationships between the dimensions or factors and the construct are unspecified. Unfortunately this is also the case with the strategy-making constructs. Therefore an informed decision about the nature of the relationship between the dimensions (in this case the modes of strategy-making) and strategy-making had to be made.

Law et al. (1998) and Law and Wong (1999) present a number of options for such a decision. Broadly speaking, two views encompass these options that are available to the researcher, namely the composite view and the factor view (Law & Wong, 1999). The composite view is when a construct is a composition of all the different dimensions (modes of strategy-making) which predicts the construct (strategy-making). In this case

the arrows point from the dimensions to the construct. This does not mean that the dimensions cause the construct, but rather that the dimensions are indicators or components of the construct (Law & Wong, 1999). This is clearly not the case with the strategy-making construct, since different combinations of the modes will make up strategy-making in different firms. In the factor view, the construct is the common view behind the dimensions, or facets as Law and Wong call them. In simple terms this means that the arrows point from strategy-making to the different factors and the construct is presented by the overlap between the factors. This can be supported by arguing that measures are determined by the underlying constructs and that the error is therefore the unique variability.

Law and Wong argue that the researcher must find empirical evidence or theoretical justification for their view. Since no article using SEM on the strategy-making scale could be found, the justification for using the factor view is purely theoretical and has to be substantiated through statistical justification in the form of goodness-of-fit statistics. The view expressed above that strategy-making in a firm is predicted by the overlap between factors is commonly accepted by authors such as Hart (1991) and Mintzberg (1973) who argue that different firms under different circumstances make strategy differently, and that these firms may also draw parts from two or more modes of strategy-making to make up their own unique approach to strategy-making. Jarvis, Mackenzie and Podsakoff (2003) suggest four criteria to further inform this decision. First, the direction of causality between the construct and factors should be considered. In this case it can be stated that the factors are manifestations of the construct, and not defining characteristics as would have been the case if the composite view was valid. Second, factors can be interchangeable. In fact, the argument that no one mode of strategy-making is more descriptive of the construct than another is a central thesis of this study, which argues that other strategy-making processes exist along the more traditional formal processes. Third, the factors are expected to covary with each other. Fourth, indicators are expected to have the same antecedents and consequences. Therefore, the use of the factor view is further supported. This is fortunate, since SEM packages such as AMOS have difficulty to specify models under the composite view.

Third, the path diagram was converted into a set of structural equations. This means that the models were specified by defining the structural equations that link constructs,

as well as the measurement model and matrices that estimate any correlations between constructs. Endogenous constructs (constructs with arrows leading into them) are the dependent variables and need an error term. The regression weights for errors were set at 1.0. Items were connected to factors as proposed in the different theoretical models. An exposition of the different factors and their items can be found in Tables 7.5 and E.3 to E.7. None of the factors comprised fewer than three items (Hair et al., 1998). Furthermore, the regression weight of the item that was expected to contribute most to each construct following the EFA was also set at one, as was the regression weight of the factor that was expected to contribute most to the overall construct of strategy-making (for this factor, usually 'participation', no item had a regression weight of 1.0). These steps are necessary to ensure that the model is not under-identified and since these values are not absolute but relational, it does not affect the outcome of the model.

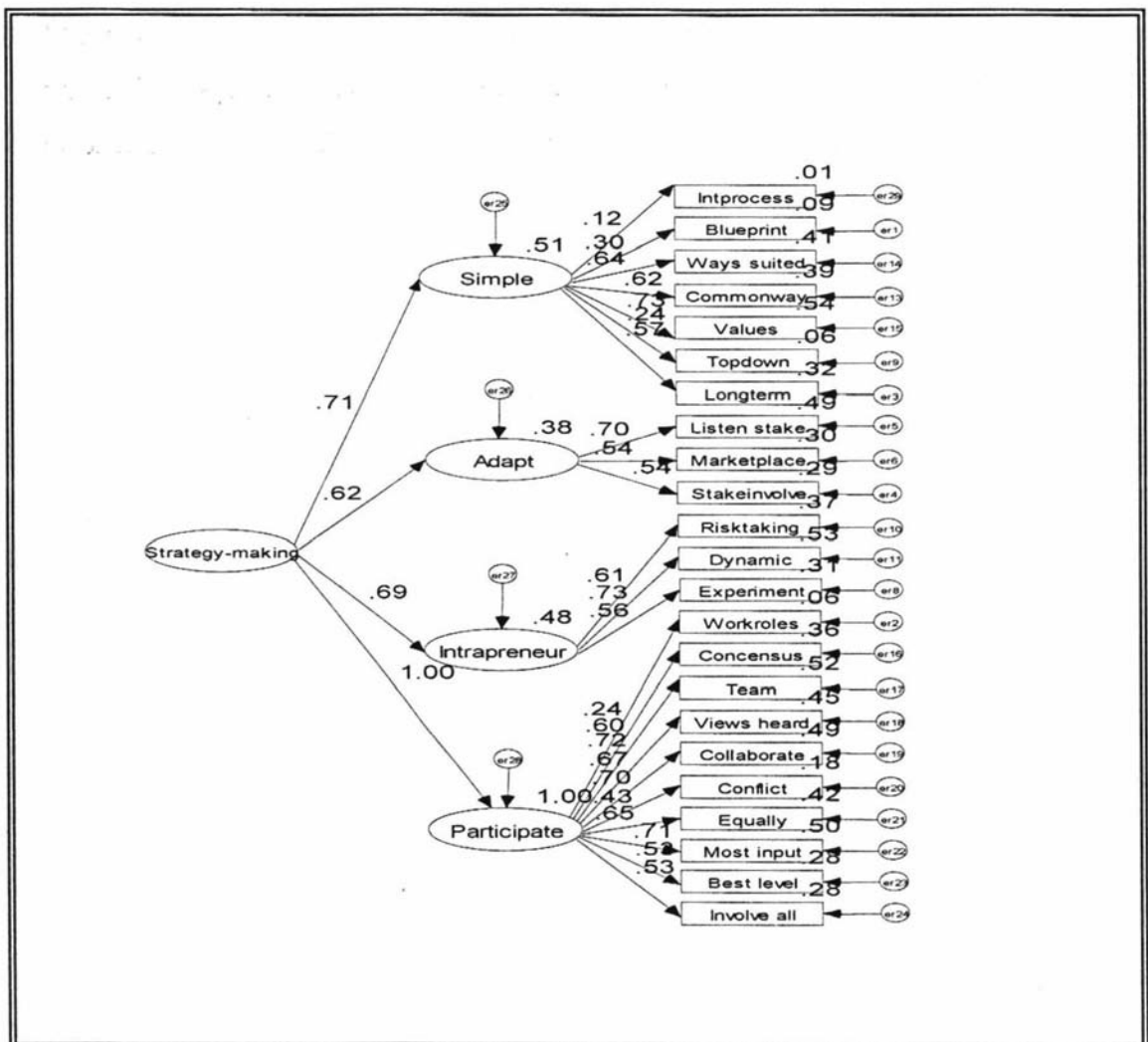
Fourth, the final models were estimated. Data were imputed from SPSS files. Missing data were incorporated into the data set before and were therefore not a problem. The sample size at 477 was sufficient to satisfy all the requirements, such as ten respondents per parameter (Hair et al., 1998). AMOS used maximum likelihood estimation to estimate the model.

Fifth, the identification of the structural models was assessed. Models can be under- or over-identified. The latter is the goal for structural models. Models that were under identified were carefully examined to ensure that all the necessary parameters were fixed. When models were under-identified fixed values were assigned to appropriate parameters in the model. Once the models were estimated, the coefficients were checked to ensure that the items that were deemed to contribute most to each factor, were correctly chosen. Furthermore, any negative variances were replaced by a low value (0.005). It was also possible to eliminate any coefficient (arrow) with a critical ratio (CR) of less than 1.96 at this stage, but this was only done if it made theoretical sense. A $CR < 1.96$ suggests an insignificant coefficient at a significance level of five per cent.

Sixth, the goodness-of-fit criteria were examined. AMOS calculates fit measures for the model specified by the user, the default model, as well as two additional models, the 'saturated' and 'independence' models. The default model is the hypothesised model, the saturated model is the most general model possible and has as many parameters as

there are means and variances, and the independent model assumes no correlation between variables, such that variables are independent of each other. Table 7.5 reports the goodness-of-fit results for the default models. The meaning and requirements for these criteria were explained in Section 5.8.3. An examination of Table 7.5 indicates that the two models that were compiled by using the literature review in Chapter Two, namely the Theoretical and Realised Models, have much better goodness-of-fit results than the other three models, which were constructed from previous studies (Dess, et al., 1997; Hart, 1991; Mintzberg, 1973): The only result that does not concur with this is the ECVI where the Mintzberg model exhibits the lowest value (Byrne, 2001). Specifically, the Theoretical Model that is proposed in this section has a RMSEA of 0.048 and GFI of above 0.90. However, the NFI and CFI values were poor. Therefore the Realised Model, which has a RMSEA of 0.065 and a GFI of 0.88 and satisfying NFI and CFI statistics, is accepted as the model that fits the data best.

Figure 7.1: Realised CFA Model (standardised estimates shown)



Once the goodness-of-fit criteria have been satisfied, the measurement of each construct can be assessed for reliability. Firstly, the loadings for each indicator should be examined. As explained before, items with critical ratios of less than 1.96 can be eliminated. SEM assesses composite reliability. If a model exhibited poor fit, for example if the RMSEA was above 0.08 and the χ^2/DF above 5, the modification indices were examined for high correlations between errors. These correlations were added to the model in the form of a double headed arrow between the errors. Usually this improved the model to acceptable levels of fit. If the RMSEA was below 0.08, the suggested paths from modification indices were not added to the model unless it made theoretical sense, even though it could have improved the goodness-of-fit statistics.

Last, the models were interpreted. One of these models was accepted as presenting the underlying factor structure of this sample best. This means that the sample gave the greatest support to this model. The 'Realised Model' showed good reliability on all the tests (see Table 7.5) and most model fit indices (CFI, NFI, GFI close to 0.9; RMSEA at 0.065). The 'Theoretical Model' exhibited a better RMSEA 0.048 value, but poor CFI and NFI values, and with the reliability of the entrepreneurial strategy-making and rational strategy-making unacceptable (Cronbach alphas below 0.50) it was decided to reject this model.

Table 7.5: AMOS goodness-of-fit results for all the CFA models

Model	χ^2/DF	P	ECVI	PCLOSE	RMSEA	NFI	CFI	PNFI	PGFI	GFI	Cronbach alphas
Ideal value	Below 5	0.05	Lowest value		Below 0.08	Above 0.90	Above 0.90	0.06 – 0.09	Close to 1.0	Above 0.90	Above 0.60
Theoretical model	2.097	0.000	1.421	0.716	0.048	0.305	0.426	0.271	0.754	0.904	.46
Rational											.62
Adaptive											.34
Entrepreneurial											.65
Symbolic											.82
Participative											
Dess et al.	3.630	0.000	2.110	0.000	0.074	0.730	0.780	0.653	0.692	0.837	.67
Simplistic											.59
Adaptive											.52
Entrepreneurial											.70
Participative											
Hart	3.945	0.000	1.731	0.000	0.079	0.689	0.745	0.610	0.687	0.853	.20
Rational											.74
Transactive											.70
Symbolic											.37
Command											.65
Generative											
Mintzberg	3.634	0.000	1.317	0.000	0.074	0.725	0.782	0.640	0.693	0.872	.31
Planning											.77
Adaptive											.22
Entrepreneurial											
Realised model	3.024	0.000	1.648	0.000	0.065	0.786	0.845	0.706	0.721	0.877	.66
Simplistic											.65
Adaptive											.62
Intrapreneurial											.82
Participative											
Environment	2.813	0.000	0.653	0.017	0.062	0.856	0.901	0.709	0.677	0.934	.73
Hostility											.81
Dynamism											.54
Stability											
Strategy	2.349	0.000	0.640	0.270	0.053	0.880	0.927	0.682	0.647	0.946	.76
Differentiation											.37
Cost-leadership											.67
Focus											

This result, as well as the acceptable Cronbach alphas of this scale (see Table 6.2) means that the Realised Model fits the data best. Proposition 2a can therefore not be accepted in its entirety. Instead, the rational mode is not substantiated by the data analysis. The symbolic mode of strategy-making are combined with the 'command' aspect from Hart's (1992) conceptualisation into the simplistic mode of strategy-making and the intrapreneurial mode of strategy-making is confirmed as not including the 'command' aspect from the Dess et al. (1997) and Mintzberg's (1973) conceptualisations. The realised entrepreneurial mode is therefore comparative to Hart's (1992) generative mode, or more appropriately termed: an intrapreneurial mode (Russell, 1999) of strategy-making. Such an intrapreneurial mode is briefly explained as a dynamic, risk taking and experiential process that occurs in a firm and lead to innovative activities and orientations. At this stage it is sufficient to say that *Proposition 2a* could only be *supported partially* and that the four modes of strategy-making that fit the data best are the simplistic, adaptive, intrapreneurial and participative modes of strategy-making. A full discussion, including definitions, of these four modes is provided in Chapter Eight. These four modes of strategy-making will be used when testing the subsequent propositions.

7.3.2 Most often used mode of strategy-making

From this point forward, the Realised Model (see Table 7.5) was used in the testing of all the propositions that refer to modes of strategy-making. The rationale for this decision is explained in the previous section. Each factor that was used for tests in SPSS was calculated by adding the item scores in the factor and dividing by the number of items (e.g. three adaptive items summed and divided by three) to give a group (factor) mean.

Proposition 2b proposed that the entrepreneurial mode of strategy-making would be most favoured by SMEs.

The mode of strategy-making in the Realised Model which is closest to entrepreneurial strategy-making, namely intrapreneurial strategy-making, was investigated. When examining the mode of strategy-making that is used most often by SMEs in New Zealand, the group mean scores of the different factors that represent the modes should

be examined. An inspection of Table 7.2 shows that the means of the participative (3.72) and simplistic (3.75) modes of strategy-making are higher than the other modes of strategy-making, including intrapreneurial strategy-making, suggesting that these are the most popular strategy-making modes. Therefore the proposition that intrapreneurial strategy-making would be the most favoured mode of strategy-making is not supported at this stage.

Table 7.6: Percentage frequency of firms for each mode of strategy-making

Factor score	Simplistic	Adaptive	Intrapreneurial	Participative
0 - 4.0	75.1	75.5	92.5	74.4
4.0 – 5.0	24.9	24.5	7.5	25.6

Another possible avenue to further examine this proposition is to inspect the frequencies of the modes of strategy-making (see Table 7.6). Frequency tables were obtained for all the mode factors and combinations of these factors. Two categories were created, namely the number of firms that scored below 4.0 (out of five) for a mode, and more than 4.0. The scores obtained in this way were summarised in Tables 7.6, 7.8 and 7.9. Once again the simplistic (24.9 per cent) and participative (25.6 per cent) modes of strategy-making have the highest percentage of firms that have a score of 4.0 or higher on a scale of one to five, although only slightly. Frese et al. (2000) also use higher as 4.0 as a cut-off point and they use the mean to explain the most often used strategy-making mode and combination of modes.

At this stage it is clear the intrapreneurial strategy-making mode is not used most often by SMEs and that Proposition 2b cannot be supported, but it is uncertain which other mode is used most often instead. However, an examination of the contributions of each mode of strategy-making to the overall construct of strategy-making in the CFA model in Figure 7.1 shows that the participative mode of strategy-making (standardised weight (SW) of 0.998 – Table 7.7) contributes most to strategy-making.

Table 7.7: Estimates for the Realised CFA Model

Path	Regression weight	Standard error	Critical ratio	Standardised weight
Adaptive <--- Strategy-making	0.403	0.042	9.686	0.618
Intrapreneurial <--- Strategy-making	0.417	0.036	11.418	0.694
Participative <--- Strategy-making	1.000			0.998
Simplistic <--- Strategy-making	0.462	0.038	12.296	0.714

It is therefore clear that the participative mode of strategy-making is favoured most by SMEs in New Zealand. *Proposition 2b*, which states that most firms will employ the intrapreneurial mode of strategy making, can therefore be *rejected* for this study.

This picture changes dramatically when combinations of modes are considered. Although this section only hypothesises about the pure modes of strategy making, Table 7.2 indicates that a combination of simplistic and adaptive strategy-making may be the most common combination of at most two modes, while a simplistic, adaptive and participative strategy-making may be the most common combination of at most three modes. However, Table 7.8 does not confirm this initial assessment in regards to a combination of two modes, and instead indicates that a combination of simplistic and participative strategy-making is used most often (26.2 per cent) with a mode factor greater than four. This makes sense when the popularity of these two modes in Table 7.6 is considered.

Table 7.8: Percentage frequency of firms for each combination of two modes of strategy-making

Factor score	SSM - PSM	ASM - PSM	ASM-ISM	PSM-ISM	SSM-ASM	SSM-ISM
0 - 4.0	73.8	77.8	90.4	86.2	79.9	88.5
4.0 - 5.0	26.2	22.2	9.6	13.8	20.1	11.5

Table 7.9: Percentage frequency of firms for each combination of three or four modes of strategy-making

Factor score	SSM - PSM - ISM	SSM - ASM - ISM	PSM - ASM - ISM	SSM - ASM - PSM	All modes
0 - 4.0	86.0	88.1	84.7	77.8	85.3
4.0 - 5.0	14.0	11.9	15.3	22.2	14.7

The most popular three mode combination is, however, confirmed by Table 7.9 (22.2 per cent) with a mode factor greater than four. Once again this is a combination in which both the simplistic and participative modes of strategy-making are present. These results strengthen the rejection of *Proposition 2b*, since intrapreneurial strategy-making does not form part of either.

7.3.3 The relationship between strategy-making and firm performance

Proposition 2c suggests that firms that employ the rational mode of strategy-making will perform well.

Since the rational mode of strategy-making was not found to exist in its pure form, the mode of strategy-making that is most closely related to rationality, namely the simplistic mode of strategy-making, was used for this proposition. Lumpkin and Dess (1995) explain that a simplistic mode of strategy-making is a combination of the command and symbolic modes as in this study, and that it implies a narrow use of rationality, a central vision and shared values that serve as a control system. This indicates some presence of rationality, which does not exist in the other modes of strategy-making used in this study.

Table 7.10: Pearson's correlations for modes of strategy-making and performance

Number for Figure 7.2	Modes of strategy-making	Pearson's correlation coefficient	Significance (p-value)
1	No modes		
4	Intrapreneurial SM	0.106	0.05
10	Participative & Intrapreneurial SM	0.198	0.01
11	Adaptive & Intrapreneurial SM	0.224	0.01
5	Participative SM	0.255	0.01
3	Adaptive SM	0.256	0.01
7	Simplistic & Intrapreneurial SM	0.256	0.01
14	Participative & Adaptive & Intrapreneurial SM	0.258	0.01
15	Simplistic & Participative & Intrapreneurial SM	0.280	0.01
9	Adaptive & Participative SM	0.298	0.01
12	Simplistic & Adaptive & Intrapreneurial SM	0.306	0.01
16	All SM modes	0.312	0.01
2	Simplistic SM	0.314	0.01
8	Simplistic & Participative SM	0.334	0.01
6	Simplistic & Adaptive SM	0.351	0.01
13	Simplistic & Adaptive & Participative SM	0.354	0.01

Pearson's product moment correlation coefficient and CFA in AMOS were used to explore the relationships between the modes of strategy-making and firm performance. First, Pearson's product moment correlations (Table 7.10) were used to investigate whether linear relationships exist. These correlations measure 'how well the

relationship between two interval variables can be described by a straight line' (Page & Meyer, 2000, p. 154). The correlations investigated in this study are tested for significance using two-tailed tests, assuming a normal distribution for each variable. This means that direction cannot be established for the alternative hypothesis. Table D.4, Appendix D, presents the descriptive statistics and Pearson correlations for the variables. There are several results from the correlation matrix (Table 7.10) that are important. Firstly, a significant positive relationship was found between firm performance and the simplistic mode of strategy-making. The relationship of the adaptive and the participative modes of strategy-making with firm performance showed lower, yet also statistically significant, correlations. Although these correlations are weak ($r < 0.3$) they are nevertheless interesting. No such relationship was, however, found between firm performance and the intrapreneurial mode of strategy-making at the one per cent significance level. The latter result is consistent with the findings of Dess et al. (1997).

Next, causal modelling in AMOS was employed to investigate this relationship further. As explained in Section 7.3.1, the Realised Model fits the data best. This CFA model was used as the basis for two causal models that investigate the impact of mode of strategy-making on firm performance. In the first model the various modes of strategy-making were linked to firm performance through the strategy-making construct (Model 1 'strategy-making – performance' in Figure F.7). Note that references to tables and figures that start with a letter, instead of a number, refer to a table or figure that is contained in the appendix with the same letter. In the second model, the various modes of strategy-making were linked to firm performance directly (Model 2 'strategy-making – performance' in Figure F.8). This was done to ascertain the individual as well as combined effects of the modes of strategy-making on firm performance. In the third model, the arrow was also reversed to double check if performance is the dependent factor (Model 3 'performance – strategy-making' in Figure F.9) in Model One. The results of the goodness-of-fit statistics for strategy-making – performance Models One, Two and Three are found in Table 7.11.

Table 7.11: A comparison of the goodness-of-fit statistics for the three Strategy-making - performance models

Statistics	Model 1: Strategy-making - performance (indirect)	Model 2: Strategy-making - performance 2 (direct)	Model 3: Performance - strategy-making (indirect recurrent)
χ^2	748.3	828.291	748.3
DF	249	244	248
χ^2/DF	3.01	3.39	3.02
P	0.000	0.000	0.000
ECVI	1.786	1.975	1.791
PCLOSE	0.000	0.000	0.000
RMSEA	0.065	0.071	0.065
NFI	0.774	0.749	0.774
CFI	0.836	0.807	0.835
PNFI	0.698	0.662	0.696
PGFI	0.724	0.705	0.721
GFI	0.872	0.867	0.872

The χ^2/DF , RMSEA, ECVI and GFI values indicate that Model Two is not such a good fit than Models One and Three. But the difference between Model One and Three is totally insignificant, suggesting that the link between performance and strategy-making is bi-directional. The lower RMSEA values exhibited by Models One and Three are indicative of the ability of a combination of modes to predict performance better than one mode at a time.

When all the modes of strategy-making were considered together in the SEM causal model 'Strategy-making – firm performance One', 8.5 per cent for the variance in the overall firm performance was explained by the combined modes of strategy-making (see squared multiple correlations (SMC) in Table E.1). This is a reasonable multiple correlation considering that the modes of strategy-making only partially explain firm performance and that the strategies that are formed during strategy-making should have a more direct impact on firm performance.

Although the goodness-of-fit statistics of Model Two was not as good as Models One and Three, it was good enough to be examined to see which mode of strategy-making contributes most to firm performance. The standardised weights suggest that the simplistic mode of strategy-making contributes most to performance, followed by the adaptive mode. Participative strategy-making contributes little, while intrapreneurial strategy-making has a negative effect on firm performance. In total, 16.5 per cent of the

overall variance in firm performance is accounted for by loading the four factors separately onto performance. This result generally supports that of the correlations.

The structural models used in this section are based on the CFA model developed in Section 7.3.1. As explained earlier this model does not include rational strategy-making in its pure form, and neither do the Pearson's correlations. The mode that most closely resembles rational strategy-making, namely simplistic strategy-making, does, however, have the most significant relationship with firm performance ($r = 0.314$, $p < 0.01$) and also contributes most to firm performance in the structural model (SW is 0.35). These results provide *partial support* for *Proposition 2c* which states that firms that employ the rational mode of strategy-making will perform well.

Proposition 2d states that firms employing more than one mode of strategy-making will perform well.

Cross-tabulations, correlations, ANOVA and correspondence analysis were used to investigate this proposition. Inspection of the cross-tabulation in Table G.1 and the correspondence analysis in Figure 7.2 suggest that this is highly possible (chi-square = 72.553, p-value = 0.000). Note, as before a firm is deemed to use a strategy-making mode if they score in excess of four for this mode.

Figure 7.2 summarises the results from the correspondence analysis. The modes that represent each number are contained in Table 7.10 and are illustrated by dots in Figure 7.2. Firm performance is shown on the X-axis, with the left side showing low and the right side high performance in the form of the blocks numbered one, two and three. The first component explains most (86 per cent) of the association. Figure 7.2 shows that, in terms of component one, low performance is closely associated with no modes (1), intrapreneurial (4) and participative strategy-making (5), while high performance is closest associated with simplistic, intrapreneurial and participative (15), a combination of all modes (16), intrapreneurial and participative (10), simplistic and adaptive (6), and simplistic and intrapreneurial strategy-making (7).

Figure 7.2: Correspondence analysis plot of modes of strategy-making, combinations of modes and firm performance

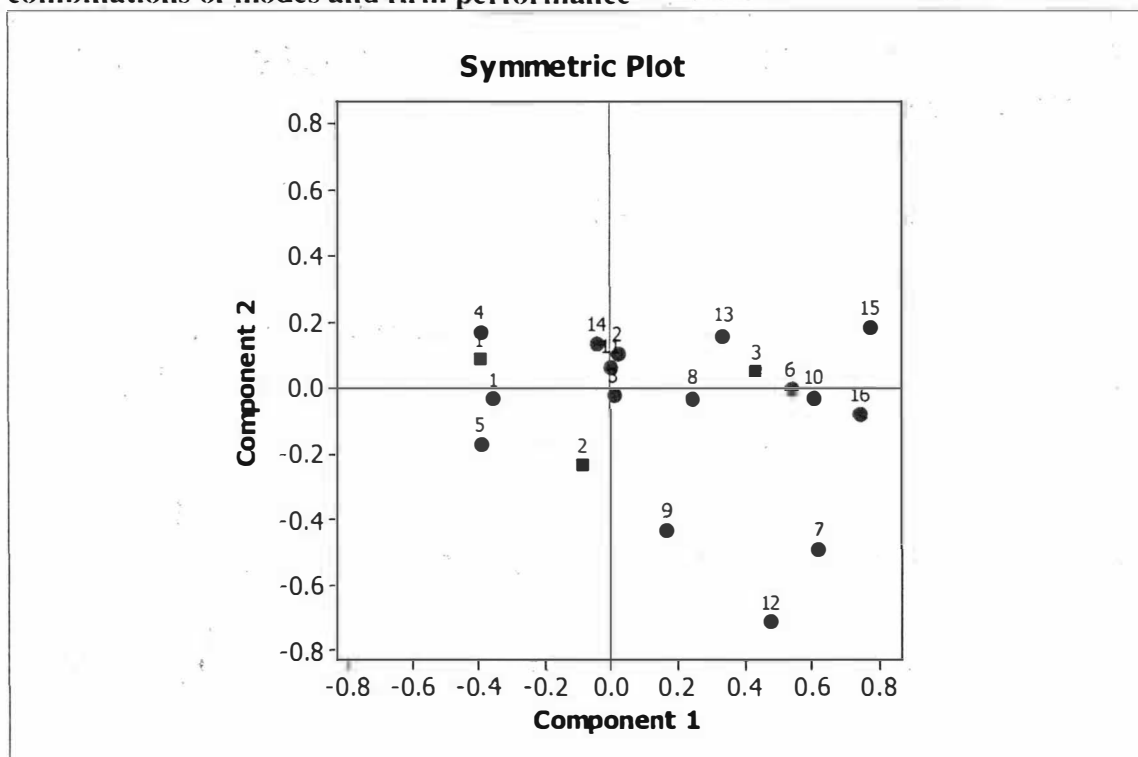


Table 7.10 shows the correlations between these combined modes of strategy-making and firm performance. Whereas only one of the four single-modes, simplistic strategy-making, correlates with firm performance, three of the six two-mode combinations, and two of the four three-mode combinations correlate strongly with performance. The use of all four modes also correlates with performance. All the combinations that correlate with firm performance include simplistic strategy-making as part of the combination. The highest correlations were simplistic and adaptive strategy-making and simplistic, adaptive and participative strategy-making. An investigation of the correlations in Table D.1 shows a high correlation ($r = 0.293$, $p < 0.01$) between the number of modes of strategy-making that a firm employs and firm performance.

Lastly, by rating the correlations in Table 7.10 it is clear that the three strongest correlations can be attributed to combination modes, followed by simplistic strategy-making and then again four combination modes. It can therefore be concluded that *Proposition 2d* can be *accepted*.

OBJECTIVE 3: TO INVESTIGATE HOW A SELECTION OF CONTEXTUAL FACTORS AFFECT THE RELATIONSHIP BETWEEN THE STRATEGY-MAKING PROCESS AND FIRM PERFORMANCE

7.4 THE FIRM CONTEXT

This section investigates the relationships between strategy-making, firm performance and the context factors of this study. Propositions 3b and 3c are investigated first, followed by Propositions 3a and 3d which test for moderating influences.

7.4.1 Environment and modes of strategy-making

Proposition 3b states that environmental dynamism will be associated with the mode of strategy-making that a firm employs.

In hypothesis form this can be interpreted as saying that hostile or dynamic environments will be related to the adaptive or intrapreneurial modes of strategy-making. The relationship between a firm's environment and the modes of strategy-making was examined using Pearson's correlations (Table 7.12).

Table 7.12: Pearson's correlations for environment and modes of strategy-making

Modes of strategy-making	Hostility	p-value	Dynamism	p-value
Adaptive & Intrapreneurial SM	0.304(**)	0.01	0.161(**)	0.01
Participative & Adaptive & Intrapreneurial SM	0.284(**)	0.01	0.137(**)	0.01
Intrapreneurial SM	0.257(**)	0.01	0.159(**)	0.01
Participative & Intrapreneurial SM	0.244(**)	0.01	0.125(**)	0.01
Adaptive & Participative SM	0.244(**)	0.01	0.097(*)	0.05
Adaptive SM	0.242(**)	0.01	0.107(*)	0.05
Simplistic & Adaptive & Intrapreneurial SM	0.233(**)	0.01	0.113(*)	0.05
All SM modes	0.229(**)	0.01	0.102(*)	0.05
Simplistic & Participative & Intrapreneurial SM	0.176(**)	0.01	0.079	
Simplistic & Adaptive & Participative SM	0.174(**)	0.01	0.056	
Participative SM	0.167(**)	0.01	0.052	
Simplistic & Intrapreneurial SM	0.158(**)	0.01	0.084	
Simplistic & Adaptive SM	0.149(**)	0.01	0.049	
Simplistic & Participative SM	0.075		0.002	
Simplistic SM	-0.049		-0.054	

Four, all of which include intrapreneurial elements, significant but rather weak (less than $r < 0.2$) relationships are found between a dynamic environment and the intrapreneurial mode of strategy-making and combinations that include the intrapreneurial mode of strategy-making. A hostile environment was significantly correlated with several of the mode factors but the correlation only exceeded 0.3 for the adaptive and intrapreneurial mode combination of strategy-making.

An investigation of the correlations between firm environment and mode of strategy-making for high and low performing firms does, however, render interesting results (see Tables D.2 and D.3). In high performing firms, hostility and intrapreneurial strategy-making is correlated significantly ($r = 0.297$, $p \leq 0.01$) while in low performing firms hostility was correlated significantly ($r = 0.316$, $p \leq 0.01$) with adaptive strategy-making. Investigation of the mode combinations did not add anything new to these results. It can therefore be concluded that *Proposition 3b* can be *supported partially* and that hostile environments are related to the adaptive and intrapreneurial mode of strategy-making.

7.4.2 Industry and modes of strategy-making

Proposition 3c states that industry factors, namely the stage of industry life cycle and industry sector, will influence the mode of strategy-making that a firm uses.

The influence of industry life cycle and industry category on the mode of strategy-making was investigated with the help of a two-way MANOVA with interaction, ANOVAs and a *post hoc* Scheffe tests. The Wilks Lambda test was used to determine the MANOVA in this thesis. The two-way MANOVA with interaction between industry life cycle and industry category on modes of strategy-making showed no significant results, suggesting that an independent ANOVA analysis of the industry life cycle and industry category main effects was appropriate.

Next the stage of industry life cycle was explored. MANOVA indicates the overall significance of the difference between groups, and ideally ANOVA testing should not be undertaken when the MANOVA is not significant. At $F = 1243.795$ ($p = 0.228$) it is

clear that ANOVAs using life cycle stage as the dependent variable should not be undertaken. The stage of *industry life cycle* does therefore not influence the mode of strategy-making and the first part of *Proposition 3c cannot be supported*.

The second part of *Proposition 3c* looks at the relationship between mode of strategy-making and industry sector. The MANOVA for industry sector and modes of strategy-making is significant. In this case, the collapsed industry categories were used, namely manufacturing and production, services, construction and property services, and retail and wholesale.

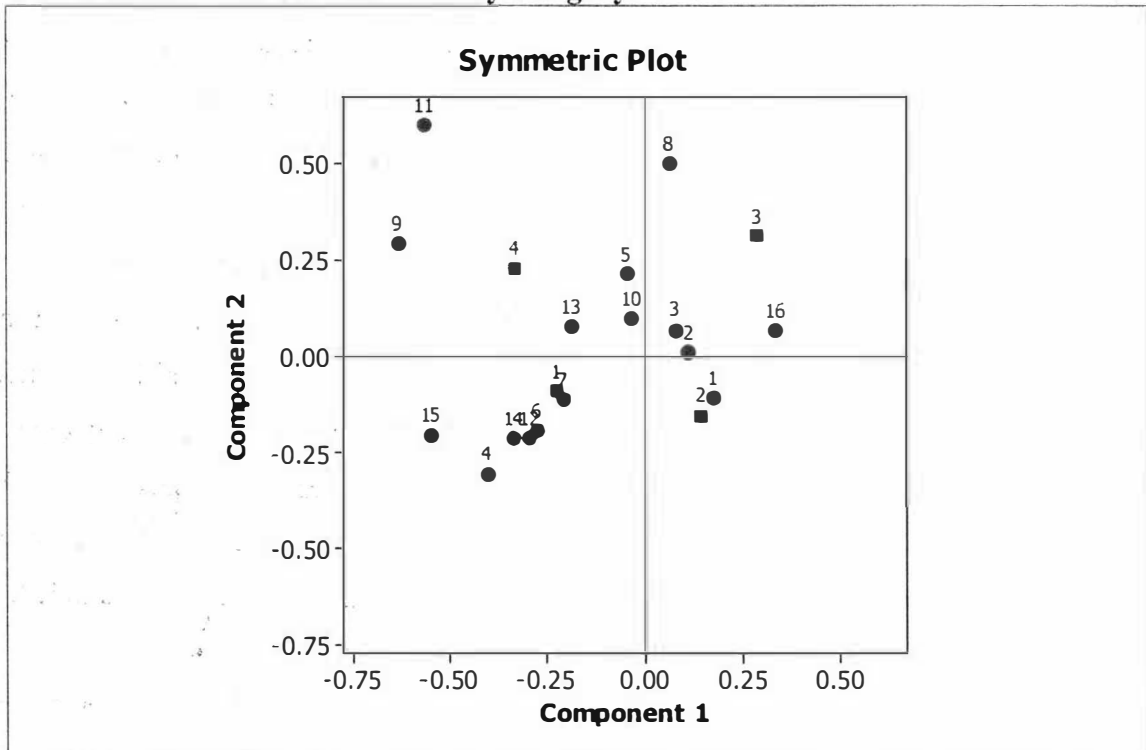
Table 7.13: ANOVA for industry type with mode of strategy-making (MANOVA: $F = 0.995$, $p = 0.041$)

Modes of strategy-making	Scheffe test means for industry type				F (3, 473)	Sig.
	Service	Manufacturing	Construction	Retail/Wholesale		
Participative	3.77	(A) 3.62	3.75	(B) 3.85	3.931	0.009
ESM & PSM	3.58	(A) 3.42	3.49	(B) 3.61	3.672	0.012
SSM & PSM	3.77	(A) 3.65	3.78	(B) 3.82	3.445	0.017
SSM & ESM	(B) 3.58	(A) 3.45	3.52	(B) 3.58	2.732	0.043
ASM & ESM & PSM	3.55	(A) 3.44	3.46	(B) 3.62	2.959	0.032
SSM & ESM & PSM	3.65	(A) 3.51	3.60	(B) 3.67	3.692	0.012
All	3.61	(A) 3.50	3.55	(B) 3.66	2.945	0.033
Intrapreneurial					2.543	0.056
ASM & PSM					2.432	0.064
ASM & ESM					2.311	0.076
SSM & ASM & PSM					2.401	0.067
SSM & ASM & ESM					2.218	0.085
Simplistic					1.474	0.221
Adaptive					1.470	0.222
SSM & ASM					1.208	0.306

(A) denotes lowest mean
(B) denotes highest mean

Significant differences were observed for seven different modes, and combinations of modes. These are indicated in Table 7.13. A *post hoc* Scheffe test was undertaken to explore the nature of these differences. The results from the Scheffe test is also summarised in Table 7.13. In every case, manufacturing firms are less intense users of the modes of strategy-making, while retail and wholesale firm are more intense users of strategy-making modes.

Figure 7.3: Correspondence analysis plot of modes of strategy-making, combinations of modes and industry category



Correspondence analysis was also conducted to explore the relationship between industry category and modes of strategy-making. Component one explained 50 per cent of the variance, and component two 35 per cent. Inspection of Figure 7.13 suggests that the construction category [3] relates most to simplistic and participative (8) and all modes of strategy-making (16); the manufacturing sector [2] relates most to no modes of strategy-making (1); and the retail/wholesale sector [4] relates most to adaptive and intrapreneurial (11) and adaptive and participative strategy-making (9). The service category [1] relates most to simplistic, intrapreneurial and participative (15), adaptive and participative (9), and intrapreneurial strategy-making (4).

It can therefore be concluded that the second part of *Proposition 3c*, namely that *industry type* will be related to the mode of strategy-making, can be supported.

7.4.3 Moderating relationships

Propositions 3a and 3d state that the internal and external contextual factors of this study will moderate the relationship between mode of strategy-making and firm performance.

As noted previously, age and size have a very skew distribution and are therefore best log-transformed before regression analysis is performed using these variables. The natural logs of age and size, the performance, EO and organicity indices, and the factor scores of strategy-making and environment were used to test for the moderating influence of the environment and firm factors identified in this study. Baron and Kenny (1986) suggest several analysis procedures for testing moderational hypotheses, depending on the nature of the variables, that is, categorical or continuous. If both the moderator and the independent variables are continuous, as is the case in this instance, moderated regression analysis (MRA) can be used for this purpose. As with any type of MRA, observations must be independent of each other, the dependent variable must be normally distributed across the independent variable and their relationship must be linear. These requirements were investigated in Chapter Six and found to be satisfied.

Moderation suggests that the relationship between two variables is dependent on a third variable. MRA provides a means of examining the magnitude and direction of the relationship between the dependent, independent and moderating variables (Hair et al., 1998). Firm performance was used as the dependent variable (Y). The mode of strategy-making was the independent variable (X) and was entered into the regression equation first, followed by the contextual variable (Z), and then the moderating variable (XZ) which was created by multiplying each mode of strategy-making and each contextual variable separately. Stepwise regression was used initially to exclude coefficients that were not significant (Page & Meyer, 2000).

Tables H.1, H.2, H.3 and H.4 present the results of the MRA. Table 7.14 summarises the significant results from the MRA. It is clear that the only significant results occur in the case of simplistic strategy-making and firm performance as moderated by either EO or organicity. The other moderating variables were all removed by stepwise regression because their coefficients were not significant at the five per cent level. The interaction term for EO is negative (-0.749) which means that the simplistic mode of strategy-making will have a greater effect on firm performance in firms with a low EO. The interaction term for organicity is positive (0.293). This means that simplistic strategy-making will contribute more positively to performance in a firm with an organic organisational structure than one with a mechanistic structure. Because equation two

from the moderator EO (Z) MRA is also significantly different from equation one below, EO is called a quasi moderator between simplistic strategy-making and firm performance (Y). Equation two from the organicity MRA is not significantly different from equation one, and therefore an organic organisational structure (Z = organicity) is a pure moderator of the relationship between simplistic strategy-making and firm performance.

Table 7.14: Summary of the significant results from the stepwise regression

Equation	Variables included	Cumulative R ²	Standardised regression coefficient (Beta)	F change for individual variables	Sign of F change
1	Simplistic	0.098	0.314	51.861	0.000
2	Simplistic EO	0.112	0.311 0.116	7.228	0.007
3	Simplistic EO Simplistic x EO	0.120	0.690 0.748 -0.749	4.463	0.035
1	Simplistic	0.098	0.314	51.861	0.000
2	Simplistic Organicity		0.326 0.086		
3	Simplistic Organicity Simplistic x Organicity	0.106	0.160 -0.178 0.293	4.208	0.041

The multiple correlation coefficient ($R = 0.314$) for both the EO MRA and the organicity MRA indicates the strength of association between firm performance and the combined predictor values. The coefficients of determination are obtained by squaring this number. The coefficient of determination ($R^2 = 9.8$ per cent) for both the EO MRA and the organicity MRA for the sample is an indicator of the percentage variance of firm performance that can be explained by the linear relationship with the independent variables and interaction effect. The minimum R^2 that can be found statistically significant with a power of 0.80, a significance level of 0.01 and $n = 477$, is three per cent (Hair et al., 1998). The results exceeded this for both EO and organicity. Furthermore, this value increases when EO and the moderator are added to the equation to 12 per cent and to 10.6 per cent when the moderator simplistic strategy-making and organicity is added to that equation.

Table 7.15 summarises the results from the calculations for the significance of the differences in the R^2 values for the different equations. This calculation is as follows for equations (a) and (b):

$$F_{df_a, df_b} = \frac{(SSE_a - SSE_b)/(df_a - df_b)}{MSE_b}$$

Where df_b = degrees of freedom for MSE in model b
 SSE = sums of squares of errors
 MSE = SSE/df

Table 7.15: Critical values for the significant results from the MRA

Row [moderators] dimensions	F values		
	1 v 2	1 v 3	2 v 3
EO	7.23	5.87	4.46
Critical value (95 per cent)	3.8612	3.0168	3.8612
Critical value (99 per cent)	6.6886	4.6503	6.6886
Organicity	3.859	5.78	0.624
Dfa, dfb	1, 475	2, 474	1, 475

A significant F-value ($p \leq 0.01$) for any model indicates that R^2 is significantly different from zero which indicates a significant linear relationship between firm performance and the predictor variables (Foster, 2001). F-values which exceed the 95 per cent critical values are significant at the five per cent level and F-values which exceed the 99 per cent critical values are significant at the one per cent level, indicating a significant improvement in the R^2 for the respective equations. Table 7.15 indicates that the change in R^2 for all three equations containing the quasi moderator EO was significant at the 95 per cent level, but that the change from equation two to three was not significant at the 99 per cent level. The change in R^2 for the pure moderator organicity was only significant from equation one to three at the 95 and 99 per cent level. This confirms that EO is a quasi moderator and that organicity is a pure moderator.

Following the method of Covin and Slevin (1988), the partial derivative of equation three with respect to simplistic strategy-making (SSM) was calculated. If this ratio, $-b1/b3$ falls within the range of either EO or organicity that was observed within the sample, it means that the impact of a simplistic mode of strategy-making on firm performance is non-monotonic. The ratio indicates the point on the EO or organicity index at which the impact of simplistic strategy-making on firm performance changes signs. The unstandardised regression coefficient is used for this purpose. For EO, this number is +69.15 and for organicity it is -154.92. The range for EO is 9 to 59 (mean 37.28), and for organicity it is 8 to 49 (mean 31.10). Since neither of these ratios fall

within their relevant range, simplistic strategy-making has a monotonic effect on performance over the ranges of EO and organicity. If the value fell within the range, it would have meant that SSM would have a positive impact on the performance with EO/organicity indices below that value and a negative impact on the performance of firms with EO/organicity indices greater than that value.

To summarise, *Proposition 3a* can therefore be *rejected*, while *two aspects* of *Proposition 3d*, namely a quasi moderator effect of EO on the simplistic strategy-making – firm performance relationship, and a pure moderator effect of organicity on the strategy-making – firm performance relationship are *supported*.

OBJECTIVE 4: TO COMPARE THE STRATEGY-MAKING PROCESSES OF FIRMS OF DIFFERENT SIZES, AGE, STRUCTURES AND LEVELS OF EO

7.5 STRATEGY-MAKING IN DIFFERENT TYPES OF SMEs

The preceding sections investigate the strategy-making behaviour of a cross section of SMEs but it is possible that strategy-making may be different depending on the type of firm. That possibility is explored in this section. All four sub-propositions of Proposition Four were investigated by using Pearson correlations, cross-tabulations, and ANOVA. But before any of these tests were undertaken a four-way MANOVA with second order interactions (Table 7.16) was undertaken to investigate if these tests would render significant results. The result of the MANOVA indicates that only the differences in EO and organicity will be significant. Interaction effects can be ignored because they are insignificant.

Table 7.16: Four-way MANOVA (Wilks Lambda) for interactions between EO, organicity, age and size

Effect	F value	Significance
Size * EO	1.144	0.296
Size * Age	1.022	0.424
EO * Age	0.810	0.704
Size categories	1.195	0.249
EO categories	7.137	0.000
Age categories	0.849	0.654
Size * Organicity	0.802	0.714
EO * Organicity	0.399	0.810
Age * Organicity	0.963	0.505
Organicity categories	7.736	0.000

7.5.1 Entrepreneurial orientation

Proposition 4a investigates the influence of EO on the mode of strategy-making of a firm, in other words, it explores the possibility that entrepreneurial and non-entrepreneurial firms may make strategy differently.

The concept of entrepreneurial and non-entrepreneurial firms has already been explored previously in this thesis. First, the correlations matrices in Table 7.17 are investigated for the correlations between modes of strategy-making and EO with the intention to ascertain if entrepreneurial and non-entrepreneurial firms potentially make strategy differently.

Intrapreneurial strategy-making, adaptive strategy-making, and participative strategy-making show significant relationships with EO, while simplistic strategy-making does not. The relationships for the first two modes are strong. The same two relationships are weaker in high performance firms (Table D.2) and stronger in low performance firms (Table D.3).

Table 7.17 also shows the correlations for EO with the combinations of modes. All of these modes show a significant relationship with EO, except for the simplistic and participative strategy-making mode combination. All two-mode combinations which include simplistic strategy-making also exhibited weak ($r < 0.3$) correlations despite the significance of these correlations.

Table 7.17: Pearson's correlations for modes of strategy-making and EO

Modes of strategy-making	Pearson's coefficient	correlation	Significance value)	(p-value)
Adaptive & Intrapreneurial SM		0.458(**)		0.01
Participative & Adaptive & Intrapreneurial SM		0.428(**)		0.01
Intrapreneurial SM		0.387(**)		0.01
Simplistic & Adaptive & Intrapreneurial SM		0.387(**)		0.01
All SM modes		0.374(**)		0.01
Adaptive & Participative SM		0.370(**)		0.01
Participative & Intrapreneurial SM		0.369(**)		0.01
Adaptive SM		0.366(**)		0.01
Simplistic & Adaptive & Participative SM		0.300(**)		0.01
Simplistic & Participative & Intrapreneurial SM		0.303(**)		0.01
Simplistic & Intrapreneurial SM		0.292(**)		0.01
Simplistic & Adaptive SM		0.276(**)		0.01
Participative SM		0.254(**)		0.01
Simplistic & Participative SM		0.168(**)		0.01
Simplistic SM		0.021		

Next a cross tabulation of entrepreneurial and non-entrepreneurial firms with modes of strategy-making was undertaken. Again, firms with scores above the mean of the EO

index were called entrepreneurial (high EO) and those with scores below the mean non-entrepreneurial (low EO). The results (Table G.3) had a significant chi-square and once again show that modes that include simplistic strategy-making are less likely to occur in entrepreneurial firms. This effect is strengthened by the inclusion of the participative strategy-making mode in a combination mode.

Table 7.18: ANOVA for EO and modes of strategy-making (MANOVA: $F = 18.885$, $p \leq 0.01$)

Modes of strategy-making	Low EO	High EO	F (1, 475)	Sig.
Simplistic			0.626	0.429
Adaptive	3.3108	3.6722	32.623	0.000
Intrapreneurial	3.0633	3.5056	60.711	0.000
Participative	3.5932	3.8371	22.886	0.000
SSM x ASM	3.5207	3.7203	20.319	0.000
SSM x ISM	3.3969	3.6370	35.513	0.000
SSM x PSM	3.6619	3.8028	11.255	0.001
ASM x ISM	3.1871	3.5889	69.620	0.000
ASM x PSM	3.4520	3.7547	39.092	0.000
ISM x PSM	3.3283	3.6713	53.293	0.000
SSM x ASM x ISM	3.3682	3.6487	50.246	0.000
SSM x ASM x PSM	3.5449	3.7593	26.907	0.000
ASM x ISM x PSM	3.3225	3.6716	62.142	0.000
SSM x ISM x PSM	3.4624	3.7037	36.753	0.000
All	3.4245	3.6958	47.824	0.000

An ANOVA (Table 7.18) was also conducted. All of the results for this test were significant, except for simplistic strategy-making. A comparison of the means for each mode of strategy-making supports the results from the Pearson's correlations and cross-tabulation. The differences between means are particularly high for intrapreneurial strategy-making and combinations of modes that include intrapreneurial strategy-making but not simplistic strategy-making.

It can therefore be concluded that *Proposition 4a* is supported strongly, and that entrepreneurial firms are likely to employ the intrapreneurial mode of strategy-making.

7.5.2 Size

Proposition 4b suggests that smaller firms will employ different types of strategy-making processes to larger firms.

First, the correlations matrices in Tables D.1, D.2, D.3 and D.4 were investigated. None of these results are significant. Next the cross-tabulation was explored. The chi-square for the cross-tabulation is also non-significant (Table G.4, chi-squared = 83.854, $p = 0.227$)

Next the MANOVA and ANOVA for size and levels for modes of strategy-making were conducted. The MANOVA is significant ($F = 1.641$, $p = 0.037$) which indicates that the ANOVA can be conducted. None of the F-values from the ANOVA is, however, significant (Table G.5) as expected from the four-way MANOVA.

Proposition 4b, which indicates that firms of different sizes will employ different modes of strategy-making, can therefore be *rejected*.

7.5.3 Age

Proposition 4c explores whether younger and older firms employ different modes of strategy-making.

First, the correlations matrices in Table D.1, D.2, D.3 and D.4 were investigated. None of the results are significant, which means that age and mode of strategy-making are not correlated. Next the cross-tabulation for age and modes of strategy-making was explored. The chi-square of this test is also not significant (Chi-squared = 89.08, $p = 0.127$, Table G.6) as expected from the four-way MANOVA.

Next the MANOVA and ANOVA were undertaken. The F-value from the MANOVA indicated that the ANOVA should not be conducted (MANOVA: $F = 1.253$, $p = 0.201$). The only interesting result is intrapreneurial strategy-making, but at 0.043 it cannot be viewed as significant (Table G.7). The Scheffe test indicates that older firms (20 years and older) are less likely to employ this mode, while the chance that intrapreneurial strategy-making is employed increases as age decreases. Note that this is just mentioned for interest sake.

It can therefore be concluded that age will not influence the mode of strategy-making that a firm uses and that *Proposition 4c* can be rejected.

7.5.4 Organisational structure

Proposition 4d studies the differences in strategy-making process between firms with organic and firms with mechanistic organisational structures.

First, the correlations matrices in Tables D.1, D.2, D.3 and D.4 were investigated. The results show that intrapreneurial strategy-making and an organic organisations structure are strongly correlated ($r = 0.323$, $p \leq 0.01$). This result is similar for high and low performing firms. Only one combination of modes, namely participative and intrapreneurial strategy-making ($r = 0.307$, $p \leq 0.01$) shows a significant result.

Table 7.19: ANOVA for structure and modes of strategy-making (MANOVA: $F = 15.374$, $p \leq 0.01$)

	Low organicity	High organicity	F (1, 475)	Sig.
Simplistic	3.8041	3.6906	5.670	0.018
Adaptive	3.4167	3.5750	5.921	0.015
Intrapreneurial	3.1048	3.4818	42.545	0.000
Participative	3.6290	3.8100	12.326	0.000
SSM & ASM	3.6104	3.6328	0.244	0.621
SSM & ISM	3.4545	3.5862	10.140	0.002
SSM & PSM	3.7166	3.7503	0.630	0.428
ASM & ISM	3.2608	3.5284	28.508	0.000
ASM & PSM	3.5228	3.6925	11.612	0.001
ISM & PSM	3.3669	3.6459	33.901	0.000
SSM & ASM & ISM	3.4419	3.5824	11.672	0.001
SSM & ASM & PSM	3.6166	3.6919	3.153	0.076
ASM & ISM & PSM	3.3835	3.6223	27.120	0.000
SSM & ISM & PSM	3.5127	3.6608	13.190	0.000
All	3.4887	3.6393	13.765	0.000

A cross-tabulation for structure and modes of strategy-making was conducted. The results were significant (Chi-squared = 47.027, $p \leq 0.01$). The results (Table G.8) show that simplistic strategy-making occurs in mechanistic firms, while the other three modes occur in organic firms. This result is repeated for combinations of modes.

MANOVA and ANOVA were also conducted. The results from the MANOVA are significant and ten of the 15 ANOVAs were significant (Table 7.19). An investigation of the means of each mode of strategy-making for low and high organicity supports the results from the cross-tabulation. The largest difference in means is for intrapreneurial strategy-making and intrapreneurial and participative strategy-making, which supports the results from the correlations.

Proposition 4d can therefore be *accepted*, and moderate support is also found for participative strategy-making in organic firms. Furthermore, simplistic strategy-making seems to occur in firms with mechanistic organisational structures.

OBJECTIVE 5: TO INVESTIGATE HOW A SELECTION OF BUSINESS STRATEGIES (CONTENT VARIABLES) AFFECT THE RELATIONSHIP BETWEEN STRATEGY-MAKING PROCESSES AND FIRM PERFORMANCE.

7.6 STRATEGY TYPOLOGIES

This first part of this section investigates whether the use of certain strategies strengthens the relationship between strategy-making and firm performance and therefore mediates the relationship.

This is done in order to answer *Proposition 5a* which states that the mode of strategy-making that a firm employs will influence the choice of business strategy which will influence firm performance.

Correlations were used to explore this proposition initially, but causal modelling (following Miller et al., 1988) in AMOS was the main statistical procedure used to investigate Proposition 5a.

Table 7.20: Pearson’s correlations for modes of strategy-making and business strategy

Modes of strategy-making	Business strategy	Differentia- tion	p-value	Breadth (Focus)	p-value
Adaptive & Intrapreneurial SM		0.478	0.01	-0.292	0.01
Participative & Intrapreneurial SM		0.356	0.01	-0.207	0.01
Simplistic & Participative & Intrapreneurial SM		0.312	0.01	-0.180	0.01
Simplistic & Adaptive & Intrapreneurial SM		0.422	0.01	-0.255	0.01
Participative & Adaptive & Intrapreneurial SM		0.447	0.01	-0.268	0.01
All SM modes		0.404	0.01	-0.240	0.01
Simplistic & Adaptive & Participative SM		0.354	0.01	-0.210	0.01
Simplistic & Adaptive SM		0.345	0.01	-0.211	0.01
Simplistic & Intrapreneurial SM		0.296	0.01	-0.174	0.01
Simplistic & Participative SM		0.203	0.01	-0.112	0.05
Adaptive & Participative SM		0.415	0.01	-0.249	0.01
Simplistic SM		0.069		-0.036	
Adaptive SM		0.427	0.01	-0.265	0.01
Intrapreneurial SM		0.355	0.01	-0.212	0.01
Participative SM		0.267	0.01	-0.149	0.01

Firstly, the correlation coefficients in Table 7.20 are explored. This table indicates that significant relationships exist between strategy-making and differentiation especially in the case of adaptive and intrapreneurial strategy-making. Significant, but weaker, relationships also exist between strategy-making and focus strategies. Differentiation was also significantly correlated with firm performance ($r = 0.367$, $p < 0.01$), but the correlation between performance and focus strategies was not significant ($r = 0.055$).

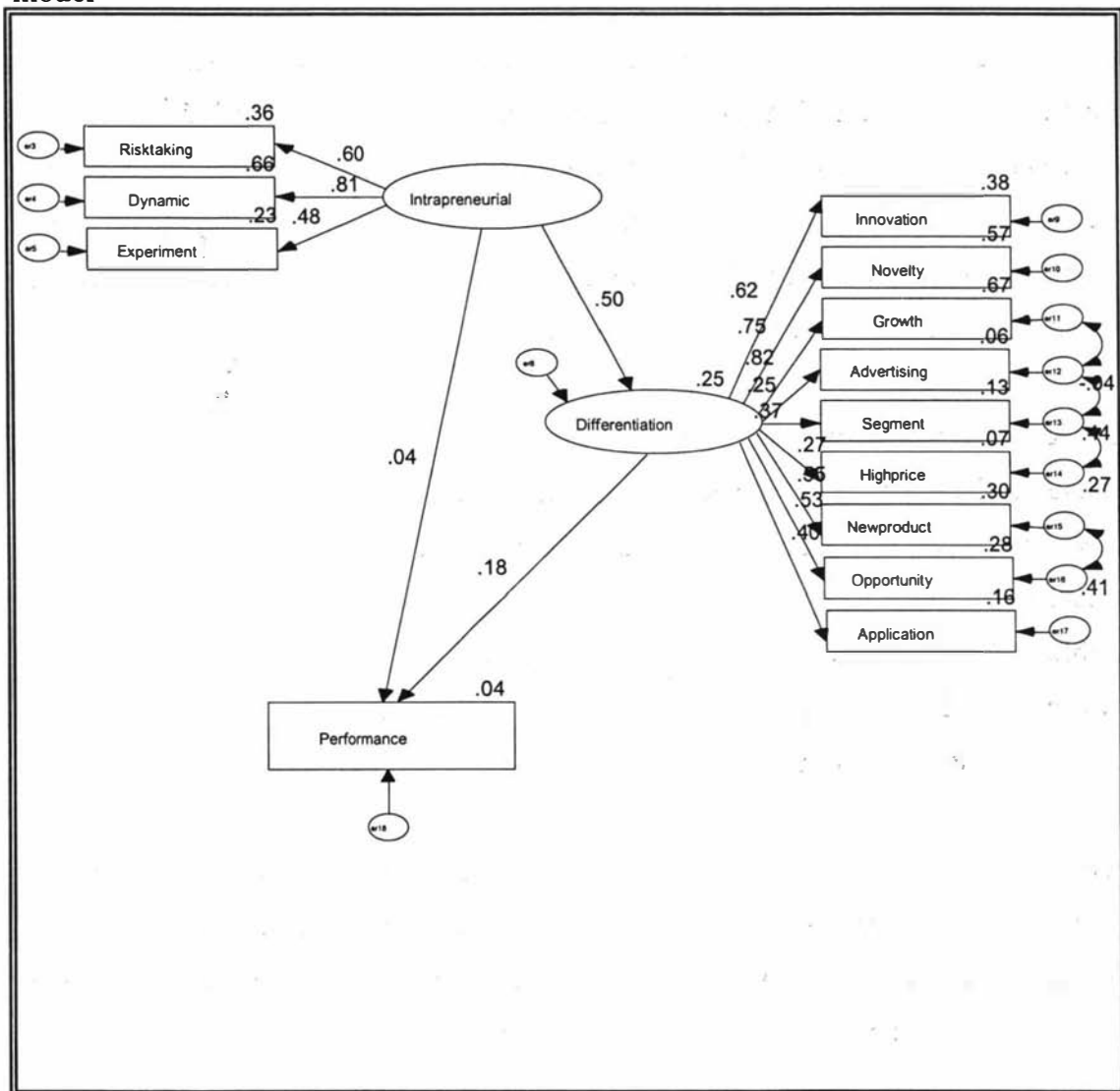
Baron and Kenny (1986) suggest a series of regression (or SEM) models to test for mediation. The first equation should regress the mediator on the independent variable; the second should regress the dependent variable on the independent variable; and the third should regress the dependent variable on both the independent variable and the mediator. To establish mediation, three conditions should be satisfied, namely the independent variable must affect the mediator in equation one; the independent variable must affect the dependent variable in equation two; and the mediator must affect the dependent variable in equation three. If all of this occurs, the effect of the independent variable on the dependent variable must be less in equation three than equation two. Perfect mediation exists if the independent variable has no effect on the dependent variable when the mediator is controlled (Baron & Kenny, 1986). The independent variable and the mediator should be correlated, but it is possible for the coefficient between the independent and dependent variables to be smaller without the mediator than with it, but that only the first coefficient is significant and not the second.

In order to test for mediating effects causal models for strategy types were constructed in the second instance. A similar procedure to that described in Section 7.3.1 was followed. The factors that represent the modes of strategy-making were taken from the Realised Model. The differentiation and focus strategies were taken from the strategy model (Figure G.6) and the performance index was used to represent the dependent variable 'performance'. The goodness-of-fit statistics for all the mediating models are contained in Table 7.21. The results for all eight models were good, with RMSEA values ranging between 0.037 and 0.07.

However, only one model (Figure 7.4) showed the possibility of containing a mediating relationship. Following Baron and Kenny's (1986) outline, the relationship between intrapreneurial strategy-making and firm-performance, as mediated by differentiation

strategy are measured against the three conditions that should be satisfied. These conditions are satisfied since intrapreneurial strategy-making is correlated with both differentiation and firm performance, even though the latter correlation is weak. Differentiation is also correlated with firm performance.

Figure 7.4: Intrapreneurial strategy-making – differentiation – performance model



Next, in order to calculate the mediating effect of a strategy on the strategy-making and firm performance from a SEM causal model, the standardised estimate on the path between the mode of strategy-making and the strategy is multiplied by the standardised estimate on the path between the strategy and firm performance. The resulting value is then compared to the standardised estimate on the path between the mode of strategy-making and firm performance. For the only model (Figure 7.4) in which a significant

Table 7.21: AMOS results for the Strategy-making – strategy – performance causal models

Model	χ^2/DF	P	ECVI	PCLOSE	RMSEA	NFI	CFI	PNFI	PGFI	GFI
Ideal value	Below 5	0.05	None		Below 0.8	Above 0.90	Above 0.90	0.06 – 0.09	Close to 1.0	Above 0.90
Participative-differentiation-performance	2.42	0.000	1.027	0.129	0.055	0.860	0.912	0.742	0.717	0.918
Participative-focus-performance	2.03	0.000	0.445	0.698	0.046	0.908	0.951	0.749	0.679	0.951
Simplistic-differentiation-performance	2.52	0.000	0.767	0.090	0.057	0.852	0.904	0.708	0.689	0.933
Simplistic-focus-performance	2.14	0.000	0.290	0.525	0.049	0.891	0.938	0.680	0.615	0.966
Adaptive-differentiation-performance	3.33	0.000	0.547	0.001	0.070	0.876	0.909	0.663	0.607	0.937
Adaptive-focus-performance	1.66	0.069	0.109	0.746	0.037	0.958	0.982	0.547	0.424	0.988
Intrapreneurial-differentiation-performance	3.19	0.000	0.530	0.004	0.068	0.883	0.915	0.668	0.611	0.942
Intrapreneurial-focus-performance	1.48	0.123	0.105	0.828	0.032	0.963	0.987	0.550	0.424	0.990

mediating factor exist, this calculation was as follows: $0.50 \times 0.18 = 0.09$ which is greater than 0.04, which means that a differentiation strategy mediates the relationship between intrapreneurial strategy-making and firm performance. This finding is supported by the critical ratios for the intrapreneurial strategy-making – differentiation – firm performance path which are both well above 1.96 (Table E.11) while the critical ratio for intrapreneurial strategy-making – firm performance path is 0.6 and therefore not significant. The latter result means that perfect mediation exists in this case (Baron & Kenny, 1986).

Since only one mediating relationship was found, it was decided to explore the data further for moderating relationships. The same method that was explained in Section 7.4.3 was followed. Once again firm performance was used as the dependent variable. The mode of strategy-making was the independent variable and was entered into the regression equation first, followed by the business strategy variable (differentiation or focus), and then the moderating variable (or interaction effect) which was created by multiplying each mode of strategy-making and each contextual variable separately. Stepwise regression was used initially to exclude coefficients that were not significant.

Investigation of the moderating nature of the strategies (differentiation and focus), delivered a few more positive results. Table H.5 presents the results of the moderated regression analysis (MRA). Table 7.22 summarises the significant results from the MRA. It is clear that there are only significant results in the case of simplistic strategy-making and firm performance as moderated by differentiation, and participative strategy-making and firm performance as moderated by differentiation. The other regression equation variables were all removed by stepwise regression because their t-value suggested insignificant coefficients for the moderating variables at a five per cent significance level. The significant coefficient for the interaction term for participative strategy-making and differentiation is negative (-0.101), as is the result for simplistic and differentiation (-0.821). This means that both simplistic and participative strategy-making will have a greater effect on firm performance in firms that do not use differentiation strategies. Because equation 2 from the simplistic - differentiation MRA is also significantly different from equation 1, differentiation is a quasi moderator between simplistic strategy-making and firm performance. Equation 2 from the participation - differentiation MRA is not significantly different from equation 1, and

therefore differentiation is a pure moderator of the relationship between participative strategy-making and firm performance (Covin & Slevin, 1988).

Table 7.22: Summary of the significant results from the stepwise regression

Equation	Variables included	Cumulative R ²	Standardised regression coefficient	F change for individual variables	Sign of F change
1	Participation	0.065	0.258	33.886	0.000
2	Participation Differentiation		0.223 0.118		
3	Participation Differentiation Participation x Differentiation	0.073	0.276 0.191 -0.101	5.268	0.022
1	Simplistic	0.097	0.314	51.861	0.000
2	Simplistic Differentiation	0.119	0.303 0.157	13.239	0.000
3	Simplistic Differentiation Simplistic x Differentiation	0.127	0.751 0.807 -0.821	5.237	0.023

The multiple correlation coefficient ($R = 0.258$) indicates the strength of association between firm performance and the combined predictor values participation and differentiation. R is 0.314 for simplistic strategy-making and differentiation and therefore stronger than the first relationship. The coefficient of determination for the sample is an indicator of the percentage of the variation in firm performance that can be explained by the linear relationship with the independent variables and interaction effect. The minimum R^2 that can be found statistically significant with a power of 0.80, a significance level of 0.01 and $n = 477$, is three per cent (Hair et al., 1998). The coefficient of determination increases from 6.7 per cent to 7.7 per cent when the moderator is added to the participation – differentiation relationship and from 9.8 per cent to 13.3 per cent when it is added to the simplistic – differentiation relationship.

Table 7.23 summarises the results from the calculations for the significance of the differences in the R^2 values for the different equations. The same calculation showed in Section 7.4.3 is used for this purpose.

Table 7.23: Summary of the significant results from the MRA

Row [moderators] dimensions and firm performance	F values		
	1 v 2	1 v 3	2 v 3
Participation	6.687	3.387	0.099
Critical value (95 per cent)	3.8612	3.0168	3.8612
Critical value (99 per cent)	6.689	4.6503	6.6886
Simplistic	13.23	9.30	2.62
Dfa, dfb	1, 475	2, 474	1, 475

The change in R^2 for participation and differentiation is significant at the 95 per cent level for all the equations except for the change from two to three. This supports the contention that differentiation is a pure moderator for the participation – firm performance relationship. A similar result was found for simplistic strategy-making and differentiation but at the 99 per cent level. This result conflicts with the result from the stepwise regression that suggested that differentiation is a quasi moderator for the simplistic – firm performance relationship. Following the method of Covin and Slevin (1988) described in Section 7.4.3 it was established that differentiation has a monotonic effect on performance in both cases.

In summary, only *partial support* is therefore found for *Proposition 5a*. Specifically, it was found that differentiations strategies mediate the intrapreneurial strategy-making – firm performance relationship, while differentiation strategies moderate both the participative strategy-making – firm performance and simplistic strategy-making – firm performance relationships.

OBJECTIVE 6: TO ESTABLISH THE DIRECT RELATIONSHIP THAT SOME OF THE CONTEXT AND CONTENT (BUSINESS STRATEGY) FACTORS MAY HAVE WITH FIRM PERFORMANCE

7.7 EO AND FIRM PERFORMANCE

Proposition 6a states that entrepreneurial firms will outperform non-entrepreneurial firms.

Pearson's correlations and ANOVA are used for this purpose. Firstly, the correlation coefficient of EO and firm performance was investigated. This information is contained in Table D.1 and shows that these two variables are not strongly correlated ($r = 0.123$, $p \leq 0.01$). Next, ANOVAs for EO and firm performance were conducted (Table 7.24). The ANOVA was conducted with both EO and firm performance as the dependent factors. When the ANOVA was conducted to establish if entrepreneurial or non-entrepreneurial firms perform better, it was found to be significant. The means indicate that entrepreneurial firms performed significantly better than non-entrepreneurial firms. The ANOVA that investigated if high or low performing firms have different levels of EO was not significant. This result indicates that EO causes performance and not the other way around.

Table 7.24: ANOVA for EO and firm performance

	df	F	p-value		N	Means
EO groups	1	5.021	0.026	Below 37	237	135.9536
				Above 38	240	143.8458
Performance groups	2	2.442	0.088	0-130	182	36.5659
				130-150	109	36.5780
				150 above	186	38.3925

Proposition 6a is therefore *supported* and it can be stated that an entrepreneurial organisational culture will lead to higher firm performance.

7.8 THE FIRM CONTEXT AND STRATEGIES

Proposition 6b investigates the relationships between a variety of contextual factors (size, age, EO, organicity, industry life cycle, industry sector, environmental uncertainty) and differentiation and focus strategies.

Correlations and ANOVA were used to test Proposition 6b. The correlations between differentiation and focus strategies and the context factors of this study were first explored (Table 7.25). Note that a negative value for focus is in fact a negative value for 'breadth' and therefore a positive value for focus. Strong correlations between EO and both differentiation and focus strategies were found. The correlation between EO and differentiation in particular is the strongest of all correlations in this study. Both hostile and dynamic environments were found to be significantly correlated with differentiation and focus strategies. No other strong correlations were found, although significant moderate to weak correlations exist between organicity and differentiation and organicity and focus strategies.

Table 7.25: Pearson's correlations for strategy and context factors

	Differentiation	P value	Breadth (Focus)	P value
Size	0.071		-0.094(*)	0.05
EO index	0.725(**)	0.01	-0.366(**)	0.01
Organicity index	0.202(**)	0.01	-0.143(**)	0.01
Hostility	0.439(**)	0.01	-0.301(**)	0.01
Dynamism	0.301(**)	0.01	-0.497(**)	0.01
Age	-0.098(*)	0.05	-0.052	

Table 7.26: ANOVA for differentiation strategy and context factors

Context factors	DF	F	Significance (p value)	Means
Organicity	1	8.027	0.005	Low organicity High organicity
EO	1	214.882	0.000	Low EO High EO
Size	5	1.275	0.273	
Age	5	1.551	0.172	
Industry category	3	9.057	0.000	Manufacturing Service Construction Retail/wholesale
Industry life cycle	3	2.599	0.052	(A) 3.9056 (B) 4.6000

(A) denotes lowest mean
(B) denotes highest mean

Next ANOVAs and *post hoc* Scheffe tests were used to further explore the nature of the relationships. Since Tables 7.26 and 7.27 are only a summary of a number of independent tests, no MANOVA was conducted.

Table 7.27: ANOVA for focus strategy and context factors

Context factors	DF	F	Significance (p value)	Means
Organicity	1	3.368	0.067	
EO	1	48.259	0.000	High EO 4.61 Low EO 3.84
Size	5	2.917	0.013	1-5 4.44 6-10 4.49 11-20 4.08 21-30 3.96 31-50 4.40 51-99 4.03
Age	5	0.632	0.675	
Industry category	3	6.224	0.000	Manufacturing 4.2250 Service 4.3150 Construction (B) 4.5500 Retail/Wholesale (A) 3.6952
Industry life cycle	3	0.957	0.413	

(A) denotes lowest mean
(B) denotes highest mean

Several significant results were found. Differentiation strategies are influenced by organicity, EO and industry type. In terms of industry type, a Scheffe test indicates that retail and wholesale firms are most likely to employ a differentiation strategy, followed by service firms, manufacturing and construction firms. Focus strategies are significantly influenced by EO, size and industry type. In terms of size, small firms are more likely to employ a focus strategy, while in terms of industry type focus strategies are most often employed by construction, followed by manufacturing, services and retail and wholesale firms. Low entrepreneurial firms were more likely to use focus strategies, while firms with high levels of EO and/or organicity typically used differentiation strategies. Small firms ($n < 10$) were more likely to employ focus strategies.

It can therefore be concluded that small and/or non entrepreneurial firms in the construction industry are more likely to use focus strategies. Organic and/or entrepreneurial firms in the retail or wholesale industry are more likely to use differentiation strategies. These findings provide *partial support* for *Proposition 6b*.

OBJECTIVE 7: TO INVESTIGATE THE CONFIGURATIONAL RELATIONSHIPS BETWEEN THE VARIABLES OF THE STUDY

7.9 CONFIGURATIONAL RELATIONSHIPS

Proposition 7a states that it is possible to create a configurational (structural) model of strategy-making, external and internal context variables and business strategies that will predict firm performance.

SEM was used to investigate this proposition. The third approach to developing SEM models suggested by Hair et al. (1998), namely to improve an existing model through modifications, was used to test this proposition. Heck, Larsen and Marcoulides (1990) suggest that SEM is a useful tool that allows the researcher to propose and test propositions about the interrelationships among variables in a multivariate setting. Such a structural model guides the researcher to assess the relative strength of each variable that explains the desired outcome, in this case firm performance. Similarly to other multivariate techniques, such as regression analysis, the major limitation of SEM is that it is impossible to include all the possible variables that may impact on firm performance, since all plausible causes cannot possibly be entered into a single model.

Instead of including all the variables of the study in one model, similar to that proposed in Figure 4.7, the framework in Figure 4.7 was tested bit by bit throughout this chapter. The first phase in examining the framework was to determine the existence of the different factor structures through CFA. Then the various parts of the model were either supported or not supported by using a variety of univariate and multivariate statistics. In this section, all the parts of the model (propositions) that were supported in this chapter are put together in one model which is then tested using causal modelling in AMOS.

The first model included all the propositions that were supported in this chapter. This model included all four of the modes of strategy-making, differentiation, EO, organicity, the four moderator variables that were found to be significant and firm performance. Where significant correlations existed between two variables causality was not assumed and straight arrows pointing in both directions were used. Critical ratios were employed to detect and then delete paths that were not significant. This

meant that several paths that were going both ways between variables were reduced to only one path, indicating causality. Modification indices were used to determine when correlations between errors needed to be added in order to improve the goodness-of-fit statistics. Once again this technique was only employed when it made theoretical sense. In the final model only three modes of strategy-making and firm performance remained (Figure 7.5) – all the other variables were deleted through the process explained above. Table 7.28 provides a selection of goodness-of-fit statistics for three models illustrating how the fit improved as the model was simplified. Using the criteria discussed in Chapter Five, the statistics indicate a good fit for the final specification ($\chi^2/DF = 3.21$, RMSEA = 0.068, CFI and NFI close to one).

Table 7.28: A comparison of the goodness-of-fit statistics for the initial and final models of strategy-making and performance in SMEs

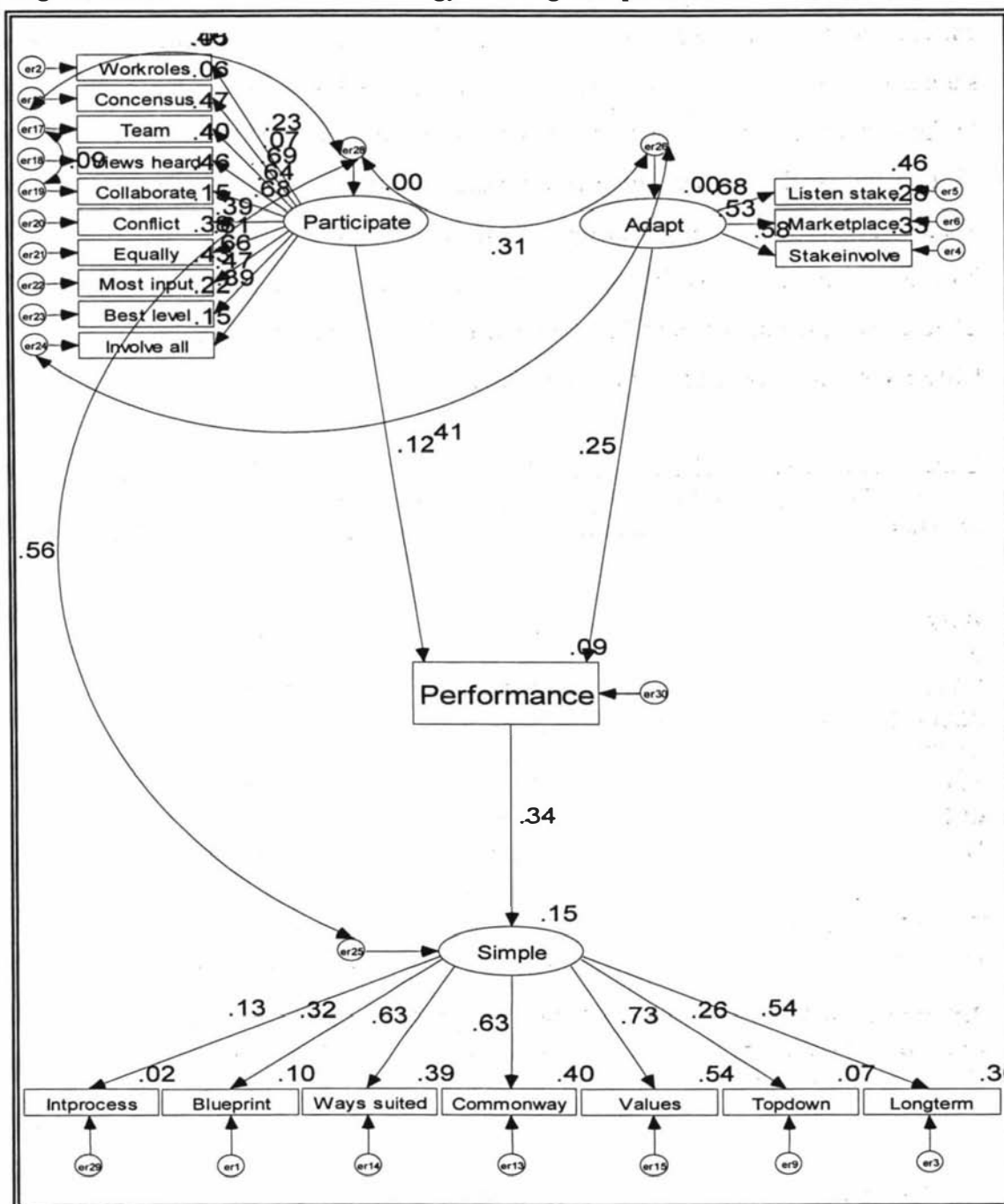
Statistics	Initial model	Middle model	Final model
χ^2	830799.565	2318.3	588.001
DF	686	538	183
χ^2/DF	1211.08	4.31	3.21
P	0.000	0.000	0.000
ECVI	1552.288	5.404	1.525
PCLOSE	0.000	0.000	0.000
RMSEA	1.504	0.083	0.068
NFI	-50.415	0.594	0.789
CFI	0.000	0.652	0.843
PNFI	-46.605	0.537	0.688

Table 7.29: Estimates for the model of strategy-making and performance in SMEs

Path	Regression weight	Standard error	Critical ratio	SWs	Variables	SMCs
Performance <--- Adaptive	15.019	3.727	4.029	.247	Adaptive	0.000
Performance <--- Participative	62.868	28.908	2.175	.116	Participative	0.000
Simplistic <--- Performance	0.006	0.001	7.048	.335	Performance	0.092
					Simplistic	0.153

Table 7.29 presents the estimates of the model of strategy-making and performance in SMEs. The standardised weights (SWs) show that adaptive strategy-making contributes more than twice as much to performance than participative strategy-making. The squared multiple correlations (SMCs) of performance indicate that 9.2 per cent of the variance of firm performance is explained by adaptive and participative strategy-making. In turn firm performance explains 15.3 per cent of the variance in simplistic strategy-making. Although Lumpkin and Dess (1995) also found a relationship between simplistic strategy-making and firm performance, they were not able to indicate the direction of this relationship.

Figure 7.5: A SEM model of strategy-making and performance in SMEs



Proposition 7a stated that it is possible to create a configurational (structural) model of strategy-making, external and internal context variables and strategy types that will predict firm performance. This proposition only found *partial support* in as much as none of the context or business strategy variables contribute significantly to the final model, and that this model is in effect more contingent in nature. However, this model is interesting in the sense that it provides a framework for the interaction between strategy-making modes and firm performance in SMEs, something that has not been

explained in much detail in the literature. This finding will be discussed in the next chapter.

Proposition 7b states that it is possible to create archetypes that empirically classify the firms of the study.

Archetypes of firms, as defined by Miller and Friesen (1977, 1978), are identified inductively using cluster analysis. Following the method suggested by Hart (1991) cluster analysis was used to categorise the respondent firms into distinctive strategy-making ‘archetypes’. A two-step cluster-analysis in SPSS was used for this purpose. Cluster analysis assigns cases to clusters in order to ensure the maximum differences on the variables. Two sets of cluster analyses were run. Initially only scores for the four single modes of strategy-making were included as input variables (Table I.1). The resulting three clusters were similar to those obtained by Hart (1991), and were termed ‘multi-mode process’, ‘impoverished process’, and ‘medium process’ - the first two clusters using Hart’s terminology. The ‘multi-mode process’ cluster had the highest means for all four modes, whilst the ‘impoverished process’ cluster had the lowest means for all four modes of strategy-making.

Table 7.30: Archetypes of New Zealand SMEs

Variables	Cluster 1 (Multi-mode process)	Cluster 2 (Medium process)	Cluster 3 (Impoverished process)
Strategy-making	High on all four modes	Medium on all four modes	Low on all four modes
Internal factors	High EO Low size (mean 21 FTEs) Low age (mean 31 years)	Low organicity	Low EO High organicity High size (mean 26 FTEs) High age (mean 37 years)
External factors	High hostility High dynamism		Low hostility Low dynamism
Industry factors	Introduction – maturity Service Retail	Growth/decline Construction Manufacturing	Mature life cycle Manufacturing Construction
Strategies	High differentiation Low focus		Low differentiation High focus
Performance	High performer	High performer	Low performer

Next the analysis was extended to include the internal, industry and external context variables; the two types of strategies; and firm performance. Once again three clusters resulted (Tables I.2, I.3 and I.4). A similar pattern to the first analysis occurred and the same names were used. Table 7.30 provides a summary of the three clusters. Cluster 1 tends to consist of firms with high levels of strategy-making and high EO, existing in a

hostile and dynamic environment and performing well. Cluster 2 exhibits medium levels of everything, except for low organicity and these firms perform almost as well as cluster one firms. Cluster 3 has low levels of strategy-making and low EO scores, uses focus strategies, and these firms tend to be old and large and performing poorly. The cluster analysis indicates that a similar pattern exists to that found in at least one previous study (Hart, 1991). It can therefore be concluded that *Proposition 7b* can be accepted.

7.10 SUMMARY

This chapter presents the findings of the empirical part of this study. Seven objectives are formulated to support the research question. Each of these seven objectives is operationalised in the form of propositions. These propositions are examined with the use of a variety of univariate and multivariate statistical techniques. Table 7.31 summarises the findings of the testing.

Table 7.31: Results from the proposition testing

PROPOSITIONS		RESULTS
P1	SMEs in NZ have high levels of EO	Supported
P2a	The rational, adaptive, intrapreneurial, symbolic and participative strategy-making processes are important strategy-making modes that SMEs may exhibit	Partial support
P2b	The entrepreneurial mode of strategy-making will be most favoured by SMEs	Rejected
P2c	Firms that employ the rational mode of strategy-making will perform well	Partial support
P2d	Firms that employ more than one mode of strategy-making will perform well	Accepted
P3a	Environmental uncertainty will influence the relationship between strategy-making and performance (moderating factor)	Rejected
P3b	Environmental uncertainty will influence the mode of strategy-making that a firm employs, specifically, firms in dynamic and hostile environments will employ adaptive and entrepreneurial processes	Partial support
P3c	Stage of industry life cycle and industry sector will influence the mode of strategy-making that a firm employs	Rejected/accepted
P3d	EO, firm size, firm age and organicity of structure will influence the relationship between strategy-making and performance (moderating factor)	Partial support
P4a	EO will influence the mode of strategy-making that a firm employs, specifically, entrepreneurial firms will employ an intrapreneurial mode of strategy-making	Accepted
P4b	Size will influence the mode of strategy-making that a firm employs, specifically, smaller SMEs will employ adaptive and participative processes, while larger SMEs will employ rational and intrapreneurial processes	Rejected
P4c	Age will influence the mode of strategy-making that a firm employs, specifically, younger SMEs will employ intrapreneurial and adaptive processes, while older SMEs will employ rational and symbolic processes	Rejected
P4d	Firm structure will influence the mode of strategy-making that a firm employs, specifically, firms with organic structures will employ intrapreneurial and participative modes of strategy-making	Accepted
P5a	The mode of strategy-making that a firm employs will influence the choice of business strategy (content) which will influence firm performance (mediating factor)	Partial support
P6a	Entrepreneurial firms (firms with a high level of EO) will outperform non-entrepreneurial firms	Accepted
P6b	Contextual factors, including EO, size, age, structure, environmental uncertainty and industry life cycle, will impact on the business strategies (content) that a firm chooses, specifically smaller and, younger firms will employ focus strategies, while entrepreneurial firms or firms with organic structures will employ differentiation strategies	Partial support
P7a	It is possible to create a configurational model of strategy-making, external and internal context variables and strategy types that will predict firm performance.	Partial support
P7b	It is possible to create archetypes that empirically classify the firms of the study.	Support

PART 5
DISCUSSION AND CONCLUSION

CHAPTER 8 - DISCUSSION OF THE RESULTS

8.1 INTRODUCTION

Scholars have long disagreed about both the existence of strategy-making processes in SMEs as well as its influence on firm performance should they exist. This chapter provides a discussion of the results of the proposition testing that was undertaken in the previous chapter to investigate this issue. The discussion aims to explain the modes of strategy-making that New Zealand SMEs use, the context in which these strategy-making processes occur, the types of strategies that result from the strategy-making processes, and how the modes of strategy-making are related to firm performance. The discussion relates the findings of this thesis to the conceptualisation of strategy-making in SMEs that was undertaken in the literature review section of this study, as well as the findings from previous research studies. The discussion is once again organised in accordance with the objectives of this study as well as the themes that were identified in the literature review and repeated in the proposition development and findings sections.

OBJECTIVE 1: TO PRESENT THE DEMOGRAPHICAL AND OTHER CONTEXTUAL FACTORS OF THE SMEs IN THE STUDY, IN PARTICULAR THE LEVEL OF EO OF THE FIRMS

8.2 SMEs IN NEW ZEALAND

The demographical characteristics of the sample of this study were documented in Chapter Seven. In this section the EO of New Zealand SMEs is discussed.

8.2.1 Entrepreneurial orientation

In Chapter Four it was proposed that New Zealand SMEs have high levels of EO. This proposition was mainly based on the high level of firm level entrepreneurship found in New Zealand firms by the 2003 GEM report (Frederick, 2003). However, the composition of the measure of that study, which includes intrapreneurship, was questioned. But, after comparing the EO of New Zealand SMEs to similar studies undertaken in an array of other countries, it was found that the EO of New Zealand SMEs is significantly higher than any other country that formed part of the comparison. This finding is interesting and confirms the assumption that seems to exist in New Zealand that New Zealand SMEs are entrepreneurial in their nature.

This thesis has also argued that the mere fact that a firm is entrepreneurial may be meaningless unless the firm has the ability to translate this entrepreneurial orientation into commercial success. Therefore, Proposition 6a investigated the relationship between EO and firm performance. For the sake of presenting a complete argument, Proposition 6a is discussed in this section. The results suggest that EO relates to firm performance, but that firm performance does not relate to EO. The mean for perception of performance was significantly higher in firms with a high EO than in those with a low EO. This means that firms that act entrepreneurially by being innovative, proactive and willing to take risks, will perceive their firm performance to be good, but firms that perform well may not go out of their way to adopt an entrepreneurial culture, probably because they are satisfied that their business practices are leading to good firm

performance. Yet, at a significance level of 0.026 this result is only of marginal significance.

Several studies have provided support for a strong relationship between EO and positive firm performance (e.g. Chaston, 1997; Covin & Slevin, 1989). These studies use similar measures of performance to this thesis and therefore it is surprising that this result could not be confirmed with confidence in this thesis. The weak correlations between EO and firm performance can be explained by Zahra and Covin (1995) who question the time horizon in which EO can be expected to yield a positive return. They find that this issue is very complex to address due to the many factors that impact on this relationship, but their study of 24 medium sized firms supported the contention that this relationship will strengthen over time. A longitudinal study may therefore provide further insight into this relationship.

However, it is also possible that an entrepreneurial culture will only have an effect on firm performance under certain conditions. To study EO within a specific context as is done with the strategy-making processes of SMEs in this thesis, is considered to be outside the scope of this study, and that question should be answered in future research.

OBJECTIVE 2: TO DETERMINE THE STRATEGY-MAKING PROCESSES THAT NEW ZEALAND SMES EMPLOY AS WELL AS THEIR RELATIONSHIP WITH FIRM PERFORMANCE

8.3 STRATEGY-MAKING BEHAVIOUR IN SMES

In the early 1990s, Eisenhardt and Zbaracki (1992) were already forecasting significant changes in strategy-making process research. These changes were realised with authors such as Hart (1991, 1992) and Dess et al. (1997) who researched this area in a quantitative manner, whereas up to that point, most studies in this area had been in the form of case studies (Allison, 1971; Eisenhardt, 1989; Mintzberg, Raisinghani & Théorêt, 1976; Mintzberg & Waters, 1982; Nutt, 1984). This study continues in that later tradition, but extends the method of Dess et al. and Hart to SMEs, to explore how applicable to smaller firms are models that were developed for large firms. The findings of this study that relate to the modes of strategy-making that SMEs employ, as well as the relationship between mode of strategy-making and firm performance, are discussed in this section.

8.3.1 A comparison of models of modes of strategy-making in firms

Different authors provide diverse models of strategy-making, several of which were presented in Chapter Two. In this thesis three such models were tested, namely that of Mintzberg (1973) because it is widely recognised as the authoritative work in this area, and those of Hart (1991, 1992) and Dess et al. (1997) because they were the major empirical studies using quantitative methods, and also because the scales from these studies were used in this thesis. The method that was followed to develop the three existing models from the literature was explained in Section 7.3.1. The results indicate a reasonable fit for all three of these models, with RMSEA values ranging between 0.074 and 0.079.

In addition to the three models discussed above, a further two models were tested. The 'Theoretical Model' was developed after a thorough literature review, while the 'Realised Model' was based on an alternative interpretation of the literature review,

following the EFA. The rationale for this decision was explained in Chapter Seven. The fit indices for these two models were better than for the first three models. The Theoretical Model had a lower RMSEA than the Realised Model, but the other indicators (such as NFI and CFI) of the Realised Model were better, and therefore it was accepted as the model of the study.

The next section further explains the modes of strategy-making identified by the Realised Model, and also comments on the subsequent absence of the rational mode of strategy-making.

8.3.2 The modes of strategy-making used by New Zealand SMEs

The 'Realised Model' describes the data of this study best, and therefore the four modes identified in this model were used in all the subsequent data analysis. EFA and CFA found the simplistic, adaptive, intrapreneurial and participative modes of strategy-making to be important modes of strategy-making that New Zealand SMEs exhibit. Generally speaking, Hart (1992) puts his modes of strategy-making on a deliberate/emergent continuum which can be translated into simplistic (most deliberate), adaptive, participative and intrapreneurial (least deliberate) for the results of this study. These four modes exhibit similar, although not identical, aspects to those found in the literature review. This section aims to provide an understanding of these four modes of strategy-making, and also explains which of these modes are used most often by SMEs in New Zealand.

Firstly, the data indicate that the *rational* mode of strategy-making is not an independent construct that exists in these firms. The absence of the rational mode of strategy-making was to be expected. One of the central tenets in this thesis is that studies in SMEs that question the existence of strategy-making processes in SMEs may do so because they define strategy-making as a rational, linear process. In effect this means that these studies concur with the findings of this thesis that rational strategy-making does not exist in its pure form in SMEs. If the explanation of what a rational mode of strategy-making entails is revisited, arguments by authors such as Marsden and Forbes (2003) that most SME owner-managers do not have the time, skills, experience

or willingness to engage in such a time-consuming and even expensive process, seem reasonable. Yet, the finding that rational strategy-making does not exist in New Zealand SMEs is exciting, especially in view of the fact that alternatives are offered. This is done in the rest of this section.

The most deliberate mode of strategy-making (Hart, 1992) found in this study, is what is termed the *simplistic* mode of strategy-making (see Dess et al., 1997). Miller (1993) introduces the concept of 'simplicity' which he defines as a frame of mind or perspective in which highly successful firms become overconfident in pursuing a single strategic goal, something that may ultimately affect such a firm negatively. Simplicity as a mode of strategy-making is only considered by Dess and Lumpkin (2001), Lumpkin and Dess (1995) and Miller (1993). Miller suggests that firms that employ simplistic strategy-making focus on the factors that lead to success in the past and repeat these actions, developing an 'overwhelming preoccupation with a single goal, strategic activity, department or worldview' (p. 117). Therefore decisions, values and ultimately strategy-making are simplistic. According to Miller organisational values form the basis of this mode of strategy-making.

Dess and Lumpkin (2001) and Lumpkin and Dess (1995) build on the work of Miller (1993) and argue that simplistic strategy-making restrict a firm's ability to develop its capabilities. Dess and Lumpkin (2001) suggest that the simplistic mode exhibits some aspects of both the command and symbolic modes of strategy-making, but in such a manner that it indicates a very limited, simplified approach which is largely driven by the owner/manager of the firm and is based on the previous strategy of the firm. The simplistic mode exhibits little/no analysis of the environment or possible future strategies. This thesis bases its notion of the simplicity construct on the conceptualisation of Lumpkin and Dess (1995) and Miller. These authors describe the simplistic mode of strategy-making as characterised by 'single-mindedness, narrowly construed decision-making, and excessive attention to a specific internal strength or external opportunity' (Lumpkin & Dess, 1995, p. 1403). Similarly to this thesis, these authors find that simplistic strategy-making emerges when the symbolic mode with its visionary aspect combines with the rational mode with its command aspect. The inclusion of the 'command' mode in the simplistic mode of strategy-making is not surprising given that the command mode is partly represented by the 'vision' of a firm,

which, when aspects are allowed to load onto more than one factor, also load onto the symbolic mode of strategy-making. The other aspects of the command mode, namely a top-down approach and a strong leader that places his/her mark on most initiatives, are strongly indicative of simplicity as described by Lumpkin and Dess (1995). In summary, the simplistic mode of strategy-making may be described as a SMEs take on formal strategy-making where the direction of the SME is set by a strong manager-owner who has fashioned an approach to strategy-making that best suits his/her SME and now uses that as a blueprint for strategy-making, and uses it on a continual basis.

The next mode of strategy-making that SMEs in New Zealand use is the *intrapreneurial* mode. Even though Dess et al. (1997) argue strongly that entrepreneurial strategy-making will include a strong command aspect, where a strong, single-minded owner-manager dictates the direction of the firm, closer scrutiny of their factor analysis shows that their findings are consistent with the findings of this thesis that intrapreneurial strategy-making only consists of innovation, experimentation, risk-taking and dynamism. The items that represent the command aspect, actually loads negatively onto their entrepreneurial strategy-making mode (see Table B.6). Similarly, intrapreneurial strategy-making, as identified in this thesis, does therefore not adhere strictly to Mintzberg's (1973) conception of a mode with a strong leader that sets the direction of the firm. Instead, in New Zealand SMEs, this mode of strategy-making is placed on the emergent side of Hart's (1992) continuum and is in fact similar to Hart's 'generative' mode of strategy-making. Intrapreneurial strategy-making which leads to innovative ideas is characterised by experimentation and learning by firm members at any level. Furthermore, risk is accepted as normal in this mode of strategy-making, which is also described as dynamic and entrepreneurial. This result is interesting, because when read together with the results of the next two modes it indicates that New Zealand SMEs are heavily reliant on internal and external stakeholders and not as much on the owner-manager as theorised by Mintzberg (1973).

The *adaptive* mode shows that adaptation in New Zealand SMEs is driven by the firm's responsiveness to its stakeholders. The firms that exhibit this mode therefore adapt to suggestions from, for example customers and suppliers, and this then becomes the strategy of the firm. This take on adaptive strategy-making differs significantly from previous studies that define it as emergent strategy-making (Butler et al., 1979;

Mintzberg, 1973), external and internal adaptiveness (Mintzberg, 1973), incrementalism (Quinn, 1980) and learning (Hart, 1992) and is more closely related to the interpretation of Miller and Friesen (1977, 1978) and Dess et al. (1997). This thesis concurs with Jennings and Beaver's (1997) explanation that this mode of strategy-making in SMEs is not about predicting and controlling the environment, but rather about adapting to the operating environment and the devising of tactics to deal with the consequences of the changes that occur in the environment. Lastly, it should be noted that, just as with participative strategy-making, the political aspects suggested by Mintzberg (1973) are absent from the strategy-making processes of SMEs, most likely as a result of their non-threatening size, and lack of time, experience or need to engage in such activities.

The *participative* mode identified by the data shows an idyllic picture of a firm in which a large amount of cooperation, teamwork and values drive the strategy-making process. This indicates a slight deviation from the suggested participative mode of strategy-making in the literature review. Rather than being driven by coercive politics (Hillman & Hitt, 1999), this mode in this thesis is driven by values or culture. This result differs from the suggestion of Mintzberg et al. (1998) that suggests that participation is usually coupled with political behaviour. This thesis suggests that this may be a result of the small size of the firms included in this study. Both the adaptive and participative modes suggest some form of stakeholder involvement, whether it is with internal or external stakeholders. It is unclear to what extent these modes are designed and employed in a deliberate fashion, or whether they are incidental consequences of the size, structure or even reactivity of the SME. Whatever the case, it would be worthwhile for SME owner-managers to ensure that the flow of information is controlled to reduce strategy-making costs and time and to ensure that strategic information does not flow from the firm in a fashion that may limit the firm's strategic options.

Table 8.1: Aspects of strategy-making processes

Aspects \ Mode	Simplistic	Adaptive	Participative	Intrapreneurial
Top-down/Bottom-up	Top-down	Both	Bottom-up	Bottom-up
Deliberate/Emergent	Deliberate	Both	Emergent	Emergent
Pro-active/Reactive	Reactive	Reactive	Both	Pro-active
Political/Ideological	Ideological	None	Ideological	EO ideology
Long-term/Short-term	Long term	Short term	Short term	Short term
Risk taking	Variable risk	Low risk	Low risk	High risk

Table 8.1 summarises the aspects of the four modes of strategy-making identified in the empirical part of this study and discussed in this section. This table is an adaptation of Table 2.2, presented in Chapter Two. When Table 8.1 is compared with Table 2.2, the differences in how the modes of strategy-making in New Zealand SMEs are defined in the preceding section, in comparison to how the modes of strategy-making were defined in the literature, are further clarified and summarised.

This study also investigates which mode of strategy-making is favoured most by New Zealand SMEs. While it was intuitively appealing to propose, and even suggested in the literature (Mintzberg, 1973), that SMEs would employ intrapreneurial modes of strategy-making, little support for this mode could be found. Instead participative strategy-making is most favoured by New Zealand SMEs, followed by simplistic strategy-making. The use of participation in one form or another seems to be a theme that is emerging strongly throughout this section. This begs the question: Is the high incidence of participative strategy-making in New Zealand SMEs a result of the small size of the firms in the study, or a result of the New Zealand national culture? Lubatkin and Floyd (1997) ask the question whether a single European model of strategy-making can be defined. They compare the French and German strategy-making models and find that similarities exist in terms of their perceptions about the content of strategies, but that strategy-making processes are very different. This raises the possibility that strategy-making practices may differ between countries. Furthermore, Hofstede (1984) suggests that New Zealanders have a small power distance, indicating a democratic environment with a high need for consultation and small status differences. Without specific research aimed at answering this question, this study can only theorise as to the answer, but it seems likely that a convolution of size and national culture may contribute to the strong trend towards involvement and participation in strategy-making processes.

Before this section is concluded, the possibility that some firms may use more than one mode of strategy-making is explored. Mintzberg (1973) raises this possibility and Hart and Banbury (1994) confirm that large firms do combine modes of strategy-making with great success. This thesis finds a similar pattern in New Zealand SMEs. In terms of firms that use combinations of two modes, the simplistic and participative modes of strategy-making are employed by most firms. In terms of firms that use combinations

of three modes, the simplistic, participative and adaptive modes of strategy-making are employed by most firms. This result does little more than confirm the popularity of the participative mode of strategy-making, which was followed by the simplistic mode of strategy-making. It furthermore confirms that SMEs do sometimes employ more than one mode of strategy-making.

The results of this section play an important part in answering the research question of this study. The findings are exciting, and clearly indicate a contribution to the way that strategy-making in SMEs is conceptualised. The absence of a rational mode of strategy-making was to be expected, but its substitution with simplistic strategy-making is noteworthy and may have important implications for SMEs. Lastly, the emergence of a theme of participation throughout the other three modes of strategy-making is thought-provoking and opens up various opportunities for further research.

8.3.3 The relationship between mode of strategy-making and firm performance

An investigation of the literature on the possible relationship between all five modes of strategy-making and firm performance in previous studies suggests that the rational and entrepreneurial approaches are more likely to be associated with high performance in SMEs.

Although rational strategy-making was not supported by the data, this study has provided strong support for the argument that more rational strategy-making processes, in this case *simplistic* strategy-making, are associated with firm performance. The data clearly suggest that the simplistic mode of strategy-making has the highest correlation with firm performance of all the single modes. This result is much stronger than the finding from Lumpkin and Dess (1995) from large firms which further supports the earlier suggestion in this chapter that this mode may be particularly suitable to small firms and is further supported by the results from the SEM. This result is in line with several previous studies such as Robinson and Pearce (1983) and Van Gelderen et al. (2000) who found that formal planners in small firms outperform non-formal planners. Pearce and Robinson argue that previous studies that did not find such a relationship did not include smaller firms and were therefore inappropriate for SMEs. Furthermore,

Miller (1993) and Dess and Lumpkin (2001) argue that simplistic strategy-making is common among successful firms. These firms focus on the factors that have provided a competitive advantage in the past, which may be a particular product or promotions method, and keep repeating these actions. According to Miller these simplistic strategy-making processes lead to declining performance since it does not allow for complete decision making, evaluation of alternatives an/or adaptation to circumstances or opportunities.

The *adaptive* mode of strategy-making is significantly, but not strongly, associated with firm performance. SEM supported this result. This may be a result of the willingness of the SMEs to listen to their stakeholders and to take their suggestions on board to improve their businesses, something that may be a very valuable attribute of a SME. This is consistent with the work of Hannon and Atherton (1996) who suggest that the firms that develop their ability to interface with their environment and subsequently their ability to respond appropriately to the events that they recognise in this process, are more likely to survive or succeed. Furthermore, Bonn and Christodoulou (1996) argue for a high degree of flexibility, even in formal processes, in order to allow for the adaptation to rapidly changing environments. Beaver and Jennings (2000) argue that adaptive processes in SMEs manipulate limited resources for immediate advantage. It is therefore suggested that the reconceptualisation of adaptive strategy-making in this thesis may account for this unexpected relationship with performance. Nevertheless, it is also possible that this way of making strategy is just well-suited to SMEs.

Although a relationship between performance and *participative* strategy-making was proposed in Chapter Four, the participative mode that resulted from the data-analysis was somewhat different as explained earlier. In this case it is suggested that a strong culture, emphasis on team-work, consensus and equality may underlie the success of this mode of strategy-making. As with adaptive strategy-making, participative strategy-making and firm performance are significant, but not strongly correlated. However, the initial structural model did not support this result. At this stage there is thus not enough evidence to have a conclusive discussion on the relationship between participative strategy-making and firm performance. But, Proposition 7a provides further clues about this relationship and therefore it will be explored further in Section 8.8.

Intrapreneurial strategy-making exhibits a weak relationship with firm performance. SEM even indicates that intrapreneurial strategy-making contributes negatively to firm performance. The low correlation between intrapreneurial strategy-making and firm performance is consistent with previous research (e.g. Dess et al., 1997) which shows a weak relationship with firm performance in the short run, even when context factors are taken into consideration. Hart (1992) also suggests that intrapreneurial-type strategy-making is more likely to be associated with poor performance when he argues that firms with intrapreneurial employees operating in a generative mode, will be less likely to be high performers. Once again it is interesting that an 'entrepreneurial' construct has a weak relationship with firm performance, but unlike EO, this study will explore in subsequent sections of this chapter how context and content variables may influence this relationship.

No discussion on the effect of strategy-making modes on firm performance can be concluded without an investigation into the *combined effect of modes* of strategy-making on firm performance. The full structural models, with predictor variables defined as a combination of modes, predicts performance better than a full structural model with predictor variables defined as single separate modes. This finding is supported by Hart and Banbury (1994) who stress that firms that rely on only one mode may perform poorly.

This thesis investigated the relationship between two or three mode combinations with firm performance. In terms of two mode combinations the combination of the simplistic and adaptive modes of strategy-making shows the highest correlation with firm performance. This correlation is higher than simplistic strategy-making on its own. In terms of three and four mode combinations simplistic, adaptive, and participative strategy-making have the highest correlation with firm performance. This result has two important implications, namely that firms that use combinations of modes outperform firms that use only one mode of strategy-making, and that the presence of simplistic strategy-making is indicative of high firm performance, whether it is used on its own or in combination with other modes of strategy-making.

The last result that is of importance at this point is that SEM indicates a *reciprocal relationship* between strategy-making and firm performance. Objective Seven explores

this result further and provides a more definitive outcome, but at this stage it suffices to state that it seems that the use of strategy-making processes may have a positive effect on firm performance – something that strategic management scholars have argued for forty years (Khandwalla, 1976/77). However, it also appears that firms which perform better are more likely to engage in strategy-making processes. This result is reasonable given that the lack of time and money have previously been regarded as barriers for SMEs wanting to engage in strategy-making. But if these issues are solved through high performance, and therefore increased resources, SMEs may choose to engage in this activity which may then have a greater effect on firm performance. Conversely, it is also possible that a firm performs well through sheer luck (Khandwalla, 1976/77) and then uses the profits that result to invest in one or more of the modes of strategy-making, for example to become more venturesome (entrepreneurial), or to engage stakeholders more (adaptive).

This section links to the previous section that explains which mode of strategy-making SMEs employ and explains how these modes are related to firm performance. It clearly indicates that strategy-making processes are related to firm performance, and that the strength of the relationship may vary depending on the mode of strategy-making. In subsequent sections the effect of business strategies and context variables on this relationship will be explored.

OBJECTIVE 3: TO INVESTIGATE HOW A SELECTION OF CONTEXTUAL FACTORS AFFECT THE RELATIONSHIP BETWEEN STRATEGY-MAKING PROCESSES AND FIRM PERFORMANCE

8.4 THE FIRM CONTEXT

This section focuses on how a variety of context factors impact on the strategy-making/firm performance relationship. The purpose of this section is to establish whether context factors such as a dynamic environment strengthen the effect of specific strategy-making modes on performance. Analysis was mostly undertaken in the form of correlations and moderated regression analysis.

8.4.1 External environment

Marsden and Forbes (2003) suggest that small businesses are particularly vulnerable to certain conditions and occurrences in the external environment because of their inability to cope with change. Most of the respondents of this study describe their external environment as heterogeneous, which is the opposite of homogeneous or stable, the term preferred in this thesis. Unfortunately this factor did not satisfy the criteria for reliability and was therefore not included in any further analysis. Few of the firms consider that their environment is hostile. In short this means that New Zealand firms see their external environment as dynamic, than hostile or heterogeneous. This is understandable since New Zealand is a parliamentary democracy with a stable, deregulated economy and therefore cannot be considered as a hostile environment to businesses in general. But at the same time the environment can be considered as dynamic for a small business, especially in terms of their small size, easy access to markets for (potential) competitors and fast changing consumer demand. This was then also the case with the SMEs that participated in this study.

Pearson's correlations indicate that the few firms that are in hostile environments prefer adaptive or intrapreneurial modes of strategy-making. A combination of adaptive and intrapreneurial modes of strategy-making was highly related with hostile environments.

Specifically, high performing firms in hostile environments use the intrapreneurial mode of strategy-making, while low performing firms in hostile environments use the adaptive mode of strategy-making. Taking into account the previous results that showed a low or negative relationship between intrapreneurial strategy-making and firm performance, this result is counter intuitive. But at the same time it is exciting because it starts to explain the finer nuances of the relationships between different modes of strategy-making and firm performance. This result indicates that intrapreneurial strategy-making may not be as negative for firm performance as thought earlier, and that in hostile environments it may even be more appropriate than some of the other modes because of its ability to deal with issues that are prevalent in these environments, such as a high rate of product/service obsolescence and a requirement to change marketing and operations practices frequently. Conversely, adaptive strategy-making may not be suitable to hostile environments because of the high level of unpredictability in these environments which may neutralise the advantages of interaction with stakeholders.

Because no results proved to be significant for dynamic environments, the success of the various modes of strategy-making in different environments could not be compared, but it is important to note that firms in hostile environments are more likely to be engaged in strategy-making processes than those in dynamic environments. Interestingly, firms in a hostile environment engage in strategy-making processes that are at the emergent end of the continuum (Hart, 1991) which clearly indicates that these firms are actively engaging in environmental issues and with stakeholders, and simultaneously acting in entrepreneurial ways to deal with the hostility in the environment.

Lastly, it was proposed that environmental uncertainty will moderate the relationship between strategy-making and firm performance. No evidence to support this proposition was found which means that no specific deductions about whether a mode of strategy-making is more suitable for instance in more or less dynamic environments.

8.4.2 Industry

Two industry variables, namely industry category and industry life cycle, were investigated. The results show that *industry life cycle* has no effect on the mode of strategy-making that a firm uses. This result is expected and similar to that of Robinson, Pearce, Vozikis and Mescon (1984) who also found that stage of industry development has no effect on the strategy-making/firm performance relationship.

Industry category does, however, influence the mode of strategy-making that a firm uses. Firstly, it was found that manufacturing firms are the lowest users of all modes of strategy-making, while retail and wholesale firms are the most prolific users of all modes of strategy-making. Beal (2000) suggests that the owner-managers of small manufacturing firms may be constrained by their involvement in their firm's daily operations, which may limit the time that they have available to spend on strategy-making activities. Using similar logic, retail firms are more likely to have assistants, and owner-managers may therefore have more time to spend on strategy-making activities. It can also be argued that the retail firms specifically are more dependent on changing consumer demands and more actively engaged in marketing activities aimed at final consumers rather than manufacturers. This may force them to engage more vigorously in the strategy-making processes.

Next, it was also found that different industry sectors use different modes of strategy-making. Construction firms tend to use the simplistic and participative mode of strategy-making or a combination of all modes. In line with the previous results manufacturing firms use no modes of strategy-making. Retail/wholesale firms use the intrapreneurial or the adaptive and participative modes of strategy-making. Service firms use combinations of the simplistic, intrapreneurial and participative modes of strategy-making, and the adaptive and participative modes of strategy-making as well as the intrapreneurial mode of strategy-making. In the absence of previous studies that can assist in explaining these results, it can be argued that they are more meaningful when explained in connection with other results in mind. This will be done in Sections 8.7.2 and 8.8.2.

8.4.3 Internal environment

Marsden and Forbes (2003) illustrate the differences between the internal operating environments of large and small businesses. For instance, the owner-manager in small businesses may not be interested in growth, or have personal problems (Massey, Harris & Lewis, 2004), the firm may have a lack of resources, problems of attracting suitable staff and/or have a lack of time and experience. The only significant results in this section of this thesis were found when the relationships between EO or organic organisational structures and the strategy-making - firm performance relationship were considered.

Moderated regression analysis (MRA) shows that EO moderates the relationship between simplistic strategy-making and firm performance. EO is a quasi moderator which causes simplistic strategy-making to contribute more to firm performance in firms with a low EO. When simplistic strategy-making occurs in a non-entrepreneurial firm, firm performance increases.

MRA also indicates that organicity moderates the relationship between simplistic strategy-making and firm performance. In this case organicity is a pure moderator and simplistic strategy-making contributes more to firm performance in firms with a high level of organicity. When simplistic strategy-making occurs in a high organicity firm, firm performance increases.

When reading these results together it suggests that simplistic strategy-making contributes more to firm performance in organically structured firms or firms without an entrepreneurial culture than mechanistic structured firms or firms with an entrepreneurial culture. The absence of an entrepreneurial culture in which innovation, risk-taking and pro-activeness are prevalent means that a mode of strategy-making that is heavily reliant on values, vision and strong leadership is necessary to support the culture and strategy-making processes of the firm. However, these are the very things that make an organic organisational structure more important to support simplistic strategy-making. No such deductions could be made for any of the other modes of strategy-making. The next section further investigates how the modes of strategy-making vary in different types of firms.

OBJECTIVE 4: TO COMPARE THE STRATEGY-MAKING PROCESSES OF FIRMS OF DIFFERENT SIZES, AGE, STRUCTURES AND LEVELS OF EO

8.5 STRATEGY-MAKING IN DIFFERENT TYPES OF SMEs

A review of the literature indicated that SMEs of different sizes, ages, structures and entrepreneurial cultures may use different approaches to strategy-making. This was partially confirmed by the findings of this study. This objective was tested mainly by using ANOVA and is discussed next.

8.5.1 Entrepreneurial orientation

In this thesis EO is defined as an organisational culture which is represented by autonomy, risk-taking, innovativeness, pro-activeness and competitive aggressive behaviour. Chapter Seven indicates that firms with higher levels of EO will employ different modes of strategy-making than those with lower levels of EO.

Correlations indicate that EO is strongly related to intrapreneurial strategy-making and combinations of modes that include intrapreneurial strategy-making. It is also strongly related to adaptive strategy-making. The simplistic mode of strategy-making is not related to EO, neither on its own nor when combined with participative strategy-making. The absence of participative practices in entrepreneurial firms is supported by Ciavarella (2003) who explains that entrepreneurs are more likely to exert strong leadership and make decisions by themselves. The latter argument is further corroborated by the earlier definitions of entrepreneurs who make strategy by providing a strong vision and commanding the firm (Dess et al., 1997; Mintzberg, 1973). But this same argument can be taken as opposing the finding that simplistic strategy-making and EO are not related, since simplistic strategy-making includes this strong vision and commanding leader. In this case it is argued that simplistic strategy-making suggests a long term view, more dependence on entrenched practices and would therefore not fit the innovative, pro-active and risk-taking nature that EO indicates. Furthermore, the

previous section showed that simplistic strategy-making is better suited to a low EO firm.

The comparison of EO and entrepreneurial strategy-making in the literature review indicates that although they exhibit similarities they are essentially different in nature. EO is a behaviourist, values-based concept, while entrepreneurial strategy-making is processual. Furthermore, entrepreneurial strategy-making exhibits more aspects than EO, and can be viewed as the broader, encompassing construct. It was proposed in this thesis that EO is an organisational culture that is likely to lead to the use of an entrepreneurial strategy-making mode. But it is also possible that when a firm employs an entrepreneurial strategy-making mode, or intrapreneurial as in the case of this thesis, with its emphasis on experimentation, pro-activeness and innovation strategies, it may lead to the creation of an entrepreneurial culture in a firm.

The adaptive strategy-making and EO relationship is also interesting, but not explained in the literature as far as could be ascertained. It is, however, proposed that the way that adaptive strategy-making is defined in this thesis as an active engagement which indicates that firms use this interaction as a source for ideas in a pro-active manner, may be supported by an entrepreneurial culture, which seeks particularly innovation. This view is different from that espoused by authors such as Mintzberg (1973) who views adaptive strategy-making as a reactive approach.

8.5.2 Size and age

This study found no relationship between size and mode of strategy-making. This result suggests that firms with fewer than 100 employees are reasonably uniform in their approach to strategy-making. Previous studies that found differences in strategy-making between firms of different sizes (e.g. Covin & Covin, 1990; Chen & Hambrick, 1995) were investigating firms with less than 500 employees, providing a wider range of sizes. Furthermore, these studies assume that size equates to resource richness, an assumption that may not always be valid, depending on the scope of the firm, and the method used to determine size.

Only a very weak negative relationship between age and intrapreneurial strategy-making was found. This relationship indicated that younger firms are more likely to use and intrapreneurial approach, suggesting that the owner-manager may still be preoccupied with operational issues and therefore not provide a strong direction. It is also possible that these firms are still taking risks and innovating because they need to find their place in the market. But it was not found that older firms will employ more formal processes as expected. The high mean age of firms that responded to this study may mean that this finding may not be noteworthy.

8.5.3 Organisational structure

Smallbone, Leigh and North (1995) argue that SMEs will grow successfully if they develop their organisational structure in such a way that the owner-manager can delegate operational tasks and focus on higher level strategic functions. In this section the relationship between organic organisational structures and modes of strategy-making is explored in order to determine whether firms with different levels of organicity make strategy differently.

The results of the correlations show a strong relationship between organicity and intrapreneurial strategy-making and organicity and the combination between adaptive and intrapreneurial strategy-making. This result is interesting but unfortunately does not really explain how firms with different levels of organicity make strategy differently. However, ANOVA indicates that intrapreneurial strategy-making and a combination of modes that include intrapreneurial strategy-making are more likely to occur in more organic firms. A similar result was found for participative strategy-making. Both intrapreneurial strategy-making and participative strategy-making are found at the emergent end of Hart's (1992) continuum, indicating the need for an environment where staff can interact easily and ideas can flow freely, such as that created by an organic organisational structure.

The result for the ANOVA between simplistic strategy-making and organicity indicates that simplistic strategy-making will occur in a mechanistic organisational structure. It is logical to expect that the most deliberate (Hart, 1992) mode of strategy-making in

SMEs will be found in mechanistic firms, but the results from the MRA show that simplistic strategy-making is more successful in organic firms. This result means that simplistic strategy-making is more likely to occur in mechanistic firms, but when it does occur in organic firms, it will improve performance. This result can be explained when simplistic strategy-making is inspected closely, showing that values play an important role in this mode. It is likely that in an organic structure, values are more likely to influence strategy-making more directly.

Simplistic strategy-making is generally found in firms with a mechanistic organisational structure, but when it is found in organically structured firms with a low EO, it will have a greater impact on firm performance. Intrapreneurial strategy-making occurs in firms with high levels of EO and organicity, and when used in hostile environments, its relationship with firm performance may be strengthened. Participative strategy-making is found more often in organically structured firms and in the retail/wholesale industry. Adaptive strategy-making is found in firms with a high level of EO and when used in hostile environment, it may weaken the relationship between EO and firm performance.

OBJECTIVE 5: TO INVESTIGATE HOW A SELECTION OF BUSINESS STRATEGIES (CONTENT VARIABLES) AFFECT THE RELATIONSHIP BETWEEN STRATEGY-MAKING PROCESSES AND FIRM PERFORMANCE

8.6 BUSINESS STRATEGIES

The strategic management literature suggests that it is actions (in the form of strategies), and not the processes that they result from that have the greatest effect on firm performance. This section therefore discusses how the effect of strategy-making processes on firm performance is strengthened by the strategy that the firm chooses. However, first the types of strategies that SMEs in New Zealand use are discussed.

The descriptive statistics show that firms use differentiation strategies most often, followed closely by focus strategies. *Differentiation* strategies are most likely used by New Zealand SMEs where many competitors in a small market need to provide customers with a reason to buy from one supplier, rather than another. Since cost-leadership is not a viable option, as explained later in this paragraph, differentiation seems to be good alternative. The lower than expected use of *focus* strategies can be explained by the low number of very small firms in the sample. *Cost-leadership* strategies are used least by SMEs. This result is confirmed by the inability of the EFA to create a cost-leadership factor, and the low loadings of the standardised weights of items on cost-leadership with CFA. This result is expected since a cost-leadership strategy generally requires a larger firm that can utilise economies-of-scale to cut costs. It does not mean, however, that SMEs do not use cost-leadership at all. It is possible that entrepreneurial SMEs can use business models such as e-commerce to lower their overall cost.

A *focus* strategy shows only a weak correlation with a combination of adaptive and intrapreneurial strategy-making and no correlation with firm performance at all. Strictly speaking, this means that no exploration for mediating effects should be conducted (Baron & Kenny, 1986) and the SEM results also show that focus strategies do not act as a mediator in any of the modes of strategy-making/firm performance relationships. It

is therefore the conclusion of this study that, in opposition to the conventional wisdom, a narrow focus on a product or market may not contribute to the performance of SMEs. Therefore, the relationships between strategy-making, firm performance and differentiation strategies have been investigated.

Exploration of the correlations of a *differentiation* strategy with modes of strategy-making indicate that differentiation is strongly related to all the modes of strategy-making except simplistic strategy-making, participative strategy-making or simplistic and participative strategy-making in conjunction with each other. This result supports the high incidence of this strategy in New Zealand SMEs. Correlations also indicate a strong relationship ($r = 0.367$) between differentiation and firm performance.

The low correlation between participative strategy-making and differentiation is surprising considering Ciavarella's (2003) argument that firms that are driven toward innovation or differentiation commonly employ participative practices. This proposition of Ciavarella has, however, not been tested empirically. The strong correlations between differentiation strategies and intrapreneurial strategy-making or adaptive strategy-making is to be expected when the argument presented earlier to explain the high relationship between these modes and EO is followed. Briefly, both these constructs are heavily reliant on innovation or innovation aspects, which explain the strong association between the two factors.

Because differentiation was strongly associated with firm performance (Baron & Kenny, 1986), it was further investigated to see if differentiation acts as a mediator between modes of strategy-making and firm performance. It was found that differentiation acts as a mediator for the relationship between intrapreneurial strategy-making and firm performance. Therefore, this study agrees with Dess et al. (1997) in finding that intrapreneurial strategy-making is most strongly associated with performance when it is combined with the appropriate strategy. But unlike Dess et al. in this study the relationship between intrapreneurial strategy-making and firm performance is mediated by a differentiation strategy, and not a cost leadership strategy. This finding is more logical than the finding by Dess et al. who investigated large firms,

because it is more likely that an entrepreneurial process will lead to an innovation or differentiation strategy than a cost leadership strategy. Dess et al. (1997) actually argue that intrapreneurial strategy-making and differentiation strategies are more congruent constructs. Covin (1991) supports this with his finding that types of differentiation strategies, such as high price and high product/service quality, are more evident among entrepreneurial firms. But Dess et al. argue that two constructs that are so closely related cannot have a compound effect on firm performance since multiple bases of competitive advantage are not tapped in such a case. However, it seems as if in small firms with fewer resources this compound effect may be important if SMEs want to improve firm performance.

The types of strategies were further explored for moderating effects on performance. It was found that differentiation acts as a moderator for both the simplistic strategy-making - firm performance and participative strategy-making - firm performance relationships. Specifically, the use of a non-differentiation strategy will improve the impact of participative strategy-making on firm performance and the use of a non-differentiation strategy will improve the impact of simplistic strategy-making on firm performance. Following earlier logic it is possible to argue that these modes of strategy-making do not encourage the creative type of behaviour that is necessary to successfully create differentiation strategies.

In summary, this result concurs with the other findings in this section, indicating that adaptive or intrapreneurial strategy-making is used in relation with a differentiation strategy, while simplistic or participative strategy-making is used in conjunction with a non-differentiation strategy, probably indicating the absence of innovation, or differentiation in terms of other aspects such as marketing or quality.

OBJECTIVE 6: TO ESTABLISH THE DIRECT RELATIONSHIP THAT SOME OF THE CONTEXT AND CONTENT FACTORS MAY HAVE WITH FIRM PERFORMANCE

Proposition 6a, which addresses the relationship between EO and firm performance, was explored earlier in this chapter. The rest of this section is therefore dedicated to exploring the relationships between the content variables and the context variables of this study.

8.7 THE FIRM CONTEXT AND STRATEGIES

The previous section indicated that strategies which SMEs choose have little effect on firm performance, and do not strengthen the relationship between strategy-making process and firm performance as much as expected. This finding is in line with other studies such as Smallbone et al. (1995) who find that no single type of strategy is more associated with positive firm performance. Smallbone et al. explain that this finding implies that paying attention to products and markets is a valuable strategy for SMEs. In this section the effect of context variables on the strategies that a firm chooses is discussed.

8.7.1 External environment

The findings from this section leave little doubt that differentiation and focus strategies are related to the environment. All four correlations between differentiation or focus strategies with dynamic or hostile environments were significant with $r > 0.3$ in all cases.

The correlation between differentiation strategies and hostility is much stronger than the correlation between focus and dynamism. It appears therefore that firms deal with hostile environments by creating more competitive products in changing markets, and also by creating customer loyalty in order to avoid frequent adaptation to an unpredictable environment (Miller, 1988). The first relationship was stronger in low

performing firms, indicating that this approach may not necessarily have a positive effect on firm performance.

The correlation between focus strategies and dynamic environments is much stronger than the correlation between differentiation and hostility. This indicates that firms in dynamic environments may decide to seek out markets and concentrate on serving that market well. The fact that the correlation between focus strategies and dynamic environments was even stronger in high performing firms indicates that this may be a better approach than that espoused in the previous paragraph.

8.7.2 Industry

Industry life cycle and industry category are explored once again. ANOVA indicates that industry life cycle has no significant effect on differentiation or focus strategies.

Industry category was therefore explored further. Retail/wholesale firms reported higher usage of differentiation strategies, while construction firms were the lowest users of differentiation strategies. This result is similar to the earlier finding that retail/wholesale firms use intrapreneurial strategy-making and adaptive strategy-making while construction firms use simplistic strategy-making and participative strategy-making. A pattern of a more pro-active, entrepreneurial retail/wholesale industry and a more mechanistic, focussed construction industry is starting to emerge.

The use of focus strategies by firms in the construction industry is intuitively acceptable. At the time of the empirical study there was a strong growth in both the commercial and residential property markets. Most construction firms were finding it difficult to keep up with demand and could choose which contracts to tender for or to accept. This could lead to a strong focus on a particular market. But, independent of economic cycles, it can also be explained that most smaller construction firms are geared toward serving a particular market which strongly points toward the use of focus strategies.

8.7.3 Internal environment

Firms from different age groups show no difference in their use of differentiation of focus strategies. Size groups show no difference in their use of differentiation strategies, but a weak yet significant relationship for size and focus strategies exist. In the latter case firms with fewer than ten employees use focus strategies more than other size groups. This result is consistent with previous studies (Cooper et al., 1986; Rutherford et al., 2001) that suggest or find that small SMEs are more likely to use focus strategies. Focus strategies are also more prevalent in firms with a low level of EO, which indicates that firms that do not have the culture to support innovation or differentiation strategies, are likely to resort to focus strategies.

The higher incidence of differentiation strategies in firms with organic organisational structures and entrepreneurial cultures can be explained by the ability of this type of structure to enable bold and risky projects. It is proposed that in SMEs these innovative projects will include simple, cheap innovations which can be accommodated by small, organically structured firms. Covin and Slevin (1988) also recommend that managers who choose to act entrepreneurially should not resort to mechanistic structures to improve control.

In summary, it can be concluded that small, or non-entrepreneurial firms, possibly in the construction industry are more likely to use focus strategies. Organic or entrepreneurial firms, most likely in the retail/wholesale industry, are more likely to use differentiation strategies.

OBJECTIVE 7: TO INVESTIGATE THE CONFIGURATIONAL RELATIONSHIPS BETWEEN THE VARIABLES OF THE STUDY

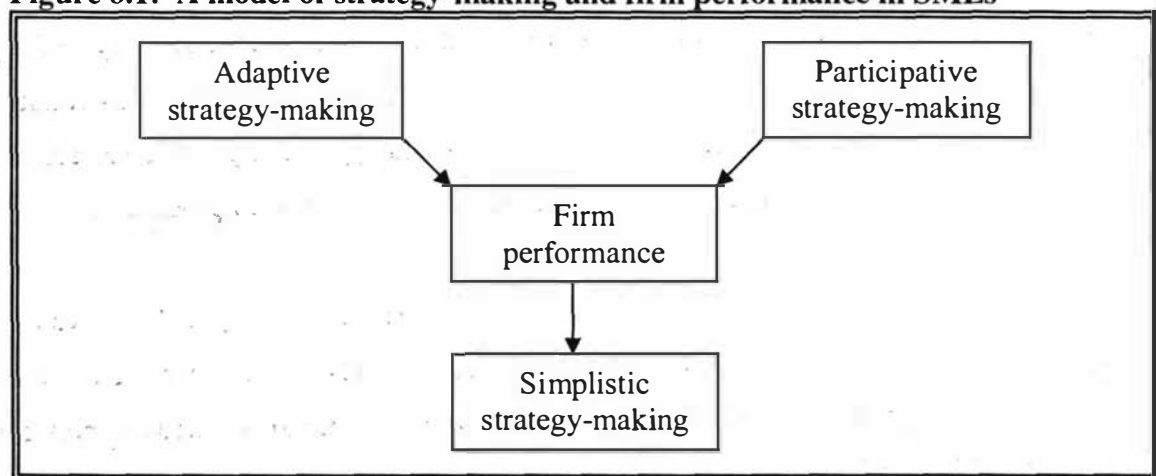
8.8 CONFIGURATIONAL RELATIONSHIPS

Strong arguments for the use of a configurational approach to the study of strategy-making were made throughout this thesis. Two methods of using such a configurational approach were explored in the previous chapter. These are discussed below.

8.8.1 Structural model

The causal SEM that forms the basis for the testing in this section started with a model that included all the significant relationships found in Chapter Seven. As explained, poorly fitting paths were deleted step by step until no critical ratios with values below 1.96 were left. All the relationships were initially indicated as going both ways between related variables. In all cases at least one of the arrows had to be deleted because of low critical ratios. The remaining paths can therefore be considered as causal.

Figure 8.1: A model of strategy-making and firm performance in SMEs



The final model (as summarised in Figure 8.1) shows that adaptive strategy-making and participative strategy-making contributes to firm performance, adaptive (SW = 0.247) twice as much as participative strategy-making (SW = 0.116). The total variation in

firm performance that is explained by these two modes of strategy-making is 9.2 per cent. This finding indicates that firms which actively engage their stakeholders during the strategy-making process and which seek feedback on various aspects of the firm from their market will find that these actions have a positive impact on their firm performance. The same is true, although to a lesser extent, of firms that involve their employees in the strategy-making process, devolve decision-making to the most suitable level and ensure input into decisions from the most appropriate levels or departments in the firm. This result suggests that strategy-making in successful firms is the result of SMEs exploring their environment and engaging internal and external stakeholders to ensure complete information about not only opportunities and threats, but also the strengths and weaknesses. In these SMEs strategies result from ideas gathered from stakeholders and decisions made by people with the appropriate level of information to make the decision.

Performance explains 15.3 per cent of the variance in simplistic strategy-making. Although Lumpkin and Dess (1995) also found a relationship between simplistic strategy-making and firm performance, they were not able to indicate the direction of the relationship. It can be argued that the increase in strategy-making sophistication that results from the use of adaptive and participative strategy-making practices becomes part of the so-called 'blueprint' for strategy-making that is found in the simplistic mode of strategy-making. But it is also possible that firms perform better, for one reason or another, and therefore have the resources to support a more extensive strategy-making process. This suggestion is supported by the arguments from authors such as Hannon and Atherton (1996) who suggest that more formal strategy-making processes are not employed by SMEs because of their lack of resources to support such processes.

The fact that adaptive strategy-making and participative strategy-making lead to improved firm performance, while firm performance leads to the increased use of simplistic strategy-making processes, explains the bi-directional arrows between strategy-making and firm performance that was discussed in Section 8.3.3. But since this study did not gather longitudinal data, this result is treated with caution and warrants further investigation.

The absence of any context of content variables in the final model is unexpected. It can only be theorised that the effect of these variables did not have enough impact on firm performance or other relationships to be included in the model. The reason for this may be that SMEs benefit from engaging in the strategy-making process and giving thought to their circumstances and choices, rather than actually employing one strategy instead of another. The next section does, however, provide a more general lay-out of the interaction between the process, context and content variables of this study.

8.8.2 Archetypes

Archetypes including only the four single modes of strategy-making were first created and indicate that firms are either high, medium, or low users of strategy-making. Next, the other variables of the study were added to the cluster-analysis. The same three archetypes resulted, named 'multi-mode process', 'impoverished process', and 'medium process', following Hart (1991) terminology.

The multi-mode and medium process archetypes are successful archetypes, exhibiting high levels of firm performance. It appears that these two archetypes cope with their more dynamic and hostile environments by investing in strategy-making, employing as many modes as possible. Clearly strategy-making processes are a coping mechanism with environmental uncertainty that improves the likelihood that a firm will be successful. Furthermore, differentiation strategies are more likely to be associated with higher performing firms as compared to focus strategies. As seen before, the use of differentiation strategies is closely coupled by a high EO. The successful archetypes are, however, more mechanistically structured. Interestingly, successful archetypes are younger and smaller than the unsuccessful archetype, although, as explained earlier, the average age and size for the firms in this study is quite high. The most successful archetype includes a high percentage of service and retail/wholesale firms. The fact that firms in uncertain environments are more successful is counter intuitive. It is therefore likely that the success of these firms is a result of the combination of the use of a variety of strategy-making processes, differentiation strategies and an entrepreneurial culture.

The impoverished process archetype exhibits low performance, and does not engage in strategy-making processes to the same extent as the other two archetypes. This, combined with organic organisational structures, low EO and a high use of focus strategies seems to be the reason for the lower performance of these firms.

The results from the cluster analysis provide three archetypes, which are to a large extent a summary of the results of this study. The latter statement is evidenced by the support of the archetypes from other analytical techniques and findings. At a minimum this shows that a configurational approach to the study of strategy-making is possible. Since firm performance was included as a variable in the cluster analysis, no further analysis, such as ANOVA, was performed using the resulting archetypes.

8.9 SUMMARY

As this discussion indicates, the results of this study provide answers to several questions that remain previously unanswered. The major finding is presented by the structural model in the last section of this chapter, that indicates not only which modes of strategy-making are related to firm performance, but also the directions of those relationships. The next chapter provides a conclusion to this study, explore the limitations of this study and suggest some future research directions.

CHAPTER 9 - CONCLUSIONS

9.1 OVERVIEW OF THE STUDY

This study asks: What are the strategy-making processes of SMEs in New Zealand and how are these related to firm performance? It contends that this relationship could only be investigated in the presence of context and content variables.

In order to answer the research question, a literature review was conducted first. The review serves three important purposes. First, it identifies and provides a thorough understanding of the variables that might play a role in answering the research question. Second, it documents the relationships that have been hypothesised or found between these variables in conceptual or empirical studies. Third, it identifies a number of scales that have been used to measure these variables in previous studies.

The literature review illustrates that the authors who have investigated strategy-making processes in firms in general are not the same people who research strategic planning in SMEs. Therefore, these two sets of literature have diverged over the years and SME researchers have rarely adopted the trends that exist in the strategy-making process literature. This means that the literature on strategic planning in SMEs is sometimes prescriptive and lacking in a strong theoretical framework. This study attempts to bridge this gap by applying the lessons learnt from the strategy-making process literature to the study of strategy-making in SMEs. It draws on the strategy-making process literature to identify five possible approaches (modes) to strategy-making that SMEs may employ, namely the rational, symbolic, adaptive, participative and entrepreneurial modes of strategy-making. It also defines these modes of strategy-making and describes their characteristics (aspects). The next part of the literature review provides an overview of the context and content variables that might influence the relationship between the modes of strategy-making and firm performance. In terms of context, environmental uncertainty, industry life cycle, industry category, size, age, entrepreneurial orientation (EO) and organicity are identified as important variables that might influence this relationship. Content refers to the strategies that a firm chooses

and in this case business strategies, such as differentiation and focus strategies were used in testing.

A framework that can be utilised to study the complex relationships that exist between the above-mentioned variables was compiled next. This framework is a visual presentation of the propositions of the study, which were designed to facilitate attaining the seven objectives formulated in Chapter Four. An empirical study was conducted to test the propositions set out in the research framework. A questionnaire that contains the scales identified through the literature review was mailed to 2 000 New Zealand SMEs, chosen randomly from the Kompass database. A total of 477 usable questionnaires were returned, entered into an Excel spreadsheet and analysed with the use of SPSS 11.5 and AMOS 5. A variety of data analysis techniques provided several interesting results from which a series of conclusions are drawn and implications provided in the remainder of this chapter.

9.2 SIGNIFICANT FINDINGS

This section presents the most significant findings from this research, starting with the strategy-making processes preferred by New Zealand SMEs. Next, firm level entrepreneurship is explored, followed by an explanation of the context in which strategy-making processes occur and the business strategies that result from these processes. Last, the configurational models that were tested in this thesis are reviewed.

9.2.1 The strategy-making processes of New Zealand SMEs and firm performance

The existence of a pure, rational mode of strategy-making cannot be confirmed in New Zealand SMEs. Instead, the four modes of strategy-making identified in New Zealand SMEs are the simplistic, adaptive, participative and intrapreneurial (a variant of the entrepreneurial mode) modes of strategy-making. These four modes correspond strongly with those identified by Dess et al. (1997), although their descriptions are conceptualised somewhat differently. The simplistic mode which combines aspects of the command and symbolic modes occurs, indicating a simplified, more affordable

approach to strategy-making. This mode is strongly correlated with managerial perception of firm performance. The intrapreneurial mode differs from the conceptualised entrepreneurial mode, in that strategy-making is driven by inventive employees, instead of a commanding entrepreneur. It is therefore a generative process (Hart, 1992) which creates risky, innovative ideas in a dynamic manner. Participative strategy-making does not include aspects of politics (Mintzberg, 1973) and adaptive strategy-making is focussed on the interaction between the firm and its external stakeholders. A strong theme that emerges from the latter three modes is one of involvement of internal and external stakeholders in the strategy-making process.

This research confirms that strategy-making processes contribute to an explanation of firm performance in SMEs. Adaptive or participative strategy-making are significantly related to firm performance, suggesting that the involvement of stakeholders in the strategy-making process is a suitable way for SMEs to ensure that the decisions that result from the process will improve the competitive position of the firm. However, the simplistic approach led by an experienced manager/owner has the strongest relationship with firm performance, suggesting that this type of leadership is important to small businesses as far as strategy-making is concerned. Furthermore, SMEs that succeed in combining different modes of strategy-making, specially the simplistic mode in combination with a mode that involves stakeholders, seems to indicate superior performance. Plainly speaking, this result suggests that a commanding manager/owner who is willing to listen to suggestions will be the best strategy-making technique for SMEs.

9.2.2 Firm level entrepreneurship in New Zealand SMEs

Two firm level entrepreneurship constructs were investigated and compared in the literature review, namely EO and entrepreneurial strategy-making. In general, EO is explained as a firm philosophy or culture, representative of the nature of the firm, whereas entrepreneurial strategy-making is a firm process represented by a commanding owner/manager who guides inventive employees with a strong vision. The findings delivered a reconceptualised process, now termed the intrapreneurial mode of strategy-making, in which the inventive employees are left to their own devices. The most

important, if somewhat surprising, result regarding the firm level entrepreneurship constructs in this study is that neither EO, nor intrapreneurial strategy-making contributes strongly to firm performance. Although the results indicate a high level of EO in New Zealand SMEs, this clearly does not translate to commercial success. Neither does intrapreneurial strategy-making, unless used to develop differentiation strategies. These findings are important, and may have several implications in a SME context. It is, for instance, possible that an entrepreneurial nature, as suggested by a high EO, has to be supported by a larger, more resource rich firm that can bring innovations to the market. The fact that intrapreneurial strategy-making, when resulting in a differentiation strategy, leads to higher perceived performance, supports this suggestion, indicating that firms which turn an intrapreneurial mode into a sought-after market offering may be more likely to succeed. Moreover, the command aspect of strategy-making was found to complement a symbolic mode of strategy-making, rather than the entrepreneurial mode of strategy-making as suggested by Mintzberg (1973). Since simplistic strategy-making is strongly related to firm performance, it can be suggested that a strong, decisive manager/owner may play an important role in the success of a SME. In intrapreneurial strategy-making, which is a bottom-up process, the absence of such a leader may partly explain its weak relationship with firm performance, confirming the important role that SME owner/managers play in the success of their firms.

9.2.3 The context of strategy-making and business strategies of New Zealand SMEs

It transpires that the context and sometimes the content of a firm dictate which mode of strategy-making is more appropriate to a particular firm. *Simplistic* strategy-making occurs most often in mechanistic firms, but contributes more to performance in organic firms with a low EO. *Adaptive* strategy-making is used in entrepreneurial firms and also in hostile environments, although when used in hostile environments, firms are perceived to perform poorly. *Participative* strategy-making occurs in organic firms, mostly in the retail/wholesale industry. It appears that it is better not to use adaptive or participative strategy-making in combination with differentiation strategies. *Intrapreneurial* strategy-making is found in entrepreneurial and/or organic firms, and its

effect on performance is strengthened in hostile environments and/or when used with differentiation strategies.

In terms of business strategies it emerges that *cost-leadership* strategies are not often used by New Zealand SMEs. *Focus* strategies occur in dynamic environments, typically used by small, non-entrepreneurial firms, such as those often found in the construction industry. *Differentiation* strategies are observed in organic, entrepreneurial firms in hostile environments, typically in the retail/wholesale industry. One business strategy, namely differentiation, is also moderately related to firm performance, but strongly related when resulting from an intrapreneurial strategy-making process.

Collectively these results suggest that it is important for researchers to include context factors and business strategies in any study of strategy-making processes, since the most appropriate process is often context specific. The same observation can be made about business strategies.

9.2.4 Configurational models of strategy-making in New Zealand SMEs

The existence of configurational relationships that investigate the associations among all these variables simultaneously is explored in this thesis. The two techniques that are used in this regard delivered conflicting results. Structural equation modelling (SEM) provided a model that only includes the participative, adaptive and simplistic modes and firm performance. The results of this model are nevertheless exciting, indicating the direction of the relationships between these variables. Participative and/or adaptive strategy-making in this model leads to firm performance. In a SME context this result implies that SMEs which involve internal and external stakeholders when considering their future direction, will improve their performance. This involvement might result in more informed and considered decisions. On the other hand, firms that perceived their performance to be good, use simplistic strategy-making. These firms might have slack resources and more experienced managers and will therefore feel confident to use strategy-making processes that they have been using in the past, with the owner/manager playing a pivotal role in the strategy-making process.

Cluster analysis provided three archetypes of New Zealand SMEs, two of which were successful and one unsuccessful. These archetypes corresponded closely with the results derived through other analytical techniques. Taken collectively, the findings make it possible to describe firm profiles, and simultaneously provide moderate support for the use of a configurational approach to the study of strategy-making in SMEs.

In general, support and partial support of many of the propositions in Chapter Seven suggest that strategy-making processes have the ability to influence the performance of a small firm, and that the context in which a firm operates and the strategies that it uses may further strengthen or weaken this influence. The next section explains in more detail how these findings contribute to research and business practice.

9.3 CONTRIBUTION OF THIS RESEARCH

The theory that was built and tested in this thesis makes an important contribution to the field of strategy-making in SMEs. Before, this field was mostly limited to research on the presence or absence of formal strategic planning process or strategic plans in SMEs. This study broadens the research and suggests that SMEs, just like larger firms, may use a variety of strategy-making processes. This contribution has implications for theory and practice, which are discussed next.

9.3.1 Implications for theory and research

This section evaluates the contribution of this study to strategy-making knowledge. The first contribution that is identified is the empirically derived taxonomy of strategy-making processes in SMEs that this thesis presents. Second, this study redefines a number of strategy-making processes in a SME context. Third, the meaning of, and relationship between the two firm level entrepreneurship constructs investigated in this thesis is reconceptualised. Last, this study suggests that configurational and contingent relationships between strategy-making process, context factors and business strategies exist.

First, this research contributes to the theory of strategy-making in SMEs by clarifying the meaning of the strategy-making concept to include not only rational strategy-making processes, but rather simplistic, adaptive, participative and intrapreneurial processes. Specifically, it questions the validity of past studies that judged that SMEs do not make strategy, when in effect these studies were only investigating whether rational strategy-making occurs. An exploration of previous studies that investigate the tenuous link between strategy-making processes and firm performance in SMEs shows that few studies entertain the idea that strategy-making processes do not have to be rational or even formal to contribute to firm performance. Exceptions are Metts (2004) and Van Gelderen et al. (2000) who allude to this possibility, but do not explore this idea as the primary topic of their thesis or research. In reality, this thesis suggests that pure rationality may not occur often in SMEs and that studies that investigate the use of strategy-making practices in SMEs would be better off using a typology or taxonomy of strategy-making processes instead of focussing on whether rational processes occur or strategic plans are present. In this regard, this thesis provides an empirically derived taxonomy for the future investigation of strategy-making in SMEs for researchers. This taxonomy consists of the simplistic, adaptive, participative and intrapreneurial modes of strategy-making.

Another important implication stemming from this taxonomy, is the elimination of rational strategy-making as an important mode that SMEs exhibit. The literature review alluded to the possibility that this mode may not be favoured by SMEs, and the empirical results confirm this. As argued earlier, it is unlikely that many SME manager/owners would have the time, experience, knowledge or resources to attempt a systematic, detailed rational strategy-making process. Although not the topic of this research, this argument can be extended to suggest that a physical strategic plan may not be the outcome of the strategy-making processes identified in this thesis, but that strategy may often be in the mind of the owner/manager or a shared understanding between employees. This absence of rational strategy-making is noteworthy, and suggests that researchers have to redefine what is meant by strategy-making when researching SMEs to provide a more inclusive definition. In this regard, the literature review of this thesis provides such a definition.

Second, the findings of this thesis call into question some of the accepted definitions of the four most important modes of strategy-making used by SMEs, namely the simplistic, adaptive, participative and intrapreneurial modes. In this case this study provides preliminary definitions and descriptions of such modes which may form the basis of future studies. These modes often differ from those suggested in the literature and are explained next.

Simplistic strategy-making is defined as a strategy-making process in which a visionary leader and strong organisational values deliver a limited assortment of decisions. As suggested earlier, SMEs revert to the simplistic mode when they perceive that their strategy has been successful, and they do not want to change goals and decisions that have been successful in the past. *Adaptive* strategy-making is defined as a mode of strategy-making in which decisions are adapted incrementally as a result of interaction with external stakeholders, including customers. The use of this mode of strategy-making is likely to have a positive impact on firm performance, potentially because it means that customers will be more satisfied with the market offering of the firm or better informed about the firm and its offerings, something that is vital for SMEs that often do not have a big marketing budget. *Participative* strategy-making is defined as a mode of strategy-making in which decisions involve internal stakeholders, mostly employees. Undertaking decisions at the most appropriate level or part of the SME ensures that a more considered decision is made, once again impacting positively on firm performance. *Intrapreneurial* strategy-making for the SMEs in this thesis is defined as a dynamic process through which employees generate entrepreneurial strategies in an emergent, risk accepting manner. Intrapreneurial strategy-making is the one mode that is poorly related to firm performance, and is not favoured by New Zealand SMEs. It is suggested that this may be the case as a result of the reconceptualisation of intrapreneurial strategy-making in this thesis. If this mode was to include the 'command' aspect (Hart, 1992) as originally suggested in the literature review, it is likely that it might have been more popular and even related to performance, as explained earlier in this chapter. This thesis therefore provides not only a taxonomy of strategy-making in SMEs, but also defines the modes included in the taxonomy and makes some suggestions regarding their relationship with firm performance.

Third, this thesis also questions some of the existing notions about the nature of firm level entrepreneurship. In this regard, entrepreneurial strategy-making as a mode of strategy-making could not be supported. Instead, intrapreneurial strategy-making was found to exist in New Zealand SMEs. It is also important to note that EO in this study is conceptualised as indicative of the nature of the firm, similarly to an organisational culture. As explained, this conceptualisation is different from some of the authors who investigate this construct and has at least one important implication for future research, namely that EO can now be used as the dependent variable in studies. When EO is conceptualised as a process, it is unlikely that its use as a dependent variable can be justified, since processes typically results in some outcome or another.

Last, this study indicates that context and content variables may play different roles in a study such as this, depending on the analytical technique. Where statistical techniques such as moderated regression analysis, correlations, MANOVA and ANOVA were used to test contingent ('if-then') relationships, a great number of propositions were supported. These propositions suggest that strategy-making processes and their relationship with firm performance depend on a variety of contextual factors such as environmental uncertainty, industry category, organicity and EO. However, a more comprehensive main effects model of strategy-making in SMEs was developed. This model initially included context and content variables, but after purification, only three modes of strategy-making and performance remained. The final model indicates that adaptive and/or participative strategy-making leads to perceived firm performance. Moreover, firms that perform well use the simplistic mode of strategy-making. In this model, it seems as if context and content variables do not play an important role in the study of strategy-making processes. However, this study hesitates to be too conclusive on this point, since other data analysis techniques did provide support for the role of context and content variables. Also, these links have been supported strongly in previous studies (Miller, 1988; Porter, 1985) and should not be excluded from future research projects such as this. Rather, studies that concentrate on particular industries may be able to render more meaningful results in this regard. Furthermore, future studies may add additional variables to such a model to investigate the effect of those variables on the strategy-making/firm performance relationship.

9.3.2 Implications for business practice

Covin and Slevin (1989) explain that suggestions for the improvement of business practices are typically based on empirical research, managerial experience, and sound theorising. As such, this study offers a number of implications for business practice.

First, if it is true that SMEs naturally engage in strategy-making practices as suggested through the data analysis, researchers and practitioners may find it valuable to refine these practices to develop tools that will naturally suit SMEs so that these tools can be of more value. Academics and tertiary institutions will be well advised to develop strategic management courses specifically designed for SMEs, which should contain specially developed techniques and tools that are less time-consuming and expensive to use and more suited to SMEs.

Second, and most importantly, this study finds that SME owner-managers who are concerned with the development of the strategy-making processes in their firms can expect little benefit from employing highly rational processes such as those taught in most business schools. Instead, small firms should choose to concentrate on exploiting the advantages that stem from their small size so that they can benefit from aspects such as: developing their capabilities to be strategically aware (Hannon & Atherton, 1996); developing the interaction with stakeholders to include their suggestions in the strategic direction of the firm; developing the ability to generate a positive organisational culture and employ this in the strategy-making process; developing the ability to communicate and work well as a team and developing the ability to adapt quickly to changes in the environment. If SMEs engage in these practices, it is likely that they will improve firm performance.

In the interim, this thesis identifies four modes of strategy-making which represent a way of thinking about the range and complexity of techniques and issues that SMEs owner-managers may consider when they organise their firm's approach to strategy-making. None of these modes is appropriate for all SMEs, rather the context of the firm should be considered. Furthermore, combinations of modes of strategy-making may further strengthen the effect of strategy-making on the performance of a firm.

Third, the tendency of successful owner/managers to use simplistic strategy-making may have a downside as well. SMEs that become too narrowly focused on the strategies and direction of the past may find themselves out of touch with the marketplace. These firms may find it worth their while to still engage stakeholders in the strategy-making process and remain sceptic about the currency of the strategic assumptions of the strategies that were responsible for their initial success. Furthermore manager/owners should be conscious never to eliminate variety altogether, since the result of this study indicates that a variety of methods may be best to ensure good performance.

Fourth, the results indicate an inability amongst SME owner-managers to capitalise on the entrepreneurial nature of their firms. However, overseas studies such as Covin and Slevin (1989) show a high relationship between EO and firm performance. This may therefore be a problem specific to New Zealand SMEs. Support from government agencies, training and mentoring should focus on helping SMEs to overcome this problem. SME owner/managers should also be mindful that being entrepreneurial is not an end, but rather a means to an end. Therefore they should invest time and money into the commercialisation of entrepreneurial ideas, for example by employing a professional manager or by seeking assistance from agencies that specialises in helping SMEs.

Fifth, SME owner-managers should be cognisant of the strategies that they employ. Cost-leadership strategies may not be appropriate for very small SMEs, because these strategies require additional resources to utilise the advantages of economies-of-scale. In addition, it may be dangerous for SMEs to engage in cost-leadership, especially if they are not able to follow the strategy through when competitors retaliate. It appears that there is some support for the conventional wisdom that very small firms should employ focus strategies. These strategies can be followed successfully without the support of many resources in the form of people and/or money. But ultimately it appears that differentiation strategies, whether in the form of innovation, marketing, quality or other forms of differentiation, are most likely to improve performance in SMEs.

Last, this study finds strong support for the suggestion that the context in which strategy-making takes place, should be taken into account by the firm (Covin & Slevin, 1989). Simply put, different strategy-making processes are appropriate for different firms in different circumstances. A unified prescription of how to make strategy will therefore not be worthwhile for all SMEs and may explain why so many SMEs choose not to engage in strategy-making after bad experiences. Miller (1988) suggests that managers should attempt to build complementarities between strategy and context factors. The need to match business strategies to environment, industry category, and organisational structure is apparent. This match may be the tailoring of a strategy to a set of market aspects or it may be the active search for market niches that fits the firm's strategy.

In summary, it is hoped that the results of this study will increase the motivation of SME owner/managers to engage in strategy-making activities, simultaneously providing some guidelines as to modes and strategies appropriate for their circumstances.

9.4 LIMITATIONS OF THE STUDY

Instead of presenting a long list of limitations, this section rather provides the reader with some issues that need to be considered when interpreting the results of this study. Several such important considerations suggest caution when drawing conclusions from this thesis.

First, the strategy-making modes suggested in this thesis are comprehensive, but certainly not exhaustive. The same comment can be made for the research framework and the variables that were included in the framework. An effort was made to include the most important variables identified in previous strategy-making research, but simultaneously the scope had to be limited for practical reasons.

Second, the data analysis merely shows that some strategy-making practices are more strongly related to performance in certain situations. The data cannot be interpreted as indicating that firms that do not perform as well will not engage in strategy-making at all. Neither does it suggest that SMEs cannot perform well without employing these

strategy-making processes. In effect, only about ten per cent of the variation in firm performance can be explained by the use of the suggested strategy-making processes in the suitable context and with suitable strategies. Furthermore, the fact that regression analysis and SEM models did not explain the majority of the variance in firm performance, suggests that other variables such as human resources or operations practices may be equally or more important than strategy-making and the other variables of this study. In fact, any statistical study of management is inhibited by its inability to capture all relevant aspects that influence performance. In this study, some of the variables that were omitted may still affect this study and this effect will be reflected in variables that they correlate with. In an attempt to minimise this effect, a multivariate model was used.

Third, as argued by Covin and Slevin (1989), the use of a mean split to define high/low EO, high/low organicity of the organisational structure, and high/medium/low performing firms is an arbitrary decision. Although this practice is followed by the majority of previous studies (e.g. Covin & Slevin, 1989; Dean et al., 1998) it is important to recognise that this imprecise statistical decision may have an effect on testing that uses categorical data (e.g. ANOVA).

Fourth, since data were collected from New Zealand SMEs, the generalisability of the results to other settings is questionable. Further research in other settings or countries will have to be undertaken to confirm the results. The observed patterns in this study were therefore only generalised to the population from which the sample was drawn, namely small and medium sized New Zealand firms which employ fewer than 100 FTE employees.

Fifth, there are also limitations that result from the use of a cross-industry design. Student researchers (e.g. Metts, 2004) typically prefer single industry studies which, although not generalisable, are not subjected to variances across industries in terms of environmental uncertainty, performance expectations and size. This thesis attempts to account for the problem with performance expectations by employing perceptions of performance, instead of objective performance measures. The use of perceptions of performance in itself may be a limitation as explained in Chapter Five. Furthermore, this thesis could, however, not account for size variations, as was clear from the results

of the comparisons between the size groups of the sample and the population. Neither could it account for variations in the perception of environmental uncertainty with the construction industry typically viewing the industry as more stable and the retail/wholesale industries typically viewing the environment as more hostile. It must, nevertheless be acknowledged that this may be depended on economic cycles, with the construction industry in a particularly strong position at the time that the study was undertaken.

Sixth, another limitation of the survey stage of the research may be the use of single respondents per firm to complete questionnaires as outlined by Bowman and Ambrosini (1997). Data gathered from single respondents differ from data gathered from multiple respondents because of recall failure and different perspectives. Lyon et al. (2000) argue that there are also advantages to using single respondents, such as that it is likely that the most knowledgeable person will provide the information. In SMEs the views of one person may reflect those of the firm. Furthermore, it allows the researcher to target more firms with the same budget and increase the likelihood of response. A consistent research approach of one respondent for each firm was chosen because SMEs often have only one person with sufficient knowledge to answer the questionnaire. If they had more, it was decided that it is more important to employ a consistent research design.

Last, the cross-sectional design may be another limitation (Bowen & Wiersema, 1999; Schwartz & Teach, 2000). A longitudinal study may provide some advantages. These advantages are explained in the next section.

9.5 SUGGESTIONS FOR FURTHER RESEARCH

As with any study of this nature, several suggestions for further research arise during the execution of the research. Most of these suggestions address the research design, although a few ideas for research topics will also be offered towards the end of this section.

First, the scale that measures the strategy-making process of a firm should be redeveloped or at a minimum refined to ensure its suitability in a SME environment. Ideally, the measure should be based on the aspects that were identified in Chapter Two

so that it measures clearly aspects such as long-term versus short-term, bottom-up versus top-down strategy-making processes.

Second, qualitative research methods could be used to provide further information on the intricate details of the strategy-making process. Case studies are especially attractive in this regard since they can examine the step-by-step strategy-making processes or strategising routines followed by small and medium enterprises over time. This study recognises that these intricacies can only be studied through in-depth interviews and/or case studies of a few firms.

Third, a quantitative longitudinal study may further the understanding of the influence of strategy-making processes on firm performance by considering a larger group of firms over time. It is possible that the effect of these processes on firm performance may have a time lag. The same may be true for the strategies that the firm chooses, which may explain the inability of these strategies to have a significant effect on firm performance. This means that a longitudinal study may strengthen the results of this study.

Fourth, the study can be extended beyond New Zealand. The population of firms was broadly defined in terms of industry to improve generalisability. The geographical scope of New Zealand limits external validity and further work in different geographical and cultural settings should be undertaken in future and compared to the results of this study.

Fifth, other context variables, for example national or organisational culture; gender, emotions and beliefs of the manager-owner; the thinking and acting processes of SME manager-owners; how they develop into strategists; and content variables such as corporate strategies can also be included in the framework for a study of this nature.

Last, several of the sub-parts of this study warrant further investigation. For example, the measurement of firm performance in SMEs is an intricate issue, which should be explored in depth. Furthermore, in order to understand the weak relationship between EO and firm performance, it is necessary to explore this relationship in the presence of context factors such as age, size, structure and industry.

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Appendix A

Questionnaire

Information sheet

Survey of Strategic Management Practices in New Zealand Small and Medium Sized Enterprises

Dear Respondent

This study attempts to understand the relationships between strategy formation practices and organisational performance in the New Zealand business environment. An understanding of this relationship is of potential value to small and medium sized enterprises attempting to improve their performance. The research will contribute towards the study for a PhD thesis at Massey University. This questionnaire that you are asked to complete, aims to investigate the practices your organisation follows during strategy formation and implementation.

The questionnaire should take you approximately 25 minutes to complete. All respondents are guaranteed confidentiality. Data will be coded to ensure that no unauthorised person can identify or interpret an organisation's return. When the results are published, it will not be possible to identify any individual organisation's data. All data will be kept in a secure place and will be destroyed after 5 years.

There are no incorrect answers to the questions. Try not to spend too long on any one question. Each section has a set of instructions. Please read these prior to responding. Answer the questions for the industry/product that accounts for the largest percentage of your sales (in other words, your main industry).

If you wish to receive a summary of the report, please provide your details on the last page of this questionnaire and return this in the separate envelope provided.

Thank you for your time.

Sincerely

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Section A

This section asks you several questions about your organisation. Please indicate your answers by responding in the box to the right of each question. This information is collected to determine the context of the strategy formation in your organisation.

Question	Response	
<p>1. Please indicate the industry/economic sector in which your organisation operates (<i>tick one or more</i>)</p>	<input type="radio"/> Accommodation, food, beverage <input type="radio"/> Agricultural, forestry, fishing <input type="radio"/> Communication services <input type="radio"/> Construction <input type="radio"/> Consultation <input type="radio"/> Cultural, recreational <input type="radio"/> E-commerce <input type="radio"/> Education <input type="radio"/> Electricity, gas, water <input type="radio"/> Finance, insurance <input type="radio"/> Government administration and defence	<input type="radio"/> Health and community services <input type="radio"/> Manufacturing <input type="radio"/> Mining <input type="radio"/> Not for profit <input type="radio"/> Personal services <input type="radio"/> Property and business service <input type="radio"/> Retail trade <input type="radio"/> Tourism <input type="radio"/> Transport and storage <input type="radio"/> Wholesale trade
<p>2. Approximately how old is your organisation?</p>	<p>..... years</p>	
<p>3. How long has the current owner/manager managed the organisation?</p>	<p>..... years</p>	
<p>4. How many people do you employ in New Zealand?</p>	<p>Full time</p>	<p>Part time</p>
<p>5. How many people do you employ overseas?</p>	<p>Full time</p>	<p>Part time</p>
<p>6. What is the average number of hours per week that a part time employee works?</p>	<p>.....hours</p>	
<p>7. Which one of the following best describes your organisation? (<i>tick one</i>)</p>	<input type="radio"/> Owner operated <input type="radio"/> Partnership <input type="radio"/> Private company <input type="radio"/> Public company	<input type="radio"/> Public organisation (e.g. Government /charity) <input type="radio"/> Other:
<p>8. Please indicate which of the following strategies your organisation follows (<i>tick one or more</i>)</p>	<input type="radio"/> Growth <input type="radio"/> New products <input type="radio"/> New markets <input type="radio"/> Maintaining the status quo	<input type="radio"/> Innovation <input type="radio"/> Mergers with other organisations <input type="radio"/> Alliances or joint ventures with other organisations
<p>9. Please indicate the life cycle stage of the industry from which you derive the majority of your income (<i>tick one</i>)</p>	<input type="radio"/> Introduction <input type="radio"/> Growth	<input type="radio"/> Maturity <input type="radio"/> Decline
<p>10. Which of the following statements best describes your organisation? (<i>tick one</i>)</p>	<input type="radio"/> Our main purpose is to defend our market share <input type="radio"/> We react to other players in the industry	<input type="radio"/> We minimise risk whilst maximising the opportunity for profit <input type="radio"/> We actively seek to increase our current market share

Section B

The following statements are meant to identify the collective management style of your organisation's key decision-maker(s). Please circle the number that most closely represents your answer.

1. *In general, the manager(s) of my organisation prefer(s)...*

- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| a) A strong emphasis on the marketing of tried and true products and services | 1 | 2 | 3 | 4 | 5 | 6 | 7 | A strong emphasis on research and development, technological leadership, and innovation |
|---|---|---|---|---|---|---|---|---|

2. *How many new lines of products or services has your organisation marketed in the past five years?*

- | | | | | | | | | |
|---|---|---|---|---|---|---|---|--|
| a) No new lines of products or services | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Many new lines of products and services |
| b) Changes in product or service lines have been mostly of a minor nature | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Changes in product or service lines have usually been quite dramatic |

3. *In dealing with its competitors, my organisation ...*

- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| a) Typically responds to actions which competitors initiate | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Typically initiates actions which competitors respond to |
| b) Is very seldom the first to introduce new products/services, administrative techniques, operating technologies, etc. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Is very often the first to introduce new products/services, administrative techniques, operating technologies, etc. |
| c) Typically seeks to avoid competitive clashes, preferring a 'live-and-let-live' philosophy | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Typically adopts a very competitive, 'undo-the-competitors' philosophy |

4. *In general, the top managers of my organisation have ...*

- | | | | | | | | | |
|--|---|---|---|---|---|---|---|--|
| a) Low-risk projects with normal and certain rates of return | 1 | 2 | 3 | 4 | 5 | 6 | 7 | High-risk projects with chances of very high returns |
|--|---|---|---|---|---|---|---|--|

5. *In general, the top managers of my organisation believe that...*

- | | | | | | | | | |
|---|---|---|---|---|---|---|---|--|
| a) Owing to the nature of the external environment, it is best to explore it gradually via timid, incremental behaviour | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Owing to the nature of the external environment, bold wide-ranging acts are necessary to achieve the organisation's objectives |
|---|---|---|---|---|---|---|---|--|

6. *When confronted with decision-making situations involving uncertainty, my organisation ...*

- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| a) Typically adopts a cautious, 'wait-and-see' approach in order to minimise the probability of making costly decisions | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Typically adopts a bold, aggressive approach in order to maximise the probability of exploiting potential opportunities |
|---|---|---|---|---|---|---|---|---|

Section C

Please circle the number that most closely represents the conditions experienced by your organisation as described in the following statements:

- | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|--|
| a) | Our organisation must rarely change its marketing practices to keep up with the market and competitors | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Our organisation must change its marketing practices frequently (e.g. semi-annually) |
| b) | The rate at which products/services are getting obsolete in the industry is very slow | 1 | 2 | 3 | 4 | 5 | 6 | 7 | The rate of obsolescence is very high |
| c) | Actions of competitors are quite easy to predict | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Actions of competitors are unpredictable |
| d) | Demand and consumer tastes are fairly easy to forecast | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Demand and consumer tastes are almost unpredictable |
| e) | The production/service technology is not subject to very much change and is well established | 1 | 2 | 3 | 4 | 5 | 6 | 7 | The modes of production/service change often and in a major way |
| f) | We are an undiversified organisation, which means that we cater to the same type of customers in industries that are very similar | 1 | 2 | 3 | 4 | 5 | 6 | 7 | We are a highly diversified organisation and operate in unrelated industries |
| g) | Customer buying habits are about the same for all our products or services | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Customer buying habits vary a great deal from one line to another |
| h) | The nature of competition is about the same for all our products or services | 1 | 2 | 3 | 4 | 5 | 6 | 7 | The nature of competition varies a great deal from one line to another |
| i) | Market dynamism and uncertainty are about the same for all our products or services | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Market dynamism and uncertainty vary a great deal from one line to another |
| j) | The business environment causes a great deal of threat to the survival of our organisation | 1 | 2 | 3 | 4 | 5 | 6 | 7 | There is little threat to survival in the environment |
| k) | Tough price competition is not a great threat | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Tough price competition is a substantial threat |
| l) | Competition in product quality or novelty is not a great threat | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Competition in product quality or novelty is a substantial threat |
| m) | Dwindling markets for products are not a great threat | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Dwindling markets for products are a substantial threat |
| n) | Scarce supply of labour/material is not a great threat | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Scarce supply of labour/material is a substantial threat |
| o) | Government interference is not a great threat | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Government interference is a substantial threat |
| p) | Our organisation functions in an environment that is technologically sophisticated | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Our organisation functions in an environment that is technologically unsophisticated |

In general, my organisation favours ...

q)	Highly structured channels of communication and highly restricted access to important financial and operating performance	1	2	3	4	5	6	7	Open channels of communication with important financial and operating information flowing quite freely throughout the organisation
r)	A strong insistence on a uniform managerial style throughout the organisation	1	2	3	4	5	6	7	Managers' operating styles allowed to range freely from the very formal to the very informal
s)	A strong emphasis on giving the most to say in decision-making to formal line managers	1	2	3	4	5	6	7	A strong tendency to let the expert in a given situation have the most say in decision-making, even if this means temporary bypassing of formal line authority
t)	A strong emphasis on retaining tried and true management principles despite any changes in business conditions	1	2	3	4	5	6	7	A strong emphasis on adapting to changing circumstances without too much concern for past practice
u)	A strong emphasis on always getting personnel to follow the formally laid down procedures	1	2	3	4	5	6	7	A strong emphasis on getting things done even if this means disregarding formal procedures
v)	Tight formal control of most operations by means of sophisticated control and information systems	1	2	3	4	5	6	7	Loose, informal control; heavy dependence on informal relationships and norm of co-operation for getting work done
w)	A strong emphasis on getting line and staff personnel to adhere closely to formal job descriptions	1	2	3	4	5	6	7	A strong tendency to let the requirements of the situation and the individual's personality define proper on-job behaviour

Section D

Please circle the number that most closely represents the strategies followed by your organisation as described in the following statements:

1.	We do not use major and frequent product or service innovations	1	2	3	4	5	6	7	The use of major and frequent product or service innovations is an important strategy
2.	There is a strong tendency to follow competitors in introducing new products, services, systems or ideas	1	2	3	4	5	6	7	We always try to be ahead of competitors in product novelty or speed of innovation and usually succeed
3.	We favour the tried and true	1	2	3	4	5	6	7	We are growth, innovation, and development orientated
4.	We use little or no advertising	1	2	3	4	5	6	7	Advertising is an important strategy of ours
5.	We use little or no market segmentation	1	2	3	4	5	6	7	Market segmentation is an important strategy of ours
6.	We use little or no premium pricing	1	2	3	4	5	6	7	Premium pricing is an important strategy of ours
7.	We use cost centres only rarely or for a small part of our operation	1	2	3	4	5	6	7	Cost centres are used frequently and throughout the organisation
8.	We use fixing of standard cost only rarely or for a small part of our operation	1	2	3	4	5	6	7	Fixing of standard cost is used frequently and throughout the organisation
9.	We use little or no price cutting	1	2	3	4	5	6	7	Price cutting is an important strategy of ours
10.	We use little or no minimisation of advertising expenditures	1	2	3	4	5	6	7	Minimisation of advertising expenditures is an important strategy of ours
11.	Bold, wide-ranging acts are viewed as useful and common practice	1	2	3	4	5	6	7	Due to the nature of the environment, it is best to explore it gradually via timid, incremental behaviour
12.	Our organisation has few distinctly different product lines or services marketed	1	2	3	4	5	6	7	Our organisation has many distinctly different product lines or services marketed
13.	Similar technologies (e.g. all produced with similar equipment) are used to produce all product lines or services marketed	1	2	3	4	5	6	7	Dissimilar (e.g. custom production for one, mass production for another) technologies are used to produce all product lines or services marketed
14.	Different product lines or services are marketed similarly in terms of marketing strategy, customer needs, pricing and so forth (e.g. one product, one market)	1	2	3	4	5	6	7	Dissimilar marketing strategies are required for different product lines or services (e.g. when selling to both customers and industrial markets)
15.	Our organisation is very quick to introduce new products or services to the market	1	2	3	4	5	6	7	Our organisation usually takes a 'wait-and-see' approach to introducing new products or services to the market
16.	Our organisation is very proficient at identifying opportunities for product, service or market development	1	2	3	4	5	6	7	Our organisation usually follows other organisations that have identified opportunities for product, service or market development
17.	Our organisation is able to create new product or service applications from generic technologies	1	2	3	4	5	6	7	Our organisation sells products and services that were developed by other organisations or institutions

Section E

Please circle the number that most closely represents your response. Use the following numbers to indicate your response:

- 1 = strongly disagree
- 2 = disagree
- 3 = neither agree nor disagree
- 4 = agree
- 5 = strongly agree

1.	There is a clear blueprint for this organisation's strategy that was set some time ago and has changed very little	1	2	3	4	5
2.	Strategy for this organisation is primarily provided by the owner/manager/chief executive officer and a few of his/her fellow top managers/executives	1	2	3	4	5
3.	Our organisation continually adapts by making appropriate changes in its strategy based upon feedback from the market place	1	2	3	4	5
4.	Business planning in our organisation is ongoing and involves everyone in the process to some degree	1	2	3	4	5
5.	We spend as much time as possible with customers and other key stakeholders, listening to what they have to say about the organisation	1	2	3	4	5
6.	Our business and product planning process involves various stakeholders such as customers, suppliers, and providers of funds	1	2	3	4	5
7.	Business and product planning in this organisation is largely an internal process that seeks to contain the amount of information leaking to the outside	1	2	3	4	5
8.	There is a clear and consistent set of values in this organisation that governs the way we do business	1	2	3	4	5
9.	This organisation has a characteristic 'management style' and a common set of management practices	1	2	3	4	5
10.	Decisions in this organisation are usually made at the level where the most accurate information is available, even if it is not top management	1	2	3	4	5
11.	Most people in this organisation have input into the decisions that affect them	1	2	3	4	5
12.	Most people in this organisation are willing to take risks	1	2	3	4	5
13.	Most people in this organisation are treated equally, regardless of rank or status	1	2	3	4	5
14.	People in this organisation are very dynamic and entrepreneurial	1	2	3	4	5
15.	Conflict in this organisation is often suppressed rather than dealt with openly	1	2	3	4	5
16.	Specific work roles and expectations are clearly defined in this organisation	1	2	3	4	5
17.	Co-operation and collaboration across functional roles are actively encouraged	1	2	3	4	5
18.	People with unpopular views are given a fair hearing in this organisation	1	2	3	4	5
19.	Working in this organisation is like being part of a team	1	2	3	4	5
20.	Failure is something to be avoided in this organisation at all cost	1	2	3	4	5
21.	People are encouraged to experiment in this organisation so as to identify new, more innovative approaches or products	1	2	3	4	5
22.	Long-term potential is valued over short-term performance in this organisation	1	2	3	4	5
23.	The way we do things in this organisation is well suited to the business we are in	1	2	3	4	5
24.	Decisions concerning business strategy are made on a consensus basis, involving people from different departments or areas in the organisation	1	2	3	4	5
25.	The chief executive officer of our organisation insists on placing his/her mark on virtually every major initiative	1	2	3	4	5

Section F

This section asks you to indicate the **degree of importance** that your organisation attaches to each of the following financial performance criteria. Please use the following numbers to indicate your response:

- 1 = highly unimportant
- 2 = unimportant
- 3 = neither important nor unimportant
- 4 = important
- 5 = highly important

1a. Sales level	1	2	3	4	5
2a. Sales growth rate	1	2	3	4	5
3a. Cash flow	1	2	3	4	5
4a. Return on shareholder equity	1	2	3	4	5
5a. Gross profit margin	1	2	3	4	5
6a. Net profit from operations	1	2	3	4	5
7a. Profit to sales ratio	1	2	3	4	5
8a. Return on investment	1	2	3	4	5
9a. Ability to fund business growth from profits	1	2	3	4	5
10a. Overall organisational performance	1	2	3	4	5

This section asks you to indicate the **degree of satisfaction of your organisation's performance** on each of these financial performance criteria. Please use the following numbers to indicate your response:

- 1 = highly dissatisfied
- 2 = dissatisfied
- 3 = neither satisfied nor dissatisfied
- 4 = satisfied
- 5 = highly satisfied

1b. Sales level	1	2	3	4	5
2b. Sales growth rate	1	2	3	4	5
3b. Cash flow	1	2	3	4	5
4b. Return on shareholder equity	1	2	3	4	5
5b. Gross profit margin	1	2	3	4	5
6b. Net profit from operations	1	2	3	4	5
7b. Profit to sales ratio	1	2	3	4	5
8b. Return on investment	1	2	3	4	5
9b. Ability to fund business growth from profits	1	2	3	4	5
10b. Overall organisational performance	1	2	3	4	5

Based on your perception, assess your organisation's performance over the past 5 years relative to your competitors for each of the following performance criteria. Please use the following numbers to indicate your response:

- 1 = very poor performer
- 2 = poor performer
- 3 = intermediate performer
- 4 = good performer
- 5 = very good performer

1c. Sales level	1	2	3	4	5
2c. Sales growth rate	1	2	3	4	5
3c. Cash flow	1	2	3	4	5
4c. Return on shareholder equity	1	2	3	4	5
5c. Gross profit margin	1	2	3	4	5
6c. Net profit from operations	1	2	3	4	5
7c. Profit to sales ratio	1	2	3	4	5
8c. Return on investment	1	2	3	4	5
9c. Ability to fund business growth from profits	1	2	3	4	5
10c. Overall organisational performance	1	2	3	4	5

Section G: Administrative information

The completion of this section is optional. Please detach this page from the rest of the questionnaire and mail it in the separate envelope provided to the address on the information sheet.

Date:

Name of organisation:

Name of department/division:

OPTIONAL: If you wish to be provided with an executive summary of the final report of this research, please supply the name and phone and/or fax number of a contact person. Also indicate if you are willing to participate in one other survey before the end of 2003.

Contact name: E-mail:

Phone: Fax:.....

Willing to participate in future research: Yes / No

Thank you for your participation

Appendix B

Factor Analyses

Table B.1: Principal Component Factor Matrix for the EO scale (Varimax)

	Factor 1 EO
Proddevelop	0.621
P&Slines	0.637
P&Schange	0.720
Comprespond	0.647
Marketlead	0.710
Compclash	0.568
Riskprojects	0.675
Typechange	0.767
Approachopp	0.705

Table B.2: Principal Component Factor Matrix for the Environment Scale (Varimax)

	Factor 1 Hostility	Factor 2 Dynamism	Factor 3 Heterogeneity
Markpractice		0.693	
Rateobsolesc		0.651	
Compactions		0.618	
Demandforecast		0.592	
Operationmode		0.648	
Diversification	0.585		
Buyinghabits	0.820		
Compnature	0.861		
Markdynamic	0.842		
Environthreat			0.583
Comptough			0.649
Compquality		0.423	
Dwindlingmarket			0.648
Scarcesupply			0.536
Governinterfere			0.540
Techsophisticate		-0.377	

Table B.3: *A priori* principal Component Factor Matrix for the Structure Scale (Varimax)

	Factor 1 Organicity
Commchannels	0.435
Managestyle	0.660
Decisionmaking	0.626
Manageprinciple	0.638
Formality	0.821
Control	0.639
Jobbehaviour	0.752

Table B.4: Principal Component Factor Matrix for the Structure Scale (Varimax)

	Factor 1	Factor 2
Commchannels	-0.089	0.742
Managestyle	0.274	0.679
Decisionmaking	0.249	0.655
Manageprinciple	0.303	0.614
Formality	0.761	0.385
Control	0.855	0.013
Jobbehaviour	0.804	0.235

Table B.5: Principal Component Factor Matrix for the Strategy Scale (Varimax)

	Factor 1 Differentiation	Factor 2 Mixed	Factor 3 Focus
Innovation	0.549		
Compinnovate	0.682		
Innoorientate	0.746		
Advertising		0.712	
Marksegment		0.780	
Premiumprice		0.666	
Costcentre		0.501	
Standardcost		0.506	
Pricecutting		0.369	
Adexpenditure			
Boldacts	-0.612		
DifferentP&S			0.652
Similartechn			0.790
Markstrategy			0.722
FastnewP&S	0.735		
Idopportunity	0.731		
Newapplicate	0.615		

Table B.6: Results of Dess, Lumpkin and Covin's (1997) factor analysis as compared to the rotated factor analysis of this study

Variable	Dess et al. (1997) study				This study			
	Factor 1 Participative SMP	Factor 2 Entrepreneurial SMP	Factor 3 Adaptive SMP	Factor 4 Simplistic SMP	Factor 1 Participative SMP	Factor 2 Intrapreneurial SMP	Factor 3 Adaptive SMP	Factor 4 Simplistic SMP
Blueprint				0.42	0.354			0.327
Topdown	-0.42	-0.33	0.31	0.30				0.519
Adapt			0.41				0.607	
Ongoing	0.81						0.593	
Stakehlisten			0.44				0.681	
Stakeinvolve			0.51				0.762	
Internalprocess				0.36				0.625
Values				0.59	0.705			
Setpractices				0.51	0.561			0.404
Anylevel			0.44			0.503		
Inputdecision	0.50					0.593		
Risktaking		0.61				0.785		
Equality		0.44		0.49	0.533	0.448		
Dynamic		0.70	0.26			0.686		
Conflictsurpres	-0.51				0.516			
Rolesdefined	0.56	-0.27			0.404			
Cooperation	0.68				0.687			
Allviews	0.58				0.587			
Teamwork	0.43			0.28	0.639			
Avoidfailure		-0.40						-0.554
Experiment		0.43	0.41			0.486		
Longterm			0.49		0.559			
Suitbusiness	0.30			0.44	0.598			
Consensus	0.55					0.580		
CEOdecide	-0.43	-0.32	-0.25					0.563

Appendix C

Demographic characteristics of the participants

Figure C.1: Firm size

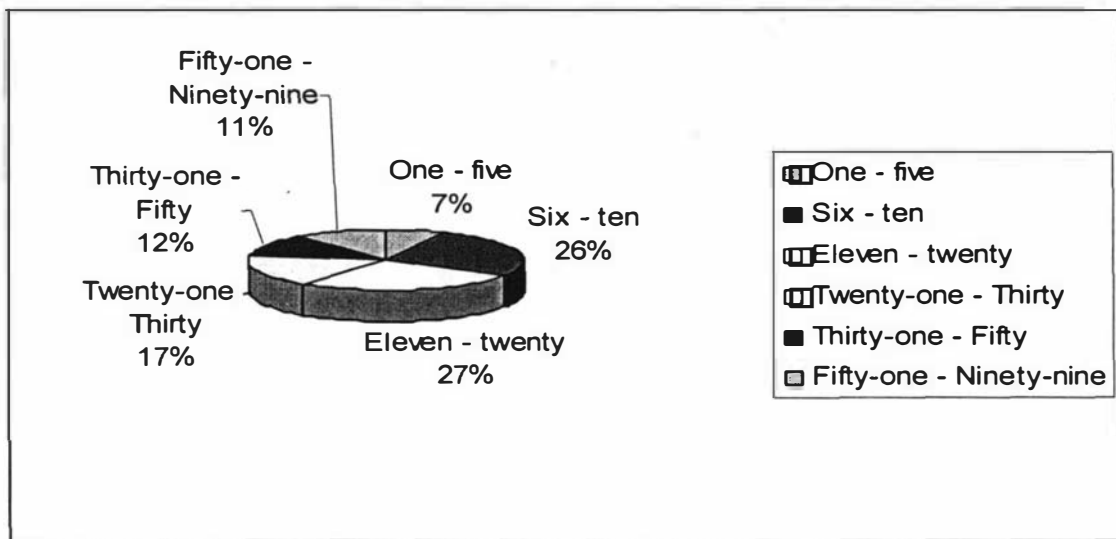


Figure C.2: Firm age

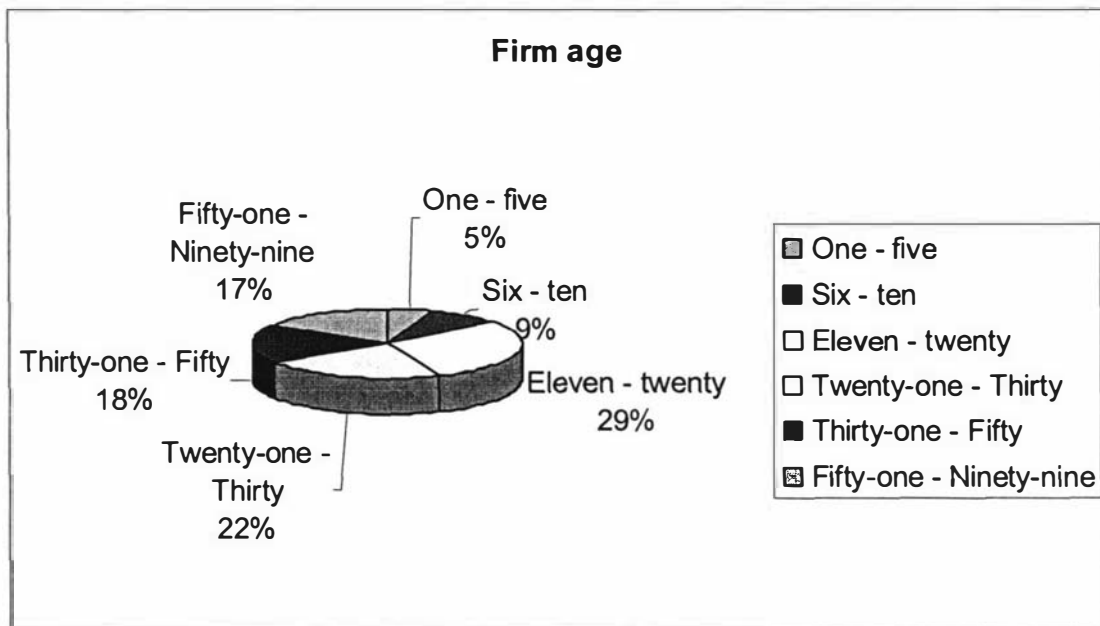


Figure C.3: Length of service of current manager/owner

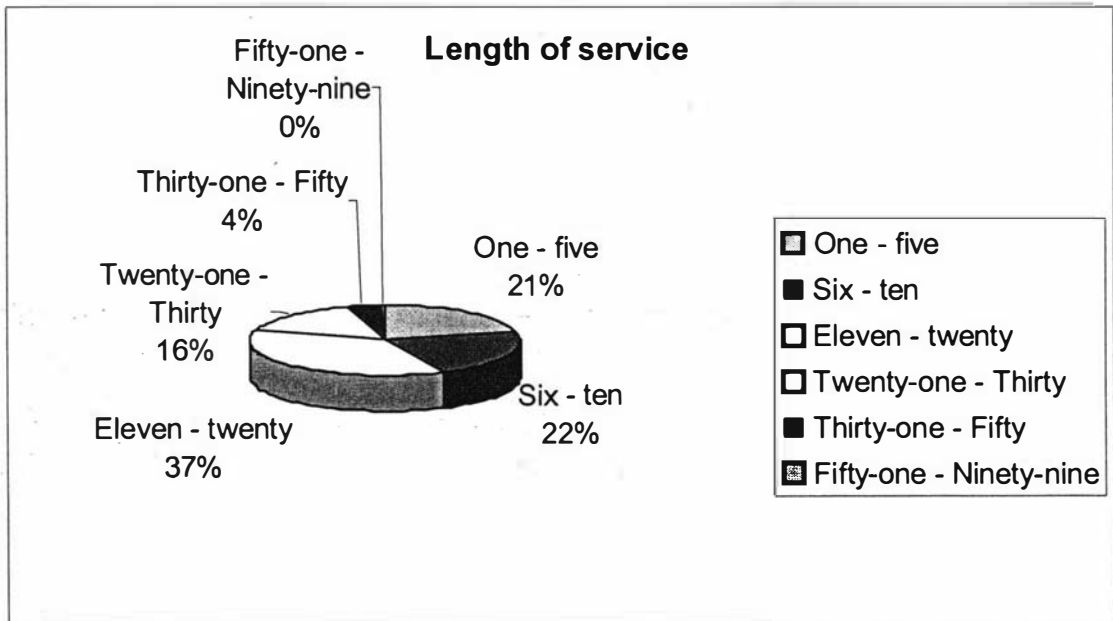


Figure C.4: Industry sector

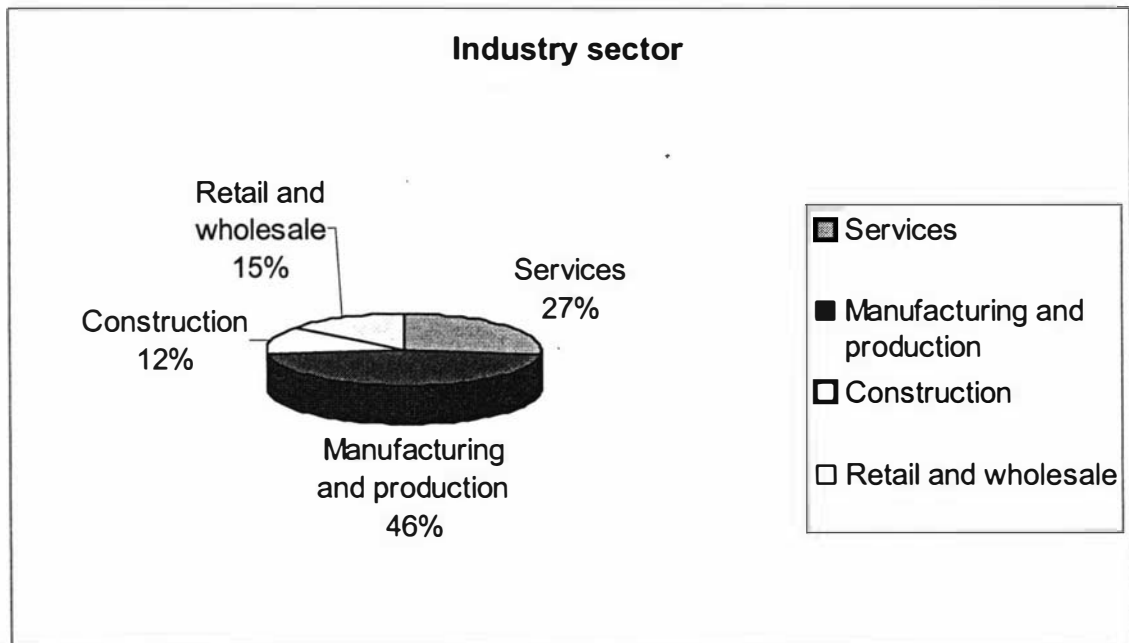
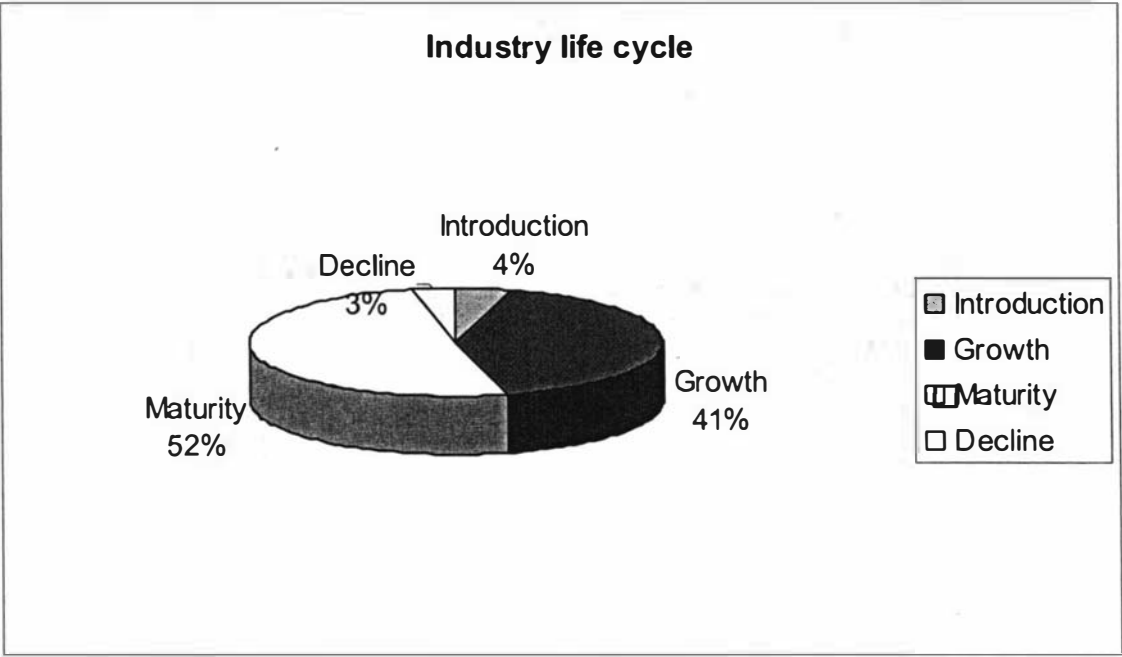


Figure C.5: Industry life cycle



Appendix D
Correlation Matrices

Table D.1: Pearson's Correlations for all firms

	Performance index	Simplistic strategy-making	Adaptive strategy-making	Intrapreneurial strategy-making	Participative strategy-making	size	EO index	Organicity index	Hostility	Dynamism	Stability	Differentiation	Breadth (Focus)	Age	Length of service	Lifecycle
Performance index	1															
Simplistic SM	.314(**)	1														
Adaptive SM	.256(**)	.256(**)	1													
Intrapreneurial SM	.106(*)	.181(**)	.346(**)	1												
Participative SM	.255(**)	.439(**)	.460(**)	.551(**)	1											
Size	.010	.001	.033	-.076	-.076	1										
EO index	.123(**)	.021	.366(**)	.387(**)	.254(**)	.091(*)	1									
Organicity index	.039	-.144(**)	.097(*)	.323(**)	.209(**)	-.060	.241(**)	1								
Hostility	.071	-.049	.242(**)	.257(**)	.167(**)	.024	.551(**)	.130(**)	1							
Dynamism	.087	-.054	.107(*)	.159(**)	.052	.028	.359(**)	.134(**)	.411(**)	1						
Stability	-.030	-.010	.061	.018	.000	.060	.081	-.041	.301(**)	.221(**)	1					
Differentiation	.178(**)	.069	.427(**)	.355(**)	.267(**)	.071	.725(**)	.202(**)	.439(**)	.301(**)	.056	1				
Breadth (Focus)	-.055	-.036	-.265(**)	-.212(**)	-.149(**)	-.094(*)	-.366(**)	-.143(**)	-.301(**)	-.497(**)	-.125(**)	-.325(**)	1			
Age	.033	.040	-.036	-.120(**)	-.053	.196(**)	-.121(**)	-.012	-.104(*)	-.012	-.038	-.098(*)	-.052	1		
Length of service	-.009	.143(**)	-.007	-.060	-.017	.013	-.052	-.031	-.004	-.043	-.001	-.013	-.025	.319(**)	1	
Lifecycle	-.117(*)	-.015	-.093(*)	-.113(*)	-.018	.151(**)	-.161(**)	.030	-.171(**)	-.089	.112(*)	-.133(**)	.070	.215(**)	.056	1

** Correlation is significant at the 0.01 level (2-tailed).
 • Correlation is significant at the 0.05 level (2-tailed).

Table D.2: Pearson's Correlations for high performing firms

	Simplistic SM	Adaptive SM	Intrapreneurial SM	Participative SM	Hostility	Dynamism	Differentiation	Focus	Age	Size	EO index	Organicity index	Performance
Simplistic SM	1												
Adaptive SM	.204(**)	1											
Intrapreneurial SM	.153(*)	.330(**)	1										
Participative SM	.377(**)	.447(**)	.541(**)	1									
Hostility	-.097	.262(**)	.307(**)	.167(*)	1								
Dynamism	-.134	.121	.155(*)	.059	.484(**)	1							
Differentiation	-.010	.438(**)	.290(**)	.299(**)	.441(**)	.376(**)	1						
Focus	.031	-.262(**)	-.208(**)	-.122	-.354(**)	-.512(**)	-.328(**)	1					
Age	.041	-.054	-.098	.004	-.113	-.010	-.110	-.026	1				
Size	-.040	.121	.001	-.056	.073	.036	.123	-.194(**)	.132	1			
EO index	-.043	.327(**)	.306(**)	.263(**)	.611(**)	.429(**)	.734(**)	-.367(**)	-.080	.157(*)	1		
Organicity index	-.067	.161(*)	.362(**)	.303(**)	.149(*)	.139	.271(**)	-.114	.031	-.027	.320(**)	1	
Performance	.057	.155(*)	-.049	-.016	.134	.216(**)	.161(*)	.001	-.054	-.050	.173(*)	.122	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table D.3: Pearson's Correlations for low performing firms

	Simplistic SM	Adaptive SM	Intrapreneurial SM	Participative SM	EO index	Organicity index	Hostility	Dynamism	Differentiation	Focus	Age	Size	Performance
Simplistic SM	1												
Adaptive SM	.337(**)	1											
Intrapreneurial SM	.225(**)	.335(**)	1										
Participative SM	.518(**)	.457(**)	.571(**)	1									
EO index	.085	.394(**)	.441(**)	.244(**)	1								
Organicity index	-.204(**)	-.017	.293(**)	.102	.143(*)	1							
Hostility	.022	.255(**)	.217(**)	.173(*)	.517(**)	.069	1						
Dynamism	-.012	.101	.151(*)	.049	.384(**)	.236(**)	.416(**)	1					
Differentiation	.160(*)	.420(**)	.368(**)	.234(**)	.714(**)	.101	.412(**)	.343(**)	1				
Focus	-.069	-.256(**)	-.268(**)	-.174(*)	-.381(**)	-.203(**)	-.352(**)	-.508(**)	-.364(**)	1			
Age	.017	-.026	-.167(*)	-.087	-.151(*)	.037	-.126	.001	.122	-.083	1		
Size	.037	-.040	-.209(**)	-.144(*)	-.035	-.111	-.034	-.008	.008	.033	.288(**)	1	
Performance	.382(**)	.354(**)	.130	.332(**)	.134	-.079	.091	-.005	.232(**)	-.008	.032	-.038	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table D.4: Pearson's Correlations for modes of strategy-making with dependent, context and content factors

Modes of strategy-making	Performance	Age	Size	EO index	Organicity index	Hostility	Dynamism	Differentiation	Breadth (Focus)	Length of service
Adaptive and Intrapreneurial SM	.224(**)	-.093(*)	-.023	.458(**)	.251(**)	.304(**)	.161(**)	.478(**)	-.292(**)	-.039
Participative & Intrapreneurial SM	.198(**)	-.101(*)	-.086	.369(**)	.307(**)	.244(**)	.125(**)	.356(**)	-.207(**)	-.045
Simplistic & Participative & Intrapreneurial SM	.280(**)	-.065	-.068	.303(**)	.189(**)	.176(**)	.079	.312(**)	-.180(**)	.019
Simplistic & Adaptive & Intrapreneurial SM	.306(**)	-.061	-.019	.387(**)	.152(**)	.233(**)	.113(*)	.422(**)	-.255(**)	.023
Participative & Adaptive & Intrapreneurial SM	.258(**)	-.088	-.045	.428(**)	.260(**)	.284(**)	.137(**)	.447(**)	-.268(**)	-.035
All SM modes	.312(**)	-.064	-.038	.374(**)	.181(**)	.229(**)	.102(*)	.404(**)	-.240(**)	.012
Simplistic & Adaptive & Participative SM	.354(**)	-.025	-.014	.300(**)	.081	.174(**)	.056	.354(**)	-.210(**)	.044
Simplistic & Adaptive SM	.351(**)	-.005	.025	.276(**)	-.006	.149(**)	.049	.345(**)	-.211(**)	.071
Simplistic & Intrapreneurial SM	.256(**)	-.064	-.054	.292(**)	.151(**)	.158(**)	.084	.296(**)	-.174(**)	.039
Simplistic & Participative SM	.334(**)	-.010	-.046	.168(**)	.047	.075	.002	.203(**)	-.112(*)	.071
Adaptive & Participative SM	.298(**)	-.051	-.018	.370(**)	.171(**)	.244(**)	.097(*)	.415(**)	-.249(**)	-.013
Simplistic SM	.314(**)	.040	.001	.021	-.144(**)	-.049	-.054	.069	-.036	.143(**)
Adaptive SM	.256(**)	-.036	.033	.366(**)	.097(*)	.242(**)	.107(*)	.427(**)	-.265(**)	-.007
Intrapreneurial SM	.106(*)	-.120(**)	-.076	.387(**)	.323(**)	.257(**)	.159(**)	.355(**)	-.212(**)	-.060
Participative SM	.255(**)	-.053	-.076	.254(**)	.209(**)	.167(**)	.052	.267(**)	-.149(**)	-.017

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Appendix E

Structural equations results

Table E1: Squared Multiple Correlations for Strategy-making CFA models and Strategy-making – performance causal models

Items	SM- perf 1	SM- perf 2 (direct)	Perf- SM	Dess et al.	Hart	Mintz- berg	Realised model	Theoretical model
Adaptive	0.391	0.000	0.412	0.584		0.995	0.381	0.565
Participative	0.995	0.000	0.949	0.987			0.995	0.906
Entre/intrapreneurial	0.475	0.000	0.480	0.484		0.581	0.482	0.974
Simplistic	0.526	0.000	0.543	0.729			0.509	
Performance	0.085	0.165						
Strategy-making			0.093					
Rational					0.968	0.989		0.973
Symbolic					0.421			0.807
Transactive					0.915			
Generative					0.852			
Command					0.046			

Table E.2: Squared Multiple Correlations for strategy and environment CFA models

Items	Porter's strategies	Items	Environment
Non-breadth (focus)	0.357	Dynamic	0.301
Diversification	0.467	Heterogeneity	0.254
Cost-leadership	0.445	Hostility	0.757

¹ The standardised estimates mean that the predictors of e.g. Adaptive strategy-making explain 39 per cent of its variance. This means that the error variance is then 61 per cent of the variance of adaptive strategy-making itself.

Table E.3: Estimates for the Dess et al. (1997) model

Path	Regression weight	Standard error	Critical ratio	Standardised weight
Simplistic <--- Strategy-making	0.522	0.039	13.394	0.854
Participative <--- Strategy-making	1.000			.0994
Adaptive <--- Strategy-making	0.435	0.042	10.444	0.764
Entrepreneurial <--- Strategy-making	0.413	0.037	11.199	0.696
e3 <--- Adaptive	0.796	0.095	8.413	0.536
e4 <--- Participative	0.545	0.047	11.508	0.537
e14 <--- Entrepreneurial	1.000			0.720
e15 <--- Participative	0.440	0.049	9.008	0.427
e21 <--- Entrepreneurial	0.814	0.086	9.457	0.562
e16 <--- Participative	0.206	0.040	5.137	0.248
e23 <--- Simplistic	0.739	0.066	11.171	0.605
e9 <--- Simplistic	0.747	0.075	9.990	0.533
e2 <--- Participative	0.072	0.047	1.530	0.075
e24 <--- Participative	0.590	0.045	13.114	0.604
e8 <--- Simplistic	1.000			0.693
e1 <--- Simplistic	0.388	0.086	4.494	0.231
e13 <--- Simplistic	0.990	0.086	11.512	0.627
e6 <--- Adaptive	0.862	0.113	7.599	0.465
e22 <--- Adaptive	0.691	0.090	7.666	0.471
e5 <--- Adaptive	1.000			0.612
e12 <--- Entrepreneurial	0.895	0.090	9.889	0.600
e20 <--- Entrepreneurial	0.260	0.095	2.741	0.147
e19 <--- Participative	0.599	0.037	16.039	0.720
e18 <--- Participative	0.518	0.035	14.602	0.664
e17 <--- Participative	0.533	0.034	15.497	0.699
e10 <--- Participative	0.501	0.044	11.306	0.528
e11 <--- Participative	0.646	0.041	15.625	0.704
e25 <--- Participative	-0.230	0.055	-4.175	-0.202

Table E.4: Estimates for the Hart (1992) model

Path	Regression weight	Standard error	Critical ratio	Standardised weight
Rational <--- Strategy-making	0.387	0.040	9.668	0.984
Generative <--- Strategy-making	0.550	0.045	12.222	0.923
Symbolic <--- Strategy-making	0.444	0.041	10.955	0.649
Command <--- Strategy-making	-0.245	0.057	-4.301	-0.215
Transactive <--- Strategy-making	1.000			0.956
e6 <--- Transactive	0.402	0.050	7.988	0.398
e12 <--- Generative	0.761	0.084	9.070	0.512
e16 <--- Rational	0.409	0.114	3.581	0.193
e7 <--- Rational	-0.078	0.133	-0.590	-0.030
e5 <--- Transactive	0.465	0.044	10.569	0.523
e3 <--- Transactive	0.361	0.040	8.976	0.446
e2 <--- Command	0.149	0.039	3.867	0.175
e14 <--- Generative	0.813	0.081	10.099	0.587
e20 <--- Generative	0.292	0.091	3.211	0.165
e21 <--- Generative	0.810	0.083	9.748	0.561
e10 <--- Generative	0.910	0.092	9.846	0.568
e23 <--- Symbolic	0.632	0.063	10.082	0.579
e1 <--- Command	0.108	0.041	2.634	0.120
e25 <--- Command	1.000			0.998
e24 <--- Transactive	0.597	0.046	12.962	0.635
e11 <--- Transactive	0.630	0.043	14.706	0.713
e4 <--- Transactive	0.598	0.048	12.459	0.612
e22 <--- Rational	1.000			0.470
e8 <--- Symbolic	1.000			0.775
e9 <--- Symbolic	0.798	0.074	10.715	0.636
e13 <--- Generative	1.000			0.616

Table E.5: Estimates for the Mintzberg (1973) model

Path	Regression weight	Standard error	Critical ratio	Standardised weight
Adaptive <--- Strategy-making	1.000			0.998
Rational <--- Strategy-making	0.679	0.039	17.411	0.995
Entrepreneurial <--- Strategy-making	0.433	0.037	11.753	0.762
E7 <--- Rational	-0.102	0.074	-1.382	-0.069
E12 <--- Entrepreneurial	0.928	0.094	9.915	0.595
E16 <--- Rational	0.240	0.061	3.940	0.196
E20 <--- Entrepreneurial	0.295	0.099	2.979	0.159
E19 <--- Adaptive	0.549	0.036	15.054	0.657
E17 <--- Adapt	0.484	0.034	14.349	0.633
E25 <--- Entrepreneurial	-0.420	0.108	-3.887	-0.209
E2 <--- Entrepreneurial	-0.011	0.091	-.118	-0.006
E11 <--- Rational	1.000			0.739
E1 <--- Rational	0.133	0.075	1.776	0.088
E14 <--- Entrepreneurial	1.000			0.688
E24 <--- Adaptive	0.624	0.043	14.462	0.637
E21 <--- Entrepreneurial	0.873	0.090	9.689	0.576
E3 <--- Adaptive	0.347	0.040	8.697	0.412
E5 <--- Adaptive	0.458	0.043	10.660	0.494
E6 <--- Adaptive	0.378	0.050	7.501	0.359
E4 <--- Adaptive	0.592	0.046	12.923	0.581
E10 <--- Adaptive	0.536	0.043	12.441	0.563
E22 <--- Rational	0.530	0.061	8.694	0.432

Table E.6: Estimates for the Realised CFA Model

Path	Regression weight	Standard error	Critical ratio	Standardised weight
Adaptive <--- Strategy-making	0.403	0.042	9.686	0.618
Intrapreneurial <--- Strategy-making	0.417	0.036	11.418	0.694
Participative <--- Strategy-making	1.000			0.998
Simplistic <--- Strategy-making	0.462	0.038	12.296	0.714
e21 <--- Intrapreneurial	0.796	0.084	9.424	0.555
e9 <--- Simplistic	0.823	0.071	11.576	0.621
e24 <--- Participative	0.589	0.043	13.693	0.600
e23 <--- Simplistic	0.738	0.062	11.870	0.640
e1 <--- Simplistic	0.471	0.082	5.733	0.297
e7 <--- Simplistic	0.182	0.081	2.257	0.116
e8 <--- Simplistic	1.000			0.734
e2 <--- Simplistic	0.359	0.077	4.635	0.239
e22 <--- Simplistic	0.732	0.069	10.667	0.567
e14 <--- Intrapreneurial	1.000			0.728
e12 <--- Intrapreneurial	0.897	0.089	10.028	0.608
e6 <--- Adaptive	0.870	0.106	8.231	0.539
e3 <--- Adaptive	0.705	0.085	8.282	0.544
e5 <--- Adaptive	1.000			0.702
e16 <--- Participative	0.202	0.040	5.059	0.243
e19 <--- Participative	0.602	0.035	17.361	0.721
e18 <--- Participative	0.523	0.033	15.673	0.668
e17 <--- Participative	0.537	0.032	16.778	0.703
e15 <--- Participative	0.440	0.048	9.185	0.426
e13 <--- Participative	0.627	0.041	15.144	0.650
e11 <--- Participative	0.651	0.039	16.912	0.707
e10 <--- Participative	0.500	0.043	11.669	0.525
e4 <--- Participative	0.537	0.046	11.709	0.527

Table E.7: Estimates for the Theoretical Model

Path	Regression weight	Standard error	Critical ratio	Standardised weight
Symbolic <--- Strategy-making	0.546	0.039	14.109	0.898
Entrepreneurial <--- Strategy-making	0.435	0.037	11.651	0.987
Adaptive <--- Strategy-making	0.429	0.042	10.176	0.752
Rational <--- Strategy-making	0.427	0.038	11.238	0.987
Participative <--- Strategy-making	1.000			0.952
e23 <--- Symbolic	0.703	0.065	10.825	0.662
e8 <--- Symbolic	1.000			0.765
e9 <--- Symbolic	0.718	0.065	11.056	0.578
e1 <--- Symbolic	1.005	0.410	2.453	0.654
e6 <--- Adaptive	0.857	0.108	7.902	0.509
e5 <--- Adaptive	1.000			0.649
e3 <--- Adaptive	0.746	0.093	8.011	0.554
e22 <--- Rational	1.000			0.562
e25 <--- Rational	-0.456	0.134	-3.399	-0.198
e2 <--- Rational	0.215	0.109	1.967	0.110
e16 <--- Rational	0.500	0.102	4.891	0.289
e7 <--- Rational	-0.069	0.116	-0.592	-0.034
e1 <--- Rational	-0.967	0.557	-1.738	-0.448
e12 <--- Entrepreneur	0.865	0.091	9.475	0.525
e21 <--- Entrepreneur	1.013	0.108	9.368	0.549
e14 <--- Entrepreneur	1.000			0.606
e10 <--- Participative	0.485	0.042	11.585	0.558
e4 <--- Participative	0.526	0.045	11.747	0.603
e13 <--- Participative	0.598	0.041	14.478	0.680
e15 <--- Participative	0.413	0.046	8.917	0.455
e17 <--- Participative	0.511	0.032	15.796	0.731
e18 <--- Participative	0.486	0.034	14.499	0.692
e19 <--- Participative	0.557	0.035	15.783	0.750
e24 <--- Participative	0.551	0.043	12.917	0.636
e20 <--- Participative	0.152	0.048	3.171	0.168
e11 <--- Participative	0.624	0.039	16.016	0.757

Table E.8: Estimates for the Environment model

Path	Regression weight	Standard error	Critical ratio	Standardised weight
Heterogeneity <--- Environment	0.635	0.124	5.137	0.504
Hostility <--- Environment	1.166	0.272	4.293	0.870
Dynamic <--- Environment	1.000			0.549
ca <--- Hostility	0.818	0.089	9.219	0.556
cb <--- Hostility	1.000			0.626
cc <--- Hostility	0.728	0.080	9.132	0.549
ce <--- Hostility	0.930	0.091	10.218	0.650
cf <--- Dynamic	0.650	0.060	10.850	0.503
cg <--- Dynamic	0.873	0.051	17.208	0.746
ch <--- Dynamic	1.000			0.849
cj <--- Heterogeneity	0.625	0.107	5.816	0.393
ck <--- Heterogeneity	0.872	0.125	7.000	0.553
cd <--- Hostility	0.767	0.079	9.656	0.594
ci <--- Dynamic	0.906	0.048	19.012	0.827
cl <--- Heterogeneity	0.472	0.101	4.677	0.296
cm <--- Heterogeneity	1.000			0.594
cn <--- Heterogeneity	0.606	0.120	5.048	0.325
co <--- Heterogeneity	0.669	0.123	5.421	0.356

Table E.9: Estimates for the Porter's (1980) strategies model

Path	Regression weight	Standard error	Critical ratio	Standardised weight
Cost-leadership <--- Strategy	0.836	0.120	6.942	0.667
Non-breadth <--- Strategy	-0.644	0.094	-6.880	-0.598
Diversification <--- Strategy	1.000			0.683
d7 <--- Cost-leadership	1.000			0.653
d8 <--- Cost-leadership	0.536	0.097	5.527	0.421
d9 <--- Cost-leadership	0.298	0.083	3.610	0.235
d1 <--- Diversification	0.635	0.086	7.384	0.617
d17 <--- Diversification	0.410	0.070	5.874	0.382
d6 <--- Diversification	0.312	0.067	4.623	0.280
d10 <--- Cost-leadership	0.102	0.074	1.378	0.082
d15 <--- Diversification	0.543	0.077	7.013	0.542
d16 <--- Diversification	0.450	0.065	6.933	0.529
d12 <--- Non-breadth	0.921	0.105	8.766	0.584
d5 <--- Diversification	0.404	0.074	5.495	0.360
d4 <--- Diversification	0.310	0.074	4.207	0.237
d3 <--- Diversification	0.798	0.099	8.052	0.823
d2 <--- Diversification	0.684	0.087	7.843	0.750
d14 <--- Non-breadth	1.000			0.696
d13 <--- Non-breadth	0.981	0.109	9.002	0.643

Table E.10: Standardised estimates for the Three Strategy-making – performance models

Path	Strategy-making – performance 1	Strategy-making – performance 2	Performance – strategy-making
Strategy-making <--- Performance			0.305
Performance <--- Strategy-making	0.292		
Simplistic <--- Strategy-making	0.726		0.737
Intrapreneurial <--- Strategy-making	0.689		0.693
Participative <--- Strategy-making	0.998		0.974
Adapt <--- Strategy-making	0.626		0.642
Performance <--- Participative		0.002	
Performance <--- Intrapreneurial		-0.052	
Performance <--- Adaptive		0.197	
Performance <--- Simplistic		0.350	
e4 <--- Participative	0.528	0.476	0.527
e10 <--- Participative	0.526	0.483	0.526
e11 <--- Participative	0.704	0.662	0.704
e13 <--- Participative	0.648	0.626	0.648
e15 <--- Participative	0.427	0.388	0.426
e16 <--- Participative	0.247	0.219	0.246
e17 <--- Participative	0.703	0.609	0.705
e18 <--- Participative	0.665	0.618	0.666
e19 <--- Participative	0.718	0.668	0.719
e24 <--- Participative	0.600	0.554	0.600
e12 <--- Intrapreneurial	0.608	0.672	0.606
e14 <--- Intrapreneurial	0.730	0.710	0.733
e21 <--- Intrapreneurial	0.554	0.508	0.552
e1 <--- Simplistic	0.296	0.318	0.297
e2 <--- Simplistic	0.238	0.250	0.239
e7 <--- Simplistic	0.114	0.133	0.115
e8 <--- Simplistic	0.733	0.734	0.731
e9 <--- Simplistic	0.619	0.628	0.620
e22 <--- Simplistic	0.567	0.552	0.567
e23 <--- Simplistic	0.643	0.642	0.644
e3 <--- Adaptive	0.547	0.499	0.551
e5 <--- Adaptive	0.700	0.726	0.697
e6 <--- Adaptive	0.538	0.565	0.537

Table E.11: Standardised estimates and standard errors for the Strategy-making – strategy type – performance models

Paths	Adaptive-focus-performance	Adaptive-differentiation-performance	Intrapreneurial-focus-performance	Intrapreneurial-differentiation-performance	Participative-focus-performance	Participative-differentiation-performance	Simplistic-focus-performance	Simplistic-differentiation-performance
Performance ←- Simplistic							0.406	0.387
Performance ←- Adaptive	0.349	0.303						
Performance ←- Intrapreneurial			0.118	0.039				
Performance ←- Participative					0.251	0.212		
Performance ←- Breadth	0.075		-0.032		-0.020		-0.028	
Breadth ←- Simplistic							-0.091	
Breadth ←- Participative					-0.177			
Breadth <--- Intrapreneurial			-0.274					
Breadth <--- Adaptive	-0.396							
Performance <--- Differentiation		0.039		0.181		0.132		0.144
Differentiation <--- Adaptive		0.535						
Differentiation <--- Intrapreneurial				0.497				
Differentiation <--- Participative						0.324		
Differentiation <--- Simplistic								0.147
e4 <--- Participative					0.506	0.513		
e10 <--- Participative					0.513	0.510		
e11 <--- Participative					0.708	0.704		
e13 <--- Participative					0.644	0.645		
e15 <--- Participative					0.419	0.425		
e16 <--- Participative					0.235	0.236		
e17 <--- Participative					0.717	0.717		
e18 <--- Participative					0.682	0.682		
e19 <--- Participative					0.722	0.723		
e24 <--- Participative					0.594	0.592		
e12 <--- Intrapreneurial			0.618	0.602				
e14 <--- Intrapreneurial			0.813	0.814				
e21 <--- Intrapreneurial			0.456	0.476				
e1 <--- Simplistic							0.350	0.351
e2 <--- Simplistic							0.296	0.296
e7 <--- Simplistic							0.175	0.173
e8 <--- Simplistic							0.704	0.703
e9 <--- Simplistic							0.672	0.673
e22 <--- Simplistic							0.524	0.525
e23 <--- Simplistic							0.620	0.619
e3 <--- Adaptive	0.531	0.556						
e5 <--- Adaptive	0.679	0.652						
e6 <--- Adaptive	0.580	0.581						
d1 <--- Diversification		0.627		0.618		0.613		0.609
d2 <--- Diversification		0.749		0.752		0.759		0.761
d3 <--- Diversification		0.806		0.816		0.816		0.816
d4 <--- Diversification		0.268		0.253		0.251		0.249
d5 <--- Diversification		0.378		0.366		0.365		0.364
d6 <--- Diversification		0.289		0.271		0.270		0.271
d15 <--- Diversification		0.550		0.549		0.546		0.545
d16 <--- Diversification		0.535		0.529		0.529		0.533
d17 <--- Diversification		0.389		0.396		0.390		0.393
d14 <--- Breadth	0.685		0.675		0.680		0.677	
d13 <--- Breadth	0.663		0.682		0.677		0.684	
d12 <--- Breadth	0.577		0.567		0.567		0.562	

Table E.12: Estimates for the model of Strategy-making and performance in SMEs

Path	Regression weight	Standard error	Critical ratio	SWs	Variables	SMCs
Performance <--- Adaptive	15.019	3.727	4.029	0.247	Adaptive	0.000
Performance <--- Participative	62.868	28.908	2.175	0.116	Participative	0.000
Simplistic <--- Performance	0.006	0.001	7.048	0.335	Performance	0.092
e4 <--- Participation	5.425	0.634	8.551	0.393	Simplistic	0.153
e15 <--- Participation	5.642	0.688	8.199	0.391	e22	0.295
e19 <--- Participation	7.722	0.490	15.775	0.687	e2	0.067
e24 <--- Participation	1.000			0.073	e8	0.538
e17 <--- Participation	7.015	0.450	15.597	0.681	e9	0.402
e13 <--- Participation	8.041	0.580	13.864	0.614	e23	0.393
e16 <--- Participation	2.742	0.577	4.753	0.234	e1	0.101
e11 <--- Participation	8.166	0.541	15.098	0.656	e7	0.016
e18 <--- Participation	6.746	0.465	14.504	0.636	e6	0.331
e5 <--- Adaptive	1.000			0.679	e18	0.404
e6 <--- Adaptive	0.961	0.114	8.466	0.575	e11	0.430
e3 <--- Adaptive	0.710	0.088	8.101	0.530	e16	0.055
e10 <--- Participation	6.242	0.614	10.167	0.474	e17	0.464
e7 <--- Simplistic	0.199	0.081	2.452	0.126	e19	0.471
e1 <--- Simplistic	0.506	0.083	6.103	0.317	e13	0.377
e23 <--- Simplistic	0.725	0.063	11.578	0.627	e4	0.154
e9 <--- Simplistic	0.841	0.072	11.679	0.634	e10	0.225
e8 <--- Simplistic	1.000			0.733	e15	0.153
e2 <--- Simplistic	0.389	0.078	4.980	0.258	e24	0.062
e22 <--- Simplistic	0.704	0.069	10.201	0.543	e3	0.281
					e5	0.461

Appendix F
Structural equations models

Figure E.1: Dess et al. (1997) CFA model

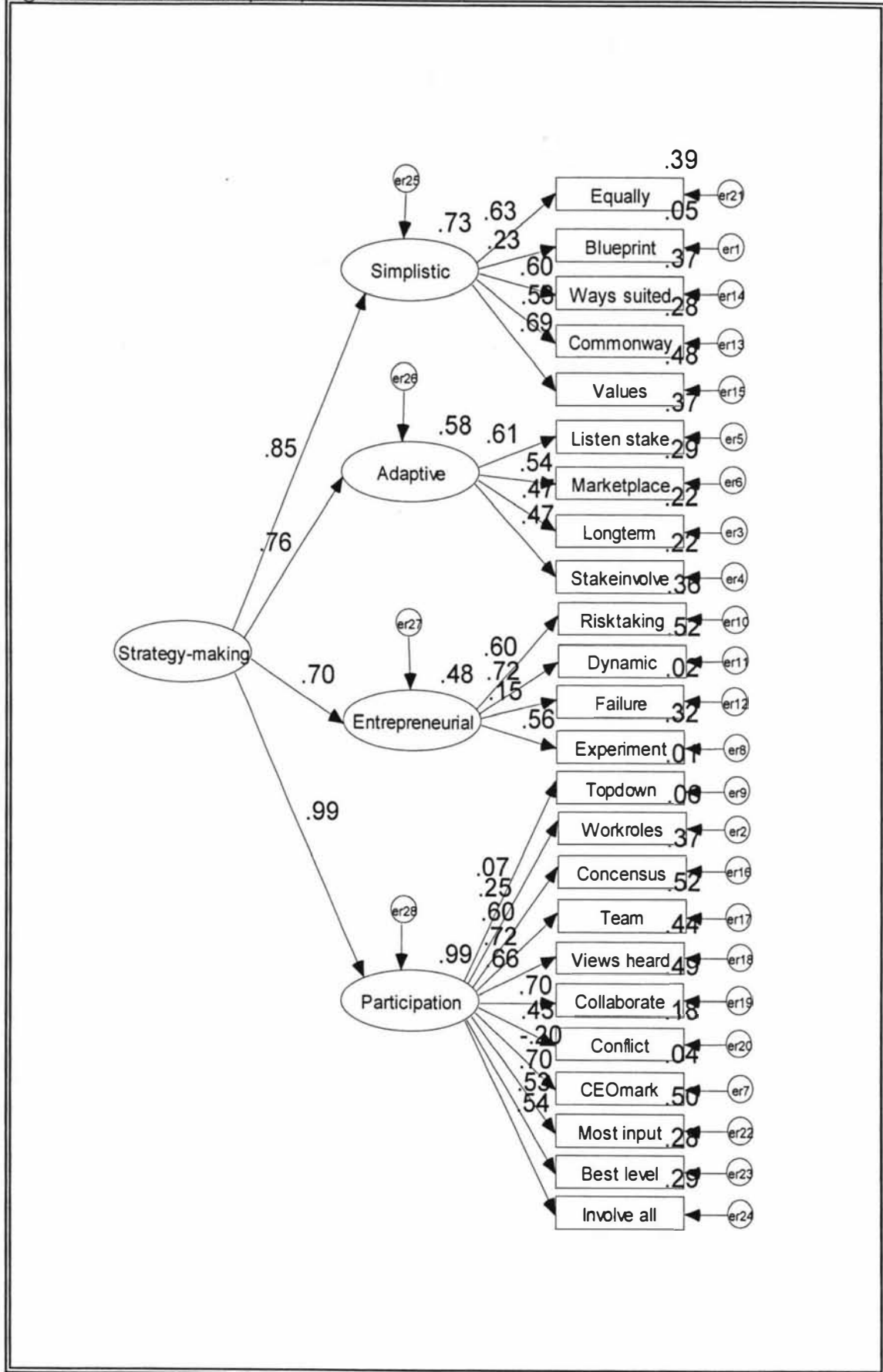


Figure F.2: Hart (1992) CFA model

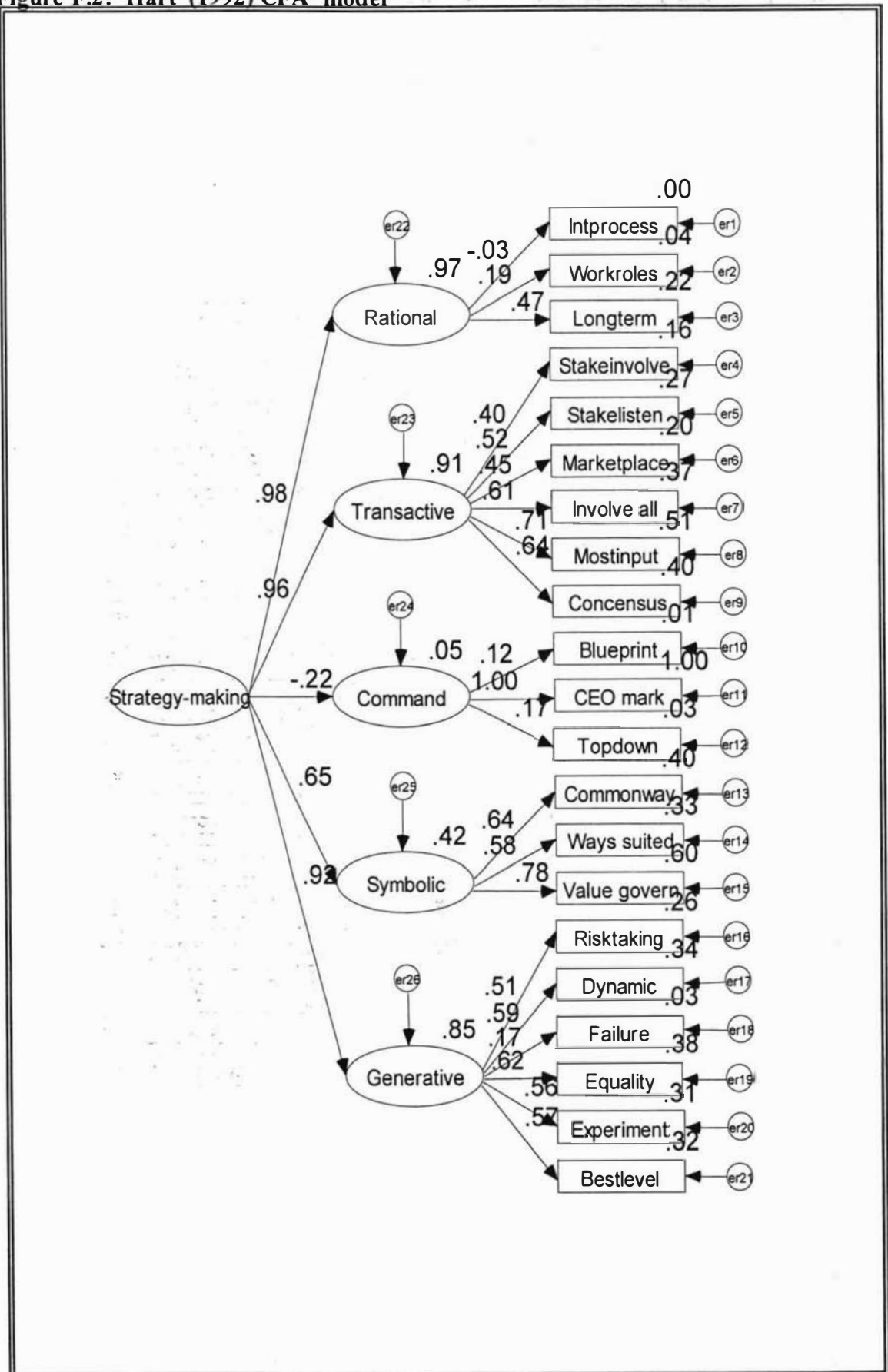


Figure F.3: Mintzberg (1973) CFA model

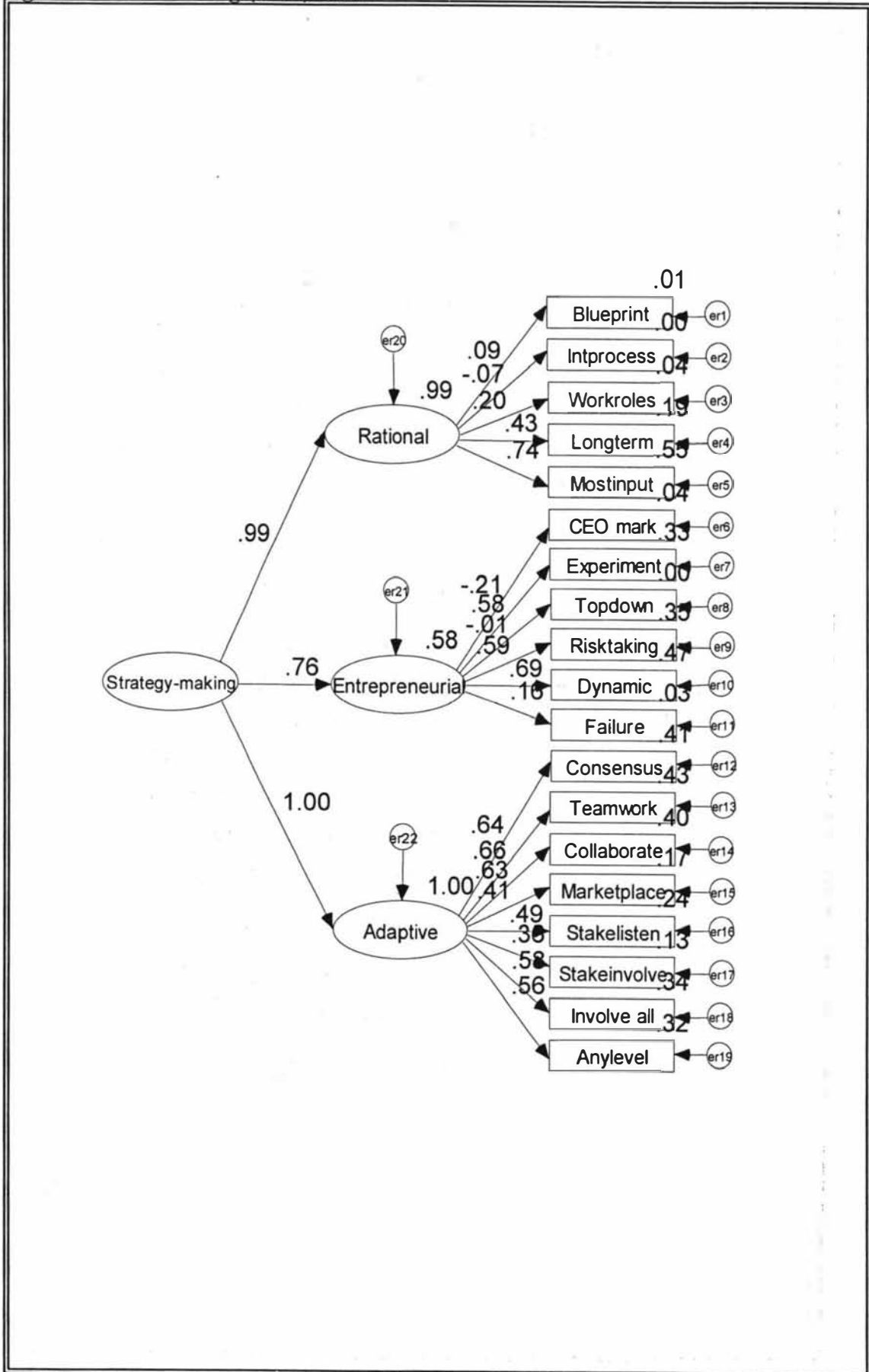


Figure F.4: Theoretical CFA Model

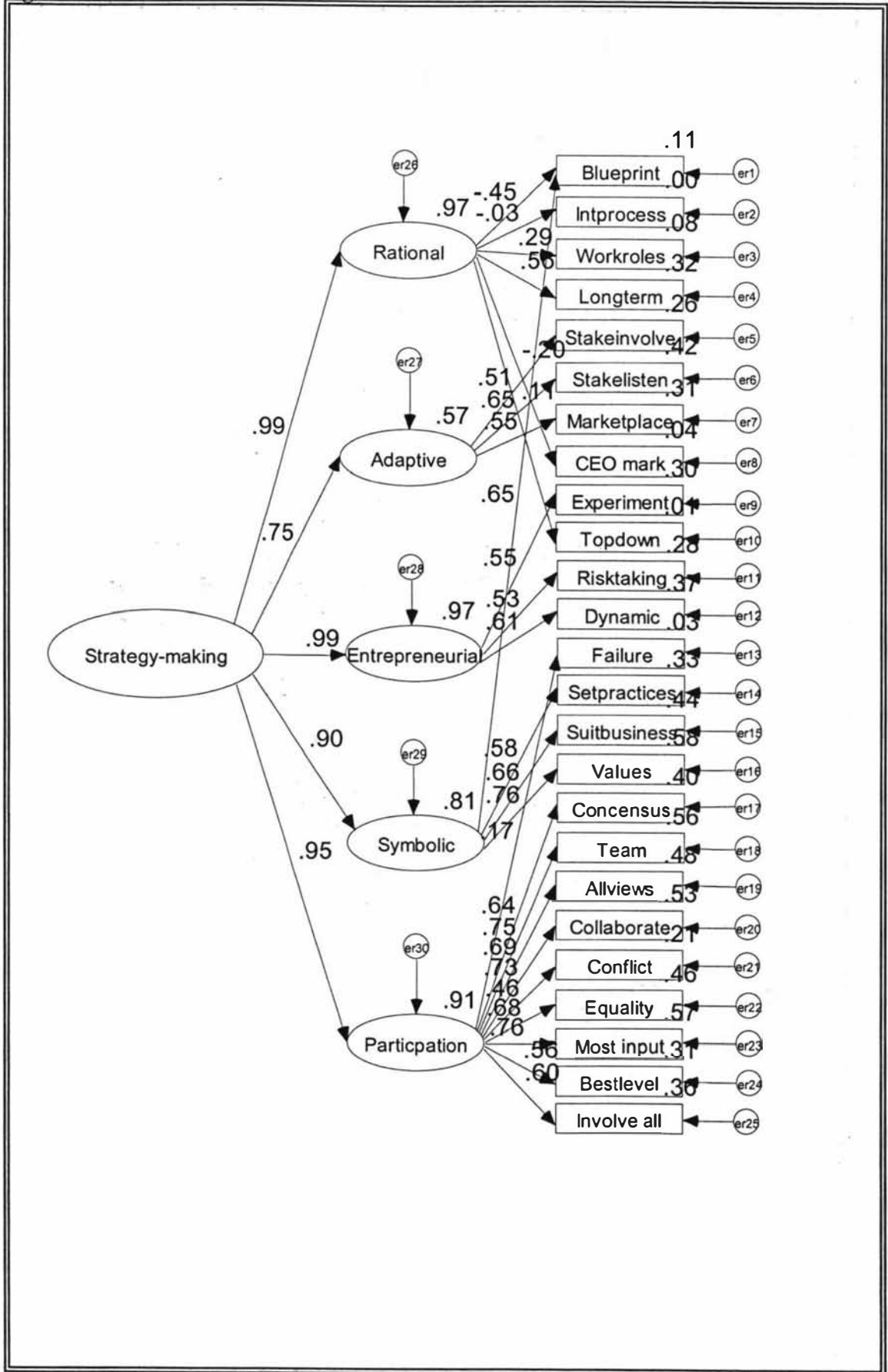


Figure F.5: Environment CFA model

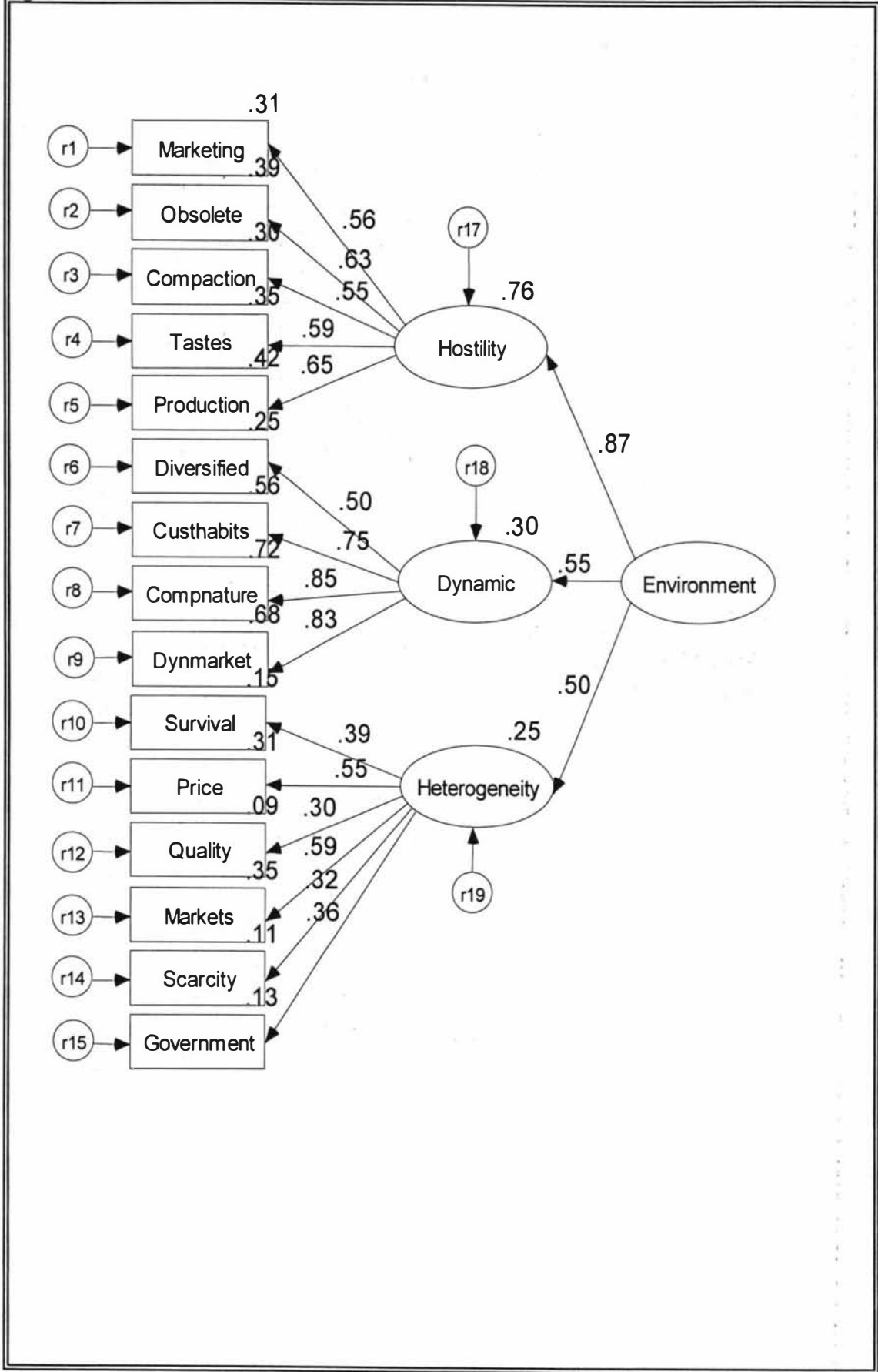


Figure E.6: Porter's (1980) strategies CFA model

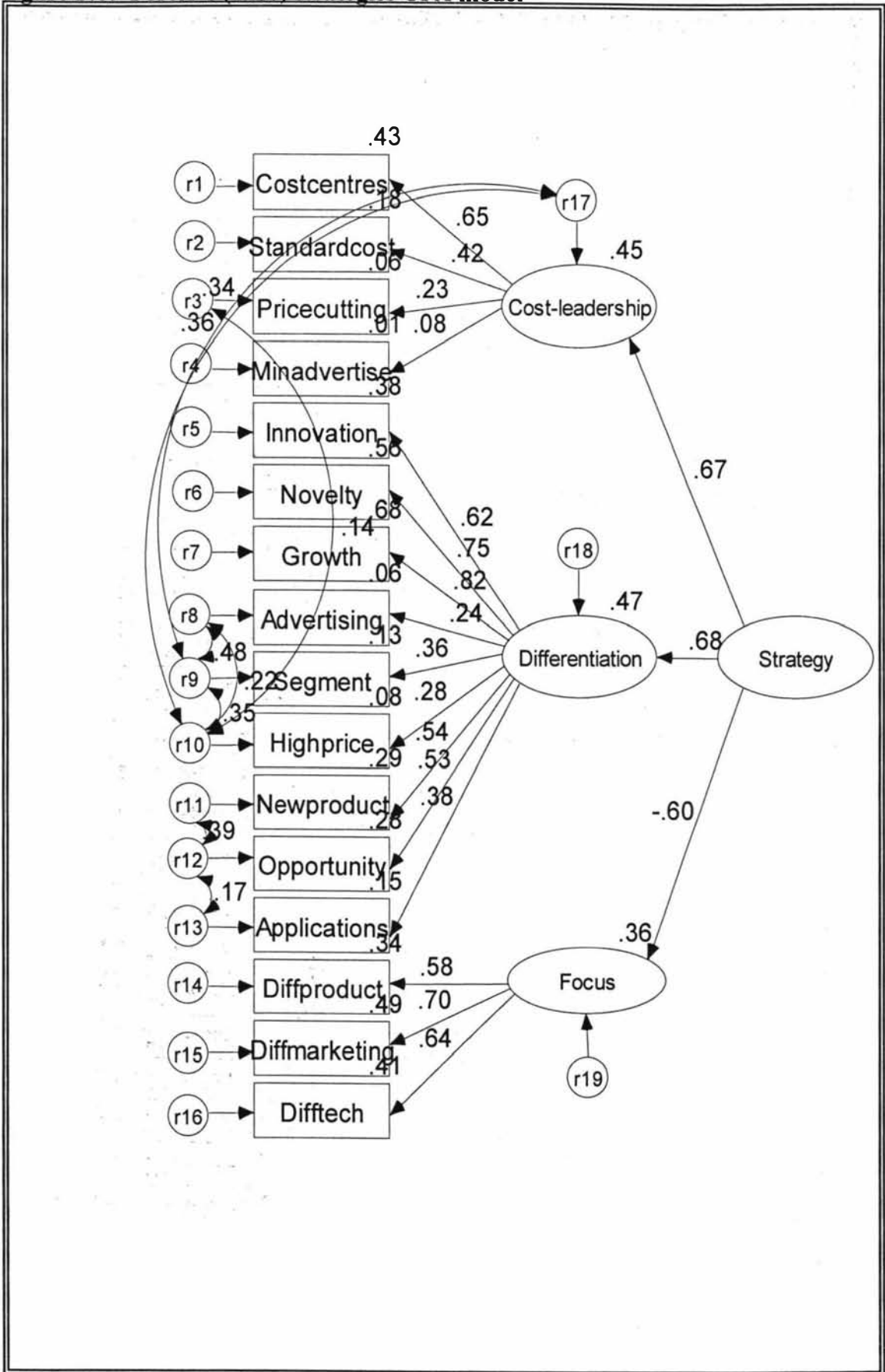


Figure F.7: Strategy-making – performance 1

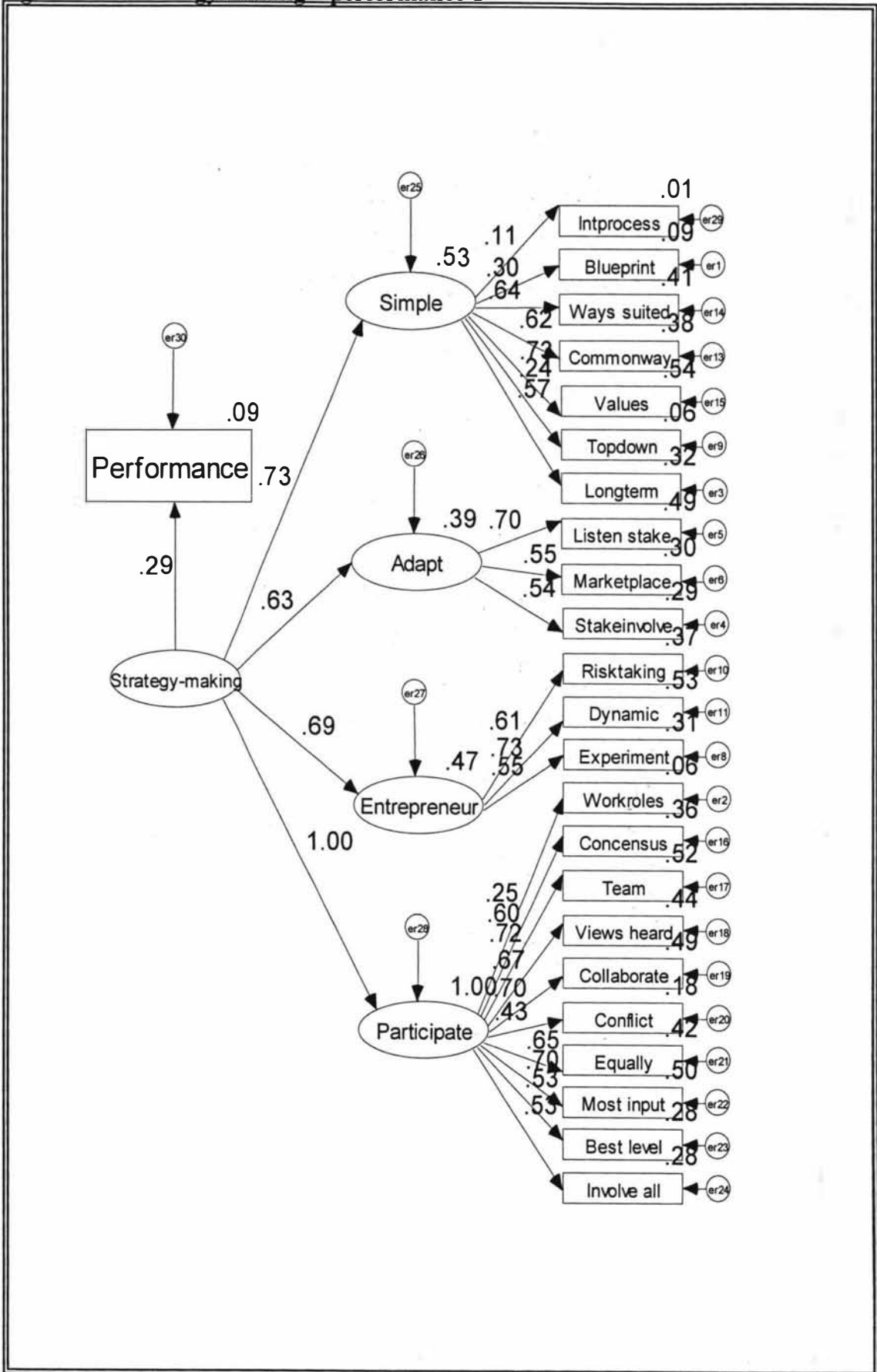


Figure F.9: Performance – strategy-making

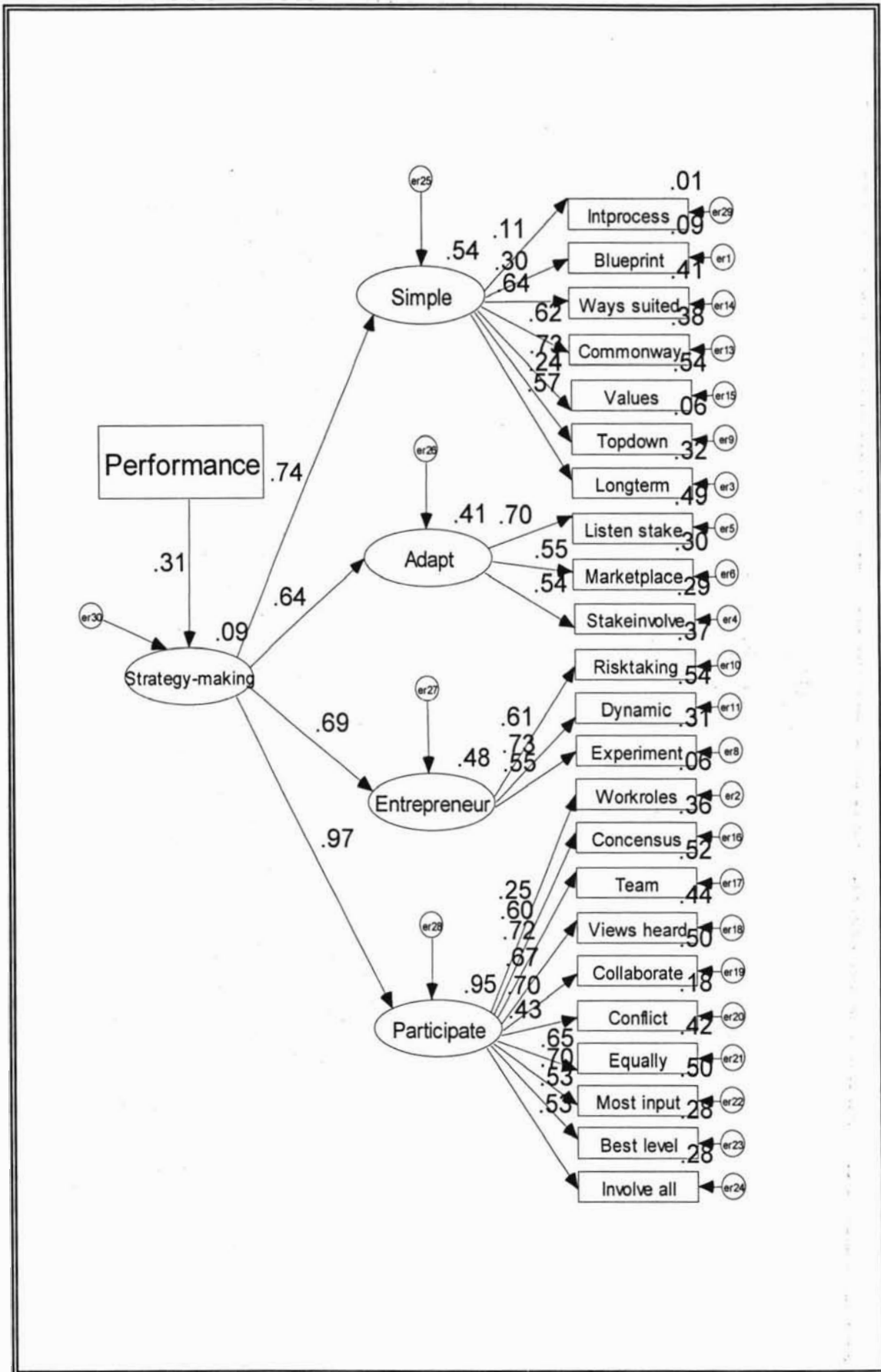


Figure F.10: Adaptive strategy-making – differentiation – performance model

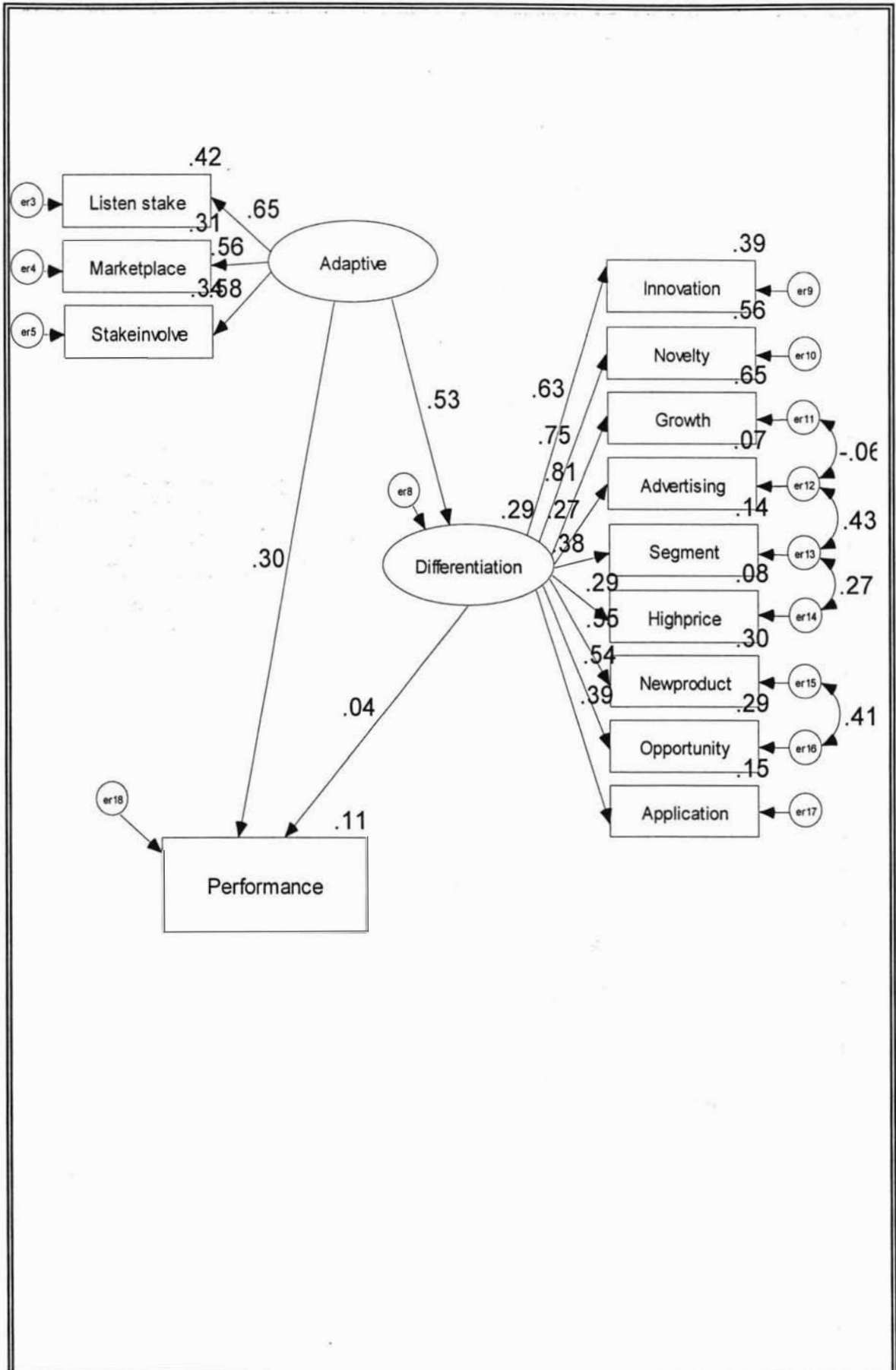


Figure F.11: Adaptive strategy-making – focus – performance model

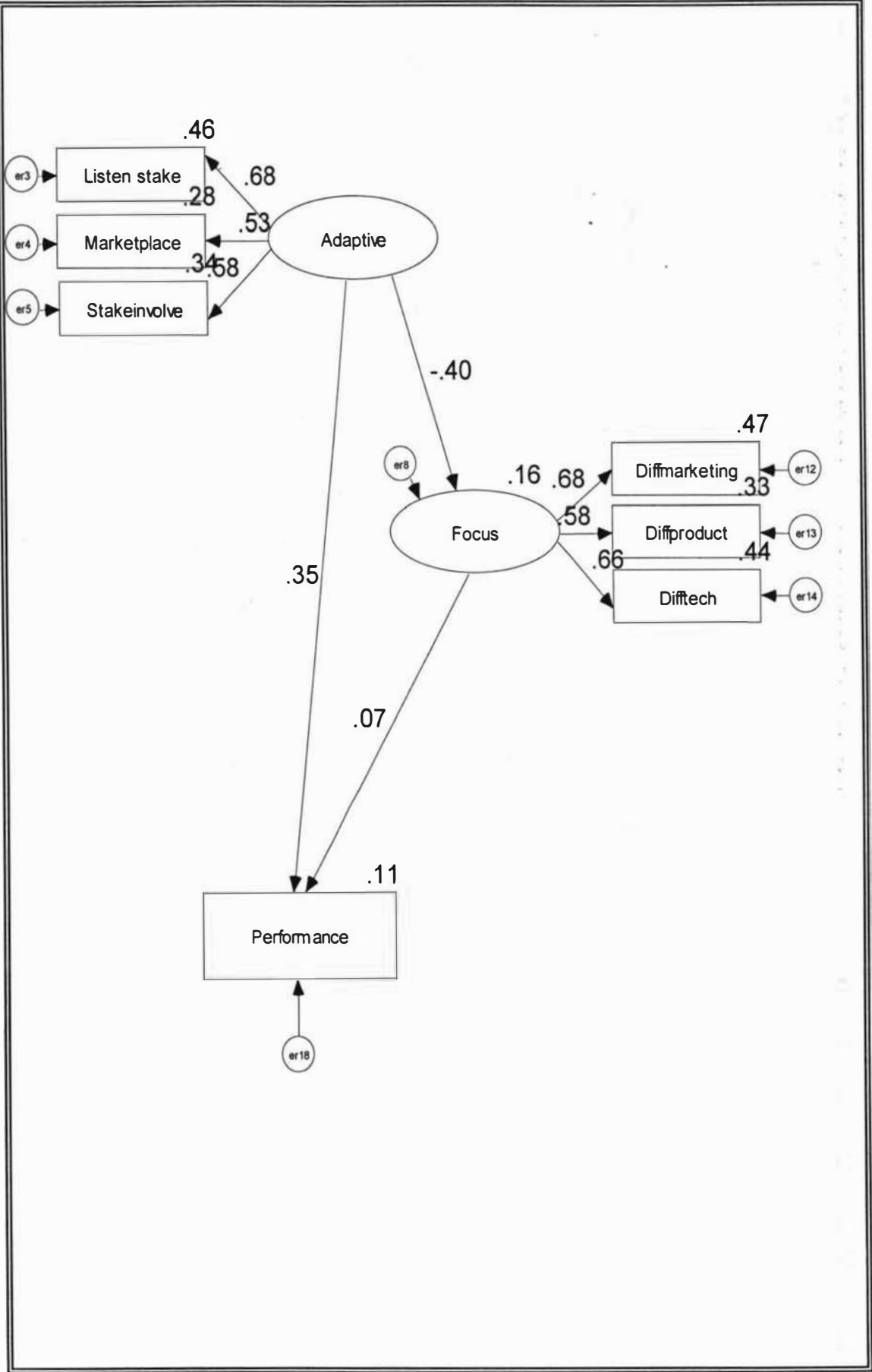


Figure F.12: Entrepreneurial strategy-making – focus – performance model

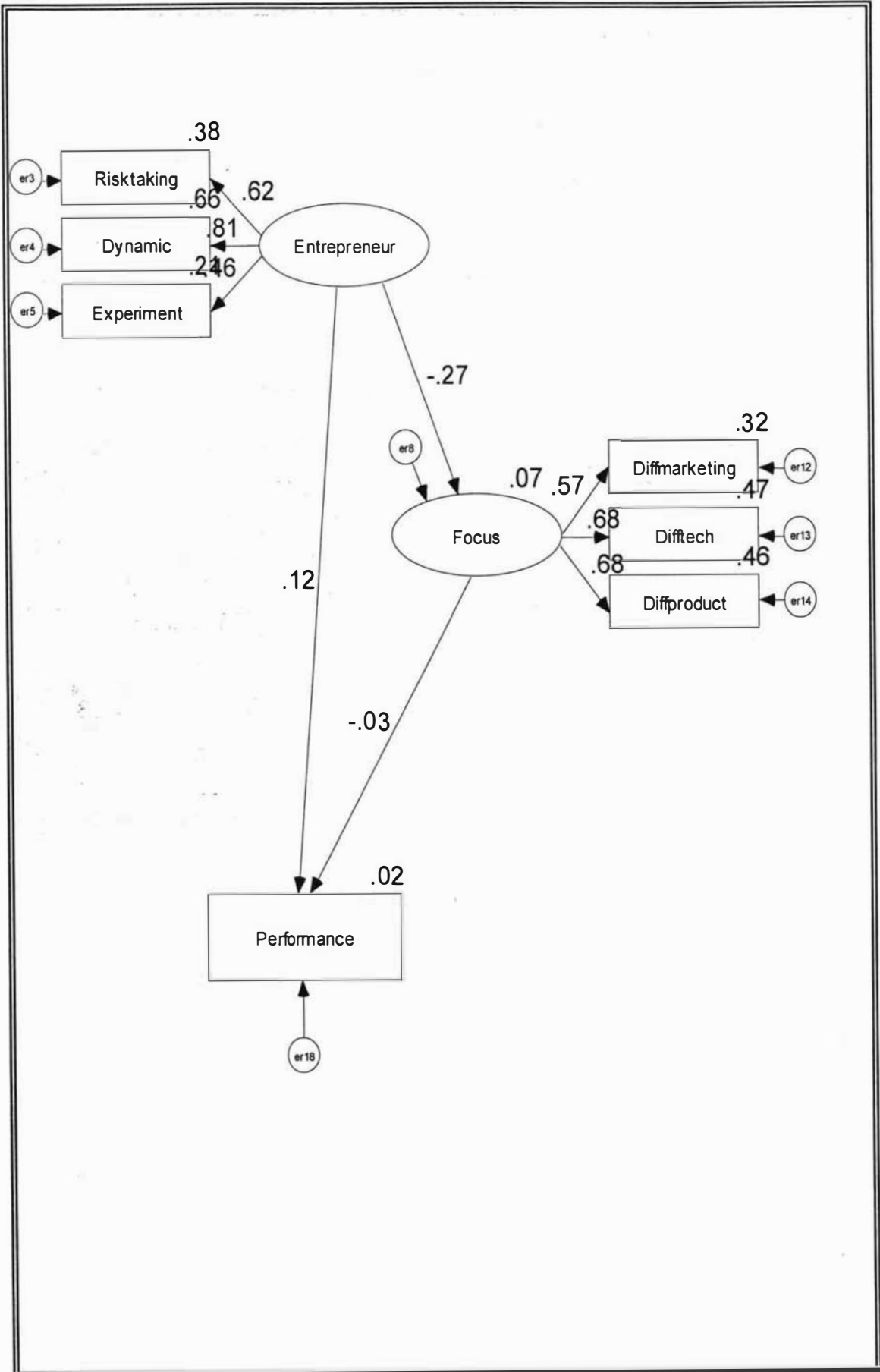


Figure F.13: Participative strategy-making – differentiation – performance model

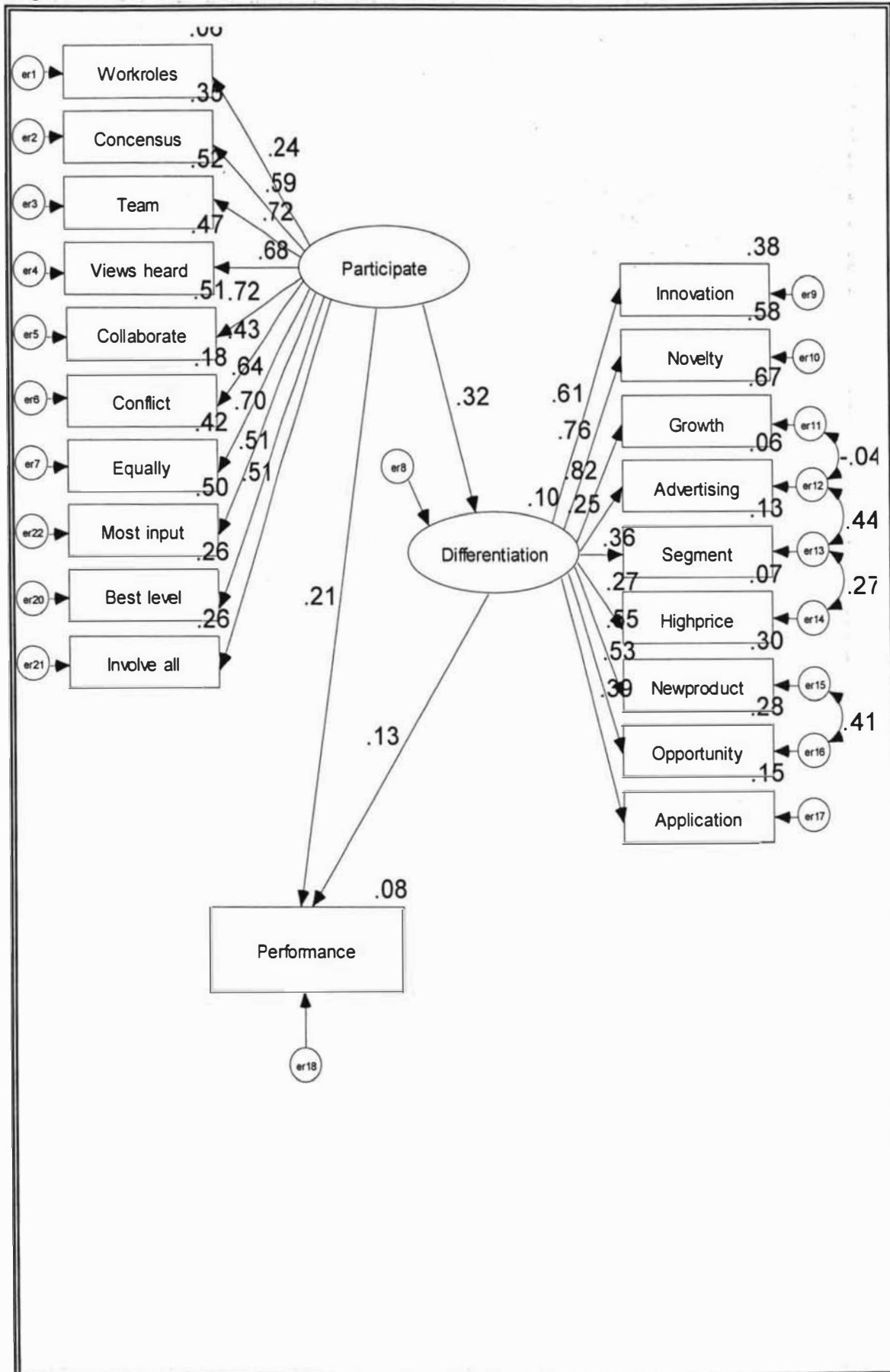


Figure F.14: Participative strategy-making – focus – performance model

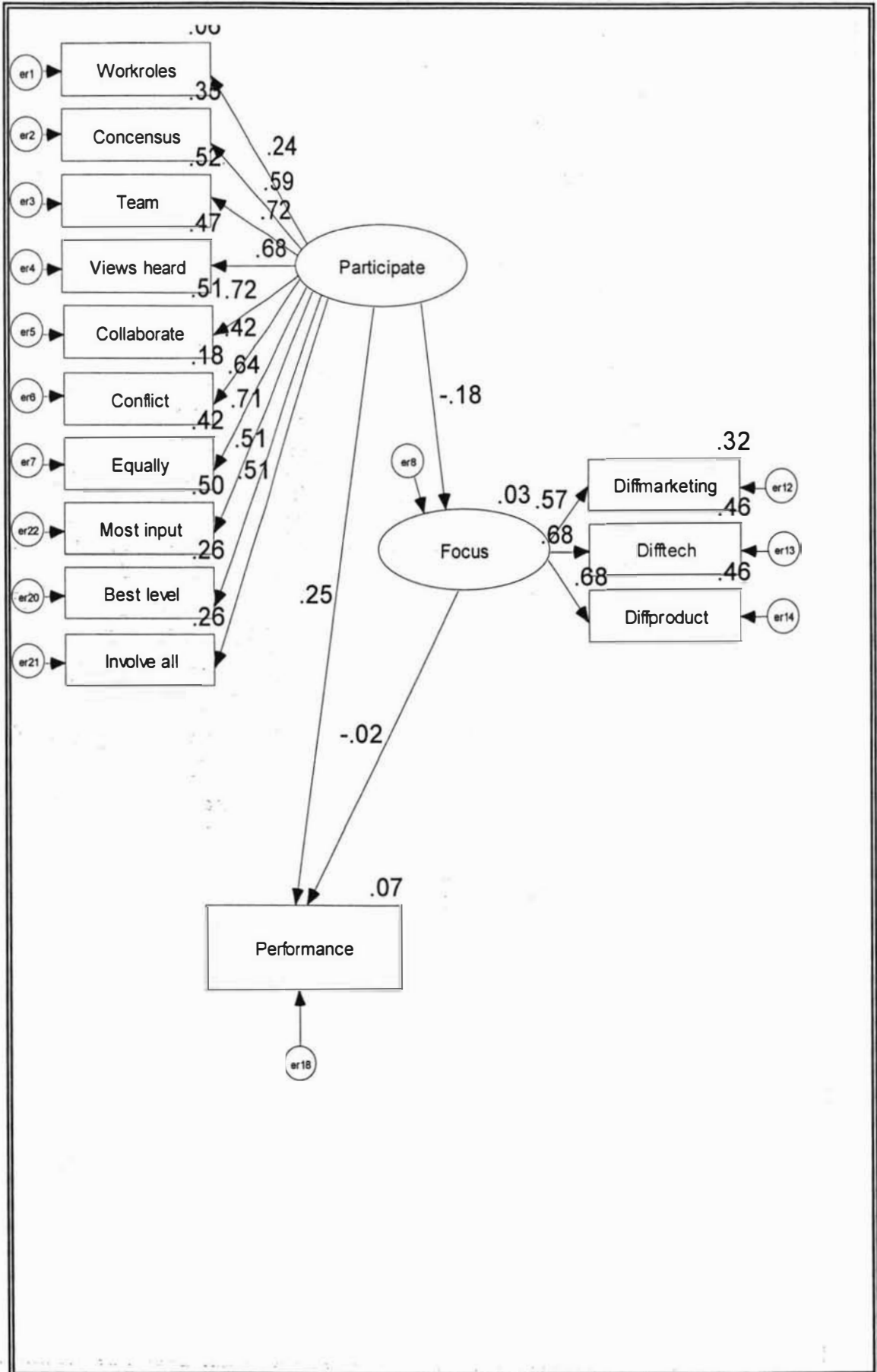


Figure F.15: Simplistic strategy-making – differentiation – performance model

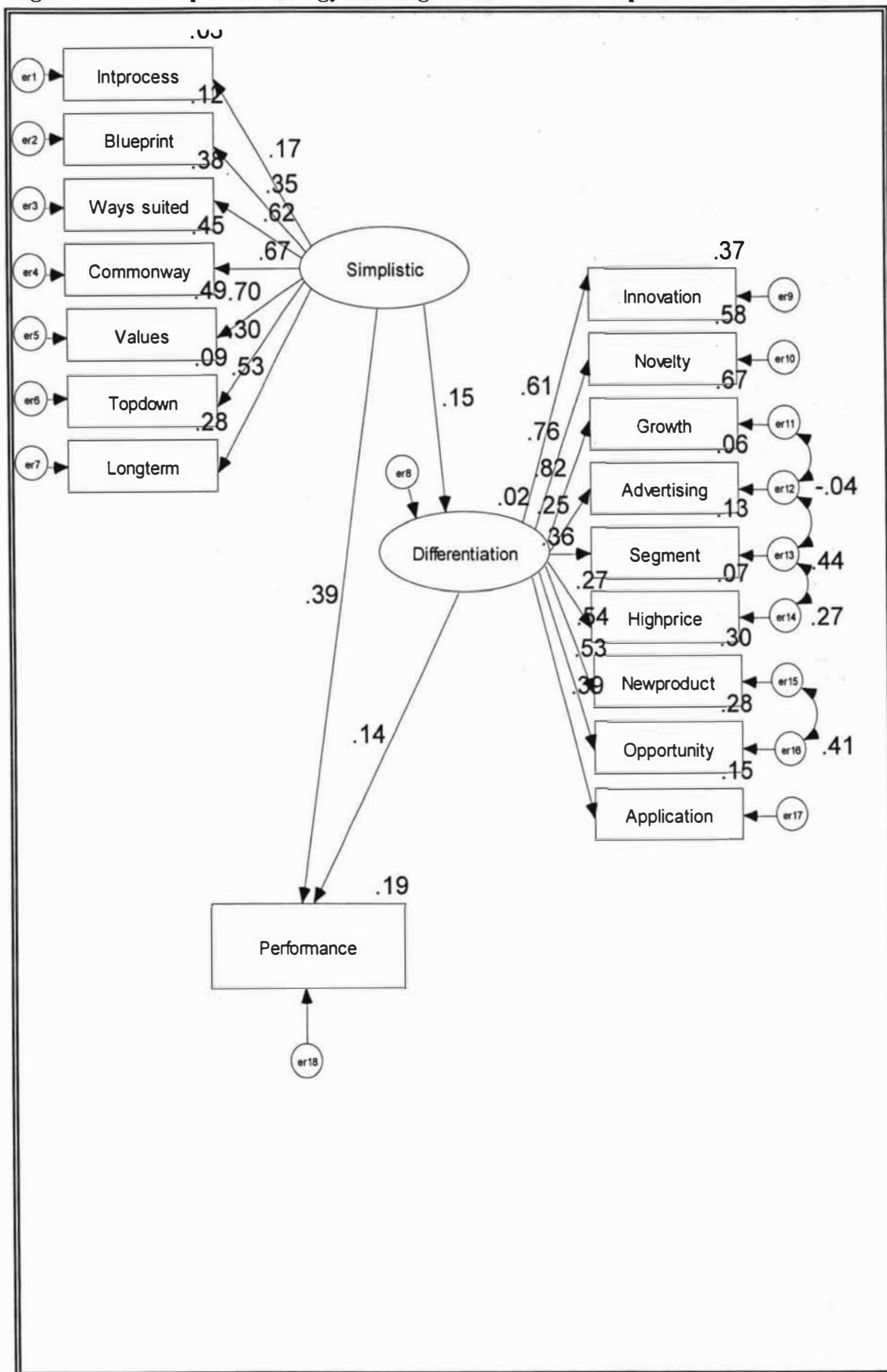
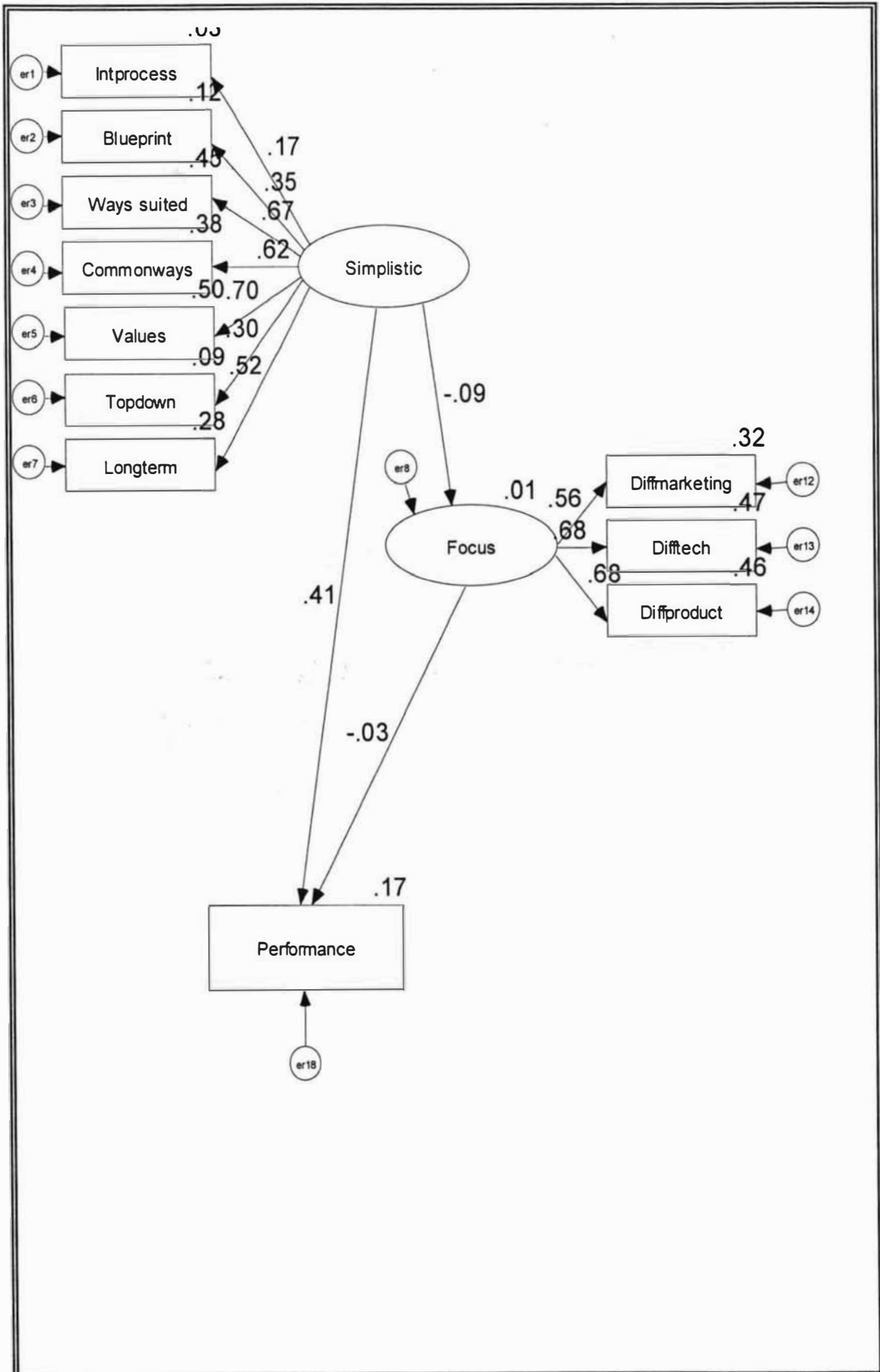


Figure F.16: Simplistic strategy-making – focus – performance model



Appendix G

Comparisons of means tests (Cross-tabulation, ANOVA)

Table G.1: Cross-tabulation for number of modes of strategy-making and firm performance (Chi-squared = 72.553, significance = 0.000)

Number for figure 7.2	Mode categories	Low performer	Medium	High performer	Total	Percentage
1	None	51.95	25.97	22.08	154	32.29
2	Simplistic (SSM)	40.00	18.33	41.67	60	12.58
3	Adaptive (ASM)	37.25	23.53	39.22	51	12.79
5	Participative (PSM)	52.38	33.33	14.29	21	4.40
4	Intrapreneurial (ISM)	58.82	17.65	23.53	17	3.56
7	SSM x ISM	0.00	40.00	60.00	5	1.05
11	ASM x ISM	20.00	40.00	40.00	5	1.05
10	ISM x PSM	40.00	20.00	40.00	10	2.10
8	SSM x PSM	27.27	22.73	50.00	22	4.61
9	ASM x PSM	12.50	20.83	66.67	24	5.03
6	SSM x ASM	16.00	20.00	64.00	25	5.24
12	SSM x ASM x ISM	0.00	50.00	50.00	4	0.84
15	SSM x ISM x PSM	11.11	11.11	77.78	9	1.89
14	ASM x ISM x PSM	43.48	17.39	39.13	23	4.82
13	SSM x ASM x PSM	28.57	14.29	57.14	28	5.87
16	All	5.56	22.22	72.22	18	3.77
	Total	182	109	185	477	100

Table G.2: ANOVA for life cycle with mode of strategy-making (MANOVA: F = 1.273, significance = 0.228)

Modes of strategy-making	F (3, 473)	Sig.
Simplistic	0.689	0.559
Adaptive	1.652	0.177
Intrapreneurial	2.280	0.079
Participative	0.214	0.887
SSM x ASM	1.021	0.383
SSM x ISM	1.459	0.225
SSM x PSM	0.521	0.668
ASM x ISM	2.890	0.035
ASM x PSM	0.880	0.451
ISM x PSM	1.085	0.355
SSM x ASM x ISM	2.069	0.103
SSM x ASM x PSM	0.728	0.536
ASM x ISM x PSM	1.716	0.163
SSM x ISM x PSM	0.923	0.429
All	1.382	0.248

Table G.3: Cross-tabulation for EO and modes of strategy-making (Chi-squared = 54.415, significance = 0.000)

Mode categories	Low EO	High EO	Total	Percentage
None	61.04	38.96	154	32.29
Simplistic (SSM)	60.00	40.00	60	12.58
Adaptive (ASM)	43.14	56.86	51	12.79
Intrapreneurial (ISM)	29.41	70.59	17	3.56
Participative (PSM)	77.27	22.73	22	4.40
SSM x ASM	52.00	48.00	25	5.24
SSM x ISM	40.00	60.00	5	1.05
SSM x PSM	68.18	31.82	22	4.61
ASM x ISM	40.00	60.00	5	1.05
ASM x PSM	29.17	70.83	24	5.03
ISM x PSM	20.00	80.00	10	2.10
SSM x ASM x ISM	0.00	100.00	4	0.84
SSM x ASM x PSM	32.14	67.86	28	5.87
ASM x ISM x PSM	17.39	82.61	23	4.82
SSM x ISM x PSM	55.56	44.44	9	1.89
All	22.22	77.78	18	3.77
Total	237	240	477	100

Table G.4: Cross-tabulation for size and modes of strategy-making (Chi-squared = 83.854, significance = 0.227)

Modes categories	Sizecategories						Total	Percentage
	1-5	6-10	11-20	21-30	31-50	51-99		
None	4.55	24.68	29.22	18.18	13.64	9.74	154	32.29
Simplistic (SSM)	6.67	28.33	30.00	11.67	13.33	10.00	60	12.58
Adaptive (ASM)	9.80	35.29	13.73	17.65	11.76	11.76	51	12.79
Intrapreneurial (ISM)	11.76	29.41	17.65	17.65	17.65	5.88	17	3.56
Participative (PSM)	13.64	27.27	31.82	9.09	13.64	4.55	22	4.40
SSM x ASM	12.00	20.00	24.00	4.00	12.00	28.00	25	5.24
SSM x ISM	0.00	40.00	20.00	20.00	20.00	0.00	5	1.05
SSM x PSM	13.64	36.36	31.82	9.09	9.09	0.00	22	4.61
ASM x ISM	40.00	20.00	0.00	20.00	0.00	20.00	5	1.05
ASM x PSM	4.17	20.83	12.50	41.67	8.33	12.50	24	5.03
ISM x PSM	0.00	40.00	50.00	0.00	10.00	0.00	10	2.10
SSM x ASM x ISM	0.00	0.00	50.00	25.00	0.00	25.00	4	0.84
SSM x ASM x PSM	0.00	28.57	28.57	10.71	17.86	14.29	28	5.87
ASM x ISM x PSM	0.00	26.09	26.09	30.43	4.35	13.04	23	4.82
SSM x ISM x PSM	11.11	33.33	33.33	22.22	0.00	0.00	9	1.89
All	11.11	11.11	33.33	11.11	5.56	27.78	18	3.77
Total	33	128	127	79	57	53	477	100

Table G.5: ANOVA for size and modes of strategy-making (MANOVA: F = 1.641, significance = 0.037)

Modes of strategy-making	Sum of Squares	Mean Square	F (5, 471)	Sig.
Simplistic (SSM)	2.879	0.576	2.130	0.061
Adaptive (ASM)	5.174	1.035	2.055	0.070
Intrapreneurial (ISM)	2.466	0.493	1.143	0.337
Participative (PSM)	1.730	0.346	1.068	0.377
SSM x ASM	1.714	0.343	1.415	0.217
SSM x ISM	1.101	0.220	1.062	0.381
SSM x PSM	1.608	0.322	1.505	0.187
ASM x ISM	3.032	0.606	1.935	0.087
ASM x PSM	1.909	0.382	1.269	0.276
ISM x PSM	1.799	0.360	1.234	0.292
SSM x ASM x ISM	1.430	0.286	1.394	0.225
SSM x ASM x PSM	1.238	0.248	1.155	0.331
ASM x ISM x PSM	1.954	0.391	1.488	0.192
SSM x ISM x PSM	1.217	0.243	1.201	0.308
All	1.260	0.252	1.253	0.283

Table G.6: Cross-tabulation for age and modes of strategy-making (Chi-squared = 89.08, significance = 0.127)

Modes categories	Agecategory						Total	Percentage
	1-5	6-10	11-20	21-30	31-50	51-99		
None	3.90	7.79	28.57	21.43	21.43	16.88	154	32.29
Simplistic (SSM)	0.00	6.67	30.00	26.67	18.33	18.33	60	12.58
Adaptive (ASM)	7.84	19.61	31.37	15.69	7.84	17.65	51	12.79
Intrapreneurial (ISM)	11.76	5.88	17.65	23.53	5.88	35.29	17	3.56
Participative (PSM)	4.55	13.64	27.27	40.91	13.64	0.00	22	4.40
SSM x ASM	0.00	4.00	40.00	20.00	20.00	16.00	25	5.24
SSM x ISM	20.00	0.00	20.00	0.00	40.00	20.00	5	1.05
SSM x PSM	4.55	9.09	13.64	27.27	22.73	22.73	22	4.61
ASM x ISM	40.00	0.00	20.00	40.00	0.00	0.00	5	1.05
ASM x PSM	12.50	8.33	33.33	16.67	20.83	8.33	24	5.03
ISM x PSM	0.00	30.00	40.00	10.00	0.00	20.00	10	2.10
SSM x ASM x ISM	0.00	25.00	50.00	0.00	0.00	25.00	4	0.84
SSM x ASM x PSM	3.57	0.00	35.71	21.43	28.57	10.71	28	5.87
ASM x ISM x PSM	8.70	13.04	17.39	26.09	8.70	26.09	23	4.82
SSM x ISM x PSM	11.11	0.00	22.22	33.33	22.22	11.11	9	1.89
All	5.56	11.11	44.44	11.11	16.67	11.11	18	3.77
Total	25	44	140	105	84	79	477	100

Table G.7: ANOVA for age and modes of strategy-making (MANOVA: F = 1.253, significance = 0.201)

Modes of strategy-making	Sum of Squares	Mean Square	F (5, 471)	Sig.
Simplistic (SSM)	0.910	0.182	0.663	0.651
Adaptive (ASM)	2.485	0.497	0.976	0.432
Intrapreneurial (ISM)	4.931	0.986	2.312	0.043
Participative (PSM)	0.739	0.148	0.454	0.811
SSM x ASM	0.833	0.167	0.682	0.637
SSM x ISM	0.761	0.152	0.732	0.600
SSM x PSM	0.370	0.074	0.342	0.887
ASM x ISM	2.917	0.583	1.860	0.100
ASM x PSM	1.044	0.209	0.690	0.631
ISM x PSM	1.814	0.363	1.244	0.287
SSM x ASM x ISM	1.080	0.216	1.049	0.388
SSM x ASM x PSM	0.539	0.108	0.500	0.777
ASM x ISM x PSM	1.660	0.332	1.261	0.279
SSM x ISM x PSM	0.578	0.116	0.566	0.726
All	0.802	0.160	0.793	0.555

Table G.8: Cross-tabulation for structure and modes of strategy-making (Chi-squared = 47.027, significance 0.000)

Modes categories	Low organic	High organic	Total	Percentage
None	57.79	42.21	154	32.29
Simplistic (SSM)	80.00	20.00	60	12.58
Adaptive (ASM)	47.06	52.94	51	12.79
Intrapreneurial (ISM)	47.06	52.94	17	3.56
Participative (PSM)	31.82	68.18	22	4.40
SSM x ASM	60.00	40.00	25	5.24
SSM x ISM	40.00	60.00	5	1.05
SSM x PSM	54.55	45.45	22	4.61
ASM x ISM	20.00	80.00	5	1.05
ASM x PSM	33.33	66.67	24	5.03
ISM x PSM	20.00	80.00	10	2.10
SSM x ASM x ISM	0.00	100.00	4	0.84
SSM x ASM x PSM	53.57	46.43	28	5.87
ASM x ISM x PSM	30.43	69.57	23	4.82
SSM x ISM x PSM	44.44	55.56	9	1.89
All	33.33	66.67	18	3.77
Total	248	229	477	100

Appendix H

Moderated regression analyses

Table H.1: Moderated regression analysis for the dependent variable firm performance and the independent variable simplistic strategy-making

Moderating variable	Model	R	Adjusted R square	R square change	DF	F (Anova)	Sign	B	Constant	t	Sign	SSE	MSE
EO	1 X	0.314	0.097	0.098	1, 475	51.861	0.000	23.17	53.037	7.201	0.000	460218.9	1347.829
	2 Z	0.335	0.108	0.014	1, 475	29.885	0.000	22.98 0.510	34.703	7.189 2.689	0.000 0.007	630602.5	1330.385
	3 XZ	0.347	0.115	0.008	1, 475	21.556	0.000	50.96 3.281 -0.737	-70.391	3.741 2.476 -2.112	0.000 0.014 0.035	624708.5	1320.737
Organic (4)	1 X	0.314	0.097	0.098	1, 475	51.861	0.000	23.17	53.037	7.201	0.000	460218.9	1347.829
	2 Z	0.325	0.102		1, 475	28.017	0.000	24.09 0.475	34.825	7.431 1.965	0.000 0.050	635047.9	1339.764
	3 XZ	0.326	0.103	0.008	1, 475	28.210	0.000	19.98 0.129	50.037	5.608 2.051	0.000 0.041	634211.0	1340.827
Age, Size (4)	1 X	0.314	0.097	0.098	1, 475	51.861	0.000	23.17	53.037	7.201	0.000		
Hostile (4)	1 X	0.314	0.097	0.098	1, 475	51.861	0.000	23.17	53.037	7.201	0.000		
	2 Z	0.325	0.102	0.007	1, 475	28.055	0.000	3.165	40.440	1.982	0.048		
Dynamic (4)	1 X	0.314	0.097	0.098	1, 475	51.861	0.000	23.17	53.037	7.201	0.000		
	2 Z	0.330	0.105	0.011	1, 475	29.060	0.000	2.936	39.550	2.396	0.017		

- 1 Model 1 presents the regression for the independent variable only
- 2 Model 2 presents the regression for the independent and moderating variables
- 3 Model 3 presents the regression for the independent, moderating and interaction variables
- 4 Excluded variables did not render significant results and was deleted through stepwise regression analysis

R Correlation between Y and combined predictor variables
R square Proportion of variability in Y that is caused by the combined predictor variables
F Significant F means that R square is significantly different for zero – assume a linear relationship between Y and predictors
B Coefficients
Beta Importance of B values when transformed into standard scores

Table H.2: Moderated regression analysis for the dependent variable firm performance and the independent variable adaptive strategy-making

Moderating variable	Model	R	R square	Adjusted R square	R square change	F change	Sig F change	DF	F (Anova)	Sign	B	Beta	Constant	t	Sign
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All 1 X 0.256 0.066 0.064 0.066 33.295 0.000 1,475 33.295 0.000 13.85 0.256 91.536 5.770 0.000

- 1 Model 1 presents the regression for the independent variable only
- 2 None of these relationships with moderator variables showed significant results

Table H.3: Moderated regression analysis for the dependent variable firm performance and the independent variable intrapreneurial strategy-making

Moderating variable	Model	R	R square	Adjusted R square	R square change	F change	Sig F change	DF	F (Anova)	Sign	B	Beta	Constant	t	Sign
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All 1 X 0.123 0.015 0.013 0.015 7.307 0.007 1,475 7.307 0.007 0.540 0.123 119.516 2.703 0.007

- 1 Model 1 presents the regression for the independent variable only
- 2 None of these relationships with moderator variables showed significant results

Table H.4: Moderated regression analysis for the dependent variable firm performance and the independent variable participative strategy-making

Moderating variable	Model	R	R square	Adjusted R square	R square change	F change	Sig F change	DF	F (Anova)	Sign	B	Beta	Constant	t	Sign
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All 1 X 0.255 0.065 0.063 0.065 32.991 0.000 1,475 32.991 0.000 17.292 0.255 75.669 5.744 0.000

- 1 Model 1 presents the regression for the independent variable only
- 2 None of these relationships with moderator variables showed significant results

Table H.5: Moderated regression analysis for the dependent variable firm performance and the independent variable strategy type

Moderating variable	Model	R	Adjusted R square	R square change	DF	F (Anova)	Sign	B	Constant	t	Sign	SSE	MSE
Participation & Differentiation	1 X	0.258	0.065	0.067	1, 475	33.886	0.000	2.129	105.410	5.821	0.000	664000.7	1397.896
	3 XZ	0.277	0.073	0.010	1, 475	19.729	0.000	1.282 9.787	82.777	2.472 2.295	0.014 0.022	654763.6 654626.0	1381.358 1383.987
Simplistic & Differentiation	1 X	0.314	0.097	0.098	1, 475	51.861	0.000	23.172	53.037	7.201	0.000	460218.9	1347.829
	2 Z	0.351	0.119	0.024	1, 475	33.218	0.000	22.369 6.683	27.134	7.024 3.638	0.000 0.000	622823.6	1313.974
	3 XZ	0.364	0.127	0.010	1, 475	24.089	0.000	55.492 34.359 -7.430	-96.027	3.745 2.809 -2.289	0.000 0.005 0.023	634211.0	1302.331

- 1 Model 1 presents the regression for the independent variable only
- 2 Model 2 presents the regression for the independent and moderating variables
- 3 Model 3 presents the regression for the independent, moderating and interaction variables
- 4 None of these relationships with moderator variables showed significant results

Appendix I
Cluster analyses

Table I.1: Cluster analysis for strategy-making modes

Cluster	SSM	ASM	ISM	PSM
1 Medium process	3.8033	3.1326	3.0471	3.6649
2 Multi-mode process	3.8685	4.0339	3.6711	4.0190
3 Impoverished process	3.1310	2.6000	2.5944	2.7367

Table I.2: Cluster analysis for all continuous variables

Cluster	SSM	ASM	PSM	ISM	Performance	EO	Organic	Hostility	Dynamism	Differentiation	Focus	Size	Age
1 Multi-mode process	3.7828	3.5544	3.8046	3.3878	142.7194	38.7704	30.7908	3.7592	4.1798	4.5108	4.0850	21.4499	30.954
2 Medium process	3.7470	3.4733	3.6618	3.2595	143.0534	37.2061	30.7252	3.6336	4.0153	4.2265	4.2977	22.2448	31.7710
3 Impoverished process	3.7086	3.4289	3.6473	3.1756	133.5400	35.4000	31.8600	3.4040	3.9583	4.1741	4.3467	26.3074	37.4000

Table I.3: Cluster analysis for industry life cycle

Cluster	Introduction		Growth		Maturity		Decline	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 Multi-mode process	15	71.4%	80	40.6%	94	38.7%	7	43.8%
2 Medium process	6	28.6%	117	59.4%	0	.0%	8	50.0%
3 Impoverished process	0	.0%	0	.0%	149	61.3%	1	6.3%

Table I.4: Cluster analysis for industry sector

Cluster	Services		Manufacturing		Construction		Retail/wholesale	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 Multi-mode process	126	99.2%	0	.0%	0	.0%	70	100.0%
2 Medium process	1	.8%	89	44.5%	41	51.3%	0	.0%
3 Impoverished process	0	.0%	111	55.5%	39	48.8%	0	.0%



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CANDIDATE'S DECLARATION

This is to certify that the research carried out for my Doctoral Thesis entitled 'Strategy-making processes of New Zealand SMEs' in the Department of Management and International Business, Massey University (Albany), New Zealand is my own work and that the thesis material has not been used in part or in whole for any other qualification.

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- (a) is the original work of the candidate, except as indicated by appropriate attribution in the text and/or in the acknowledgements;
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Candidate's Name: Martie-Louise Verreyne **Supervisor's Name: John Monin**

Signature: MVerreyne

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Date: 20/7/15

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SUPERVISOR'S DECLARATION

This is to certify that the research carried out for the Doctoral Thesis entitled 'Strategy-making processes of New Zealand Small and Medium Enterprises' was done by Martie-Louise Verreyne in the Department of Management and International Business, Massey University (Albany), New Zealand. The thesis material has not been used in part or in whole for any other qualification, and I confirm that the candidate has pursued the course of study in accordance with the requirements of the Massey University regulations.

Supervisor's Name: Associate Professor John Monin

Signature:

Date:

20/7/15