

Sheffield University Management School

**COMPETITIVE STRATEGIES AND BARRIERS TO
ACHIEVING COMPETITIVE ADVANTAGE:
A STUDY OF TWO SAUDI ARABIAN INDUSTRIES**

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*To My
Parents, Wife and Children.*

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Competitive strategies and barriers to achieving competitive advantage:
A study of two Saudi Arabian industries

By
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Abstract

This study focuses on how organisations achieve and sustain competitive advantage and the possible barriers to this advantage. It first deals with a theoretical framework by examining related literature on developing a better understanding of competitive advantage and generic strategies, as well as the important aspects that may affect a firm's achievement and the sustainability of its competitive advantage. This study extends the strategic management literature on competitive advantage and generic strategies mainly based on Porter's (1980, 1985) work. In particular, instead of the two generic strategies (differentiation and cost leadership) put forward by Porter, four competitive strategies are developed. These are (1) price leadership, (2) low cost differentiation, (3) imitation and (4) differentiation.

Barriers to competitive advantage are conceptualised in terms of "strategic coherence" model, which has three aspects. Competitive strategies require internal consistency referred to as 'competitive coherence'. In addition, 'organisational coherence' needs to be built, involving the structure of internal and external elements affecting an organisation's ability to achieve its competitive advantage. The creation of this structure is not automatic. The difficulties increase with growing dynamism and complexity of the environment in which an organisation is operating. While competitive and organisational coherence might exist accidentally, the third aspect developed in this study is called 'cognitive coherence'. The lack of coherence in one or more of these aspects is a barrier to a firm achieving and sustaining its competitive advantage. Secondly, this study reports empirical evidence on the validity of the theoretical framework. This study takes the case of two different industries (petrochemical and food) in Saudi Arabia.

Results indicate that all four competitive strategies are possible and statistically defined. In addition, high-performing firms, in both industries, have more strategic coherence than lower performing firms. The results suggest that high-performing firms are able not only to achieve their competitive advantage but also to sustain it over time. Moreover, in each industry, firms with different competitive strategies have different barriers to achieving their competitive advantage. These results are consistent with those found in the existing literature, lending support to the view that western strategy models seem to be applicable to developing countries such as Saudi Arabia.

Chapter 1

Introduction

1.1 Objectives of the research

The constant changing of the internal and external environments of an organisation suggests that the stronger the firm the longer it can sustain a superior level of performance compared to competitors. A known important variable that determines a firm's success and viability in a market is its competitive advantage. It can be argued that each organisation within any industry is expected to have some advantage over its competitors in order to maintain its position over time. Thus the achievement and sustainability of competitive advantage is the means which gives the firm its ability to stay longer in the market. However, there might be potential barriers that prevent firms from achieving and sustaining their competitive advantage. These barriers are applicable to developed as well as developing nations. It is therefore essential for firms (either in industrialised or in developing countries such as Saudi Arabia) to consider such barriers in order to accelerate the development of their nation as well as to achieve their primary objectives.

This research has two main objectives: the first theoretical objective develops an understanding of competitive advantage and generic strategies as well as the major barriers that may prevent a firm from achieving and sustaining its competitive advantage. The second objective deals with reporting empirical evidence on the validity of this theoretical framework. This study takes the case

of two different industries (petrochemical and food) in Saudi Arabia for the empirical investigation.

There appear to be two contrasting views in the relevant literature about the question of the transferability of generic strategy theories developed in an industrialised countries to a developing country. The first view is that such theories are not applicable to developing countries. Kiggundu et al. (1983) view different studies on organisation in developing countries and conclude that theories grounded in data from industrialised countries appear to be useful for understanding problems in the technical core of organisations in developing countries but were not so useful for understanding organisation-environment relationships. The second view supports the argument that some theories related to organisation-environment are transferable to developing countries. Kim's (1980) study of electronic firms in Korea found that firms with an organic structure were more innovative than those with a mechanistic structure. This supports the results of previous studies in industrialised countries (e.g. Burns and Stalker, 1961; Hage and Aiken, 1967). Similarly, Kim and Lim's (1988) study of environment, generic strategies and performance found that the characteristics of the different generic strategies identified in the existing literature, based on the data obtained from industrialised countries, are generally consistent with those they found in their study. They also conclude that such findings help to identify theories unique to developing countries and increase the external validity of theories developed in industrialised countries.

The theoretical framework developed in this study is based on the literature which is mainly grounded in industrialised countries. However, the empirical part of this study will be applied to one of the developing countries, namely Saudi Arabia, to examine the extent to which such a framework can be applied to a developing country.

In order to achieve the major objectives of this research, the theory of competitive advantage and generic (competitive) strategies has been developed from previous work in this field as well as merging and classifying those related aspects in the literature. The central issue is to answer the question of what the major barriers are that may prevent firms from achieving their competitive advantage. Providing appropriate and convincing answers to this question requires a broad investigation and evaluation of other questions regarding the identification of competitive strategies and the links between competitive strategies and internal and external factors which will be discussed when appropriate.

1.2 Competitive strategies and barriers to competitive advantage

Different competitive strategies as well as barriers to competitive advantage will be discussed in detail in later chapters. The purpose of this section is to introduce briefly the development of different competitive strategies and the barriers to achieving competitive advantage.

1.2.1 Competitive strategies

Developing an appropriate competitive strategy is vital for an organisation in order to formulate a broad procedure of how it is going to compete, what should be appropriate goals, and how to achieve and sustain its competitive advantage. Strategy is generally viewed as a pattern of important decisions that (1) guides the organisation in its relationships with its environment, (2) affects the internal structure and processes of an organisation,

and (3) certainly affects an organisation's performance (Hambrick, 1980). Competitive strategy has been defined in different ways. For example, it has been defined as how to position a company in its competitive environment in a way that allows it to gain advantage against its competitors (Porter, 1980 and 1985). It has also been defined as how firms choose to compete through the combination of a large number of functional area decisions (Aaker, 1992).

To manage current and future competition and to gain superior performance, a firm needs an appropriate competitive strategy. In this study, different competitive strategies have been developed. The development of these strategies is based on a review and discussion of the existing literature related to the two competing approaches of sustainable competitive advantage. These are market position and the resource-based approaches. Both of these approaches are needed for current and future competition. As will be clear from the following brief introduction and the detailed discussions of these two approaches in later chapters, the market position approach deals mainly with the position of the firm in its market and currently existing competition, while the resource-based approach emphasises the long-term development of the firm's resources and distinctive competencies for future competition.

In the market position approaches, the work of Michael Porter (1980) on competitive strategy, followed up in a later study of competitive advantage (Porter, 1985) where he develops the basic ideas introduced in the earlier work, has considerably advanced the debate in the business policy field in terms of setting and orienting discussion around the idea of competitive strategies. Porter clearly sees the essence of formulating competitive strategy as relating a company to its environment and that the key aspect of the firm's environment is the industry or industries in which the firm competes (Porter, 1980). The major contribution was to point out that there are two routes to superior performance:

where a firm either is (1) a cost leader in its industry or (2) differentiates its product/service. The firm may choose to apply either of these strategies to a broad market, or to a narrow-focused market. The works of Porter are widely discussed, reviewed and empirically tested in the literature (e.g. Bamberger, 1989; Miller and Dess, 1993; Bowman, 1990 and 1992; Day 1984; Hambrick 1983b; Dess and Davis 1984; Hill 1988; Mathur 1988; Miller and Friesen 1986a, 1986b; Miller, 1988 and 1992; Phillips, Change and Buzzell 1983; Murray, 1988).

The resource-based approach views competitive advantage from the perspective of possible "distinctive competency" that gives a firm an edge over its rivals (Lippman and Rumelt, 1982; Teece, 1984; Hitt and Ireland, 1985; Barney, 1986a, 1986b; Ghemawat, 1986; Day and Wensley, 1988; Fahey, 1989; Reed and DeFillippi, 1990 and Lado et al., 1992). In this approach, the firm is viewed as a nexus or bundle of specialised resources that are deployed to create a privileged market position (see Rumelt, 1984, 1987; Wernerfelt, 1984; Barney, 1988; Dierickx and Cool, 1989). These resources are what Rumelt (1984) terms "isolating mechanisms" - those hidden core capabilities or assets, such as proprietary knowledge, company reputation and so on, which are often not directly associated with a product or a service, that sustains competitive advantage. Teece (1986) has termed such things "complementary assets" - resources that allow an organisation to capture profits from innovation. However, even though innovation can give a company a competitive advantage and profits, nothing lasts for ever (Williams, 1992). Thus any competitive advantage needs to be sustained. Therefore, different characteristics and specific conditions under which resources are valuable, and competitive advantage is sustainable, will be discussed on the basis of the review of literature (e.g. Grant, 1991; Reed and DeFillippi, 1990; Ghemawat, 1991).

Since firms need to secure current as well as future market position and since competitive advantage can stem from either resource and competency deployment or a product/market position, both of these views will be considered in this research. However, in practice, the emphasis on either one of these sources depends on many factors. Resource bases and end products can be viewed as two sides of one coin, as organisation and environment are inseparable. But for analytical purposes, this study discusses the organisation or "resource and competencies" and the environment or "product/market" as separated sources of competitive advantage.

Following on the review of the strategic management literature, the issues of the conceptualisation of competitive advantage and generic strategies will be analysed, and then the work of Porter will be developed. One problem with Porter's 'position' school of thought in strategic management (see Mintzberg 1990) is that to be strictly appropriate it must be based on a set of ex-ante well specified demand and supply side characteristics from which strategy is 'read off'. There is no real room for forward thinking or creative activity. But the possibility of learning, involved with a defensive or leading strategy, suggests a more dynamic and creative organisational activity (Dietrich and Al-Awadh, 1993). This learning and creativity, however, does not occur in a vacuum but is environmentally contingent.

The framework developed in this thesis accommodates this critique of market position theory and identifies four competitive strategies, rather than Porter's two generic strategies. These competitive strategies are: price leadership (PL), low cost differentiation (LCD), imitation (IMT) and differentiation (DIF). The development of these competitive strategies, as will be discussed later in this thesis, is based on appropriate links of particular foundations of competitive advantage.

1.2.2 Barriers to achieving competitive advantage

It is important at this stage to emphasise that an appropriate competitive strategy is important for a firm to achieve its competitive advantage and as a consequence achieve higher performance; therefore, the immediate determinant of competitive advantage is an effective competitive strategy. However, the potential of such a strategy is conditioned by organisational functioning (that creates, builds or crafts more or less appropriate internal and external environmental links) and individual perceptions. Hence it is argued in this study that a firm has to maintain "strategic coherence" in order to achieve and sustain its competitive advantage. Different aspects of strategic coherence will be defined and discussed later in this section. Before doing so, a review of the existing literature on the strategic coherence concept will be presented.

Hofer and Schendel (1978) argue that strategies at different levels need to be coherent to ensure competitive advantage. Coherence (also termed "link", "fit", "match" or "consistency") is emerging as an important concept in strategic management research (e.g. Aldrich, 1979; Hambrick, 1988; Venkatraman and Prescott, 1990; Miller, 1988; Hofer, 1975; Nath and Sudharshan, 1994; Pettigrew and Whipp, 1994; Jauch, Osborn and Gluck, 1980; Lorange and Vancil, 1977; Galbraith and Nathanson, 1978; Iles, 1993; Chandler, 1962; Rumelt, 1974; Gupta and Govindarajan, 1984; Grinyer et al, 1980).

The concept of coherence has been an enduring aspect of strategic management research. It has received various definitions in the literature. For example, early in the life of the subject, Ansoff (1965), Andrews (1971) and Chandler (1962) referred to "fitting", "matching" or "aligning" organisational resources with environmental opportunities and threats. Strategic coherence, however, has been discussed in the management strategy literature with

different variables. It can be seen in Ansoff's (1965) strategic portfolio which consists of four components, namely geographical growth, competitive advantage, synergy, and strategic flexibility. It can also be seen in Mintzberg's (1987) definition of strategy, or in Peters and Waterman's (1982) loose-tight control management. A logical development by Porter (1985) in this tradition is that internally coherent "generic strategies", that are difficult to imitate, can promote sustainable competitive advantage.

These differing perspectives were generalised by Venkatraman and Camillus (1984) in their discussion of different aspects of "fit" or "coherence", in strategic management. These perspectives are based on whether the elements to be linked are: (1) external to the firm (based on this view, a firm's performance in the marketplace is critically dependent on the characteristics of the industry environment in which it competes); (2) internal to the firm (they suggest that the focus of this view is on the alignment between strategy and internal elements, with almost no direct reference to the influences external to the organisation; the dominant theme in this perspective is the strategy-structure fit), and (3) an integrated combination of 1 and 2. Venkatraman and Camillus (1984) argued that the body of empirical studies in the third perspective was recent, limited and of an exploratory nature. This limited progress was, however, significant because five years earlier Galbraith and Nathanson (1978, p.266) argued that 'although the concept of fit is a useful one, it lacks the precise definition needed to test and recognise whether an organisation has it or not'. Similarly Van de Ven (1979, p. 324) observed that 'considerably more theoretical work is needed to incorporate "fit" into a theory of organisation'.

Since the early 1980s the idea of coherence has been further developed and refined (see, for example, Hambrick, 1988; Miller, 1988; Venkatraman and Prescott, 1990; Iles, 1993). Of particular importance has been the emphasis

placed on Venkatraman and Camillus' second and third categories. For example, Porter (1985) links competitive strategies to environmental factors. Mintzberg (1979, 1987) links different organisational structures to competitive strategies. Nath and Sudharshan (1994) find that higher performing firms have strategies that are more internally consistent or coherent. Moreover, the "resource-based" strategy theorists (e.g. Grant 1991b and Collis 1991), argue that market imperfection inhibits the opportunity-maximising strategies proposed by writers such as Porter. Therefore, they see that the origin of the firm's competitive advantage lies in what is unique and embedded in its resources which constitutes its core, distinctive competence. Shortell, Morrison, and Robbin (1985) state that it is important to note that marketing, financial and human resource functions and strategies are interdependent and, indeed, in high performing organisations one would expect to find these functional strategies to be consistent with each other in the support of a given corporate or business strategy. Iles (1993) argues that strategic coherence in human resource development can be achieved through competence-management and organisation development. Whipp, Rosenfeld, and Pettigrew (1989a) also suggest that coherence between strategic and operational issues is a fundamental attribute visible in more successful firms. This thesis takes the third theme suggested by Venkatraman and Camillus (1984), and also considers the arguments raised by Galbraith and Nathanson (1978) and Van de Ven (1979) to develop and empirically test the idea of coherence.

The concept of strategy has also been discussed and defined in different ways in the management literature. Whittington (1993), for example, discusses four generic approaches to strategy which are: classical, evolutionary, processual and systemic. Each approach will be discussed, very briefly, and related to the concept of strategic coherence; a few examples of the existing

empirical work will then be related to these approaches. For the classical approach, strategy is a rational process of deliberate calculation and analysis, designed to maximise long-term advantage. Therefore, strategy is best made through rational analysis undertaken at one remove from the hurly-burly of the business battlefield itself (Ansoff, 1965, 1991; Porter, 1980, 1985). Sloan (1963) defined the fundamental strategic problem as positioning the firm in those markets in which maximum profits could be earned. Thus, the classical approach to strategy places great confidence in the readiness and capacity of managers to adopt profit-maximising strategies through rational long-term planning. The concept of strategic coherence, in this approach, can be seen in the links between the firm's strategy and its competitive environment.

Rather than relying on managers, Evolutionary approaches expect markets to secure profit maximisation (Hannan and Freeman, 1988; Williamson, 1991). Stressing the competitive processes of natural selection, Evolutionary theorists do not necessarily prescribe rational planning methods; rather, they argue that whatever methods managers adopt, only the best performance survives. Aldrich (1979) argues that environmental fit is more likely to be the result of chance and good fortune, even error, than the outcome of deliberate strategic choice. The Evolutionary advice, then, is that in searching for the best strategy, it is best to let the environment do the selecting, not the managers. Dietrich (1994) argues that the evolutionary approach to the firm is limited in that it sees decision-making in terms of responses to exogenous change, which leaves no role for learning and proactive behaviour. The concept of strategic coherence, in this approach, can be seen in the links between strategy and the competitive pressures.

The Processualists also challenge the detached approach of the classicists, seeing effective strategies as emerging directly from intimate

involvement in everyday operations. The foundations for the Processual approach were laid by the innovative work of the American Carnegie School - most prominently, R. Cyert, J. March and Nobel Prize-winner H. Simon. Rejecting the specious unit of rational economic man on the one hand and the perfection of competitive markets on the other, they were led to take the internal complexity of organisations seriously (March and Simon, 1958; Cyert and March, 1963). Here they uncovered two of the themes that have now become fundamentals of Processual thought: the cognitive limits on rational action, since extended by Mintzberg (1978, 1987) in particular, and the micro-politics of organisations, developed by Pettigrew (1973, 1985). The strategic coherence in this approach, therefore, can be seen in the links between the firm's strategy and its internal factors.

Finally, Systemic approaches argue that strategies must be "institutionally efficient", appropriate to particular social and economic contexts (Granovetter, 1985). Systemic theorists insist that the rationales underlying strategy are peculiar to particular sociological, institutional and economic contexts. Therefore, firms differ according to the social and economic systems in which they are embedded. The variables of the systemic perspective include class and professions, nations and states, families and gender. The concept of strategic coherence in this approach can be seen in the links between the strategy and the different institutions in the general environment.

It can be seen from the previous discussion that these different approaches to strategy (as suggested by Whittington, 1993) require a strategic coherence that has been viewed differently. Two approaches, the Classical and Processual, have been used in this study. It can therefore be seen that each approach to strategy has different views as to what constitutes strategic

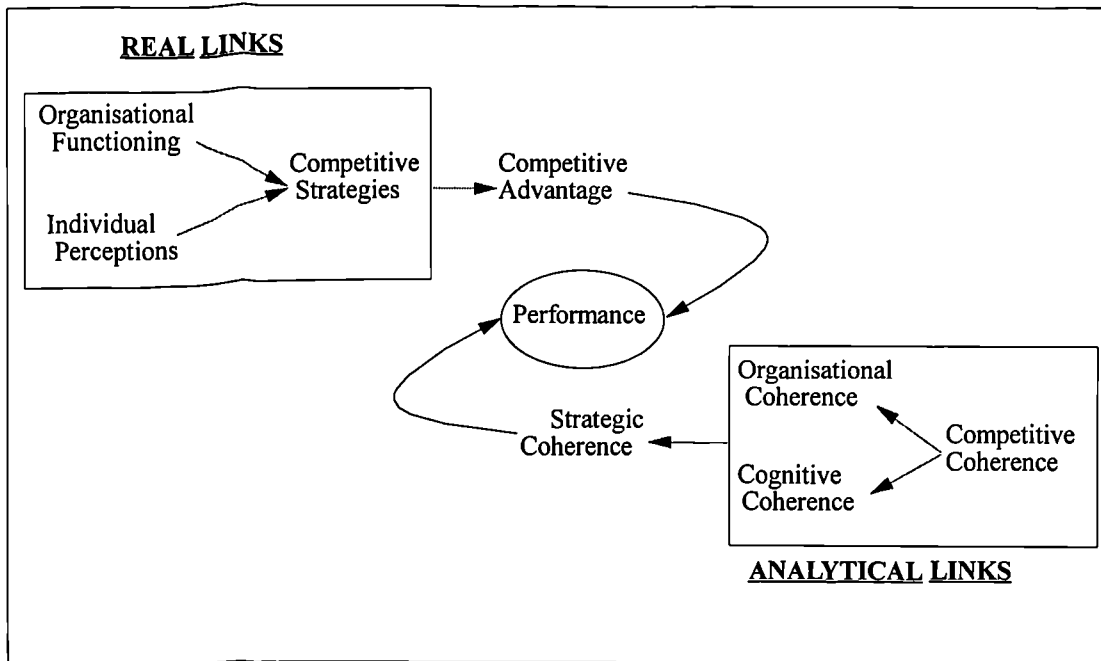
coherence. But each view postulates that higher performing firms have strategic coherence of some sort.

Strategic coherence will be defined in this study in terms of three linked aspects: "competitive", "organisational" and "cognitive". The central proposition is that effective exploitation of competitive advantages, and hence achieved performance and the extent to which this is sustained over time, is positively related to the degree of coherence at all three levels. In other words, the lack of coherence in one or more of these aspects is considered as a barrier that may prevent firms from achieving and sustaining their competitive advantage. The way that these aspects are linked is illustrated in Figure 1.1 (see Dietrich and Al-Awadh (1995)). Two types of links are presented in a general competitive advantage and strategic coherence model, as illustrated in figure 1.1. Although this model represents these two different ways to achieve competitive advantage and strategic coherence (i.e. real and analytical links) both aim to achieve high performance. In reality, the managers' individual perceptions and the different organisational functioning will provide the foundation for defining the means (i.e. competitive strategies) by which the firms achieve and sustain competitive advantage. Therefore, if the managers' perception of their competitive strategies and the different organisational functioning have been linked properly with a coherent firm's competitive strategy then the firm will achieve and sustain its competitive advantage and consequently enhance its performance. However, for the purpose of analysis, this study uses the concept of coherence to reach the same conclusion, as illustrated in Figure 1.1 and discussed in more detail later. Competitive strategies will be used as the primary analytical element, their internal consistency will be referred to as "competitive coherence" as will be discussed next. These competitive strategies will be developed and identified from the

investigated firms rather than imposed on them as will be discussed in later chapters. This aspect of coherence is one of the three aspects of "strategic coherence" which will be discussed next. This study proposes that firms which maintain a high level of strategic coherence will have a high level of performance.

The competitive strategies, in this study, have been linked to both the internal and external environments of an organisation. Studies that relate both internal and external variables to the firm's strategy tend to use one or just a few internal variables (mainly organisational structure) and one or just a few external variables (mainly environmental uncertainty) to the firm's strategy. In this study, however, strategic coherence is analysed by using ten internal variables (e.g. formalisation, financial control, authority delegation of authority and risk avoidance) and five external variables (e.g. environmental stability, environmental simplicity, related and supported industries and factor conditions) as well as competitive strategy variables.

Figure 1.1
A model of competitive advantage and strategic coherence



1.2.2.1 Competitive coherence

Competitive coherence, which is the initial analytical element, is defined in terms of the internal consistency of competitive strategies. Forming an effective competitive strategy needs both a supply side and a demand side that are internally consistent. Although the nature of this consistency will be discussed later in detail, an important issue should be emphasised at this stage. When the consistency of competitive strategies is derived it invokes the analytical logic of black box organisation. This logic suggests that optimal organisational functioning and individual perceptions exist by default. Therefore, this aspect of strategic coherence is concerned with how strongly (the measurement of this strength will be discussed later) these competitive strategies are defined, i.e. their internal consistency. Once these competitive

strategies are defined, they will be used as a benchmark to measure the other aspects of "strategic coherence", as illustrated in Figure 1.1.

1.2.2.2 Organisational coherence

Using the right competitive strategy is not sufficient for a firm to secure the sustainability of its advantage. Each competitive strategy requires the creation or crafting (Mintzberg, 1987) of different organisational designs and environmental links to achieve the advantage offered by any competitive stance. In this aspect of strategic coherence, competitive strategies at the business level are viewed as '...integrated actions in the pursuit of competitive advantage' with functional strategies as the supportive activities essential for translating the core strategy into an effective guide for action (Day, 1984). To be effective, each functional strategy must support the competitive advantage sought, through specific actions (Hayes and Wheelwright, 1984). Therefore, when an organisation has a well defined competitive strategy (i.e. high competitive coherence) and is designed or crafted in such a way as to support this strategy in terms of its organisational functioning, it is expected that this organisation will have stronger strategic coherence than an organisation with only competitive coherence that is not effectively activated at an organisational level. Thus this aspect of coherence (which will be referred to as "organisational coherence") will be formed and achieved by appropriate links between different organisational and environmental (internal and external) factors and the different competitive strategies. In other words, "organisational coherence" can be achieved by avoiding potential barriers that may arise with a lack of fit between the firm's competitive strategy and other organisational and environmental factors.

1.2.2.3 Cognitive coherence

The way in which managers perceive their organisational strategies is an important factor that affects the achievement and sustainability of competitive advantage. It is argued that strategies developed consciously are more effective than those enacted by accident. Among other things, conscious design facilitates flexibility and adaptation because of the possibilities offered by the clear and explicit vision that managers will have. Therefore, the effectiveness of identified competitive strategies is also linked to individual perceptions to form cognitive coherence, as illustrated in Figure 1.1. To test this aspect of strategic coherence, competitive strategies are measured objectively and subjectively (in ways discussed later). Comparing the congruence between these two methods allows us to assess the extent of cognitive coherence achieved when managers perceive their competitive strategies to be the same as they objectively appear.

Thus the different competitive strategies and the strategic coherence model will be developed in detail and tested later in this study. However, in reality, building a structure to organise elements affecting organisational ability to achieve and sustain its competitive advantage seems to be very difficult. The difficulty increases with the growing dynamism and complexity of the environment in which the organisation is operating. Thus, from the discussion and the development made on competitive advantage and barriers to achieving competitive advantage, the strategic coherence model has been built, which will help to organise such a complicated environment and related factors that may prevent a firm from achieving and sustaining its competitive advantage. Therefore, it can be proposed that firms that have strong strategic coherence should have a high level of performance but lack of coherence will prevent lower-performing firms from achieving their competitive advantage.

1.3 The significance of the research

This research makes the following important contributions:

It extends the strategic management literature regarding competitive advantage and generic strategy. It examines related literature to explain and develop better understanding of the competitive advantage and generic strategies, focusing on the important aspects that may affect the firm's achievement and sustainability of its competitive advantage. It should be noticed that while this framework is a significant step away from the Porter tradition this move should be seen in terms of a development rather than a break. This development involves two aspects: theoretical and empirical. First, competitive strategies are developed theoretically from possible links of the four foundations of competitive advantage. Secondly, the competitive strategies are derived empirically in such a way that any one strategy may be more or less relevant. In these two ways competitive strategies are derived rather than being imposed.

It also aims at highlighting the barriers that may prevent firms from achieving and sustaining their competitive advantage. Based on the discussion and review of related studies in the strategic management literature, particular links between the competitive strategies and different organisational and environmental factors have been developed. These links form organisational coherence, as discussed earlier. Although this aspect of strategic coherence is a major concept of this study, two other aspects are also considered; competitive coherence and cognitive coherence. These aspects have been integrated in this study into a conceptual framework that is used as a vehicle to understand the barriers that may prevent firms from achieving their competitive advantage.

This research also empirically tests and identifies the existence of the different competitive strategies. It also tests and determines the barriers that may prevent firms (in different industries) from achieving and sustaining their competitive advantage. Then it seeks to provide a sound empirical basis that would contribute to the competitive advantage and generic strategy (strategic management) literature.

The empirical results reported here suggest that, broadly speaking, four competitive strategies (price leadership, low cost differentiation, imitation and differentiation) are possible and stable. The results also indicate that high-performing firms, in food and petrochemical industries, have more strategic coherence than medium and low-performing firms. The results also suggest that high-performing firms are able not only to achieve their competitive advantage but also to sustain it over time. Moreover, in each industry, firms with different competitive strategies have different barriers to achieving their competitive advantage. These results are consistent with those reported in the existing literature, lending support to the view that western strategy models seem to be applicable to developing countries such as Saudi Arabia.

This research is of special significance to Saudi Arabia. It addresses an issue that has never been addressed before, namely the study of how organisations achieve and sustain competitive advantage and the presence of major barriers that may prevent Saudi Arabian firms from achieving and sustaining their competitive advantage. It is anticipated that the results of this study will be especially beneficial to Saudi Arabian firms.

1.4 Organisation of the study

This study is organised in eleven chapters. The first and second chapters are introductory. The second chapter gives an overview of the Saudi Arabia economy and its markets. It provides the reader with a better understanding of the Saudi economic structure and the development of this economy. It also discusses in more detail the two industries that will be investigated in this study.

The third and fourth chapters discuss the subject of competitive advantage and competitive strategies. The third chapter discusses the market link (position) approaches. Then it develops four foundations of competitive advantage, and links particular foundations to develop the four competitive strategies. The fourth chapter discusses resource-based approaches. It emphasises the sustainability of competitive advantage and the characteristics of competency.

The fifth and sixth chapters discuss the potential barriers to achieving competitive advantage. The fifth chapter discusses internal factors that may act as barriers to achieving competitive advantage. The emphasis of this chapter is on control processes which affect day-to-day actions as well as the formulation and implementation of the firm's competitive strategy. These control processes are classified into two general categories: formal and informal. Different elements are discussed under these general categories. All of these elements developed in this chapter will be linked to the competitive strategies developed in the earlier chapters. The sixth chapter discusses the external factors that may act as barriers to achieving competitive advantage. Different environmental factors are discussed in this chapter, then linked to the competitive strategies developed in the earlier chapters.

The seventh chapter discusses the research methodology. It discusses the procedures that have been used for achieving the research objectives and testing its framework.

Findings of the empirical work are presented in Chapters eight, nine and ten. Chapter eight presents an aggregate analysis of the data and the statistical findings of the survey in three major sections: (1) descriptive results concerning the response rate and the characteristics of the firms and managers that have been investigated, (2) the hypotheses to be tested concerning the performance levels and the competitive strategies and (3) discussion of firms with unclear competitive strategies. Chapter nine deals with an aggregate analysis (i.e. in the two investigated industries, food and petrochemical) of the different aspects of strategic coherence (competitive, cognitive and organisational coherence). At the same time, it examines barriers to achieving competitive advantage in both industries. Chapter ten presents a detailed analysis of the different aspects of strategic coherence as well as the barriers to achieving competitive advantage in the two industries, i.e. food and petrochemical, which have been investigated in this research. It examines the different barriers that may exist in each industry for firms with different competitive strategies; at the same time this chapter compares these results. The final chapter provides a summary and a conclusion to the research and suggestions for further research.

Chapter 2

Saudi Arabia

2.1 Introduction

This chapter will provide the reader with a better understanding of the Saudi economy in general and the business environment in particular, as well as the advantages that Saudi Arabia (SA) possesses. It will discuss briefly the points which are related to the subject of this research. This study takes the case of two different industries (petrochemical and food) in Saudi Arabia, as will be discussed later. Therefore, the importance of discussing these points gives a background and a better understanding of the discussions of later chapters.

The material in this chapter will be presented in three major sections. In the following section, selected elements of the general environment such as the stock market, population and labour, and special credit institutions established by the government will be discussed. The next section will describe and discuss the Saudi economic structure (oil sector, non-oil government sector, and non-oil private sector). Finally, two different industries in the non-oil private sector which are petrochemicals and food will be emphasised in detail in the third section. The different characteristics of these two industries will provide a good representation of the Saudi economy.

2.2 General environment factors

A general overview of Saudi economic development will be introduced in this section. It will then be followed by some examples of selected environmental factors (stock market, population and labour, and special credit institution) related to the subject of this study. Reasons for this selection will be given when appropriate.

The year 1970 marked a new era in the history of development in Saudi Arabia. In this year the first five-year Development Plan (1970-1975) was approved. In 1973 a major change took place in Saudi economic and political development when the oil prices increased sharply. This increase in oil prices provided the country with an unexpectedly huge income which encouraged the Saudi government to go ahead with its ambitious plans to expedite the implementation process of its Development Plans. The domestic planners faced the challenge of maintaining a steady modernisation programme while reducing the dependence on foreign manpower. To complete this huge task when oil revenues remain a viable financial resource, Saudi planners have organised the development process into a series of five-year plans.

Since 1970, four development plans were implemented, and the fifth development plan of 1990-1995 is now in process. The first comprehensive five-year economic development plan was approved. It invested 41.3 billion Saudi Riyals (SR) between 1970-1975 and provided for building infrastructure, with high priority being given to improving and expanding the transportation network, seaports and airports, health care and educational system, and it established many government projects and facilities (El Mallakh, 1982).

Execution of the development plans between the 1970 and 1990 led to an economic boom in the country in the 1970's and early-1980's. There are many advantages that the Saudi market now possesses; for example, the Kingdom's comparative advantage as a manufacturing base lies in the availability of cheap energy and low-priced local feedstock already produced at existing petrochemical plants. The presence of modern infrastructure, wide-ranging industrial incentives and subsidies, as well as the availability of capital funding, are added advantages (Azzam, 1993).

Government expenditures multiplied several times, and employment increased significantly in both the public and private sectors. The Gross Domestic Product (GDP) has also increased. In this improving economy, many Saudi Arabian people began new businesses and established new companies and others expanded their establishments (Ministry of Planning, 1990). Luqmani et al. (1989) argue that with a stable government and dominant public sector; the Saudi environment typifies conditions in which a firm's strategy needs to be in accord with government plans and priorities. Luqmani et al. also argue that insights are gained by utilising a framework of resource spending; in this respect they conceptualised the development of the Saudi economy in three phases: Revenue phase (1973-1981), characterised by enormous funds available to the government to embark on ambitious projects. Revenue deficit phase (1981-1986), just as the increase of the oil prices was sudden so was the decrease starting in 1983, where the government response to this decrease was by reworking many of its original plans. Finally, the Revenue balance phase (1986-), where the precipitous decline in oil revenues ended and prices stabilised.

Finally, NCB Economist (1995) reports that SA is the largest market for foreign goods and services in the Middle East and one of the top fifteen

importers in the world. In 1994, about SR 88 billion (\$23 billion) worth of goods were imported from the rest of the world. Saudi Arabia also paid for services rendered by foreign companies working in the Kingdom close to SR 98 billion (\$26 billion). Compared with industrial countries, SA imported more goods and services than Greece, Portugal, Ireland and New Zealand. On the other hand, total Saudi exports reached SR 156 billion (\$41.6) in 1994. The drop in oil prices, from the average of \$17 a barrel for Brent crude in 1993 to an average of \$15.8 a barrel in 1994, brought forth lower oil export revenues at a time when non-oil exports, mainly petrochemical, surged to SR 16.8 billion (\$4.5 billion), from SR 14.2 billion (\$3.8 billion) in 1993. Oil, petroleum and other mineral product constitutes the bulk of Saudi exports, accounting for 91.4% of the total, petrochemical products including plastics account for 5.3%, reports 0.8%, and other commodities 2.5%. The major market for SA's exports is Asia (mainly Japan and other South East Asian Countries), which accounts for 38% of total exports, followed by Western Europe (23%), North America (18.3%) and the GCC Countries (6.5%).

2.2.1 Stock market

The stock market is an essential pre-requisite for the financial and economic development of any country. This is specially true for those countries where the dominant role of the state in economic and corporate life is gradually being diminished and there are plans, as will be discussed later, for selling off state companies, as is the case of Saudi Arabia. Saudi Arabia, however, has the largest stock market in the Arab world in terms of capitalisation.

Stock market listing in Saudi Arabia has increased substantially in the last decade from 37 joint stock companies with combined paid-up capital of SR 21.2 million (\$5.7 million) in 1980, to 78 companies by the end of 1992, with a

total capital of SR 65 billion (\$17.3 billion). Four banks, one investment company and two industrial companies tapped the market for additional capital in the last two years, issuing around 32.7 million of new shares. Electricity companies accounted for the biggest share of total market capitalisation at 44%, followed by industrial firms (including cement companies) at 33%, services at 12.3%, banks at 7.9% and agricultural companies at 2.7%.

Of the listed joint stock companies not more than 57 are publicly traded: 8 agricultural companies, 13 services companies, 13 industrial companies, 7 cement companies, 5 utility companies, and 11 financial companies. Shares in Saudi companies may be traded only by the Saudi citizens, except in some circumstances, such as the 1984 Saudi Basic Industry Corporation (SABIC) issue when specified portions were made available to Gulf Co-operation Council (GCC) citizens.

A decree issued by Saudi Arabia Monetary Agency (SAMA) in 1985 ruled that all trading in stock had to be done through banks using a cumbersome system of telex and telephone calls. Also in 1985 the Saudi Share Registration Company was formed and capitalised at SR 11 million, with equal shares held by all banks in the Kingdom. The company acts as an integrated central registry for all shares traded in the market. More recently, SAMA has instituted reform aimed at boosting trade but its main move, the opening of a central trading hall in May, 1987, was abruptly cancelled. A new screen trading system (ESIS), was introduced in 1990. Officially, brokers are not allowed to be active participants in the Saudi market and banks are forbidden to act as market makers.

The depth of the market, i.e. the value of the shares traded as a percentage of total market value of shares outstanding, has generally been low by international standards, averaging less than 5% for many years before rising

to around 10% in 1992. The reasons for the thinness of trading and the shallowness of the market are varied. For one thing, not more than 38% of the shares of the joint stock companies are held by individuals and are available for trading. The rest are held mostly by the government, public sector institutions and foreign entities (holding mainly bank shares); and most of these shares are not traded. Another reason is the concentration of ownership of shares in few hands, with the large Saudi trading families having up to 20% of these shares held by the Saudi private sector (NCB Economist, 1993).

2.2.2 Population and labour

Even though the population of Saudi Arabia is about 15 million people, the per capita income is among the highest in the world. Despite the woeful statistics about declining oil revenue, the Saudi Arabia market, with its burgeoning middle class of sophisticated consumers, presents a tremendous chance for all firms (Martin, 1989). Saudi Arabia's social structure is one of the more homogenous states of the Middle East, virtually all of the native population is Arab and Muslim.

Azzam (1993) discusses major trends that may shape the Kingdom's consumer markets during the 1990's, and it may also help firms in formulating as well as implementing their competitive strategies. Among these are:

- (1) the steadily growing range of locally produced goods, especially goods made by joint ventures between local and international producers, which are favoured in government purchasing and protected from outside competition when necessary;
- (2) significant socio-economic changes at the family level, such as smaller family units, and

(3) changing demographic profile of the national population. A high population growth rate means that Saudi Arabia has a very youthful demographic profile, with around 50% of the population under 15 years of age, and more citizens will be entering the labour force in the 1990's. Arguably they will be better educated, more sophisticated, and better informed about what is available in the market place.

Education and training programmes play a vital role in building up well-qualified cadres for the enhancement of the development process. Therefore, the government devoted considerable attention to promoting the standard of education services and training programmes to meet the requirements of rapid developments witnessed by the Kingdom in various fields. This was reflected in the appropriation for this sector in the Fifth Development Plan (1990-1995) which amounted to SR 140 billion, or 18% of the total projected expenditure.

The number of students enrolled at various levels of general education during 1991 stood at three million; about 133,000 students enrolled at the various institutions of higher education. In addition to general and higher education there are technical education, vocational education and training centres and institutes. Each includes different fields. For example, the technical education includes four fields, namely industrial, commercial, agricultural and technical assistance education. In the industrial field, for example, there is the higher technical institute in Riyadh; there are 6 intermediate technical colleges; there are 8 secondary industrial institutions.

Furthermore, in addition to the availability of manpower qualified to draw and implement developments plans, Saudi Arabia as a developing country has its own research and technology centres that contribute to the modernisation process. For example, King Abdul-Aziz City for Science and Technology

(KACST) which was established in 1979 has contributed to the development of SA in terms of research by awarding 315 grants in the field of scientific research amounting to around SR 267 million.

Another example of the Saudi educational and training programmes is the Saudi Consulting House which refers back to 1964 when it was established as an affiliation to the Ministry of Commerce and Industry. The present objectives of the SCH aim to provide consultancy services in all aspects of industrial sectors, beginning from preliminary studies, marketing studies and economic feasibility studies, and ending up with operation of engineering designs for new factories or expansions of new ones. Thus, as Hafiz (1982) noted, the Kingdom's development structure and its complete programme to train and employ the domestic work force serves as a model other developing nations could follow.

2.2.3 Special credit institutions

The government started special credit institutions and specialised programmes to provide interest-free loans to the private sector for establishment and development. All working firms in SA may take advantage of the credit institutions and specialised programmes that were established by the government to support the development of the private sector. These institutions include: Saudi Agricultural Development Fund, SADF (established in 1962), for providing loans and credit facilities for the development of agriculture and related activities. Saudi Industrial Development Fund, SIDF (established in 1974) for providing medium or long-term to new or existing industrial establishments. Saudi Public Investment Fund, SPIF (established in 1971)for

financing and taking equity shares in large-scale public projects in commerce and industry. Saudi Real Estate Development Fund, SRDF (established in 1974) for setting up real-estate projects for private and commercial used.

Table 2.1: Loans distributed by SIDF classified by sectors (M. SR)

Sector	1989	%	1990	%	1991	%	Cumulative Total	%
Food commodities	84.8	10.3	21.7	3.3	42.9	4.2	1,024.4	7.3
Beverages	20.0	2.4	15.6	2.4	6.1	0.6	401.0	2.9
Textiles	27.6	3.4	30.4	4.7	71.1	6.9	289.9	2.1
Leather products	4.2	0.5	1.7	0.3	4.5	0.4	34.1	0.2
Wood products	--	--	--	--	--	--	21.5	0.2
Wood furniture	1.2	0.1	11.9	1.8	16.3	1.6	125.4	0.9
Paper products	18.5	2.3	55.9	8.6	47.3	4.6	447.0	3.2
Printing materials	--	--	--	--	--	--	167.7	1.2
Chemical products	431.6	52.6	254.8	39.3	456.2	44.3	2,323.2	16.7
Gas	52.6	6.4	26.1	4.0	3.1	0.3	363.3	2.6
Rubber products	--	--	--	--	--	--	16.9	0.1
Plastics products	25.2	3.1	35.9	5.5	49.6	4.8	527.3	3.8
Ceramic products	2.1	0.3	2.7	0.4	2.3	0.2	138.5	1.0
Glass products	1.1	0.1	48.3	7.5	61.7	6.0	263.8	1.9
Cement	--	--	--	--	--	--	3,407.8	24.4
Other construction materials	1.9	0.2	1.5	0.2	1.0	0.1	1,663.0	11.9
Metal products	96.5	11.8	115.1	17.8	194.2	18.9	1,540.6	11.0
Machines	8.3	1.0	5.5	0.8	9.9	1.0	271.2	1.9
Electric equipment	41.8	5.1	13.3	2.1	9.5	0.9	521.5	3.7
Transport equipment	--	--	2.9	0.4	52.6	5.1	275.7	2.0
Other products	3.9	0.5	4.6	0.7	0.7	0.1	52.4	0.4
Shipping	--	--	--	--	--	--	60.0	0.4
Total	820.9	100	648.0	100	1,029	100	13,945.2	100

Source: Saudi Arabia Monetary Agency, Annual Report (1991).

Total investment credit disbursed by all public financial institutions recorded a steep growth from 15 million Saudi Riyal (SR) in 1969 to a peak of SR 26.6 billion in 1982. In view of the reduced credit needs, and overall economic situation, disbursements were gradually reduced in subsequent years and amounted to SR 4.8 billion in 1989. Cumulative loans distributed by the SIDF, for example, during the 1991 fiscal year stood at SR 1,029 million, as illustrated in Table 2.1.

Cumulative loans distributed by SIDF up to the end of 1991 fiscal year exceeded SR 13.9 billion, of which the cement sector accounted for the highest with 24.4%, followed by chemicals materials 16.7%, construction materials 11.9%, metal products 11%, and foodstuffs 7.3%. Total disbursement to these sectors constituted 71.2% of cumulative loans distributed by SIDF. The total investment distributed by SIDF is SR 50.5 billion. The specialised funding programme which extends loans to Saudi contractors, private hospitals, hotels, bakeries and newspaper rose from SR 1 million in 1972 to SR 636 million in 1979 and declined to SR 22 million in 1989 (Ministry of Planning, 1990a).

2.3 Structure of the Saudi Economy

The Saudi economy can be divided into three general sectors: oil sector, non-oil government sector, and non-oil private sector. Since oil is a depletable natural resource, Saudi Arabia was very concerned to take advantage of this temporary richness to develop the country through generous spending in the public sector and its programmes, and in the private sector and its subsectors. The share of the oil sector's contribution to total real Gross Domestic Fixed Capital (GDFC) in 1990 was 43.4%. The share of the non-oil government

sector was 2.3% in 1990, while the non-oil private sector increased from 44.9% in 1961 to 54.3% in 1990 (Ministry of Planning, 1990).

Although the non-oil private sector is more related to the subject of this study, the other two sectors are related to each other as well as to the non-oil private sector. Therefore, before discussing the non-oil private sector in detail, a brief discussion will be given on the oil sector and non-oil government sector. The discussion of these sectors will provide the reader with a general view of the Saudi economic structure, related to this study, and the relationships that exist among all these sectors. It will also show the effect of the oil sector and the non-oil government sector on the non-oil private sector, as well as the support and the advantage that these sectors may provide to the non-oil private sector.

2.3.1 Oil sector

This sector is concerned with oil production. Saudi oil output of crude oil averaged about 6.5 million b/d from 1962 to 1991. Three oil companies are involved in oil production in Saudi Arabia: Arabian American Oil Company (Aramco), Getty Oil Company, and the Arabian Oil Company. The Saudi Aramco accounted for the bulk of the kingdom's production. Saudi Arabia constituted about 13% of world production and 25% of world trade in 1991. By 2000, the country will account for as much as 15% of world production and 30% of world trade. The oil industry remains the mainspring of the Saudi economy, accounting for 35% of the gross domestic product (GDP) in 1990. This is according to the 1991 Oil Survey released by the US Embassy in Riyadh (Middle East Executive Reports, 1991).

Before the discovery of oil, Saudi Arabia was a very poor country. Today, oil income has made SA known in the world as a rich country. The development of the oil industry in SA actually goes back to 1923, when a London financial syndicate obtained a concession covering more than 300,000 square miles in the east of SA, but could not persuade any oil company to take the risk of exploring for the oil. The 1933 contract with SOCAL was more productive. SOCAL established a new subsidiary by the name of California Arabian Standard Oil (which later changed to Aramco). In 1939, as oil began to be discovered in quantities, it was shipped from the Kingdom (Arabian American Oil Company 'Aramco' handbook, 1968). In 1977 Saudi oil revenue amounted to \$36,540 million, reaching its highest in 1981, at \$102,095.2 million, and \$31,122.2 in 1991. Therefore, the key to the rapid development of the Saudi nation in general was oil. However, this natural resource faces many potential risks, such as the fluctuation of its price, the possibility of synthetic substitutes, and its slow but sure depletion. Hence, Saudi Arabia has to industrialise its country quickly to decrease these economic risks.

2.3.2 Non-oil government sector

This sector primarily consists of government ministries, agencies and public organisations. The government plays a major role in the development of the country as a whole. Saudi Arabia has been following a new development strategy in recent years, with the main emphasis on industrialisation and economic diversification. Consequently, public sector-led growth and overdependence on oil are gradually giving way to private sector initiatives and the build-up of a diversified production base (Azzam, 1993). The establishment by the government of the special credit institutions (as has been discussed earlier) is one way of supporting the private sector. The huge government

revenues and expenditure are another indicator of the strength/health of the Saudi economy.

The involvement of private companies with the non-oil government sector is through contracting with the government bodies for various projects. These projects include, but are not necessarily limited to: construction projects (e.g. building and housing, airports, roads, bridges, dams, seaports, water supply, and sewage systems), electrical projects (e.g. the construction and operation of power generators and electrical systems), and mechanical projects (e.g. the construction and operation of water desalination plants). More projects covering other areas include service, operating, maintenance and so on.

Due to this huge government revenue and spending, firms in the private sector may be required to respond to the changes in the government sector; Luqmani et al. (1989) conclude the Saudi environment typifies conditions in which a firm's strategies need to be in accord with government plans and priorities. Emphasising the importance of the government sector, especially development plans, Anastos et al. (1980) suggest that Western companies contemplating doing business in the Kingdom should direct their proposals to the sectors of the economy stressed in the development plan. However, with the decline of the oil price in the recent years, private firms may need to diversify into activities that are independent of government expenditure.

The government plays a major role in strengthening the competitiveness of Saudi industry through measures that will enable Saudi producers to compete effectively with imported goods in the domestic market and to increase and broaden their penetration of export markets. Policies to increase productivity, such as improving the skill levels of the labour force and introducing more advanced technology, are a high priority in the government's Fifth Plan (1990-

1995). With the increase of national revenues, the government instituted five-yearly development plans, the first running from 1970. In 1974, however, when the oil revenues became available, the government started some funds to provide interest-free loans for the establishment and development of the different private sectors.

Moreover, the government states in its Fifth Development Plan (1990-1995) four major strategies for the development of the private sector in SA:

- 1 Encourage private sector participation in a broader range of activities.** Government policy is to open progressively to the private sector areas that are currently in the government domain. This is in addition to the increased investment that the government will put into some public services, such as primary and secondary education.
- 2 Encourage competition among Saudi producers.** Programmes will be introduced in the Fifth Plan to enhance the overall competitive position of the private sector through macroeconomics and sectoral policies, including export promotion, encouraging joint ventures, investment to upgrade the technology base, and expansion of productivity focused on business services.
- 3 Develop the domestic financial market.** Effectively functioning financial markets are a prerequisite for achieving the Fifth Plan's investment objectives, and hence, those of economic development and diversification. Although the Kingdom's financial system has undergone some important changes in recent years, the government emphasises that the existing institutions and markets will need to be expanded.
- 4 Strengthen private business capabilities.** A strong private sector depends on both attractive investment opportunities and on the ability of

private sector companies to effectively operate in a competitive environment to pursue these opportunities. The Kingdom has a number of large companies that are fully capable of competing with businesses anywhere in the world. However, the skills and the business sophistication necessary to do so are not widely spread in the private sector. Therefore, the policies which will be pursued to strengthen business capabilities, broadly within the private sector, include: creation of information programmes to help the business community identify general opportunities, education programmes to increase knowledge of business issues and practices, measures to increase the absorption of technology into the economy, and technical assistance support programmes for small/medium-scale enterprises (Ministry of Planning, 1990, pp. 142-143).

The Saudi government plan to privatise some of its holdings. The objectives of the Sixth Development Plan (1995-2000) which started in January 1995 make clear the need to draw the private sector into the management of public utilities and other basic industries. The Kingdom already has some form of joint public and private participation in 37 quoted companies, including the Saudi Basic Industries Corporation (SABIC) in which the government share 70%.

2.3.3 Non-oil private sector

All firms, whether they are Saudi or non -Saudi, working in commerce, manufacturing, agriculture, services or any other activities excluding the activities of the previous two sectors, are required to register with the Saudi commercial registration office which is part of the Ministry of Commerce. Statistical indicators show that the accumulated number of companies and

establishments operating in the Kingdom and registered with Saudi Ministry of Commerce at the end of 1991 reached 314,725. They conduct their business in various towns and cities of the Kingdom; Table 2.2 illustrates their distribution in the Kingdom's five regions. The increased number of these companies and establishments seems to reflect the development of the Saudi market; it also indicates the increase of government spending on the development plans and its support of the private sectors.

The private sector has traditionally been the focus of economic activity in the Kingdom of Saudi Arabia. In response to the government's planning initiatives and its firm commitment to private enterprise, the private sector has:

- * steadily expanded its role in the economy;
- * taken advantage of periods of rapid economic growth;
- * demonstrated impressive resilience during times of overall economic stagnation;
- * continued to expand and diversify throughout the past two decades;
- * increased its investment sevenfold in real terms, and
- * increased its employment by 3.9 million (Fifth Development Plan 1990-95).

Table 2.2: Individual proprietorship and firms registered in the Kingdom.

Province	1989	%	1990	%	1991	%	Cumulative Total	%
Central	5,668	27.3	7,999	30.8	9,661	30.0	96,596	30.7
Western	8,332	40.1	9,773	37.6	13,800	42.9	116,427	37.0
Southern	1,669	8.00	1,736	6.70	2,493	7.70	22,849	7.30
Eastern	3,764	18.1	4,830	18.6	4,223	13.1	50,338	16.0
Northern	1,373	6.60	1,662	6.40	2,020	6.30	28,515	9.10
Total	20,796	100	26,000	100	32,197	100.	314,725	100.

Source: Ministry of Commerce (1991).

In terms of industrial structure, the latest available industrial survey, carried out in January 1990 by the Saudi Consulting House (SCH), and the Ministry of Industry and Electricity, covered 1,569 industrial enterprises across the Kingdom. The distribution of these enterprises by industry and region is given in Table 2.3. Around half of the industries covered by the survey was found in three major groups: building material industry (297 enterprises), metal industry (307 enterprises), and food and beverage industry (250 enterprises). The table also shows that the largest concentration is in the Central Region (36.8%), followed respectively by the West Region (30%), the Eastern Region (26.2%), the Southern Region (4.1%) and the Northern Region (2.3%).

Table 2.3: Number of factories operating in SA.

Type of products	Number of factories by provinces										
	Central		Eastern		Western		Southern		Northern		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
Food, beverage	74	12.6	101	20.7	53	12.7	12	18.2	10	27.8	250
Textiles & leather products	21	3.6	13	2.7	5	1.2	--	--	--	--	39
Wood products & Furniture	27	4.6	15	3.1	20	4.8	--	--	2	5.6	64
Paper products & printing.	43	7.4	40	8.2	21	5.0	4	6.1	3	8.3	111
Basic petrochemical	40	6.8	45	9.2	57	13.7	2	3.0	1	2.8	145
Tyres and Plastics	33	5.6	41	8.4	30	7.2	4	6.1	6	16.7	114
Ceramics and glass	9	1.5	11	2.2	11	2.6	--	--	--	--	31
Other Construction Products	110	18.8	66	13.5	79	18.9	33	50.0	9	25.0	297
Metal Industries Machinery &	128	21.9	83	17.0	83	19.9	10	15.2	3	8.3	307
Equipment	74	12.6	48	9.8	48	11.5	1	1.5	1	2.8	172
Other Industries	26	4.4	26	5.3	10	2.4	--	--	1	2.8	63
Total Industries	585	100	489	100	417	100	66	100	36	100	1593

Source: Industrial survey for the year 1990 (1410H) carried out by the Saudi Consulting House, Ministry of Industry and Electricity, Nov. 1991.

In terms of the size of the operating manufacturing firms in Saudi Arabia, the cumulative number of operating manufacturing industrial firms, licensed under the Regulation for Protection and Promotion of National Industries and Foreign Capital Investment Regulation in the Kingdom, reached 2,036 at the end of 1992. The capital investment of these firms stood at SR 138.5 billion. They also provided employment for about 175,000 workers in various industrial activities (Saudi Arabian Monetary Agency Annual Report,

1992). 319 firms from these manufacturing firms are listed under food and beverage and 342 are listed under petrochemical and plastics, where the investment was 7877.2 and 90,500.5 million SR, respectively. Based on published statistics of the Ministry of Industry and Electricity (1994) about manufacturing firms in these two industries (i.e. food, and petrochemical) in Saudi Arabia, it has been found that the average number of employees is 100. The results of this study suggest that 62% of the food and petrochemical firms have between 100-500 employees and 27% of them have between 500-1000 employees, as discussed in Chapter 8.

2.4 Selected industries in SA

2.4.1 Food and agricultural industry

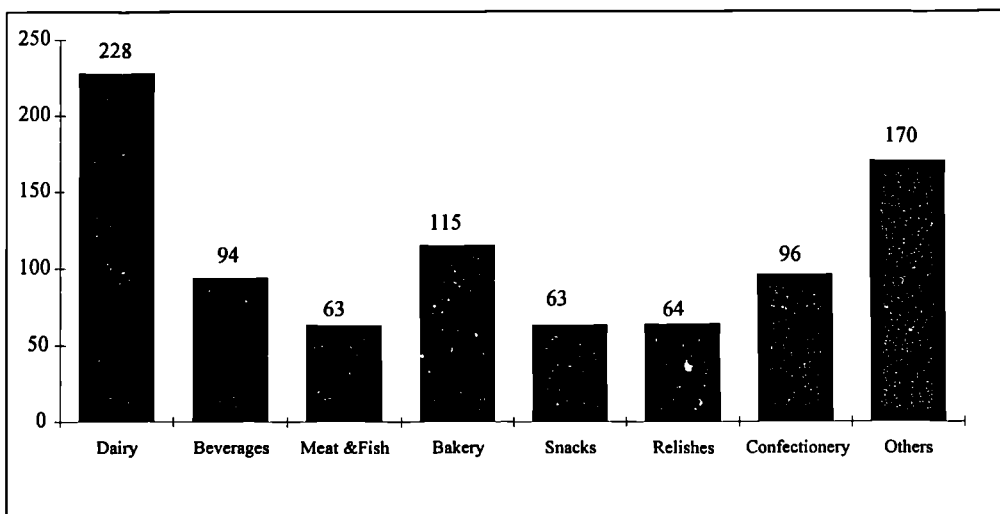
The food and beverage manufacturing sector is an important growing area of the economy in SA. It also influences other sectors of industry, including raw materials and packing. Local food manufacturing and agricultural production contributed to a sharp reduction in imports of foodstuff into the Kingdom. As a result, Saudi Arabia is now self-sufficient in a number of important food items (Saudi Industrial Development Fund, Annual Report, 1993).

The expansion of agricultural production over the past ten years has been one of the remarkable successes of the entire development effort in the Kingdom of Saudi Arabia. The importance of establishing a viable agriculture sector that is capable of self-sustained growth over the long term was recognised early in the Kingdom's development planning process. Azzam (1993) concludes in his study that the future for joint ventures in the Kingdom

lies in downstream industries such as high technology, selective consumer goods, food-related industries, and services.

The Ministry of Industry and Electricity recorded 900 active licences for food products by the end of 1994, accounting for 17% of all active licences issued up to the end of 1994. Dairy is the food sector with the largest number of licences. Other important areas are bakery, confectionery and beverages, as shown in Figure 2.1.

Figure 2.1:
Industrial licences issued to the food manufacturing sector by sub-sectors until the end of 1994



Source: Saudi Industrial Development Fund, Annual Report, 1993.

During the Fourth Plan period (1985-1990), the value added in agriculture grew at the high average annual rate of 13.8%, compared to 8.7% during the Third Plan and the target rate of 6% for the Fourth Plan. As a result, agriculture's share of GDP increased from 3.4% in 1984-1985 to 8% in 1989, while its share of the non-oil GDP amounted to 10.4% in 1989.

The production of some food items, especially agricultural products, has reached a high rate of self-sufficiency in SA. For example:

Total wheat production rose at an annual average rate of 30.1% from 26 thousand tons in 1970 to about 3.3 million tons in 1988. The production of fruits and vegetables has increased significantly since 1970. The production of dates grew from 240 thousand tons to 518 thousand tons in 1989, representing an average annual rate of increase of 4.5%. The production of grapes increased from 24 thousand tons to 96 thousand tons in the same period. The production of tomatoes grew at an average annual rate of 7.2%, increasing from 100 thousand tons in 1970 to 437 thousand tons in 1989.

The private sector has responded positively to the range of support measures introduced by the government, such as the Agriculture Development Fund support of the private sector in this industry as discussed earlier. Moreover, the growth of agricultural output has been mainly due to the price support policy and other incentives provided by the government, as well as the adoption of modern farming techniques. The Kingdom has gone from being a net importer of such basic foods as wheat, dairy product, eggs, poultry, meat, fish and vegetables to becoming a net exporter of these products.

Firms in food and agricultural production take advantage of interest-free loans from the Saudi Industrial Development Fund (SIDF). By the end of 1993, SIDF has approved 230 food loans for a total of SR 2,560 million, accounting for 15% of loans by number and 12% by value. Based on the SIDF annual report (1993), the outlook for the food and beverage industry in the Kingdom is very encouraging. A growing and increasingly young population will continue a sizeable year-on-year increase in demand for both staple and added-value food items. Additionally, the success of the Kingdom's agricultural industry will lead

to demand for more food processing facilities in order to export surplus production of various commodities. There remain several areas for import substitution. Food imports amount to almost SR 15,000 million annually and fall into five distinctive groups: cereals such as rice and barely; horticulture such as fruit juice, orange and banana; bulk products for processing or repackaging such as sugar and vegetable oil; livestock such as sheep and beef; and processed food such as jam and pickles. These categories all offer opportunities to the Saudi food industry.

2.4.3 Petrochemicals sector

We discussed in previous sections the importance of the oil sector to the Saudi economy. One of the advantages that Saudi Arabia has is the availability of the natural resources (specially oil and natural gas) that give the opportunity to provide and protect the supply of the cheap raw materials for the petrochemical industry. This opportunity may put the production in the best competitive position in the international market. The Gulf region will retain and probably strengthen this advantage during the 1990s as oil and naphtha price increases continue to trouble producers in industrialised countries (Young, 1991). The existence of great oil reserves in the country may also protect the future continuation of petrochemical projects. Moreover, the experience of SA in the production and industry of oil for more than fifty years, make the petrochemical projects the heart of the Saudi drive to industrialise and modernise the economy.

Petrochemicals' rapid expansion of production capacity, together with successful penetration of foreign export markets, result in real growth rates for the petrochemicals sector exceeding 50% annually during the period 1985-1990. Saudi Arabia today is a major supplier to world markets for many

important petrochemical products. The sector entered the Fifth Plan operating at full capacity. Some expansion of capacity is expected in the early part of the Plan, but capacity constraints and world market conditions will slow output growth to a round 8% per year during the next five years (Fifth Development Plan).

Of total manufacturing value added, petrochemical industries generate about 22%, petroleum refining accounts for 40% of total manufacturing value-added, while other manufacturing industries (which include consumer products, chemicals, cement, building materials, engineering products, and so on) account for the remaining 38 percent. The industrial sector employs about 6.4% of the total labour force (Ministry of Planning, 1993).

The Kingdom's basic petrochemical industry has succeeded in gaining access to world markets, despite the obstacles that were met at its initial stage of development, in the form of limited national expertise in international marketing, and other obstacles at the international levels, which this study intends to investigate further. The Saudi Basic Industries Corporation (SABIC) has brought seven new petrochemical plants into operation. An additional 264 plants in other manufacturing industries were constructed. The Kingdom's exports of petrochemical products rose from about SR 816 million in 1984 to over SR 10 billion in 1989. The production of chemical fertilisers, for example, reached about 3 million tons in 1992, which has grown at an average annual rate of 16.1% over the period 1970-1992. In Anderson's (1992) interview with Marketing Director of SABIC, he stated that by the year 2000, the Middle East will account for 6.5% of the world's ethylene capacity, up from 4.9% in 1990. In the 1990's, the Marketing Director expects world ethylene capacity to increase 50%. However, the capacity of the US, Japan, and Western Europe will rise by less than 1/3, although capacity in the rest of the world will double.

The Marketing Director believes if a region has the feedstocks, the financial capability, and the nerve to plunge into previously uncharted waters, then it should press its economic advantage. Under its current investment strategy, SABIC hopes to capture a 4% to 5% share of world chemical markets.

The creation of a viable industrial base, which will reduce Kingdom's reliance on oil revenues as the main source of income, has been a corner stone in the economic development strategy of SA. For the development of the basic industries related to oil derivatives, such as petrochemical and minerals, the Royal Commission for Jubail and Yanbu established the two major industrial cities at Jubail and Yanbu. The transformation of desert into these two bustling cities over the last decade is a testimony to the Government's continuing commitment to establish a diversified industrial base. Through their activities SA is expected to meet 5-6% of the world demand for petrochemicals (Ministry of Planning, 1993).

2.5 Conclusion

This introductory chapter provides the reader with a better understanding of the Saudi Arabian economy and its structure. Saudi Arabia went through an accelerating development from the early-1970's when the price of oil increased sharply. This chapter also provides useful information about the size and some characteristics of the Saudi market in general and, in particular, in the food and petrochemical industries.

The Saudi government plays a major role in the development of the Saudi Arabian economy with special attention to the private sector. In addition to different facilities (such as free lands, training and others), the government

provide the private sector with free of interest loans for their establishment and development.

The government recognises the importance of establishing a viable food industry that can make the country self-sufficient in the long term. Large investment, from the private sectors, took the advantage of the government support and went to the food industry in the last fifteen years. Taking advantage of natural resources, the petrochemical industry was also growing in Saudi Arabia. Many of the Saudi Arabian firms used this advantage to establish their competitive position both nationally and internationally. These two industries will be investigated later in this study.

Chapter 3

Competitive advantage I: Market position approaches

3.1 Introduction

Each organisation, within any industry, needs to have some competitive advantage over its competitors, in order to maintain its position successfully over time. Competitive advantage is defined as a "factor that allows one business to be more profitable than its competitors" (Hayden, 1986). Day and Wensley (1988) also observe that the notion that superior performance requires a business to gain and hold an advantage over competitors is central to contemporary strategic thinking.

A firm needs an appropriate competitive strategy that provides it with the ability to achieve and sustain its competitive advantage. Porter's (1980, 1985) definition of competitive strategy is how to position a company in its competitive environment in a way that allows it to gain advantage against its competitors. Firms can achieve their competitive advantage by linking strategy to the internal environment of the organisation and/or to the external environment. Therefore, the achievement of competitive advantage could be seen from different angles. Two major approaches to achieving competitive advantage will be discussed in this study. The first approach takes the view that the source of the firm's competitive advantage is based on the characteristics of

the industry as well as the firm's position within the industry through the choice of generic strategies. This approach argues that the firm can gain its competitive advantage by offering a set of unique products or low cost products, or by serving a particular segment of the market (customer). Therefore, competitive advantage in this approach is more ascribed to external characteristics than to the firm's idiosyncratic competencies and resource-based deployments. The second approach looks at the firm in terms of its resources and competency as its sources of competitive advantage (this approach will be discussed in more details in the next chapter). It is worth noting, however, that the two approaches are complementary, with one explaining the value of competitive outcomes in the product market, the other dynamic aspects of the firm's behaviour with regard to the accumulation and disposition of the firm's resources (Collis, 1991). For example, most resources can be used in several products and markets; at the same time, products and markets may require the service of several resources. These approaches, which are the resource-based and the product market, represent the internal and external analyses that the earliest researchers identified as the basis of good strategy formulation (Learned et al, 1961; Andrews, 1971).

This chapter is organised as follows: The next section examines the nature of generic strategies as usually presented in the strategic management literature. Then various common elements of this literature are pulled together which allows an alternative conceptualisation of a generic strategies' framework to be developed. This development will be based on Porter's (1980, 1985) work on generic strategies and competitive advantage.

3.2 Generic strategies

During the last decade much strategic management research centred around work by Porter (1980, 1985). Porter's work has without doubt (and quite rightfully) been influential in the business policy field in setting and orienting discussion around the idea of competitive strategies. This attracted the attention of many strategic management theorists (for example, Hambrick, 1983b; Phillips, Change and Buzzell, 1983; Day, 1984; Dess and Davis, 1984; Karnani, 1984; Miller and Friesen, 1986a, 1986b; White, 1986; Hill, 1988; Mathur, 1988; Bowman, 1992; Miller, 1992; Miller and Dess, 1993). Most of these researchers recognised the importance of Porter's contributions and, at the same time, took a frequently critical stance towards his work. Porter develops three 'generic strategies' - cost leadership, differentiation and focused-based approaches - the appropriate use of which will enable any company to create and defend a market position and out-perform rivals. He argues that each of these strategies represents a fundamentally different approach to creating and sustaining a competitive advantage: a firm must make a choice between them or it will become stuck in the middle, i.e. possess no competitive advantage (Porter, 1985).

This chapter builds on this tradition a framework that accommodates the complexities recognised by most researchers mentioned above. It is argued that the diversity of business policies must be recognised, as suggested by Kay (1993), which is not possible within a simple framework. Therefore, the distinction between foundations of competitive advantage and the ways in which these are used to develop competitive strategies will be considered in this chapter. This separation of advantages and strategies (or foundations and development) helps to avoid oversimplifying the idea of generic strategies.

The rest of this section surveys the literature in the area of generic strategies. The basic idea is clear: successful competitive strategies link a firm's products to markets to achieve and sustain a relative competitive advantage, ensuring higher returns. Most work in this area takes Porter's seminal ideas as a starting point, an approach that will be adopted here. Therefore, in a survey of the vast literature in the strategic management field, Porter's three generic strategies (cost leadership, differentiation and focus) will be discussed. The third aspect to generic strategies is that of focus which requires a firm to apply either cost leadership or differentiation to a narrow segment of the market to achieve advantage. This complexity will be discussed to a lesser extent, which has no real implications for the conclusions drawn. Moreover, to draw the threads of the argument together attention will be focused on Porter's idea of "stuck in the middle".

3.2.1 Cost leadership

According to Porter (1985), cost leadership is one of two broad generic strategies that a firm might adopt. It involves setting out to become the lowest cost producer in an industry while maintaining average levels of differentiation. The means of achieving this advantage are various, depending on the structure of each industry and market, and they involve access to raw materials, access to product or process technology, the pursuit of economies of scale, and exploitation of learning and experience effects. A cost leadership strategy is most effective in predictable and stable environments, since environments that are unpredictable or subject to much change will create severe diseconomies for organisations trying to pursue a cost leadership strategy (Miller, 1988). If successful, a firm that can achieve and sustain overall cost leadership and charge an average price will be an above-average performer in its industry. Two

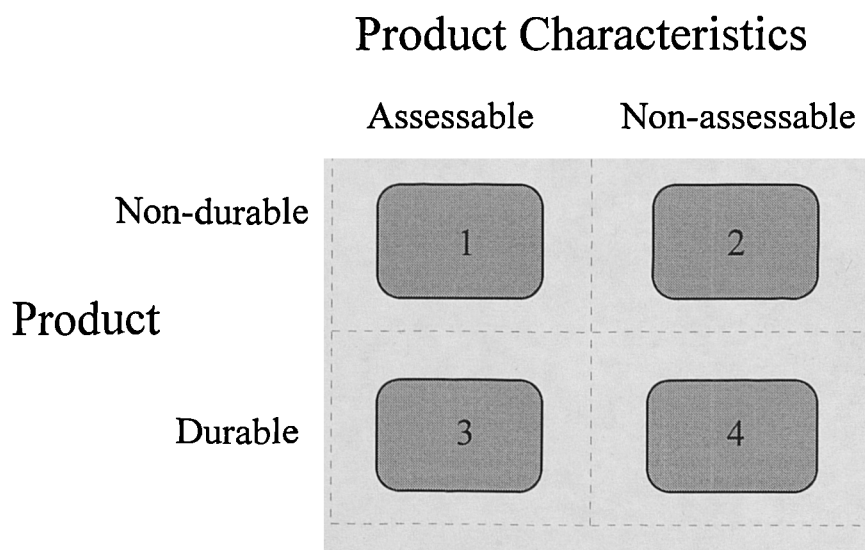
important aspects of this strategy should be noted here. First, to be an above-average performer, a cost leader must achieve parity or proximity in the bases of differentiation relative to its competitors. It follows, therefore, that the different generic strategies are not separate (a theme that will be discussed later as the argument develops). Secondly, for a firm to sustain a superior performance the sources of its cost advantage should be difficult for competitors to replicate or imitate (Kay 1993). An implication here is that a strategy of what might be called 'cost following' - a decision to adopt a position of second or third in a market - may be rational, rather than just cost leadership (Dietrich and Al-Awadh, 1993).

Reviewing the strategy literature focusing on the idea of cost leadership indicates differences in the way in which it can be interpreted. From Porter's work it is not clear whether cost leadership is associated with prices or not. If a leader attains parity in terms of differentiation, it has left open the question of price parity. Day (1984) ties the efficiency of generic strategies to different environmental factors, and links customer price sensitivity to the viability of a cost leadership strategy. Miller (1988) makes a strong connection between a cost leadership strategy and low price to satisfy customer price sensitivity and claims that users of the "cost leadership" strategy are likely to confront the least environmental unpredictability and change, and they seek out customers who care more about price than about image or novelty. Similarly Dess and Davis (1984) assert that competitive pricing is highly associated with cost leadership. Although exploiting price sensitivity increases the advantage a cost leader may have over other competitors, Murray (1988) argues that price sensitivity is a minor consideration that does not provide sufficient justification for adopting a cost leadership strategy. He sees the variety of cost structures among competitors within an industry as a precondition of cost leadership - it follows

that a central factor here will be non-imitability. A related issue is stressed in Bowman's (1992) study, in which he distinguishes between competing on price, which is visible to customers, and cost control as an internal competence, which may not be visible to customers.

There are, therefore, certain problems associated with interpreting what is meant by cost leadership, most notably whether cost leaders compete on price (i.e. from the demand side) or through cost control (i.e. from the supply side). Related to this are environmental and organisational characteristics that can impinge on a cost leadership strategy. Furthermore, if competitive parity in terms of differentiation is accepted, this is likely to have different implications for competitive pricing and cost control in different circumstances depending on the specific nature of demand and supply side factors and the ways in which these interact. On the demand side the issues involved can be analysed in terms of two dimensions: the extent to which product/service characteristics are assessable by consumers prior to purchase; and product durability. Dietrich and Al-Awadh (1993) suggest a simple matrix of possibilities, as set out in Figure 3.1.

Figure 3.1:
Demand Side Characteristics



Consumer price sensitivity will be of overwhelming strategic importance in cell 1 - and with a cost leadership strategy. At the other extreme, in cell 4, demand side reputation effects are likely to be central (Kay, 1993) which subverts the basis of cost leadership. Products in cell 2 are likely to be characterised by extensive promotion (Koutsoyiannis, 1982) with implications for, what is called below, marketing differentiation. In cell 3 consumer information (both search and provision) is likely to be central because of infrequent purchase. One possible response here might involve an emphasis on (assessable) product quality. Hence, in general, we might want to talk of cost leadership strategies (in the plural) being effective in different circumstances. Of particular relevance for cells 2 and 3 might be the development of total quality control systems that emphasise pursuing quality objectives (i.e. a differentiation strategy) as an important means of lower costs through reduction in overhead quality control costs, scrap elimination, and reworking and the like. One possible direction to take here could involve claiming that cost leadership is restricted to cell 1 in the above matrix, involving product and process standardisation, with a resulting relative elimination of differentiation possibilities. But recent developments in technological and organisational flexibility (i.e. differentiation based on internal competencies) and market segmentation might marginalise such a view of cost leadership. These comments are merely suggestive, the implications involved here will be developed and explored later in this chapter.

3.2.2 Differentiation

Porter's (1985) second generic strategy is differentiation. This strategy is based on the idea that a strategy is unique in ways valued by buyers. This

idiosyncrasy is more or less general depending on the degree of focus involved. Unlike a cost leadership strategy, there might be more than one successful differentiation strategy in a market, depending on the number of relevant attributes. The achievement of differentiation can take different means, such as product characteristics and/or the way a product is marketed, locational characteristics or the delivery system; the possibilities depend on the nature of each market. The strategy of differentiation aims to create a product or service that customers see as unique. Differentiation often involves new technologies, unforeseen customer and competitor reactions, and the confluence of many unstructured marketing problems (Hofer and Schendel, 1978; Miles and Snow, 1978; Miller and Friesen, 1984; and Lamont et al., 1993). Clearly successful differentiation is usually costly, with the implication that a differentiation strategy must maintain cost proximity with competitors. Thus, when a firm achieves and sustains differentiation with a price premium exceeding any added costs of being unique, it will be performing above average in its industry. Successful differentiators, therefore, achieve superior profits through premium pricing. Obviously, to sustain a differentiation advantage requires barriers to imitation by competitors and a continued perceived value to buyers.

However, differentiation is subject to different interpretations. Three problem areas can be identified. First, there might be two or more kinds of differentiation strategies. Miller (1986) makes a distinction between innovative differentiation and marketing differentiation. He refers to innovating differentiators, much like Miles and Snow's (1978) prospectors, and Miller and Friesen's (1984) adaptive firm, as those exploiting new products and technologies on the basis of which they may charge fairly high prices; and refers to marketing differentiators as those offering an attractive package, good service, convenient location, and so on. The recognition of innovative

differentiators compromises the separation of differentiation and cost leadership strategies. Innovation which is particularly oriented towards production processes can help reduce costs and differentiate at the same time (Bowman 1990). This problem is an aspect of a more general issue involved with the classification of generic strategies. It will be suggested in this chapter (as mentioned above) that competitive advantage must be separated from competitive strategy - being 'stuck in the middle' is a problem for the latter, not the former. Bowman's (1992) study reinforces this conclusion when he identifies two factors as being related to a differentiation strategy: one is visible to customers, and involves a unique product/service, and the second is product/service development which is viewed as an internal competence and may not be visible to buyers.

Second, Porter's assertion that differentiators achieve superior profit through premium pricing is not universally accepted. A number of studies (such as Hill, 1988 and Bamberger, 1989) have related the achievement of superior profit from differentiation to those differentiators who are able to achieve market dominance at a given price. Porter himself suggests that the superior performance of American Airlines, an example he takes of a differentiator, is from their ability to increase market share not just from premium pricing (cited in Bowman 1992). Underlying this ambiguity is a significant conceptual issue. If the link between differentiation and performance operates through market dominance (at a given price), this must involve efficiency gains - for instance scale and/or experience advantages. This possibility implies that differentiation and cost leadership are not necessarily mutually exclusive strategic orientations - a recurrence of a common possibility.

Finally, there is a problem with the question of over which organisation a firm charges a premium price. As Bowman (1992) argues, there is a potential

problem here. How does a firm achieve superior performance if more than one firm in an industry can pursue differentiation and therefore command a premium price? This problem can be resolved by recognising the importance of defining the boundaries of an industry, or the segment that a firm may target. For example, Murray (1988) cites Southland's 7-11 stores as exemplifying product differentiation based on convenience, 'but this is only when they are compared with food retailers targeting other market segments (e.g., supermarkets). When they are compared with other firms competing in their own niche (i.e., other convenience stores), it becomes clear that 7-11 stores strive for cost leadership' (p.391). This problem is not unique to this example, hence there is a potential confusion between a firm differentiating itself in its industry or focusing, as a cost leader, in one segment of the market. This issue will be discussed later in this chapter.

3.2.3 Stuck in the middle

Porter (1985) uses the term 'stuck in the middle' to indicate the characteristics of a firm that engages in more than one generic strategy but fails to achieve any one of them. According to Porter, a firm in this position possesses no competitive advantage because of its unwillingness to make a choice about how to compete. Its profitability will inevitably be low because each competitive strategy requires inconsistent actions. Low cost competitors will serve low price/high volume customers, leaving the "stuck in the middle" organisation with low market share and/or low margins; high margin customers will be attracted by either successful differentiators or by cost leaders who focus on that type of segment.

The idea of "stuck in the middle" therefore suggests that different generic strategies are mutually exclusive alternatives, a perspective that is by no

means universally accepted, as has been hinted at a number of times already in this chapter. Murray (1988), linking Porter's generic strategies to a set of environmental variables, argues that the exogenous preconditions for a viable cost leadership strategy stem principally from the industry's structural characteristics and the preconditions for product differentiation stem primarily from customer tastes. Because these two sets of exogenous factors are independent, the possibility of a firm pursuing cost leadership and product differentiation simultaneously is not precluded. This perspective implies that when a firm combines both competitive strategies successfully, taking into consideration the independence precondition, it should be able to out-perform competitors that pursue a single strategy. White (1986) also found that 19 of the 69 business units he examined had the highest ROI and achieved competitive advantage based on combined cost and differentiation strategies. Dietrich and Al-Awadh (1993) note that an example of this successful mixing of strategies occurs in the UK food retailing industry. Sainsbury's, which is considered as the market leader (Kay 1993), is an example in this activity. This company uses a combination of quality maintenance to target relatively high income consumers, and efficient supply management to maintain competitive cost levels. In this light it is clear where the disagreement arises between Porter and David Sainsbury over the strategy of the latter's company, where Porter argues that the claim that Sainsbury's is oriented towards cost leadership and differentiation is inappropriate (see Porter et al (1987)).

This argument can be generalised. In many circumstances the surplus derivable from cost efficiency can be invested in differentiation possibilities. Alternatively (and as suggested above) the causation can be reversed. Differentiation may be a way of achieving cost leadership in that while it may increase costs in the short run, long-run unit costs may be decreased because of

scale advantages and/or experience curve effects. It is, therefore, hardly surprising that empirical investigation by Phillips et al. (1983) provides a link between product differentiation and cost leadership. In short, the implementation of one or both of the generic competitive strategies for gaining competitive advantage depends on certain characteristics of the specific industry and/or market in which a business operates. It follows, therefore, that if firms are largely idiosyncratic, in terms of detailed organisational and product-market characteristics, following Hill (1988) there is no unique low-cost position, and that any firm may have to base its sustainable competitive advantage on the simultaneous and continuous pursuit of both low cost and differentiation.

To clarify the issues being discussed here it may be useful to draw out the similarities and differences between the arguments just presented and the idea of "stuck in the middle". The criticisms suggest that potential positive, or synergistic, links might exist between different broad strategies. These positive effects are different from a formulation that suggests a trade-off between strategies or, as Karnani (1984) argues, a firm cannot emphasise one dimension at the cost of neglecting another. This latter perspective is consistent with Porter's (1985) view that a cost leader must achieve parity or proximity in the bases of differentiation relative to its competitors to be an above-average performer, even though it relies on cost leadership for its competitive advantage, and a differentiator cannot ignore its cost position, because its premium price will be nullified by markedly inferior cost position. A differentiator in fact aims at cost parity or proximity to its competitors by reducing cost in all areas that do not affect differentiation. From this perspective, the only circumstances in which a firm can achieve both differentiation and cost leadership simultaneously are: if a competitor is "stuck in the middle"; if a firm dominates its market because of size advantages; or if a firm has exclusive rights to a major

technological innovation (Porter 1985, 19-20). Hence Porter sees the mixing of strategies as the exception rather than the rule.

The same basic principles used in Porter's work will be followed in the development of the competitive strategies' framework presented in the next section. This framework is different from that developed by Porter by suggesting that the classification of competitive strategies is more complex than he suggests. It also introduces another aspect into the idea of "stuck in the middle" which might explain the existence of this problem in different ways. Thus, the idea of "stuck in the middle" is still relevant to the framework that will be developed and discussed in the next section. However, the idea will not be discussed in this chapter; instead it will be discussed in the final chapter after shedding some light on the nature of the competitive strategies (discussed next) and on the nature of the barriers to achieving competitive advantage (discussed in Chapters 5 and 6).

3.3 From competitive advantage to competitive strategy

The previous analysis suggests a number of important issues for conceptualising competitive advantage and generic strategies. Accepting the general principle that a firm needs a well defined and achievable competitive strategy to compete effectively against other organisations in its product/market area, leaves a wide area of disagreement with regard to the nature of such strategies.

Therefore, based on the previous discussion, this section will discuss the competitive strategies' framework. This discussion is based on the development of, rather than a break with Porter's (1980, 1985) work on the generic strategy

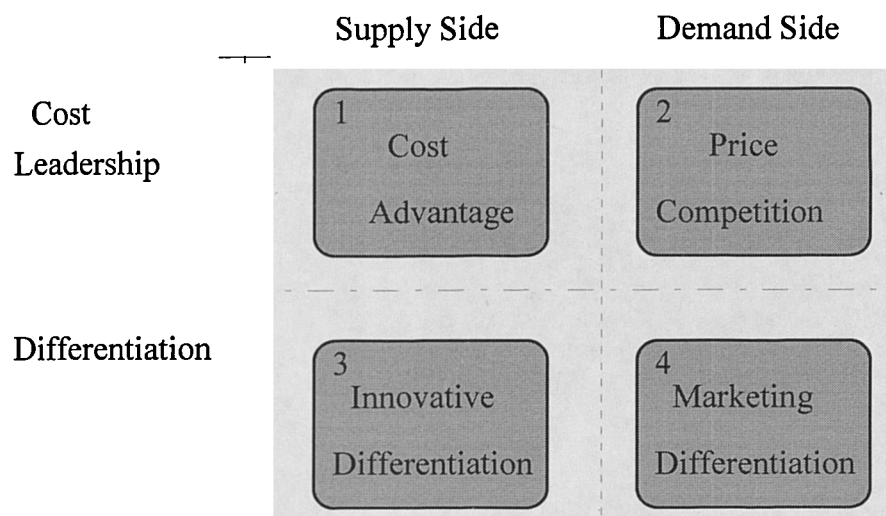
concept. There are two important themes which can be derived from earlier discussion that can be used to build on Porter's basic insights. First, a firm should distinguish between supply and demand sides of its competitive advantage. Secondly, Porter's generic strategies are not necessarily independent.

3.3.1 Supply/demand and competitive advantage

To understand the competitive dynamics and position of a particular industry-market, a firm must consider the distinctions and links between the supply and demand sides of any potential competitive advantage. It is evident from earlier discussion that Porter's generic strategies are oversimplified in this respect. When supply and demand effects are separated a firm can exploit a cost leadership competitive advantage in two different ways (see Figure 3.2). On the supply side a firm may exploit a cost advantage (cell 1) in various ways discussed in the previous section. The existence of this cost advantage depends on a diversity of cost levels in an industry, either because of market structural characteristics or non-replicable organisational practices. A central feature here is relative supply-side stability which precludes innovative (supply side) differentiation possibilities. This competitive advantage, however, is a potential rather than actual competitive strategy because a demand side link is necessary. To emphasise the potential nature of a cost advantage it will be referred to as a foundation which is distinct from its use in particular strategies. On the demand side, a competitive strategy that is similar to Porter's cost leadership strategy implies competing on the foundation of price (cell 2). Market conditions necessary here are either product homogeneity and/or a well defined market segment in which buyers are price sensitive. Both of these possibilities imply that the demand for the firm's products is highly related to prices. Linking these possibilities back to a supply-side advantage suggests possible strategies based

on using capacity and scale economies with homogenous products or idiosyncratic expertise/skills with focus on a particular segment.

Figure 3.2:
Foundations of Competitive Advantage



Turning to differentiation strategies, a firm can achieve an advantage from the demand and/or supply sides, with different strategic implications. A firm can achieve a differentiation advantage by using its resources, technologies and organisational competencies (as will be discussed in the next chapter), to offer existing products more efficiently or new products/services. The different ways that a firm may use them to create competitive advantage will be discussed in more detail in the next chapter. The important point about 'newness' here is that it derives from a supply side advantage and hence might

involve improved performance in some sense, as well as fundamentally new products. Following Miller (1986) this advantage is referred to as an innovative differentiation capability (cell 3). In addition, however, a firm can achieve a differentiation advantage on the demand side. Here a firm exploits particular links with buyers, with the degree of focus determining the segmentation involved. As such, this advantage is based on marketing mix and promotional activity, and following Miller is called marketing differentiation (cell 4). This advantage is likely to be most powerful when reputational effects are important, as discussed in the previous section. With assessable product/service characteristics differentiation will depend solely on supply-side factors.

In summary, there are four foundations to competitive advantage. Two advantages operate on the supply side: cost advantage (CA) and innovative differentiation (ID). Two are derived from demand side factors: price competition (PC) and marketing differentiation (MD). This repositioning of Porter's work has two important effects: it removes the ambiguities highlighted in the previous section, and it expands the ways in which the firms might achieve and sustain a competitive advantage. To reiterate a point made earlier, these foundations define the limits to particular generic strategies that can be developed by firms. This implies, among other things, that a 'stuck in the middle' problem does not exist at this level because these foundations to competitive advantage can be combined to produce, it is hoped, coherent strategies - an aspect of the discussion that will be presented next.

3.3.2 Competitive strategies

Four foundations of competitive advantage have been derived which can be used to develop particular strategies. The ways in which these strategies can be grouped into generic forms will now be discussed. The same basic principles

used in Porter's work will be followed here. He considers each generic strategy to be a fundamentally different approach to creating and sustaining a competitive advantage. This development departs from Porter, however, by suggesting that the classification of generic strategies is more complex than he suggests. The following competitive strategies can be derived from the framework that has just been set out.

3.3.2.1 Price leadership (PL)

This strategy combines a cost advantage with price competition - cells 1 and 2 in Figure 3.2. Marketing, based on reputation and extended consumer use, is unimportant here, hence the characteristics of products/services must be assessable prior to purchase. In turn, this suggests that consumers are price sensitive. Price leadership strategy, therefore, is most effective in stable and predictable environments (Hambrick 1983b; Miller 1988; Kim and Lim 1988), since environments that are unpredictable or subject to much change will create severe diseconomies (Miller, 1988) for organisations trying to pursue such a strategy. Since the supply side of any activity is stable, this will preclude innovative competition based on differential competencies, etc. In other words, price leaders do very little innovation because it disrupts efficiency. Therefore, different characteristics of the firm's competencies, discussed in Chapter Four (i.e. complexity, tacitness and specificity), are less important regarding this competitive strategy compared to the other competitive strategies, as will be discussed further in the next competitive strategies, later. However, specific internal and external factors are required to be considered by a firm (using PL competitive strategy) for the successful implementation of such a competitive strategy. For example, firms using price leadership strategy might need an organisational structure that places a great deal of emphasis on sophisticated

cost control systems; standard, repetitive procedures; cost information systems, etc. These factors and others will be discussed in more detail in Chapters 5 and 6. Furthermore, following Murray (1988), a differentiated cost structure is a precondition of gaining an above-average performance. If costs are similar the idea of strategy, as a forward-looking activity rather than simply rivalry, is difficult to incorporate. Dietrich and Al-Awadh (1993) discussed, in this situation, the basic economics of oligopoly which may lead to one of two conclusions: with the main strategic variable being output adjustment, firms will earn, in equilibrium, similar above-normal profits; with price being the strategic variable, competition will tend to reduce profits to normal levels. With a differentiated cost structure, however, economic theory tells us that one firm (or a cohesive group of firms) can dominate price determination, and hence become a price leader of either a dominant or barometric type. In the circumstances involved here, dominance of this sort is the only way to generate superior performance. It follows from earlier discussion that differentiated costs may arise because of either size/market-share differentials or structural characteristics that generate absolute cost (dis)advantages.

3.3.2.2. Low cost differentiation (LCD)

This generic strategy combines cells 1 and 4 in Figure 3.2. These conditions imply a stable supply side to an activity but with cost differentiation (which is similar to the supply side characteristic of the PL strategy), and the centrality of marketing activities on the demand side. A low-cost advantage which is needed in this case to generate supporting funds for the marketing differentiation characteristics can be achieved through different ways, such as: learning effects, economies of scale, economies of scope, and capital/labour substitution (BCG, 1976; Hill, 1988; Porter, 1980, 1985; Lado et al, 1992).

Learning effects are usually viewed as the operational economies resulting from repetition of activities that lead to greater learning and efficiency in production (Hayes and Wheelwright, 1984). Hill (1988) notes that learning effects will be most significant in the case of new and complex processes; however, learning effects will also be significant in the case of new processes, even if they are routine and involve low variability (p. 406-407). Scale economies are expected decreases in long-run average costs due to capacity expansion and factor intensity (Lado et al, 1992). Economies of scope result from sharing of resources among organisational units, which reduces the economic cost of producing a range of goods (Teece, 1980). Capital/Labour substitution involves substituting capital for labour or vice versa in order to enhance efficiencies (Lado et al, 1992). The marketing differentiation, on the demand side, involves those activities in which it is difficult or costly to assess the characteristics of products/services prior to purchase; the resulting marketing activity implies non-homogenous outputs and reduced consumer price sensitivity, with reputation becoming important. Even though customers may want state-of-the-art, sophisticated products, some of them might be willing to trade-off novelty for reliability and reputation (Miller, 1986). As discussed earlier, a basic condition for this strategy to be viable is the independence of supply and demand characteristics, i.e. there is no trade-off between differentiation and cost. Moreover, firms may use some technology and innovative organisational systems (such as total quality and just-in-time management) that facilitate not only the reduction of production costs but also enhance product line flexibility, as will be discussed in the next chapter. In these circumstances, a cost advantage can provide funds to generate differentiation characteristics. A useful example, as suggested in the previous section, is the UK food retailer Sainsbury's, for which above-average performance is based upon cost and price.

3.3.2.3 Differentiation (DIF)

A strategy of this type combines cells 3 and 4 in Figure 3.2. Demand side characteristics are the same as for low-cost differentiation; the supply side, however, is markedly different. Here investment is undertaken to develop innovative product and process attributes, this investment implies that above-average performance is based on high prices. Differentiation strategy is most effective in dynamic environments in which products, services, and practices change quickly (Duncan, 1972), it is difficult to forecast the behaviour of competitors and customers (Khandwalla, 1977), or where it can be used to avoid more costly forms of competition like simple price cutting (Hambrick, 1983b; Hofer and Schendel, 1978; Porter, 1980; Miller, 1988; Lamont et al, 1993). The idiosyncratic firm competencies elicited, for example, from interpersonal relations among managers in a firm (Hambrick, 1987), entrepreneurship (Nelson, 1991; Rumelt, 1987; Schumpeter, 1934), organisational culture (Barney, 1986b; Fiol, 1991; Amit and Schoemaker, 1993) and others have been recognised as potential sources of sustainable competitive advantage, especially when they are complex, tacit and firm-specific, as will be discussed in the next chapter. Their role in achieving a superior level of performance has also long been recognised (Smircich, 1983; Tichy, 1983; Wilkins and Ouchi, 1983). This implies long-run investment that needs to be directed, by differentiators, to the firm's resources and distinctive competencies (i.e. high costs). Furthermore, on the supply side, such organisations (i.e. competing on differentiation) are inventive in such a way that they create new products as well as the processes by which they are produced. Both product and process change is very dynamic. Examples here might be BMW and Rolls Royce from the automobile industry, and Marks and Spencer and Burton in clothing retailing. The high costs

involved with differentiation implies the existence of strong barriers to imitability.

Rather schematically, Dietrich and Al-Awadh (1993) argue that two separate cases of this generic strategy can be identified: idiosyncratic differentiation and life-cycle differentiation. The first of these, as the name implies, involves strict non-imitability. This might involve organisational or supply/distribution networks and practices (as with the just mentioned clothing retailers) and/or technological and product characteristics (as with BMW and Rolls Royce). Life cycle differentiation cannot rely on strict non-imitability but rather lags in imitation are exploited, along with continuous innovative capability. Competitive advantages of this type might be based on patents, as with Glaxo in the pharmaceutical industry. In this regard, high prices reflect a skimming strategy.

3.3.2.4 Imitation (IMT)

This generic strategy combines cells 2 and 3 in Figure 3.2. The demand side characteristics are the same as for price leaders; however, the supply side is based on innovative differentiation. This link will be appropriate when supply side development activity is used primarily to reduce costs. In terms of demand side links, therefore, a generic imitation will emphasise price competition. Such firms do not simply imitate but learn from differentiators (strategic leaders) and therefore may incrementally improve the technologies and products first introduced by differentiators. Therefore, the innovation of competitors will be imitated only after a considerable risk-reducing lag. Such companies might be also called life-cycle followers that do not incur the overhead costs involved with strategic leadership, but are able to exploit supply and demand side advantages. Since the cost of innovation in this type of strategy is less than that

in the differentiation strategy, prices will be less than that charged by a differentiator. Especially, competitors may gain detailed information of about 70% of a firm's new product within a year of its development, for a third less than its cost (Ghemawat, 1986).

3.4 Conclusion

This chapter has suggested that generic strategies, as usually formulated, fail to accommodate a number of important issues. These failures place limits on the extent to which the literature in the area can offer insights into strategic management. The problems involved have been discussed under two general headings. First, the importance of differentiating the supply and demand sides was discussed. Based on this differentiation four foundations of competitive advantage were identified: two of them operate on the supply side: cost advantage (CA) and innovative differentiation (ID); the other two are derived from demand side factors: price competition (PC) and marketing differentiation (MD). Second, a framework of competitive strategies was derived from the four foundations of competitive advantage which accommodates the complexities involved under these two headings. Four different competitive strategies were developed in this framework based on appropriate links of particular foundations of competitive advantage. These competitive strategies are: price leadership, low cost differentiation, imitation and differentiation. It should be noticed that while this framework is a significant step away from the Porter tradition, the move should be seen in terms of development rather than break. Finally, each strategy, as has been discussed, consists of two particular foundations of competitive advantage.

In later chapters these competitive strategies will be measured in terms of a number of factors which are based on the four foundations of the competitive advantage. The distinction between the demand and supply side advantages will also allow us to measure the internal consistency of these competitive strategies. This internal consistency, which is the primary analytical element of the strategic coherence, will be referred to as "competitive coherence". This aspect of coherence is one of the three aspects of "strategic coherence"; the other two aspects being "organisational coherence" and "cognitive coherence". Because of the increasing complexity of markets and competition, firms need a multi-variable approach to "strategic coherence" in order to achieve and sustain their competitive advantage. In other words, failing to achieve one or more of these aspects of the strategic coherence implies a barrier to achieving and sustaining a competitive advantage. Thus, two important principles implicitly inform any discussion in this area: strategic coherence is necessary to generate above-average performance, and competitive strategies are a useful way of defining strategic coherence. Further discussion of these principles will be presented in chapters 5 and 6.

Finally, in the development of the four competitive strategies, the firm's resources and competencies have been considered as an important potential source of the firm's competitive advantage. Further discussion of resource-based approaches to competitive advantage will follow in the next chapter.

Chapter 4

Competitive advantage II: Resource-based approaches

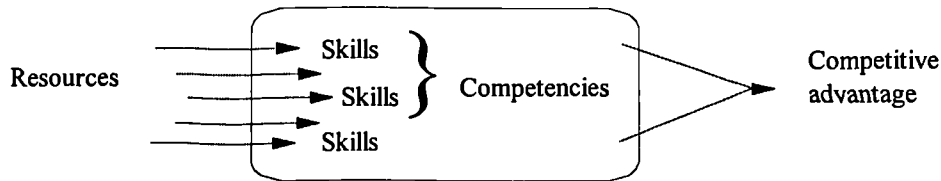
4.1 Introduction

To manage competition successfully and gain a superior performance, a firm needs an appropriate competitive strategy that provides it with the ability to achieve and sustain its competitive advantage. Such a strategy should be supported by competencies that are unique and superior, as discussed in the previous chapter. Aaker (1992) notes that a strategy (defined as how you choose to compete through the combination of a large number of functional area decisions) produces a sustainable competitive advantage when it is valued by segments in an organisation's served market, is supported by skills and resources, and cannot be easily matched or duplicated by competitors. In addition, Ansoff (1965, 1976) discusses the firm's competencies as an integral component of corporate strategy and argues that an organisation's distinctive competencies are essential to identifying and responding to environmental signals. Different competitive strategies require different organisational resources and competencies, as well as different environments, to contribute to the creation and protection of the firm's profitability (Porter, 1980; Snow and Hrebiniak, 1980; Miller, 1986; Williams, 1992). For example, innovation (which provides an organisation with the capability to generate new products/processes faster than competitors) requires different capabilities such

as intensive research and development, engineering skills, complex collaboration between different specialists (in different functions), and so on. Therefore, firms focusing on innovation in their competitive strategies need competencies that can manage such complexities more than those firms focusing on a cost/price competitive strategy. In contrast, the latter firms need skills such as to control costs and manage production efficiency, more than those firms that emphasis innovation. Collis (1991) notes that the firm's capabilities are necessary to support any generic strategy. The choice of such a strategy must also consider the characteristics of the industry as well as the firm's position within the industry.

The overall relationships between the different concepts (such as resources, skills and competencies) that will be discussed and defined later in this chapter are illustrated in Figure 4.1. Following Grant (1991a), the individual resources of a firm (which include items of capital equipment, patents, finance, efforts of individual employees, and so on) are the inputs into the production process; however, few of these resources are productive on their own. Therefore more than one input of these resources is required for a productive activity. Each individual resource does indeed require special skill(s) for its operation. Thus, when these skills are linked together (through interaction and integration) they will form the bases of creating the firm's competitive advantage (as illustrated in Figure 4.1). When these individual skills co-operate and interact (or are linked) with each other, we call them collectively the firm's competencies or distinctive competencies. Therefore, the firm's competitive advantage is based on these distinctive competencies rather than on the individual resources or skills. These terms will be explored in more detail in the next section.

Figure 4.1
Relationships between resources, competencies and competitive advantage.



Amit and Schoemaker (1990:4-5) have drawn a helpful distinction between resources and capabilities (or competencies):

'The firm's resources will be defined as transferable input factors controlled by the firm, that are converted into outputs using a wide range of firm assets and bonding mechanisms such as management information systems, incentive systems, or trust between management and labour. These resources consist of proprietary knowledge (e.g. patents and trade secrets), financial or physical assets (e.g. property, plant and equipment), human capital, government licenses, etc. Capabilities, in contrast, are tangible or intangible (invisible) assets that are firm-specific and are created over time through complex interactions among the firm's resources. They can be thought of as 'intermediate goods' generated by the firm to provide enhanced productivity of its resources as well as flexibility and protection for its final product or service. Capabilities are based on developing, carrying, and exchanging information through the firm's human capital.'

The importance of the firm's resources and competencies as a source of competitive advantage has been recognised by a great deal of theoretical and

empirical efforts (e.g. Ansoff, 1965; Andrews, 1971; Hofer and Schendel, 1978; Snow and Hrebiniak 1980; Wernerfelt 1984; Hitt and Ireland, 1985; Williamson, 1985; Winter, 1987; Prahalad and Hamel 1990; Reed and DeFillippi, 1990; Conner, 1991; Grant, 1991a, and others). This chapter, therefore, will discuss and review the resource-based approach literature. It will also discuss the identification of different characteristics of competency. Then it discusses how a firm may sustain its competitive advantage.

4.2 Resources and competencies

This section first defines the resources and competencies of a firm and then discusses the ways in which they are the source of the firm's competitive advantage. A firm's resources can be defined, in general, as all assets - either tangible or intangible, human or non-human - that are owned or controlled by the firm, and needed for its performance. In more general terms, they might also be seen as anything which could be thought of as a strength or weakness of a given firm (Wernerfelt 1984). However, since this study makes the distinction between resources and competencies, the strength and weakness of a given firm will be defined in terms of the firm's competencies, as will be discussed later. A firm's resources can include items of capital, brand names, employment of skilled personnel, patents, machinery and, so on. Winter (1987) considers knowledge a strategic asset that firms possess, and points out the critical role of managerial knowledge and competence underling the firm's technological capabilities. A major problem with identifying a firm's resource is that the management information system, for example, typically provides only a fragmented and incomplete picture of a firm's resources base. Financial statements are unable to define the most strategically important resources of the

firm, which are intangible resources and people-based expertise (Grant, 1991a). Therefore, the classification of organisational resources is a useful method of identification. In this respect, Hofer and Schendel (1978) suggested six major categories of resources: financial resources, physical resources, human resources, reputation, organisational resources and technological resources.

As discussed earlier, and illustrated in Figure 4.1, individual resources require special skill(s) to operate, as well as to link these resources together. Following Nelson and Winter (1982) skills can be defined as activities that, through continued practice or use, can be performed without conscious and explicit thought. Therefore, it can be argued here that the accumulation of these skills will generate the firm's competencies (as illustrated in Figure 4.1) which in turn become the source of the firm's competitive advantage.

The competency of a firm can be defined as the accumulated differentiated skills that are required to perform an action better than its competitors. Various authors have called the firm's competencies core or organisational competencies (e.g. Hayes et al, 1988; Dosi et al, 1990; Prahalad and Hamel, 1990), firm's specific competencies (e.g. Pavitt, 1991), invisible assets (e.g. Itami, 1987), distinctive competence (Fiol, 1991; Reed and DeFillippi, 1990; Selznick, 1957), and core capabilities (e.g. Leonard-Barton, 1992). Teece et al (1990) define competencies as 'a set of differentiated skills, complementary assets, and routines that provide the basis for a firm's competitive capacities and sustainable advantage'. Dosi et al (1990) define core competence as 'a set of differentiated technological skills, complementary assets, and organisational routines and capacities'. Furthermore, Grant (1991a) defines the firm's competencies (called capabilities) as what the firm can do as a result of teams of resources working together. Organisational capabilities characterise the dynamic, nonfinite mechanisms that enable the firm to acquire,

develop, and deploy its resources to achieve superior performance relative to other firms (Dierickx and Cool, 1989; Lado and Wilson, 1994).

It is important to recognise that any competency which is developed by a firm will be valuable if it is distinctive (Collis, 1991). That is to say that the competence which the firm possesses will be evaluated against those held by competitors. Thus, distinctive competency that is competitively unique and superior is concerned with providing the firm with an advantage compared to its competitors by identifying those particular strengths which the firm should maintain and/or those particular weaknesses which should be improved on or avoided. Barney (1991) also argued that in order for competencies to generate competitive advantage, they must satisfy at least two conditions: (1) the competencies must be valuable, enabling the firm to exploit opportunities and/or neutralise threats in the competitive environment, and (2) only a small number of firms in a particular competitive environment possess these competencies. In addition, Lado and Wilson (1994) add that organisational competencies must be relatively immobile in order to confer durable economic benefits to the firm. Another important point to be made when attempting to identify competencies is that they may be formed at the business or corporate level. Miles and Snow's (1978) research shows a significant relationship between business level strategy, distinctive competencies and performance. At the corporate level, Hitt and Ireland's (1985) study also reported a significant relationship between corporate strategy, certain distinctive competencies and performance. Moreover, a firm's competencies may arise from an integration of individual function capabilities either at the business level or at the corporate level. When these competencies are formed within functional areas (e.g. marketing, production, finance, etc.) they should be defined in functional terms (Andrews, 1971; Hofer and Schendel, 1978). Snow and Hrebiniak (1980), extending their earlier work,

related areas of competencies to functional areas of the firm (e.g. general management, production, marketing/selling).

The term competency or the firm's distinctive competencies emerged in the 1960's as a desired end-result of business policies (Ansoff 1965; Learned et al, 1969). Learned et al (1969) incorporated this concept into a business policy framework, which placed emphasis on assessing internal organisational capabilities (strengths and weakness) and matching these with environmental opportunities and threats. Andrews (1971) emphasised the concept of the firm's distinctive competence by pointing out that it was more than what the firm could do; it was the set of the things that the firm did particularly well. Hofer and Schendel (1978) have viewed competencies as an integral part of organisational strategy. Then it became the subject of more theoretical and empirical studies (e.g. Snow and Hrebiniak, 1980 and Hitt and Ireland, 1985, 1986; Collis 1991; Reed and DeFillippi, 1990; Farjoun, 1994; Helfat, 1994; Henerson and Cockburn, 1994, and others). Snow and Hrebiniak (1980) examine the relationships between strategy, distinctive competence and organisational performance, and find that effective organisational design enables the organisation to make full use of its strengths in pursuing environmental opportunities, while simultaneously minimising the risk to which the organisation is exposed by its current weaknesses. Prahalad and Hamel (1990) describe the distinctive competencies, or as they call them "core competencies", as the collective learning in the organisation, especially the capacity to co-ordinate diverse production skills and integrate streams of technologies. Learning is an important factor in sustaining competitive advantage, as will be discussed in more detail in the next section. Moreover, Prahalad and Hamel argue that in identifying core competencies in a company the following factors should be considered:

First, a core competency provides potential access to a wide variety of markets.

Second, a core competency should make a significant contribution to the perceived customer benefits of the end product.

Finally, a core competency should be difficult for the competitors to imitate.

Thus, defining competency as the firm's ability to perform a task or activity by using its resources and skills better than its competitors implies that it involves a complex interaction within and between people and other resources. This interaction leads to the importance of the managers' perception of their firms' competitive advantages. Amit and Schoemaker (1993) draw upon resource-based theory in developing a behavioural view of strategic assets and offer some prescriptive advice on how to target, develop and deploy them. Wernerfelt (1989) proposes some guidelines to help managers identify their critical resources and decide how to apply them. The social complex (Dierickx and Cool, 1989) in the firm, such as the interpersonal relations among managers (Hambrick, 1987), or the firm's culture (Barney, 1986b; Fiol, 1991; Amit and Schoemaker, 1993) can be a source of competitive advantage as well as affecting the firm's strategic choice. This issue will be taken up again later in the discussion of tacit knowledge. Although the managers' perception will be discussed in more detail in the next chapter, it is important to mention here that managers may perceive these competencies differently. Stevenson (1976) concluded, when he examined organisational strengths and weaknesses in his study of the strategic planning process, that there was a wide variation in senior managers' perceptions of their organisations' distinctive competencies. Snow and Hrebiniak (1980) try to explain this variation in the managers' perceptions by organisational strategy.

The distinctive competencies of the firm are the bases upon which a firm develops and maintains its competitive advantage and the primary sources of its sustainable profitability; hence, in the long run, a firm needs to invest in its resources and competencies in order to have more advantage over its competitors, to sustain its position and to secure its future. Thinking of competitive strategy, a firm should always pursue strategies which are within its capability, by analysing its strengths to be used in the future and/or weaknesses to be improved or avoided. In other words, a firm which aims to win future competitiveness should pursue strategies that achieve a comparative strength while avoiding expanding its activities beyond the scope of its competencies. Therefore, firms that are considering this approach will not only think of the present competitiveness with existing products but they will also build competencies that enable businesses to adapt to new opportunities and win future competitiveness. Thus, in this approach, firms should not just be seen as portfolios of business or portfolios of products but also as portfolios of resources (Wernerfelt 1984) and as portfolios of core competencies (Prahalad and Hamel 1990).

4.3 Characteristics of competencies

There are characteristics of a firm's competencies that make them imperfectly imitable. The relationship between the causal ambiguity of a firm's resources and competencies and imperfect imitability has received systematic attention in the literature (see, among others, Alchian, 1950; Mancke, 1974; Lippman and Rumelt, 1982; Rumelt, 1984; Barney, 1986b; Reed and DeFillippi, 1990; Barney, 1991). Causal ambiguity exists when the link between the resources and competencies controlled by a firm and a firm's sustained

competitive advantage is not perfectly understood. Ambiguity is also defined as the "basic ambiguity concerning the nature of the connections between actions and results" (Lippman and Rumelt, 1982: 420). Lippman and Rumelt (1982) and Reed and DeFillippi, (1990) argue that in order for resource-based competencies to generate quasi-rents and be a source of sustainable competitive advantage, they must be ambiguous. Although they exhibit complex relationships with other firm-specific resources and capabilities, this does not mean that these resources and competencies cannot be identified. Rather their reproduction may be highly uncertain, especially if they are strongly time-path dependent (Peteraf, 1993) and/or socially complex (Dierickx and Cool, 1989). Reed and DeFillippi (1990) argue in the resources-based approach to strategy that achieving and sustaining competitive advantage requires reinvestment in ambiguous organisational competencies that have three characteristics. These include (1) tacitness (Polanyi, 1967), which refers to the implicit and non-codifiable accumulation of skills that results from learning by doing, (2) complexity (Barney, 1985; Nelson and Winter, 1982), which results from having a large number of interdependent skills and assets, and (3) specificity (Williamson, 1985), which refers to the transaction-specific skills and assets that are used in production processes and provision of services for particular customers. Reed and DeFillippi (1990) also argue that any or all of these competency characteristics can produce an ambiguity between actions and outcomes that creates the firm's advantage. This, in turn, creates barriers to imitation and enables firms to sustain their competitive advantages. Similar to these characteristics mentioned by Reed and DeFillippi, Grant (1991a) points out four characteristics of resources and competencies which are likely to be particularly important determinants of the sustainability of competitive advantage: (a) 'durability', where they are to be maintained and renewed; (b)

'transparency', where they are difficult to identify and understand (a characteristic which is similar to the tacitness mentioned above); (c) 'transferability', where they are imperfectly transferable (i.e. a specific resources and competencies); and (d) 'replicability', where they are not easily replicated (i.e. complex).

Based on the above discussion, there are three characteristics of competencies which provide the sustainability of the firm's competitive advantage. These are complexity, tacitness and specificity. The following discussion explores how these three characteristics of competency can promote the achievement and the sustainability of the firm's competitive advantage.

4.3.1 Complexity

Competencies that are complex will be more difficult for other firms to imitate. This complexity can be defined as the results of the interaction of numerous skills and assets when performing an action. Complexity, therefore, describes the range of interrelationships among skills and other knowledge-based competencies (Winter, 1987). Despite the fact that a firm's competencies differ in their complexity, i.e. some may be derived from the contribution of a single resource while others may require a complex interaction of a large number of diverse resources, complexity is one of the competency characteristics that is relevant to the sustainability of the firm's competitive advantage. The complexity of the competency determines the difficulties of imitation, as Prahalad and Hamel (1991) stated: "core competence should be difficult for a competitor to imitate, and it will be difficult if it is complex" (p.84). Barney (1991) distinguishes between physical technology and social complexities. Barney argues that a wide variety of the firm's resources and competencies are socially complex. Examples include a firm's relationships with

suppliers (Porter, 1980) and customers (Klein, Crawford and Alchian, 1987; Klein and Leffler, 1981). When competitive advantage is based on such complex social phenomena, the ability of other firms to imitate these resources and competencies is significantly constrained. Furthermore, in considering the sustainability of the competitive advantage, there are some competencies which appear to be simple but prove exceptionally difficult to imitate, as for example two of the simplest and best known Japanese manufacturing practices: Just-In-Time scheduling and quality circles. Considering their simplicity, few American and European firms have introduced either with the same degree of success as Japanese companies (Grant, 1991a). Therefore it will be easier to see how firms that develop highly complex competencies can maintain their competitive advantages over very long periods of time. Thus, the more complexity there is within and between the firm's competencies, the more difficulties it can create for the competitors to imitate them.

This complexity may limit, in most situations, the ability of an individual to comprehend all alternatives and the consequences attached to them when making a decision or performing an action. When this situation is generalised more to embody the identification and the solution of the problems faced by an organisation, it will be more difficult to completely satisfy either. Lindblom (1959) and Quinn (1980), among others, have highlighted different ways in which managers usually deal with complexity. The nature of the organisational decision making has been emphasised by the writers on strategy formation (e.g. Mintzberg, 1987; Isenberg, 1987; MacCrimmon and Wehrung, 1986). An example is Cohen, March and Olsen's (1972) garbage can model, in which problems, solutions, hidden agendas, coalitions and so on mesh in a complex way to yield decisions. The difficulties faced by managers, therefore, are caused by the complexity of the decisions and their own bounded rationality.

Bounded rationality can be defined as that state where people are not consciously and deliberately irrational, but neither their knowledge nor their powers of calculation allow them to reach optimised decisions that are based on global optimisation (Simon, 1957). Thus, these complexities in decision making which increase the barriers to imitation, through the interactions between numerous skills and assets when performing an action and through the interpersonal relationships among managers in a firm (Hambrick, 1987), are imperfectly imitated, and consequently they will be a source of the firm's competitive advantage.

The dimension of complexity is also related to the amount of information required to characterise the item of knowledge in question (Winter, 1987). The greater the complexity within and between the firm's competencies, the less the breadth and depth of knowledge that most, if not all, individuals grasp of the overall performance package (Nelson and Winter, 1982). This complexity, therefore, will prevent such information from expropriation when employees are recruited by competitors. The complexity of cause-effect relationships in the firm's resources and competencies will make imitation more difficult, especially when the new product complexity requires extensive reorganisation of interdependent procedures and/or the co-ordination of many skills and numerous departments (Macmillan, Mccaffery, and Van Wijk, 1985). Therefore, the more complex the product, the greater the logistic problems of revising existing procedures, policies and programmes to incorporate the required activities which enable the firm to sustain its advantage for a long period of time. However, it should be understood that complexity itself is not a direct source of advantage, but it is the way in which the firm combines its skills and resources. Thus, as complexity has been defined as the result of the interaction and integration of a large number of skills and assets when

performing a task or activity, it can be concluded that the greater the complexity required to perform an action, the more difficult it will be for competitors to imitate the firm's competitive advantage.

4.3.2 Tacitness

Tacitness is embodied in almost all of the skills required to create the firm's competencies. Tacitness can be defined as the implicit accumulation of skills that result from learning by doing. The word "learning" is an important concept here since it is the way of generating and maintaining this tacitness. Knowledge which is possessed by the firm as a strategic asset can be tacit. Wagner and Sternberg (1985:439) stated that tacit knowledge is 'probably disorganised, informal and relatively inaccessible, making it potentially ill-suited for direct instruction'. This tacitness in the organisation's knowledge may arise at three points. First, the association of an individual with the organisation, for whom the knowledge in question is tacit. Second, the myriad of relationships that enable the organisation to function is not well known to most participants in the organisation. Third, the organisation's top management is uninformed regarding the details of what happens when their decisions are implemented (Winter 1987), as has been discussed earlier. Therefore, tacit knowledge describes the information and the competencies that are non-codifiable and non-explicitly replaceable (Polanyi, 1967).

Skills which dominate most of the firm's activities and have been considered as the source of competitive advantage are embedded with tacit knowledge. Hitt and Ireland (1985) listed a wide range of skills under the major activities of the firm (e.g. general administration, production, engineering and R&D, marketing, finance, personal). Thus, this knowledge is very difficult to

impart or imitate, especially when it is established within the procedural relations of the firm.

Tacit competency differs from complexity in that a tacit competency, by definition, is not easily transferable. For example, in a complex chemical formula or a complex computer, a chemist or a computer engineer each know and understand the task related to their subject and thus they can transfer, say by teaching, their knowledge to others; however, other activities such as swimming cannot be transferred to others, no matter how much effort has been made to teach them this skill, they still have to practise it and learn it through doing. This can also be applied to the relationships that exist between the different skilled (professional) people when they are working as a team in the organisation. Examples include the relations between managers in a firm (Hambrick, 1987), a firm's reputation among suppliers (Porter, 1980) and customers (Klein, Crawford and Alchian, 1987; Klein and Leffler, 1981).

Tacitness, therefore, may raise the barriers to imitation by making the firm's competency more difficult to be described or understood. There are two problems for competitors to overcome in order to imitate the firm's competitive advantage that is based on tacit competencies. First, there is an information problem with identifying and achieving successful competitive advantage. Second, there is a strategy duplication problem regarding the way that competitors amass the resources and the competency which is required for the achievement of the competitive advantage (Grant, 1991a). In terms of the firm's competitive advantage sustainability, tacitness may vary from one extreme to the other. Thus, the ability of a competitor to imitate successfully varies from one situation to another. At one extreme, imitation will be very clear by "reverse engineering", which means that there is a little tacitness in the production process, because it contains a simple combination of some standardised

technological elements. At the other extreme, the target routine may involve so much idiosyncratic and 'impacted' tacit knowledge that even successful replication is problematic, let alone imitation from a distance (Nelson and Winter, (1982: 123-24). However, it could be argued that in between these extremes, tacitness of competencies can prevent the imitation of the firm's competitive advantage. Thus, tacitness as one of the competency characteristics will also create barriers for competitors to understand the cause-effect relationship among the firm's actions. The more that the firm practises its actions of performance, the more ability it has of creating a tacitness around them. Therefore, the greater tacitness within the competency over how the firm can perform a task or activity, the higher the barriers to imitation will be; as a consequence, the longer that firm can maintain the level of profitability.

4.3.3 Specificity

Although competitors may overcome the problems associated with the complexity and tacitness, there is a problem of specificity of the firm's resources and competency. Specificity describes the extent to which resources and skills are idiosyncratic to the firm and not easily transferable to alternative use without substantial cost (Reed & DeFillippi, 1990; Williamson, 1985). A simple example of this specificity can be seen in the machine process of pressing or moulding a car's body which may be neither complex nor tacit, but it is very specific to the firm. Another example is the firm's reputation, image and relationships with suppliers and customers - besides their complexity and tacitness, and besides the difficulties (in terms of effort and time) that a firm may face to develop and maintain them - such competencies are specific to the firm. Therefore, the firm's specific competencies can be considered as a basis for creating and protecting the firm's competitive advantage. Furthermore,

Hayes et al (1988) argue that the ultimate purpose of strategic management is to focus on the development of specific organisational competencies and relationships which are difficult for competitors to match over a long period time.

Four types of asset specificity have been identified by Williamson (1985). The first is 'site' specificity, where the set-up and/or relocation costs are great and thus parties to a transaction are locked into a relationship. The second is 'human' asset specificity arising, for example, from learning by doing. The third is 'physical' specificity involving, for example, specialised equipment. The final is 'dedicated' specificity, as a generalised investment that produces output for specific customers. Each type of specificity, therefore, refers to durable investments that are undertaken in support of particular transactions which involve relationships between the firm and its customers, thus the continuity of these relationships is valued. In the same way, Reed and DeFillippi (1990) see specificity as the transaction-specific skills and assets that are utilised in production processes and provision of services for particular customers. However, competency should be more specific to the firm rather than to a particular transaction or to a particular customer.

The specificity of the firm's competencies will make imitation more difficult for competitors when these assets competencies have been created and associated within the firm. In addition to the transaction costs that will be associated with the immobility and imperfect information of imitating these asset and competencies, the value of some resources or competencies may fall in transfer because of a decline in their productivity. For example, employees' productivity may suffer a decline in the process of the inter-firm transfer because it may be influenced by situational and motivational factors, and so on. Furthermore, some resources which are almost entirely firm-specific, such as

corporate reputation, may not be transferred, except by the acquisition of the whole firm. However, this reputation of the acquired firm may still be depreciated during the change in ownership (Grant, 1991a).

Therefore, to make the firm's competency more sustainable over a long period of time, competency, beside its complexity and tacitness, should be firm-specific in such a way that just a few, if any firms, have a similar or the same competency. Thus, the longer that the firm possesses a specific competency, the more it can make such a competency difficult to imitate, and then the longer it sustains its competitive advantage.

4.4 Sustaining competitive advantage.

Firms should not only secure the development of competencies required to achieve their competitive advantage, but they should also develop the competencies needed to meet the challenges of the future. In this respect, a firm needs to provide a secure foundation for sustaining its competitive advantage by developing barriers to imitation for a long period of time. Building and developing its own distinctive competencies and maintaining them for a long period of time, a firm will be able to create its environment rather than simply respond to it.

Since successful competitive advantage might be quickly imitated by other firms, a firm should build and develop barriers to protect and maintain the skills and competencies on which its advantage is based. A firm will be able to sustain its competitive advantage by possessing immobile competencies to the extent that they cannot be transferred easily from one firm to another. Examples include organisational culture (Barney, 1986b), organisational routines (Nelson

& Winter, 1982), and a firm's reputation and image (Weigelt & Camerer, 1988) which may not be perfectly transferred across organisational settings. A firm, therefore, should have distinctive competencies that are characterised by some features that are difficult to comprehend or imitate. The need for such actions is specially significant when competitors may gain detailed information of about 70% of the firm's new product within a year of its development, for only two-thirds of its cost (Ghemawat, 1986). Thus, creating complexity, tacitness and specificity around a firm's competencies will explain how some firms can sustain their competitive advantage and as a consequence become more profitable, in the long run, than their competitors.

Since the environment and basic organisational characteristics are given in the short term, firms may analyse these factors and compete with current products in the existing environment. However, in the long run, when the environment and basic organisational characteristics may change, firms should build on competencies, and/or develop new areas of expertise, that create unanticipated products, which enable the firm to compete in the future. Building these new organisational characteristics, a firm will not only respond to the external environment but it will create a new one. This creation or formulation of the new environment which is achieved by possessing a successful competitive advantage creates an incentive for other firms to modify their business in order to adapt and/or duplicate that success which has been created in their environment. However, decisions about the firm's resource competencies that bestow sustainable competitive advantage are among the most complex that managers encounter; therefore, it should be emphasised that the firm's competencies, by definition, cannot be purchased off-the-shelf but required strategic vision and development time (Amit and Schoemaker, 1993). The firm should therefore consider the resource-based approach to develop its

competitive advantage in the long run and make it difficult for competitors who failed to invest in competencies to enter an emerging market (Prahalad and Hamel 1990). In short, to sustain its competitive advantage, a firm should also take into consideration the following factors:

First, the process of building competencies may span a decade or longer.

Second, the firm must reinvest in the factors that create barriers to imitation.

Third, there are important characteristics of competencies that determine the sustainability which are complexity, tacitness and specificity.

Firms should therefore evolve a strategic direction in terms of the competencies that will form the bases of their future competitive advantage. Barney (1991) argues that in order for a firm's resources and competencies to be a source of sustainable competitive advantage there must be no strategically equivalent valuable resources that are themselves either not rare or imitable. Two valuable firm resources are strategically equivalent when they can be exploited separately to implement the same strategies. Barney sees that strategic substitutability of firm resources is always a matter of degree. Therefore, if enough firms have these valuable substitute resources (i.e. they are not rare), or if enough firms can acquire them (i.e. they are imitable), then none of these firms (including firms whose resources are being substituted for) can expect to obtain a sustained competitive advantage (Barney, 1991:111-112). The firm's functional areas and major activities could be its distinctive competencies on which its competitive advantage is based. Therefore, what a firm needs in order to sustain its competitive advantage is to create a situation where its own resource position directly or indirectly makes it more difficult for others to catch up (Wernerfelt, 1984).

Resource position barriers, just like entry barriers, do indicate a potential for high returns because one competitor will have an advantage. However, both barriers are needed to secure the position of the firm. An entry barrier without a resource position barrier leaves the firm vulnerable to diversifying entrants, whereas a resource position barrier without an entry barrier leaves the firm unable to exploit the barrier (Wernerfelt 1984:173). This duality between these two concepts of barriers corresponds to the duality between the two approaches (product/market position and resource-based approaches) discussed earlier.

Thus, the sustainability of advantage depends on factors such as the ability of the firm to create and maintain barriers to imitation, the amount the firm is investing in its source of competitive advantage (resources and competencies), and the determination and the speed of the competitor in imitating the firm's strategy.

4.5 Conclusion

Two different approaches should be considered by a firm for achieving and sustaining its competitive advantage. One is the resource-based approach (which might be thought of as inside the firm), while the other is the market-product approach (which might be thought of as outside the firm, i.e. the business environment). It is argued that the firm's distinctive competencies are the source of its competitive advantage. Therefore, they must be continually upgraded and deployed in order for the firm to achieve and sustain a competitive advantage. Three characteristics of competencies have been identified which prevent imitation of the firm's competitive advantage. Thus, creating barriers to imitation enables the firm to sustain its competitive advantage over time. It is also argued that even though the resource-based

approach correctly suggests that focusing on the firm effects is important in developing and combining resources and competencies to achieve and sustain competitive advantage, this does not imply that market product analysis merely yields normal returns. On the contrary, analysis of the environment is also critical, since environmental change 'may change the significance of resources to the firm' (Penrose, 1959:79). Moreover, although the firm's competencies can be a source of sustainable competitive advantage on their own, it also necessary to build such competencies to support any generic strategy.

The firm internal resources and competencies as well as its external environment have been considered in the development of the competitive strategies framework. In the next two chapters competitive strategies will be linked to the internal and external environments of an organisation. These links will form the organisational coherence which is one aspect of the three aspects of the strategic coherence.

Chapter 5

Barriers to achieving competitive advantage I: Internal factors

5.1 Introduction

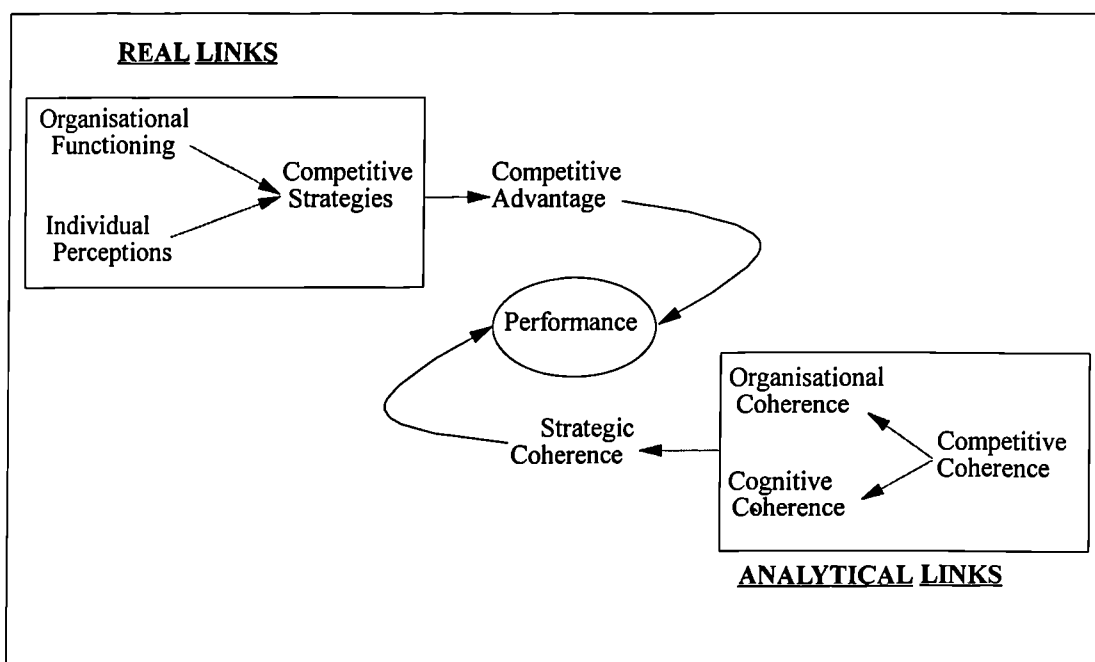
It might be easier to answer the question of how companies achieve and sustain their competitive advantage than to answer the question why they do not. Rather than answering the latter question directly, it will be suggested that different barriers may prevent firms from achieving and sustaining their competitive advantage. These barriers can be analysed in a rigorous manner.

In the previous chapters two different approaches (the resource-based and the product market approaches) have been discussed and considered as the source of achieving and sustaining the firm's competitive advantage. It was also concluded there that a firm needs certain competitive strategies to achieve its advantage and as a consequence achieves higher performance. It was shown there that the identification of these competitive strategies is based on particular links between supply and demand characteristics.

Although the immediate determinant of competitive advantage is an effective competitive strategy, the potential of such a strategy is conditioned by organisational functioning. This in turn will create more or less appropriate internal and external environmental links as predicted by the resource-based approaches. The potential of such a strategy is also conditioned by individual perceptions; as introduced in Chapter 1 and illustrated in Figure 5.1 (see

Dietrich and Al-Awadh (1995)). Once the competitive strategies are defined (as discussed in the previous chapter), they will be linked to organisational functioning to form "organisational coherence", as illustrated in Figure 5.1.

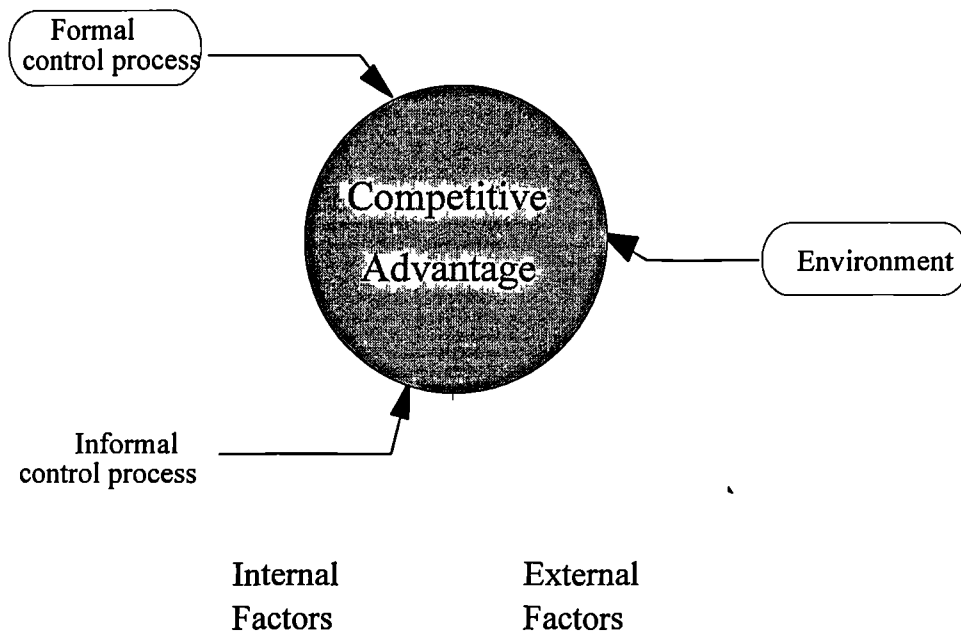
Figure 5.1
A model of competitive advantage and strategic coherence



Organisational coherence, therefore, can be achieved by avoiding potential barriers that may arise with a lack of fit between the firm's competitive strategy and other organisational and environmental factors. These barriers can be classified into two broad categories: internal and external, as illustrated in Figure 5.2. External potential barriers (environmental factors) are discussed in

the next chapter, while the potential internal barriers (organisational factors) will be the subject of this chapter.

Figure 5.2
Barriers to achieving competitive advantage



Discussion of the internal potential barriers will be organised as follows. The emphasis will be on control processes which affect day-to-day actions as well as the formulation and implementation of the firm's competitive strategy. These control processes can be classified into two general types: formal and informal, as illustrated in Figure 5.2. Before going into detailed discussion and

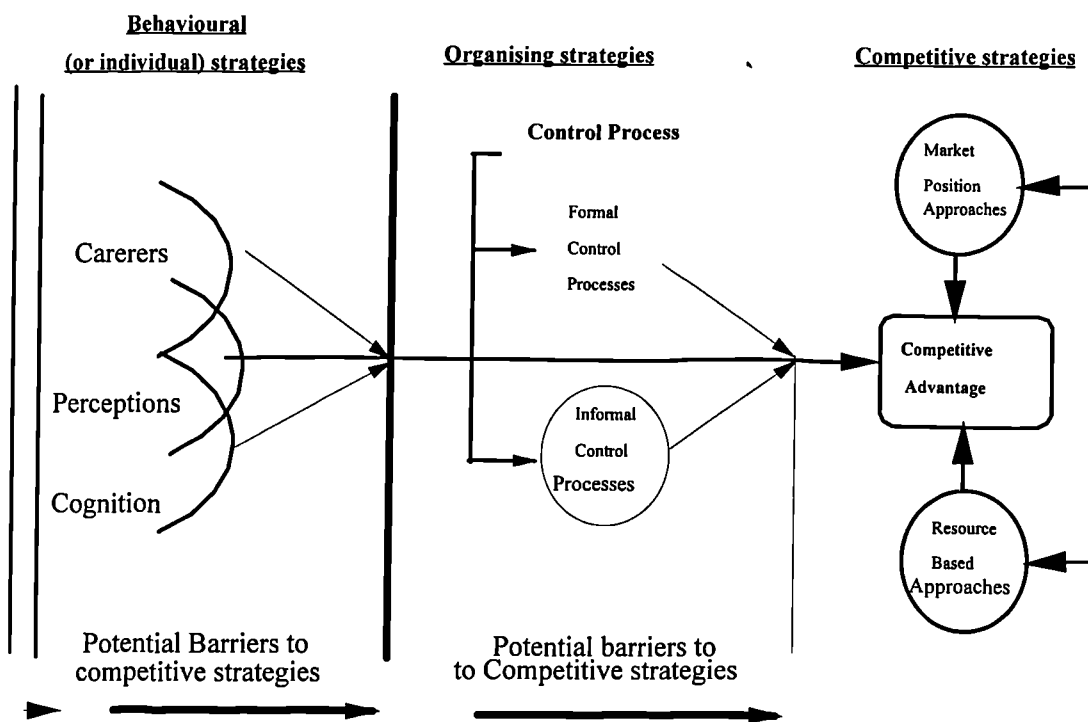
definitions of these two types of control, a general overview of the relationships between the different internal potential barriers and the competitive strategies will be introduced. Different elements of the formal control processes will then be defined and discussed and linked to the four competitive strategies that have been developed in the previous chapter. Finally, the definitions and discussions of the different elements of the informal control processes will then be presented and linked to the four competitive strategies. These different links between the internal factors and the competitive strategies will form the internal part of "organisational coherence".

5.2 General overview of internal factors

Since the focus of this research is on the barriers that may prevent firms from achieving their competitive advantages, different competitive strategies have been developed in this thesis as the means of achieving these advantages. Therefore, the discussion in this chapter will pivot on these competitive strategies as the benchmark. However, other strategies that are used by firms to set and implement their different control processes should also be considered. These strategies will be called "organising strategies", as illustrated in Figure 5.3. Appropriate links between these strategies and competitive strategies are required for the achievement and sustainability of competitive advantage. In other words, the lack of fit or the mismatch between the firm's competitive strategies and the formal and/or informal control processes (organising strategies) may act as a potential barrier that prevents firms from achieving their competitive advantages, as illustrated in Figure 5.3. Other potential barriers to the organising strategy, such as those related to individual careers, perceptions, cognition and so on, can be also identified and considered where appropriate. These different strategies are referred to as "individual (or behavioural)

strategies", as illustrated in Figure 5.3. Furthermore, external education and social strategies may also have a prior influence on these series of strategies. Although all these aspects of strategy will have an effect on the achievement and sustainability of the firm's competitive advantage, following the scope of this research a line will be drawn (as illustrated in Figure 5.3) between the organising strategy and the behavioural (or individual) strategies. Since the foundations on which the firms base their competitive advantages and the means (i.e. competitive strategies) of achieving them have already been discussed, other strategies (or set of strategies), either internal or external, will be considered as exogenous parameters that act as potential barriers to achieving competitive advantage.

Figure 5.3:
Internal potential barriers to achieving competitive advantage



5.3 Formal control processes

The purpose of this section is to define some of the internal elements (or factors) of the formal control processes and illustrate how they are linked to the different competitive strategies in order to achieve and sustain competitive advantage. In Mintzberg's (1983) terms, such links address which contextual factors must be managed to stimulate the effectiveness of different strategies. Porter (1980) states that implementing competitive strategies successfully requires different organisational arrangements, control procedures and innovative systems. Thus, it is argued that an organisation should have suitable formal control processes, given its competitive strategies, in order to achieve and sustain its competitive advantage.

Organisational structure is one of the important internal factors that will be considered and linked to competitive strategies. There is a substantial body of work on the relationship between strategy and structure (e.g. Chandler, 1962; Channon, 1973; Rumelt, 1974; White, 1986; Donaldson, 1987; Miller, 1988; Hamilton and Shergill, 1992); and much empirical research on the components of structure (Miller and Droge, 1986). The Aston researchers (Pugh et al, 1969) isolated central dimensions of structure in a diverse sample of British firms, using factor analysis. They found four dimensions: (1) structuring of activities - including specialisation and formalisation; (2) concentration of authority - really a measure of centralisation of decision-making power; (3) line control of workflow - use of many line supervisors rather than impersonal formal controls of task performance; (4) size of the supportive (non-line) component. On the other hand, Reimann (1973) found three related dimensions: centralisation of authority, specialisation and formalisation, as well as a fourth dimension that he considered less important, which is size of staff or supportive component.

However, three of the most common dimensions of the general organisational structures that a firm uses for managing its business and controlling its performance are formalisation, authority delegation (Child, 1974; Fredrickson, 1984; Jackson and Morgan, 1982; Blackburn, 1982; Sathe, 1978), and integration, through the use of liaison devices (Galbraith, 1973; Lawrence and Lorsch, 1967; Mintzberg, 1979; Miller and Friesen, 1984).

Furthermore, Goold and Campbell (1987) have investigated companies that are widely regarded as successful leading companies in the UK. They conclude that the three most common management styles among these firms are: strategic planning, strategic control and financial control. Within each management style there is a control process style (flexible strategic control, tight strategic control, and tight financial control). These control process styles include how to develop a winning strategy, how to motivate a management team and how to succeed competitively. These different styles will also be discussed and matched to the competitive strategies later in this section.

Before discussing the different dimensions of structure and these management styles, it is important to shed some light on the different types of organisational structure.

5.3.1 Organisational structure

The way that a firm is organised is crucial to the effectiveness of strategy. Although there is an almost infinite number of detailed structural forms, there are general structures that are well defined, and that predominate in modern complex organisations. They are also well defined in the literature (e.g. Rumelt, 1974; Mintzberg, 1979; Child, 1975; Osborn et al, 1980; Johnson and Scholes, 1993; Whellen and Hunger, 1986). These include: simple structure,

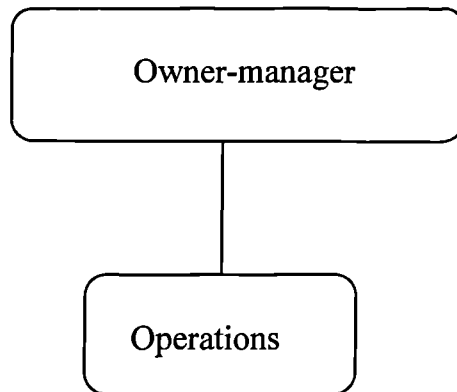
functional structure, divisional structure and matrix structure. These are discussed in turn below.

5.3.1.1 Simple structure

A firm with a simple structure is likely to be small in size and undifferentiated in terms of its market and/or product. This firm is likely to be managed by an owner-manager who either undertakes most of the responsibility of management or oversees a group of unspecialised people who do whatever needs to be done to provide a single product or service, with little clear definition of who is responsible for what.

Figure 5.4 represents a simple structure. The main problem here is that this type of structure can be effective only up to a certain size of operation. The determination of size depends on the nature of the business in which the firm is operating, which is affected by the complexity and dynamism of the environment in which it is operating. These environmental issues will be elaborated in more detail in the discussion of the external factors in the next chapter. In brief, environmental complexity depends on the number of elements in the environments that the firm is dealing with, and on the cause-effect relationship between those elements. The dynamism of the environment, on the other hand, refers to the rate of change that is evident. So, for example, a simple structure might be appropriate for a building company which operates in a stable and uncomplex environment, where the owner-manager can effectively manage the operations based on established rules of thumb. On the other hand, a similar sized business dealing with computer software, for example, might need specialists to handle different operations. Therefore, a simple structure might not work in such cases where the firm faces a complex and dynamic environment.

Figure 5.4:
Simple structure

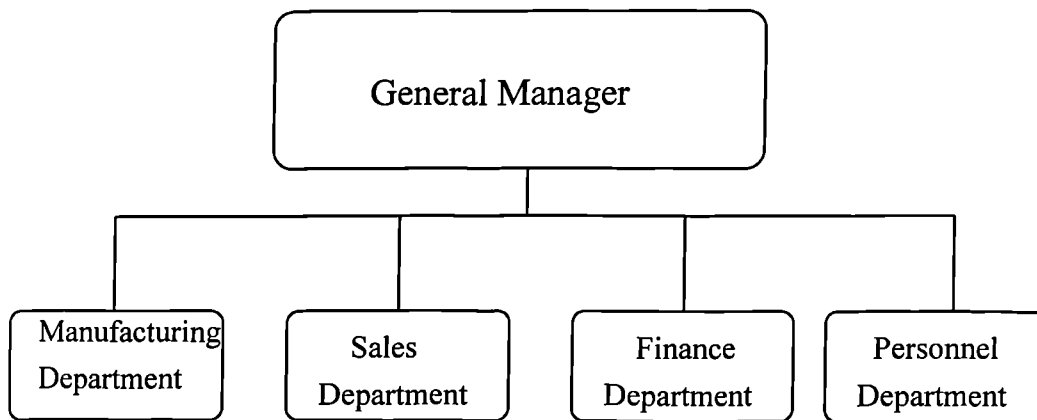


5.3.1.2 Functional structure

In a functional structure, work is divided on the basis of necessary tasks such as manufacturing, sales, finance, marketing and personnel, as illustrated in Figure 5.5. It enables a firm to take advantage of specialists in management positions and to deal more effectively with complex production or service delivery problems. Top management will also be able to co-ordinate activities and keep in direct touch with operations, and to reduce the problem of control as long as the vertical lines of communication are short. The dynamism and complexity of the environment also determine the size of the firm. For example, in a firm which is dealing with a narrow range of products and/or a single market, the functional managers are able to handle their functional operations. However, if the firm is diversified in terms of its products or markets, even with a similar size of operations to that in the previous example, it will be more difficult for the functional managers to handle different operations of production, or to deal with different environmental situations. Therefore, when operations are large in the firm, the functional structure might become slow in

responding to environmental changes. This problem may worsen when there is more co-operation required across functions. As a result, senior managers in such situations will be over-concerned with routine matters at the expense of the strategic concerns that face their organisation. Furthermore, due to the limited span of control and the expansion in the firm's business, another problem may arise with the increase in the length of hierarchy causing loss of control in the organisation.

Figure 5.5:
Functional structure



5.3.1.3 Divisional structure

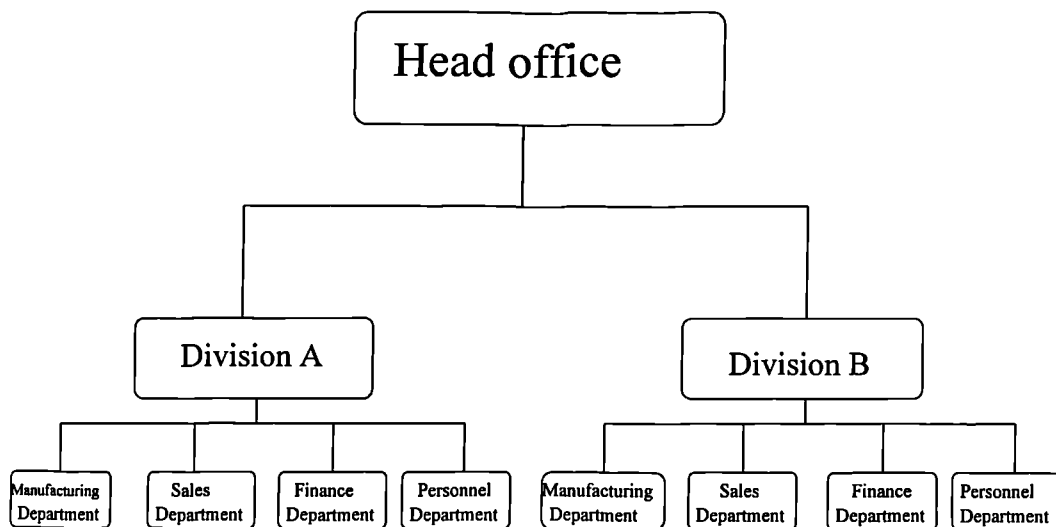
As Figure 5.6 shows, an extra management layer of division chiefs between top management and functional managers is the main characteristic of the divisional structure. These divisions may be formed on the basis of products, geographical areas or process of the operation. A firm can base its structure on more than one divisional characteristic, i.e. a firm may have geographical divisions with process or product divisions.

The main advantage of the divisional structure is that it overcomes problems arising in the functional structure. Since each division is operating

fairly independently, it will be able to concentrate on problems and opportunities of its particular business area. This type of structure is appropriate for a firm with many products and serving many markets. It provides the firm with the flexibility to operate in many industries and the ability to assess more easily its performance in different areas of activities.

However, a divisional structure has disadvantages. For example, a division may operate at over-capacity while another is under-employing much of its facilities and staff. As a result, some problems may follow from this disadvantage, such as the allocating of financial resources, and so on. Furthermore, problems in the functional structure may arise again if one of the divisions becomes too large. Finally, fragmentation of functional management needs inter-divisional co-ordination. This co-ordination may either be controlled centrally (which introduces the problems of functional organisation) or it may take the form of inter-divisional committees (which may lead to a matrix structure).

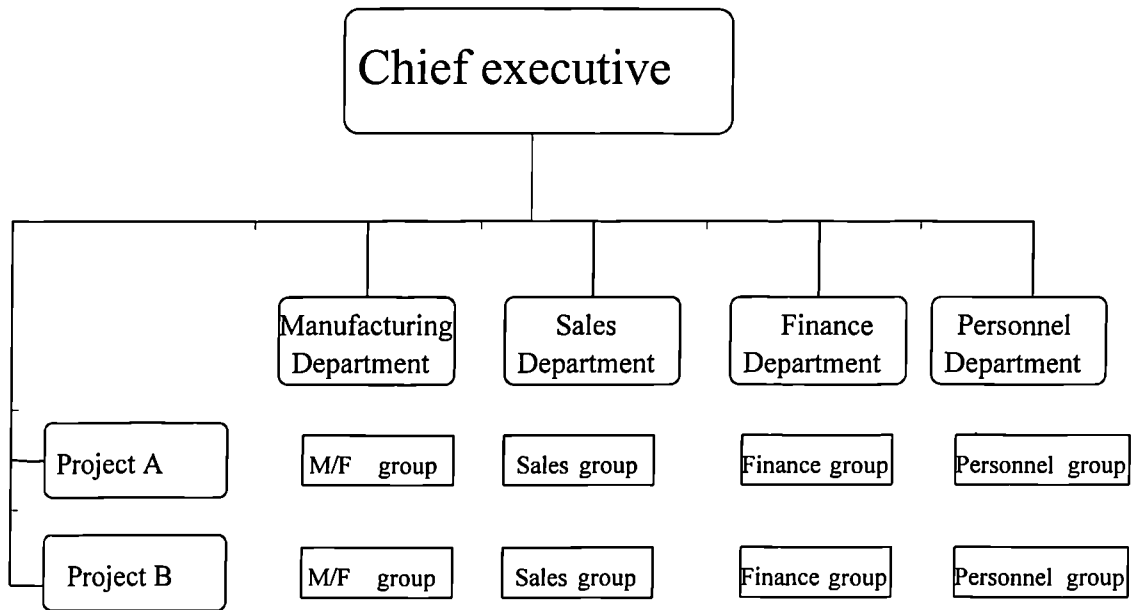
Figure 5.6:
Divisional Structure



5.3.1.4 Matrix structure

A matrix structure might be a combination of functional and divisional structures at the same level of a corporation. In this type of structure employees mainly have two superiors, a project manager and functional manager. Figure 5.7 gives an example of such a structure. It may also be a combination of more than one division, such as product and geographical divisions, where an employee has mainly two superiors, a regional manager and product manager. In a matrix structure all levels of management are involved in strategic activities, therefore it supposes an increase in both managerial motivation and managerial development. In reality, however, one dimension may be dominant for line management. Since this type of structure encourages debate amongst potential competing groups, the quality of decision making may be improved, especially if there is a risk of one vital interest of the firm dominating the consideration of a problem at the expense of other interests. However, this encouragement of debate may require a very long time before a decision can be made. Moreover, lack of clarity of role definition and responsibility which may occur is another problem in such a structure.

Figure 5.7:
Matrix Structure



Each structure, as described above, has both advantages and disadvantages, and therefore the choice between them is not straightforward. Choosing a structure compatible with a firm's strategy is a corporate strength. In addition, firms may mix structures in order to respond to different challenges they face, to innovate or develop a product/service, to start new business, and so on.

As noted earlier, the relationship between strategy and structure has received much attention in the literature. Chandler (1962) shows that a change in strategy requires subsequent alteration in structure. Rumelt (1974) shows how the match between strategy and structure influences performance. A recent study by Hamilton and Shergill (1992) concludes that the congruence of strategy and structure is influential in terms of company financial performance, which is to some extent an extension of Donaldson's (1987) study. Therefore, the following section takes into consideration the importance of organisational

structure as the main factor in the formal control processes, by linking the latter to the competitive strategies.

5.3.2 Formalisation, authority delegation and liaison devices

Three internal elements will be discussed briefly in this subsection which are formalisation, authority delegation and liaison devices. The purpose of this discussion is to relate them later in this chapter to the different competitive strategies. These links will then be empirically tested in later chapters.

5.3.2.1 Formalisation

Formalisation can be defined as the extent to which rules, procedures, communications and instructions are written. This definition is consistent with that of Oldham and Hackman (1981), Pugh et al (1969) and Price and Mueller (1986). Reimann (1974) stated that formalisation is "the extent to which an employee's role is defined by formal documentation" (p. 697). Mintzberg (1979) defines formalisation as the design parameter by which the work processes of the organisation are standardised. As Bjork (1975) suggests, organisations formalise behaviour to reduce variability, ultimately to predict and control it.

Furthermore, Lado and Wilson (1994) note that the use of rules and standard operating procedures and of hierarchical authority to achieve co-ordination and control of operations may contribute to the attainment of the goals of a bureaucratic organisation (e.g., stability, predictability, and efficiency). Organisations apply formalisation to predict performance and control employees' behaviour at work; therefore, the more stable and repetitive the work, the more programmed it is and the more bureaucratic that part of the

organisation (Mintzberg, 1979). Formalisation pertains to the use of rules and official procedures in prescribing organisational behaviour (Hall, 1972). Such formalised procedures seek to provide the firm with the ability to achieve greater efficiency at the lowest cost. Therefore, high formalisation means an explicit (generally written) definition of rules and procedures that are required to perform an action and leads to a standardisation of procedures and behaviour. Burns and Stalker (1961) note that some organisations issue a printed book of their policies, regulations and procedures. Mintzberg (1979) suggests three ways to formalise employees' behaviour in an organisation:

1. Formalisation by job: in this case, the organisation will use formal job descriptions;
2. Formalisation by work flow: instead of attaching specifications to the jobs, the organisation can instead link them to the work itself, i.e. specify work steps and procedures;
3. Formalisation by rules: the organisation may establish rules for all situations - all jobs, all work flows, all workers.

Furthermore, one might argue that since organisations formalise behaviour to control it, a negative correlation is likely between formalisation and organisational level; low organisational levels will be more formalised than high levels. Aiken and Hage (1966) note that the basic tenet of formalisation is that organisations establish hierarchies in which supervisors have greater authority to direct the behaviour of their subordinates, rather than the other way round. Hall (1962), in support of this view, also finds that departments or organisations that perform uniform, easily routinised tasks are more bureaucratic and formalised than those that do not.

5.3.2.2 Authority delegation

Authority is defined as the right given to an executive in association with his position to perform roles; such rights are legitimated by consensual decisions codified in constitutions, contracts, charters, rulings, and other accepted institutional sanctions (Cartwright, 1965; Gilman, 1962; Katz & Kahn, 1978; Kahn and Kram, 1994). Dessler (1986) views authority as the right each position holder has to influence or command thought, opinion or behaviour. This gives managers the right to carry out their tasks by orders given to their subordinates, and to expect compliance. Delegation of authority can be seen in terms of the ratio of the number of specific management decisions the chief executive delegates to the number he has the authority to make, that is, those decisions he does not have to refer to a higher authority (Reimann, 1973).

The complexity of a task and environmental uncertainty in which a firm operates are related to the degree of authority in the organisation. As Thompson (1967), Hickson et al (1971) and Perrow (1972) state, functional groups that are effectively handling uncertainty tend to have more authority than non-functional groups. Miller (1988) argues that in the case of complexity and change in product design, top executives may be too remote from the situation or too untrained to make the necessary judgement. Burns and Stalker (1961), Miller and Friesen (1984), Mintzberg (1979) and Thompson (1967) also argue that such a situation creates the need for the delegation of authority to the expert most capable of making critical decisions. Burns and Stalker (1961) also state that the degree of legitimate authority in a bureaucratic and mechanistic organisation is clearly specified, strictly followed and widely known, while in an organic organisation the degree of legitimate authority is often blurred.

5.3.2.3 Liaison devices

Liaison devices can be defined as the extent to which organisations use integrative mechanisms to ensure collaboration and compatibility between the decisions in the different departments (e.g. marketing, production, legal, and so on). Mintzberg (1979:162-175) gives four basic types of liaison devices. These are:

1. Liaison positions: when a considerable amount of contact is necessary to co-ordinate the work of two units, a "liaison" position may be formally established to route the communication directly, by-passing the vertical channels;
2. Task forces and standing committees: a task force is a committee formed to accomplish a particular task and then disbanded; a standing committee is a more permanent interdepartmental grouping that meets regularly to discuss issues of common interest;
3. Integrating managers: when more co-ordination by mutual adjustment is required than liaison positions, task forces, and standing committees can provide, the organisation may designate an integrating manager, in effect a liaison position with formal authority; and
4. Matrix structures: by using a matrix structure, the organisation avoids choosing one basis of grouping over another: instead it chooses both; a matrix structure seems to be the most effective device for developing new activities and for co-ordinating complex multiple interdependencies, but it is no place for those in need of security and stability.

Liaison devices are generally used where work is horizontally specialised, complex and highly interdependent (Mintzberg, 1979). As for example when the strategy of innovation requires collaboration between specialists such as scientists and engineers from different departments to design innovation. This may also require collaboration with other department staff such

as pricing, packing, and so on. Thus, such complexity will create interdependencies that require close contact among managers (Galbraith, 1973; Thompson, 1967). Therefore, Miller and Droge (1986) argue that the more complex and diverse the array of departments and roles (Lawrence and Lorsch, 1967), the more intensive the face-to-face liaison devices to promote collaboration and resolve differences (Galbraith, 1973). The different types of liaison devices such as task forces and committees and others (as mentioned above) may facilitate such collaboration. However, complex work can, of course, be co-ordinated by standardising the skills used to do it, but only as long as the interdependencies are not great (Mintzberg, 1979).

5.3.3 Management styles

Researchers have studied strategy, especially Porter's competitive strategies and described them in detail (e.g. Dess and Davis, 1984; Hambrick, 1983b; Miller and Friesen, 1986). Yet these researchers have chosen to ignore organisational factors such as control processes, investigating the possibility that a firm will have a good performance if its strategy suits its environment.

The work of Goold and Campbell (1987), as has been mentioned earlier, will be used as an organising form in this section. Each of the three management styles (Strategic Planning, Strategic Control, and Financial Control) that they describe is more or less appropriate in different business circumstances; thus no one style is conclusively superior to others. The different control process styles (flexible strategic control, tight strategic control, and tight financial control) will be discussed under the three management styles consecutively. Competitive strategies, which have been developed in Chapter 3, will be linked with these three types of management style. However, before doing so, a brief description will be given to each of these styles as Goold and Campbell present them.

5.3.3.1 Strategic Planning style

The structure of the strategic planning organisation encourages different levels in the organisation, and other businesses or division with a related or overlapping interest, to put forward relevant ideas. Strategic planning companies are helping businesses to embark on strategies to build long-term competitive advantage; they also place a heavy burden on the capability and knowledge of the corporate management group. In general, strategic planning companies place rather less emphasis on corporate control. Performance targets are set flexibly, and reviewed within the context of long-term strategic progress. The organisation of strategic planning companies is typically less clear-cut than in strategic control or financial control companies. The objective in such companies is to build strong core businesses, and to expand in areas related to existing businesses and new ones.

Corporate management in strategic planning companies believe that the centre should participate in and influence the development of business unit strategies. Their influence takes two forms: establishing a demanding planning process and making contributions of substance to strategic thinking. Therefore, in order for the strategic planning style to work well, it requires central management to have close knowledge of the business units. However, this criterion is most likely to be met in less diverse companies, and in companies where corporate management has personal experience of the businesses. As far as the structure is concerned, individual businesses within strategic planning companies are encouraged to push for optimum utilisation of their resources for the achievement of competitive advantage. Therefore, the chief executive officer has strong central functional support, and the business operates mainly in some form of (formal or informal) product-geographic matrix to ensure global co-

ordination of strategy. In these organisations profit centres propose strategies. However, the centres not only react to business proposals, but also take the initiative in putting forward ideas and co-ordinating strategies between businesses.

5.3.3.2 Strategic Control style

According to Goold and Campbell (1987), the predominant organisational theme of the strategic control companies is the creation or reinforcement of independence, where divisions can devise their own strategies with little need for co-ordination between divisions, which means that each division will be separately accountable for its results. In this type, the centre is less closely involved with each business, hence it is more able to handle a wide portfolio of interests than with strategic planning; and it is better placed than financial control to take account of the long time horizons that some businesses require. Furthermore, in terms of strategic control-type activities, organisations aim to balance the desire to reinforce competitive advantage with the need to satisfy financial objectives, and there is acceptance of the need for long-term investment.

The control processes in these companies are closely linked to the planning process. A detailed reporting of performance for each profit centre to the corporate management is a common practice. The strategic control companies, however, are more prepared to accept a divisional role than the financial control companies in co-ordinating between businesses, and a corporate role in checking that opportunities have not been missed. Strategic control companies are also concerned with business unit planning; but they believe in organising around independent profit-responsible business units and leaving as much as possible to the initiative of the management of the business

unit. The centre focuses more on establishing demanding planning processes and on reviewing and criticising business unit proposals, than in advocating particular ways forward. Strategic control companies try to exercise tight control against results achieved, taking into account both financial and strategic objectives. Therefore, responsibility for strategy is delegated to the group level managers, where each group can then adopt its own, perhaps different, style for dealing with its portfolio. The style of the central management in strategic control companies is flexible enough to accommodate different divisions, each with its own style.

5.3.3.3 Financial Control style

The structure of financial control companies is similar to that of strategic control companies, but they go a step further in decentralising responsibility and setting up separate business units. Individual businesses, in this type, seek high margins, often in more protected speciality niches of a market, or through cost reduction programmes. Therefore they avoid risky, long payback investments in defence of competitive advantage.

In financial control organisations there is little or no co-ordination between businesses, thus they discourage overlaps between those businesses. A focus on the budget process is the central aspect of planning processes in this management style. They also give more prominence to short-term financial performance in assessing strategies. The structure of financial control companies is characterised by a high degree of decentralisation of strategy and responsibility that allows extensive diversity to be manageable. Therefore, the prime profit responsibility is pushed down to the lowest level in the organisational structure, where there are layers of general management on the

top of that. Thus, the headquarters is slim, supported only by a strong finance function.

However, to make sure that decentralisation works, the financial control organisation limits corporate interventions and co-ordination between businesses. The control process creates a great pressure for success and an atmosphere that financially rewards those who do succeed. But it can inhibit innovation, risk-taking, and long-term business building. Financial control companies are primarily control organisations. In other words, they have no formal long-term planning systems but instead they are primarily concerned with financial results and control against annual targets.

5.3.4 Formal control processes and competitive strategies

As mentioned earlier, firms need to maintain "strategic coherence" in order to achieve and sustain the potential offered by their competitive advantage. One aspect of this general strategic coherence is "organisational coherence". The organisational coherence will be discussed and thus achieved through appropriate links between firms' competitive strategies and the internal and external factors. Based on the previous discussion, this section will start dealing with "organisational coherence" by linking the four competitive strategies to the different formal control processes. These links will be then directly hypothesised and tested in later chapters.

Firms that pursue a strategy of price leadership (PL) need to achieve the lowest-cost position in an industry. They must devote much effort to control the cost of different activities so that above-average returns can be obtained. Such activities include operating efficiency, product and quality control, and

procurement of raw materials. Product lines in such firms remain, in general, rather stable. Since products are more standardised and less innovative, there is little need for specialists such as engineers and scientists who are more useful for handling complex, unstructured problems; therefore, co-ordination can be effected mainly through formal control and hierarchies (Miller, 1988).

As noted earlier, formalised procedures also seek to provide the firm with the ability to achieve the lowest-cost position. Mintzberg (1979) argues that when the work is not both horizontally specialised and interdependent, close co-ordination is not necessary and the liaison devices will not be used in such organisations. He further argues that when work is not complex, the necessary co-ordination could be achieved largely by direct supervision or the standardisation of work process or outputs. These formal controls and standardised procedures can also minimise the need for the delegation of authority (Blau and Schoenherr, 1971). Price leadership organisations may use the simplest type of the three interdependencies type suggested by Thompson (1967), which is pooled interdependence. This type, which is the least costly one, simply means that units share the same pool of resources such as money, managerial talent or space (Galbraith and Nathanson, 1978).

Furthermore, a price leadership competitive strategy needs to find a means of ensuring cost efficient operations and clear definitions of responsibility for budget and control; therefore, to be more effective, it requires a managerial style, the main task of which is to sanction expenditure and monitor performance against targets. Thus, in order to keep costs, and thus prices, at a minimum level, there will be a strong emphasis (by firms using such a competitive strategy) on formal profit and budget controls (Henderson, 1979; Porter, 1980; Miller, 1988).

A firm that uses a differentiation (DIF) competitive strategy can achieve its competitive advantage by using its resources, technology and organisational competencies to offer existing products more efficiently or to introduce new products/services. Van de Ven (1986) describes innovation as a complex, ambiguous process that requires the management of an extensive network of personal and group interactions as a new idea moves from conception to implementation. Such a firm needs an organisational structure which encourages and motivates development and innovation, hence co-ordination between business units, which helps to provide the collaboration of specialists from different areas of the firm. For example, differentiation and new product/service development require that research and development staff members, for instance, have to resolve rapidly emerging manufacturing problems with production engineering. They also have to consider marketing issues, such as pricing and packaging, with marketing managers. Therefore, these complexities create reciprocal interdependencies (Thompson, 1967) that require close contact, through integrative liaison devices, among managers (Galbraith, 1973; Miller, 1988). Miller et al (1988) note that innovation will also impose administrative complexity that requires the delegation of authority to experts in the firm. Burns and Stalker (1961); Pierce and Delbecq (1977); Thompson (1967); Tornatzky et al (1983), and others, generally indicate a link between higher levels of innovation and more organic structures characterised by decentralisation, lack of formalisation, and high levels of complexity.

Since the development of innovative product and process attributes implies a long-run investment, that needs to be directed by differentiators, such organisation requires a system that places less emphasis on financial control and has a flexible set of performance targets, especially in the short term. Innovative differentiation also requires an organisational structure that has flexible control

in terms of actual performance versus planned objectives. In other words, it requires strategic planning that facilitates the complex and continual innovation, and allow collaboration among specialists to create new products and to deal more effectively and rapidly with the firm's complex and dynamic environment. These themes are also stressed by Burns and Stalker (1961); Lawrence and Lorsch, (1967); and Mintzberg (1979).

The previous discussion of the links between formal control processes and the two competitive strategies represents two extremes, where a PL strategy stands at one end and a DIF strategy at the other end. So, for example, a differentiation competitive strategy is more effective when it is linked with high degrees of authority delegation, liaison devices and lesser degrees of formalisation, while the opposite is true for a PL strategy. The other two strategies (i.e. LCD and IMT competitive strategies) have the same supply side as PL and DIF competitive strategies respectively, but with different demand sides. Therefore, in terms of these formal control factors, low cost differentiation (LCD) is expected to be closer to PL competitive strategy while imitation (IMT) is expected to be closer to DIF competitive strategies.

The demand side activities of LCD (which is marketing differentiation) require different functional links compared to those of the price competition in the PL. Compared with price competition, marketing differentiation requires more communication and co-ordination between different departments; authority is also likely to be then delegated to this department. In terms of the interdependence required in firms using both LCD and IMT, competitive strategies can be described as sequential interdependence (Thompson, 1967), which is between the pooled and reciprocal interdependencies discussed earlier. However, since marketing activities are the main characteristic of the demand side of the LCD, the sequential interdependence will be forced and dominated

more by the marketing department than by other departments such as R&D, manufacturing and finance. But in the IMT firms where price competition is the main characteristic of the demand side, and hence marketing activities are less important, the sequential interdependence will therefore be forced more by the R&D and manufacturing departments than by other departments such as marketing and finance. Thus, it will be expected that LCD will require a higher degree of authority delegation, liaison devices, and a lesser degree of formalisation than PL.

However, since a low cost differentiation competitive strategy has the same supply side characteristic as the PL strategy, it will be closer to the PL strategy than to the differentiation strategy in terms of these functions. Turning to the demand side of the imitation and differentiation competitive strategies, it can be seen that the former requires more emphasis on cost control systems than the latter.

Furthermore, innovative differentiation activities on the supply side (which are used by firms following IMT) may incrementally improve the technologies and products first introduced by differentiators to reduce costs. Thus, as discussed earlier, it will be expected that IMT will require a lesser degree of authority delegation, liaison devices and higher degree of formalisation than DIF. However, since an imitation competitive strategy has similar supply side characteristics to a differentiation strategy, it will be closer to a differentiation strategy than to the PL strategy in terms of these formal control processes.

Finally, in terms of the three management styles, price leadership and differentiation competitive strategies have been linked to the financial control and strategic planning, respectively. As noted earlier, the characteristics of the

strategic control organisational management style is to exercise tight control against results achieved, while taking into account both financial and strategic objectives. Therefore, both low cost differentiation and imitation strategies are expected to be more effective when they are linked with the strategic control management style.

5.4 Informal control

In previous sections we discussed ways that organisational factors may facilitate or prevent a firm achieving its competitive advantage. But the way in which people in an organisation perceive their organisational strategies, and implement them, is another important internal factor that affects the achievement and sustainability of competitive advantage.

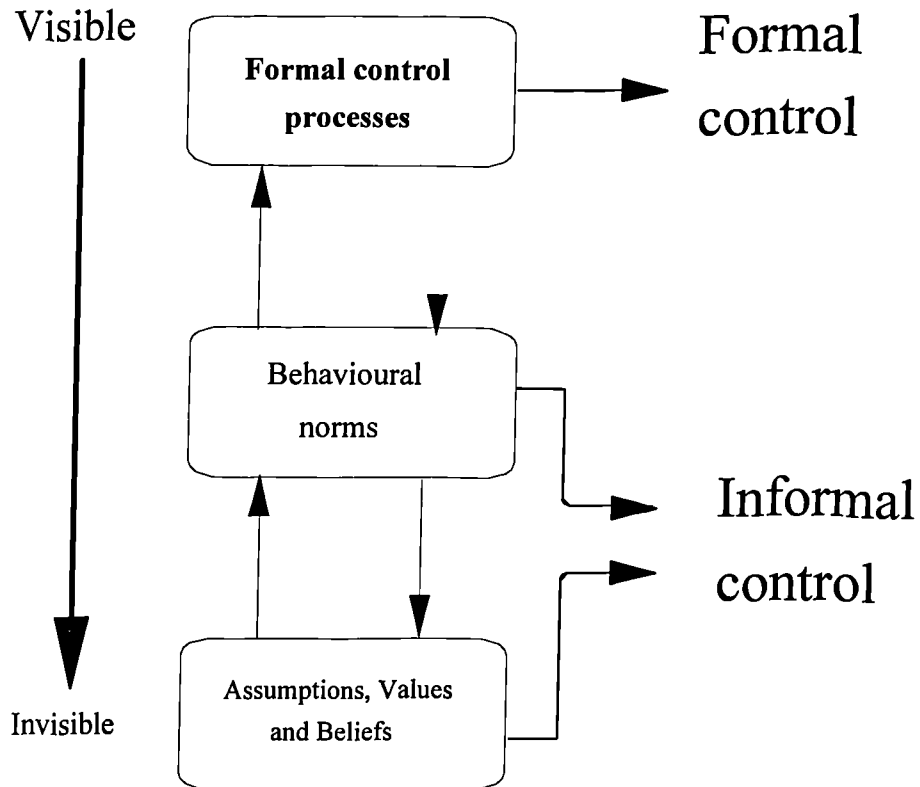
Schwartz and Davis (1981) state that executives are generally more aware that a firm's management systems and the skills and experience of its people are as much a part of its organisation as its structure. In any organisation, however, there are invisible forces behind all actions and decisions. These invisible forces, such as assumptions, values and beliefs represent the culture which influences the more visible things, such as structure. Changing these visible factors is much easier than changing the invisible ones. Thus, this change will affect the culture of the organisation or the invisible assumptions, values and beliefs. Behavioural norms may fall between these two extremes, as illustrated in Figure 5.8.

Assumptions, beliefs and values are more difficult to examine and to change than behavioural norms (Kilmann et al, 1985). Sathe (1985) argues that one way of changing people's beliefs and values is first to change their

corresponding behaviour. Thus, even though assumptions, values and beliefs have an influence on the behavioural norms, change in the latter can affect the former, and vice versa. Other interaction will also take place between the behavioural norms and the more formal control processes in the organisation such as structure. Figure 5.8 illustrates the levels of visibility of these factors, as well as the interactions between them. Both the behavioural norms and the assumptions, values and beliefs will combine in this study to represent informal control processes in the organisation. This is illustrated in Figure 5.8, and it will be discussed in more detail later.

The purpose of this section, therefore, is to discuss informal control processes to complement the discussion of the internal 'or organisational' factors (as illustrated in Figure 5.3) which may act as potential barriers to a firm's competitive strategy and then prevent it from achieving and sustaining its competitive advantage. This will be organised as follows: different elements of informal control processes will be discussed by reviewing the literature on organisational culture. These elements will be then linked to the different competitive strategies.

Figure 5.8:
Cultural levels



Miles and Snow's (1978) typologies (prospectors, analysers, defenders, and reactors) are used to describe how an organisation behaves strategically, and represent a dominant culture in the organisation (Johnson and Scholes, 1993). Three of these typologies (prospectors, analysers and defenders; the exclusion of the reactors will be explained in the next section) will be used as proxy indicators of informal control processes (i.e. assumptions, values and beliefs). Even though these typologies were not originally developed simply to measure the informal control process they will nevertheless, for reasons detailed below, be used in this study as proxy indicators providing subjective perception of the informal control processes of the study respondents. These reasons can be

categorised into two main ones: firstly, the difficulties of measuring informal control process by using a questionnaire as a measuring instrument (reasons for using such a measuring instrument will be discussed later); and secondly, the fact that this study, as previously mentioned, regards other "organising strategies" as exogenous parameters that may act as potential barriers to competitive strategies in achieving competitive advantage.

The behavioural norms (summarised by risk-taking propensity) will then be discussed as another element of informal control processes that link the organisational culture with the formal control process. Finally, the elements of the informal control process will be linked with the four competitive strategies.

5.4.1 Elements of the informal control processes

Reviewing the organisational culture literature, there are several definitions available, some are general and short, and others are long and more elaborated. Smircich (1983), for example, has cited five classes or themes.

First, culture, in the comparative management theme, is one instrument serving human biological and psychological needs. Culture, therefore, is considered to be a background factor, a broad framework, or an explanatory variable influencing the development and reinforcement of beliefs.

Second, culture, in the corporate theme, functions as an adaptive regulatory mechanism. It unites individuals into social structures; organisations are seen as social instruments that produce goods and services, and as a by-product, they also produce distinctive cultural artefacts such as rituals, legends and ceremonies.

Third, culture, in the organisational cognition theme, is a system of shared cognitions or a system of knowledge and beliefs. The human mind generates culture by means of a finite number of rules. Therefore, culture is seen as "a unique system for perceiving and organising material phenomena, things, events, behaviour and emotions" (Goodenough, 1971).

Fourth, anthropologists such as Geertz (1973) treat societies, or cultures, as systems of shared symbols and meaning. Therefore culture, in this theme i.e. organisational symbolism, is a system of shared symbols and meanings. Symbolic action needs to be interpreted, read or deciphered in order to be understood.

Finally, culture may also be regarded as the expression of an unconscious psychological process. Thus organisational forms and practices, from this point of view, are understood as projections of unconscious processes and are analysed with reference to the dynamic interplay between out-of-awareness process and their conscious manifestation.

Furthermore, there is no consensus about definition of organisational culture, but authors will probably agree on the following characteristics of an organisational culture construct as being:

- (1) holistic,
- (2) a pattern of basic assumptions and anthropological concepts,
- (3) historically determined and socially constructed,
- (4) invented, discovered, or developed by a given group,
- (5) difficult to change.

(6) that has worked well enough to be considered valid and therefore,

(7) is to be taught to new members as a correct way to perceive, think, and feel in relation to those problems. (Schein, 1990:111; Hofstede et al, 1990:286).

Moreover, there are basic concepts in the literature, such as symbols, beliefs and values, norms, and myths, which have direct relevance to the concerns of organisational culture. These concepts are also important for describing how organisations create a strong organisational culture (Bolman and Deal, 1984; Hofstede et al, 1990; Pettigrew, 1979; Sathe, 1985; Schein, 1985). Symbols which serve as vehicles for group and organisational conception can attach names and meaning to the organisation's values, structure, beliefs and vocabulary. Hofstede et al. (1990:291) defined symbols as "words, gestures, pictures, or objects that carry a particular meaning within a culture". Shared beliefs and values in the organisation are very important to the organisational culture. Schein (1985) describes them as the way people communicate, explain, rationalise and justify what they say and do as a community. Norms in the organisation are prescriptions for behaviour that emerge in a particular social context, they are standards of expected behaviour, speech, and presentation of self (Sathe, 1983:13). Myths are shared organisational stories that explain, express, maintain solidarity and cohesion, legitimise, communicate unconscious wishes and conflicts, mediate contradictions, and provide narrative to anchor the present in the past. Because myths are often about an event that happened in the past, they link the past, present, and future, they have some truth and quality that can reinforce the solidarity and stability of the organisation (Cohen, 1969).

However, based on the previous discussion, the concept of culture that will be used here is organisational culture defined as a complex set of assumptions, beliefs and values that people in an organisation share about the way in which it conducts business and manages itself. This definition is consistent with most research in the area (Lorsch, 1985; Wilkins and Patterson, 1985; Barney, 1986b; Peters and Waterman, 1982, and others).

Lorsch (1985) argues that beliefs in the organisation can inhibit strategic change in two ways. First, if these beliefs produce a strategic myopia. Second, that when managers can overcome such myopia, they respond to changing events in terms of their culture, even though their deeply held beliefs represent an invisible barrier that must be penetrated if strategic change is to take place (Lorsch, 1985: 90-91). Peters and Waterman (1982:75) regard culture as representing the shared values of an organisation's members. Schwartz and Davis (1981: 33) regard culture as "a pattern of beliefs and expectations shared by the organisation's members" that produce "norms that powerfully shape the behaviour of individuals and groups in the organisation". Organisational culture may be considered, however, as another key by which strategic managers can influence and direct the course of their organisation (Schwartz and Davis 1981).

A firm's culture which can be a source of competitive advantage (Barney, 1986b; Fiol, 1991; Amit and Schoemaker, 1993) will also affect the strategic choice of any organisation. Culture, in any organisation, is considered to be the invisible force behind the actions taken by such an organisation (Lorsch 1985). The behaviour of the people in the firm may be shaped by corporate culture. Hence, culture in any firm has a powerful influence on the behaviour of managers, where it can strongly affect a firm's ability to shift its strategic choice and direction. As a result, it may have a major effect on the achievement and sustainability of the firm's competitive advantage. Schwartz

and Davis (1981) point out that well-run corporations have distinctive cultures that are somehow responsible for their ability to create, implement, and maintain their world leadership positions. Peters and Waterman (1982) argue that the dominance of culture is an essential ingredient of the excellent companies they studied; they also state that poor-performing companies tend to have cultures that focus on internal politics instead of the product or the people who make it. Denison's (1984) study of thirty-four corporations found, for example, a significant relationship between culture and corporate performance.

Some researchers (e.g. Smircich 1983) argue that the components of organisational culture include values, assumptions and beliefs which are as difficult to purposefully change as they are to describe. Others, however, describe ways in which an organisational culture can be managed (e.g. Peter, 1978; Tichy, 1983). Therefore, it can be concluded from the previous discussion, that there are invisible forces behind all actions and decisions.

The managers' perception of the bases of the competitive advantage can be a powerful tool in strategic decision making, and sometimes trigger a change in strategic direction. Therefore, if a chief executive officer is strongly committed to a concept such as the view that profitability is driven primarily by cost control and is further committed to stability and growth of quarterly earnings, it is unlikely that a single unit or division will develop a culture that values programmes that are innovative, long-term, and expansionary, but risky (Gordon, 1985). Dess and Davis (1984) used managers' perception in their empirical investigation of Porter's generic strategies; they compared managerial perception of competitive strategies with those of academics (or experts). Their findings, however, show a lack of agreement between experts and managers in relating the competitive methods used to rate competitive strategies. Thus,

although both managers and experts are looking at the same strategies with similar circumstances, each group perceives them differently.

Bowman's (1992) empirical investigation into managers' perceptions of a set of strategic priorities, using Porter's generic strategies, found that when managers were presented with a set of strategic priorities they were able to group them differently according to their own perception. Thus, the perceptions and assumptions of managers about their organisational culture and competitive strategies will affect the firm's achievement and sustainability of its competitive advantage. For example, the managing director may think that the firm is following an efficiency-driven strategy, whilst the sales director may emphasise marketing differentiation, and the finance director may believe that the firm is following neither, but be chiefly concerned with competing on price, and so on. No organisation can function if, in every respect, each manager has a different view of his or her organisational world (Bowman and Johnson, 1992). Whipp et al (1989b) conclude that it is not only that more than one culture may exist within a firm, they also may be in conflict.

Snow and Hrebiniak (1980) argue that among several typologies which conceptualise various aspects of organisational behaviour (such as Etzioni, 1961; Blau and Scott, 1962; Chandler, 1962; Ansoff, 1965; Segal, 1974; Anderson and Paine, 1975; Miles and Snow, 1978), the typology of Miles and Snow (1978) is the only one that characterises an organisation as a complete system, especially its strategic orientation. In addition to the comprehensiveness of these typologies which represent strategies, organisational structure and process, each type represents a dominant culture of the organisation. Johnson and Scholes (1993) also state that when undertaking a strategic analysis the Miles and Snow (1978) typology provides a mean of assessing the dominant culture of the organisation. Therefore, Miles and Snow (1978), for the reasons

discussed earlier in this section, will be presented in the following discussion as proxy indicators of the informal control process. A brief description of these typologies will be discussed, then they will be linked to the four competitive strategies in the next section.

Prospectors: in general, they devote more resources to entrepreneurial tasks, monitoring evolving trends in the marketplace, and new product development, and are led by a dominant coalition that possesses an expertise in marketing and research and development. These organisations respond rapidly to early signals concerning areas of opportunity and often lead to a new round of competitive actions. Furthermore, this type of organisation typically operates within a broad product-market domain that undergoes periodic redefinition. The organisation values being "first in" in new product and market area.

In contrast to prospectors are defenders. Defenders: those in which the prevailing beliefs are conservative; they attempt to locate and maintain a secure niche in a relatively stable products or services area, where low-risk strategies are valued. They emphasis control and efficiency, hence they look for a secure market and tend to offer a more limited range of products or services than their competitors, therefore they are not in the forefront of development and innovation in their industry. They also tend to ignore industry changes that have no direct influence on current areas of operation, and concentrate instead on doing the best job possible in a limited area.

Analysers: although managers in these organisational types attempt to maintain a stable limited level of products and services, (at the same time) they move out quickly to follow a carefully selected set of the more promising new developments in the industry. Therefore, they will never try to be the "first" in a new product or service as the prospectors do, but by careful monitoring of the

actions of major competitors in areas compatible with their stable products-market base, they can frequently be the "second in" with a more cost efficient product or service.

The fourth organisational type, the reactors, will be excluded in this study, because such an organisational type, as described by Miles and Snow (1978), has no consistent pattern of behaviour, and no consistent configuration of distinctive competencies (Snow and Hrebiniak, 1980). Reactors also lack adaptive capabilities because they fail to develop the mechanisms needed to sense and respond to changes in the market place (Conant et al, 1990; McKee et al, 1989). Moreover, this type has been excluded by a large number of the studies that used these typologies (e.g. McDaniel and Kolari, 1987; Meyer, 1982; Hawes and Crittenden, 1984; Segev, 1989; Chaganti and Sambharya, 1987).

Sathe (1983) argues that even though both values and beliefs, and behavioural norms have "ought to" implicit in them, behavioural norms are more tactical and procedural than values and beliefs (i.e. culture). He also argues that people's behaviour patterns may differ from their shared values, assumptions and beliefs; that is why the "cultural metamorphosis" was directed at changes in people's behaviour and failed to pay attention to their shared beliefs and values. As discussed earlier, the changes in the behavioural norms do not necessarily produce cultural change. However, it is more visible and hence easier to change people's behaviour than to change their values and beliefs. Sathe (1983) states that managers should not always strive to create cultural change, because there are times when only behavioural change is appropriate or is all that is possible; however, managers should always make the parallel in changing the behavioural norms and the values, assumptions and

beliefs. Behavioural norms have been considered as the links between the visible and invisible factors, as illustrated in Figure 5.8.

Even though behavioural norms are complex and multidimensional, risk-taking propensity will be considered in this study as a summary indicator of behavioural norms. Pearce and Robinson (1985, 1988) discuss the relationship between the managerial attitudes toward risk and strategic choice and stated that managers' attitudes toward risk determine top executives' strategic choices. Jennings and Lumpkin (1992) argue that the beliefs and expectations of managers are formalised based on their definitions of what phenomena are considered to be relevant, important, and desirable. Managers, therefore, may develop strategies based on their perceptions "to deal" with these situations (Goleman, 1985; Starbuck, 1983). Hax and Majluf (1984:202) also stated in this respect that risk assessment involves an exercise of high subjectivity. Jennings and Lumpkin (1992) note that different attributes exist between managers practising a differentiation strategy and those employing a cost leadership (price leadership) strategy. Supporting such argument, Miller and Friesen (1982), for example, find that entrepreneurial firms have a higher level of risk-taking and innovation than conservative (bureaucratic) ones. Risk-taking propensity, therefore, refers to an individual's attitudes toward acceptance of risk in his decision.

5.4.2 Informal control processes and competitive strategies

Based on the previous discussion, this section will complement the discussion of "organisational coherence" (presented in Section 5.3.4). The four competitive strategies will be linked to the different informal control processes (as internal factors) as they have been presented in the previous section. Since

these competitive strategies have been defined, they will be used as a benchmark in measuring this part of organisational coherence. These links will then be directly hypothesised and tested in later chapters.

Firms pursue a strategy of price leadership devoting much effort to controlling the cost of different activities so that above-average returns can be obtained. These firms need managerial skills and competencies in order to be able to control costs, manage efficiency, and so on. Therefore, in order to achieve such control and efficiency, managers in such organisations are expected to look for a secure market and, hence, tend to offer a more limited range of products or services than their competitors. Since innovation and new development require investment rather than cost minimisation, managers are expected to believe that they are not in the forefront of development and innovation in their industry. In other words, to believe that they engage in little development of new products or new markets. Managers of such firms need also to recognise that their customers care about low price more than about image or novelty, a case which requires them to believe that the product-line should remain rather stable, and hence avoid costly changes and innovations. Therefore, in terms of informal control processes these managers are expected to take the position of the defenders. Finally, Miller and Toulouse (1986) find that managers pursuing strategies of cost/price leadership tended to have less risk-taking propensity, less tolerance for ambiguity, and have less tendency to perceive on internal locus of control relative to their counterparts pursuing strategies of differentiation.

A firm that uses a differentiation competitive strategy aims to create a product or service that customers see as unique. This requires managers to recognise that they should use the firm's resources, technology and organisational competencies to offer existing products more efficiently or to

introduce new products/services. These organisations also aim to lead competitive actions and to generate such new products/processes faster than competitors. These activities require managers to believe that their organisation should respond rapidly to early signals concerning areas of opportunity and be the first in new product and market areas. Managers are also expected to recognise the dynamics and change in their business environment, which should lead them to believe more in the importance of crafting procedures that invoke strategic responses to achieve survival and success in this dynamic competitive environment. Therefore, a prospector's culture in these organisations is expected to be effective in facilitating such activities. Differentiation often involves new technologies, unforeseen customer and competitor reactions, and the confluence of many unstructured marketing problems (Hofer and Schendel 1978; Miles and Snow 1978; Miller and Friesen 1984; Miller, 1988). All these will decrease the manager's knowledge of future consequences, or even the possible outcome of each alternative, which leads to the position of uncertainty. Therefore, managers in such firms are expected to be willing to take a high risk in their decisions.

Low cost differentiation and imitation competitive strategies have the same supply side as the PL and DIF competitive strategies respectively, but different demand sides. As argued earlier, the analysers' culture is between the prospectors and the defenders. Thus, because the demand side activities of LCD (which is marketing differentiation) require different functional links compared to those of price competition in the PL, and because the demand side activities of IMT (which is price competition) require different functional links compared to those of marketing differentiation in the DIF, both LCD and IMT are expected to be more effective in organisations that have the characteristics of the analysers' culture. However, since the LCD competitive strategy has the same supply side characteristic as the PL strategy, it will be closer to the

defenders' characteristics than to those of the prospectors. Similarly, since the IMT competitive strategy has the same supply side characteristic as the DIF strategy, it will be closer to the prospectors characteristics than to those of the defenders. Because of the uncertainty which is involved with a differentiation strategy, managers are expected to be risk-takers, while the opposite is true with PL competitive strategy. Therefore, considering the similarities and differences in these four competitive strategies, LCD will be closer to PL than to DIF, in terms of risk-taking propensity in this continuum; and the opposite is true with IMT competitive strategy.

5.5 Conclusion

The potential internal barriers to achieving competitive advantage have been discussed in this chapter under two general types of control processes, which are formal and informal. The formal control processes have been categorised into six forms: formalisation, authority delegation, liaison devices, strategic planning, strategic control and financial control. They have then been linked to the four competitive strategies to form part of the internal "organisational coherence". The informal control processes have been categorised into four forms: prospectors, analysers, defenders, and risk-taking propensity. These have also been linked to the four competitive strategies to form a complete picture of the internal "organisational coherence". These links will be hypothesised in Chapter 7 and then will be tested in later chapters. The next chapter, however, will continue the discussion of the potential barriers to achieving competitive advantage by discussing the external or environmental barriers; it will, at the same time, complete the discussion of "organisational coherence".

Chapter 6

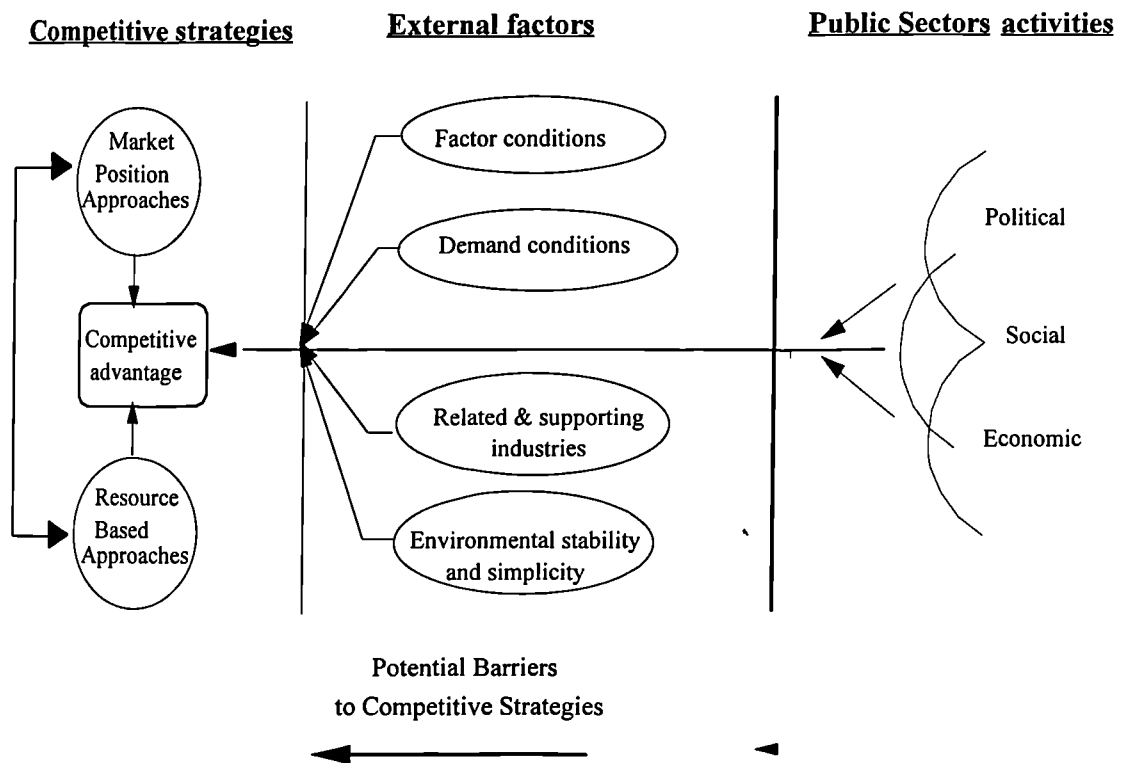
Barriers to achieving competitive advantage II: External factors

6.1 Introduction

In addressing the issue of the major barriers that may prevent firms from achieving and sustaining their competitive advantage, this chapter now turns to the external factors or the environmental barriers. It has been proposed in this thesis that firms need "strategic coherence" in order to achieve and sustain competitive advantage. Four competitive strategies have been defined and considered to be the benchmark in measuring the different aspects of strategic coherence (as mentioned in the previous chapter and illustrated in Figure 5.1). Since the internal part of the "organisational coherence" has been discussed in the previous chapter, the other part (i.e. the external part) of this aspect of coherence will be the subject of this chapter. This part of the organisational coherence will be formed and achieved by appropriate links between the four competitive strategies and different environmental (or external) factors. In other words, potential barriers to achieving competitive advantage will exist with the lack of fit between the firm's competitive strategies and the external factors, as illustrated in Figure 6.1. However, other potential barriers to these factors, such as those related to public sector activities, can also be identified and considered where appropriate. Although such activities will have an effect on the achievement and sustainability of the firm's competitive advantage, following

the scope of this research a line will be drawn (as illustrated in Figure 6.1) between these external factors and public sector activities.

Figure 6.1:
External potential barriers to achieving competitive advantage



The discussion of the external potential barriers will be organised as follows: the following section will review the literature on the organisation's external environment. Then various environmental factors will be defined and discussed as environmental elements that have an effect on the achievement and sustainability of a firm's competitive advantage. These factors will be then

linked to the four competitive strategies. Finally, these different links between the external factors and the competitive strategies will form the external part of "organisational coherence".

6.2 External environment

The purpose of this section is to review the external environment literature. Lenz and Engledow (1986) identify five approaches to modelling environment. Each approach varies in terms of assumptions about environmental structures, assumptions about the process and causes of environmental change, and assumptions about how managers or researchers know and understand environments (Lenz and Engledow, 1986:330). These approaches are:

(1) Industry structure model (Porter, 1980). The environment in this model is a pattern of competitive forces. Environmental change stems from the actions of competitors as well as external forces beyond industry boundaries. Change is evolutionary and occurs at an uneven rate. Knowledge of the environment should be obtained through a formal competitor analysis system.

(2) Cognitive model (Weick, 1977). The environment, in this model, is a mental representation embodied in a cognitive structure and is fashioned out of experiences. Environmental change occurs in retrospect as a prevailing cognitive structure is reformulated (or replaced) to make sense of unanticipated events. Knowledge of the environment is obtained by enactment and organisational learning processes.

(3) Organisational field model (Thompson, 1967 and Bourgeois, 1980). The relevant environment, in this model, is a field of organisations whose actions

affect and are affected by a focal organisation. Environmental change results either from trends and forces beyond the proximate field of organisations or from the changing goal structures of organisations comprising the field. Knowledge of the environment is acquired by designing organisation structures and decision processes matched to prevailing environmental contingencies.

(4) Ecological and resource dependent model (Glover, 1966a, 1966b; Aldrich, 1979 and Pfeffer and Salancik, 1978). The environment in this model is a system of resources and interconnected organisations. Environment change is continuous and occurs when there is a variation in this system that affects the resources necessary for an organisation's survival. Environments are largely enacted by organisational subunits which gave rise to multiple conceptions of the environment.

(5) Era model (Loge, 1975 and Yankelovich, 1982). The environment in this model is a set of social structures, values, and role definitions characterising a particular period of time. Technology and experiments by individuals searching for self-fulfilment within the context of prevailing institutions (e.g. family) are primary sources of environmental change. Change occurs through a three-stage process: existing order-turbulent transition-new order. Through futurists' forecasts and consulting services, organisations can gain knowledge of their environments.

This thesis recognises the relevance of these approaches to a firm's environment, as will be discussed further later. However, the industry model will dominate the discussion in the next section. The second, third and fourth models will also be considered later in this study. The Era model will not be discussed in this thesis because it is not relevant to this study.

The organisational environment literature also reflects two over-arching factors which can also be related to environment change mentioned in the previous environmental models. The first is that of information uncertainty, which suggests that the environment is source of information (Duncan, 1972; Lawrence and Lorsch, 1967 and Tung, 1979). Research based on this perspective focuses on the emphasis on perceived uncertainty and subjective rather than objective data generated by participants in an organisation. The second perspective is resource dependence, which suggests that the environment is a source of scarce resources required by competing organisations (March and Simon, 1958; Pfeffer and Salancik, 1978). In this respect, Tan and Litschert (1994) argue that firms are subject to greater uncertainty when the environment becomes less munificent or more hostile. Milliken (1987) suggests that there are three types of uncertainty about environments. Effect uncertainty is an inability to predict the nature of the effect of a future state of the environment on the organisation. Response uncertainty is an inability to predict the likely consequences of a response choice. The third type, state uncertainty, is also referred to as perceived environmental uncertainty. Perceived environmental uncertainty occurs when administrators perceive an organisation's environment to be unpredictable.

Despite the different way in which environments are modelled, Prescott (1986) argues that research findings suggest that their characteristics influence decision making through managerial perceptions and objective dimensions of industrial structures. Bourgeois (1980) also concludes that the issue of an organisation's environment is not whether measures should be objective or perceptual, but that both the objective and perceived environments are real and relevant to an organisation's strategy. Therefore, the environments in which firms operate have a powerful influence on firms' achievements and

sustainability of competitive advantage. For example, Lenz (1980) found that the combination of environment, strategy, and organisational structure in high-performance firms differs significantly from that associated with low-performance firms. Miles and Snow's (1978) research also indicates that managers enact their domains by focusing on certain conditions, trends, and events in their environments.

Miles (1980:195) states that environment can be defined in a simple way: "just take the universe, subtract from it the subset that represents the organisation and the remainder is environment". Business environments are mostly not in a state of equilibrium. Instead they can be characterised by some degree of change. In changing environments, dynamic analysis is required to understand and predict the relative ability of firms to sustain competitive advantage.

The relationships between the environment of an organisation and its strategy have been addressed by Steiner and Miner (1982:43-45) as follows:

1. It is clear that an organisation does not operate in one but in many different environments.
2. The forces in environments can affect many different parts of an enterprise. The influence is complex. Some influences may be direct and dramatic, others are indirect and subtle.
3. The response of an organisation to environmental change is not always obvious. Much will depend upon managerial philosophy, profitability, how managers perceive environmental forces, and so on.
4. The influence process is complex because most things influence all other things.

5. It is obvious that a manager may face serious conflicts in dealing with environmental forces.
6. The number of forces is so great in an organisation's environment that it is impossible to monitor, evaluate and forecast trends in all these forces; and
7. The influence of environment on business is not a unilateral force. Business firms individually and collectively have an important impact on environment.

Organisational environment has been hypothesised and empirically demonstrated to have significant effects on performance (e.g. Porter, 1980; Scherer, 1980). Different studies have attempted to examine the relationships between environment, strategy and performance variables (e.g. Hambrick, 1980; Hitt, Ireland, and Stadter, 1982; Jauch, Osborn and Gluck, 1980). Prescott (1986), for example, concludes that environments of an industry moderate the relationship between a firm's strategy and its performance. The general conclusion is that the environment creates potential for competitive success and failure. Firms may sense and respond to the local environment (Burns and Stalker, 1961; Dess and Beard, 1984; Hambrick, 1983b; Miller and Friesen 1984). Firms can also realise their ability to influence their environment by reinforcing, through profit, their capacity to accumulate skills and resources and to innovate, which means that there is some latitude for a firm to select its strategy (Child, 1972; Hrebiniak and Joyce, 1985). Probably, as Miller (1988) suggests, both causal directions interact in an iterative, dynamic process where strategy defines particular niches of an environment, and environment, through customer needs and competitors' challenges, induces strategic adaptation. Thus, it could be argued that an appropriate link between environment and strategy

will affect performance positively. Conversely, an inappropriate link will lead to low performance.

Different environments will have different sets of critical success factors (Rockart, 1979). Tushman and Romanelli (1985), and others, have argued that firms existing in different market and competitive contexts develop different configurations of activities and decisions to achieve competitive advantage. When Learned, Christensen, Andrews and Guth, (1969) introduce the concept of environment in the business policy framework, they describe it as a place that contains opportunities and threats for organisations. Tushman and Romanelli (1985), and others, also argue that firms existing in different market and competitive contexts develop different configurations of activities and decisions to achieve competitive advantage. Day and Wensley (1988) argue that definitions of competitive advantage suggest a strong association between competitive advantage and the effectiveness with which organisations adapt to environmental change.

Therefore, although environments are places where competitive advantage originates and from which it must be sustained, environmental factors by themselves will not ensure the success of all firms. Some firms will prosper while others fail. This is because not all firms have equal skills and resources, nor can they exploit the environment equally well (Porter, 1990). Hambrick (1983a) suggests that strategies do not lead to equal success within an industry and that some strategies are more successful than others, depending on the type of environment. The strategic literature (e.g. Miller and Friesen, 1983; Pfeffer and Salancik, 1978) indicates that firms operating in competitive environments need a distinctive strategic orientation in order to exploit critical environmental resources and achieve competitive advantage. So, taking into consideration the complexity of relations of other variables (either internal and/or external), one

of the requirements for survival appears to be the ability of a firm to have a good fit of its competitive strategy with the environment in which it operates. In other words, managers should be able to scan and interpret the environment and make the appropriate links to achieve competitive advantage.

Glaister (1991) concludes that competitive success in particular industries is the result of an effective combination of favourable national circumstances and appropriate company strategy. Conditions in a nation may create an environment in which a firm can attain competitive advantage, but it is up to a company to seize the opportunity (Porter 1990:78). The logic relating environment to strategy, and in turn to performance, is compelling, but empirical investigation to demonstrate the relationship, which will be made later, has only recently been made for developed countries and has yet to be made for developing countries (Kim and Lim, 1988).

6.3 Environmental factors

The influence of the external environment on a firm's ability to achieve and sustain competitive advantage will be discussed in this section. This discussion will be organised according to five main factors. The first three factors, which are taken from Porter's (1990) study of national competitive advantage, are factor conditions, demand conditions, and related and supported industries. The fourth and the fifth factors are environmental stability and simplicity. This section will be concluded by discussing the links between environmental stability and simplicity on one the hand, and the two dimensions of competitive advantage (the supply and demand sides) on the other.

Porter's (1990) study of national competitive advantage is based upon analysis of the characteristics of the national environment which influence a firm's ability to achieve and sustain competitive advantage. Porter identifies four sets of variables which constitute the "diamond" of national advantage. These are: factor conditions; demand conditions; related and supporting industries; and a firm's strategy, structure and rivalry. Thus, he sees that companies gain advantage against their competitors when they benefit from these factors. Porter's study focuses on national level advantage, while the focus of this study is on organisational competitive advantage. Furthermore, when competitive strategies were derived in Chapter 3 the business environment was considered as a given factor. Therefore, since firms' strategies and the way that they are organised and managed have been discussed in earlier chapters and since the two studies have different foci, the fourth factor (firm's strategy, structure and rivalry) becomes less relevant to the discussion in this section. This factor will therefore be excluded from the discussion in this chapter. In chapter 4 the framework of competitive advantage and generic strategies presented by Porter (1980, 1985) has been developed. Now the first three environmental factors will be discussed in this chapter and then linked to the four competitive strategies. Two of Porter's national level variables, factor conditions and the presence of the successful related and supported industries, are influential in determining a firm's resource strength (i.e. to the supply side competitive advantage), while the third variable, home demand conditions, has its primary influence upon conditions for success within the immediate market, (i.e. demand side competitive advantage) (Grant, 1991b).

6.3.1 Factor conditions

Porter (1990) refers, in the context of factor conditions, to the analysis of factors of production, such as skilled labour or infrastructure, necessary to compete in a given industry. He distinguishes between basic factors such as natural resources and unskilled and semi-skilled labour, and advanced factors such as communication and sophisticated skills. Porter also sees that the most important factors of production are those that involve sustained and heavy investment and are specialised to the need of an industry. Therefore, advanced factors are the most significant for competitive advantage, especially in knowledge-intensive industries, and they are the product of investment by individuals, companies, and government. Hence, competitive advantage results from the presence of world-class institutions that first create specialised factors and then work to upgrade them. Basic factors which companies can access easily do not constitute an advantage, especially in knowledge-intensive industries. However, there are interactive relationships between basic factors and advanced factors, where the basic factors may provide the basis of advantage which can be extended by more advanced factors. Therefore, the relationship between basic and advanced factors is complex. Grant (1991b) argues that basic factors can provide initial advantages which are subsequently extended and reinforced through more advanced factors. However, disadvantage in the basic factors can create pressure to invest in advanced factors, as for example, if an industry responds to the disadvantage of high capital cost, energy cost, lack of raw materials, and so on, by investing in related technologies.

Porter's view of the achievement and sustainability of competitive advantage is one of a dynamic process, which involves the upgrading of competitive advantage. However, Grant (1991b) argues that upgrading is not

only about sustainability of competitive advantage, it also involves greater complexity and sophistication in technology, skills, and customer relationships. Grant also sees that sustainability, factor complexity, and productivity tend not to be perfectly correlated, especially in some countries which have competitive advantage based upon a very basic advantage, yet apparently quite sustainable. An example of this is Saudi Arabia's competitive advantage in the supply of crude oil, which is based upon the very basic advantage of a natural resource, yet seems quite sustainable. In this regard, Kay (1993) emphasises the importance of strategic assets as sources of corporate competitive advantage, which implies that a firm may achieve competitive advantage with no distinctive capability if it holds strategic assets. He also points out that it is relatively rare for a corporation to lay exclusive claim to a scarce factor - whether a broadcasting licence or a natural resource - but common for a country to do so. Furthermore, Porter's view of sustaining competitive advantage through the process of innovation and the creation of more advanced factors of production closely parallels the view in Prahalad and Hamel's (1990) analysis of 'core competencies' discussed in Chapters 3 and 4. Thus, when the environment provides propitious factors, companies may gain competitive advantage when they have an appropriate competitive strategy. However, it is essential for any firm to understand the environment where those factors which play an important role in establishing and sustaining competitive advantage are created, and match them to its competitive strategy, as will be discussed later.

6.3.2 Demand conditions

Porter places particular emphasis on the composition and characteristics of home market, which have a disproportionate effect on how companies perceive, interpret and respond to buyers' needs. Therefore, companies that gain

competitive advantage in their industries usually benefit from having local customers who are among the world's most demanding buyers of their products and services. Porter also emphasises the role of home demand, in providing firms with an earlier picture of emerging buyers' needs, and in pressuring them to innovate faster and achieve more sophisticated competitive advantage. Thus, this may require that a firm should anticipate the complexity of customer needs, preferences, buying patterns, and so on. Therefore, a firm may try to appeal to buyers on the basis of a product's quality, reliability, convenience or prestige (Scherer, 1980).

Grant (1991b) argues that Porter's discussion of the links between domestic demand conditions and national competitive advantage extends the prior analysis of a scale advantage (price competition) associated with large home markets which is likely to be found in a stable environment (e.g. Grubel, 1967; Krugman, 1980). However, buyers that provide companies with early warning indicators of market trends; as well as those buyers who are the world's most sophisticated and demanding buyers for the product or services will help those companies gain competitive advantage once they have the appropriate strategy, which is likely to be found in a dynamic environment. This is why this variable has been picked up by all strategies in the empirical work presented in this study. Therefore, the environment in which an organisation works determines which customer (demand) conditions are appropriate. Further discussion on this subject will follow later in this chapter.

6.3.3 Related and supporting industries

In accordance with Porter (1990), the third broad determinant of national advantage is the presence in the nation of other industries which can be grouped into clusters of related and supporting industries. These clusters of

industries may provide an individual industry which is investing in advanced factors of production with other benefits beyond the boundaries of that industry. This, however, may take different forms, such as home-based suppliers creating advantages in downstream industries by delivering the most cost-effective inputs in an efficient, early, rapid, and sometime preferential way. Moreover, these close working relationships, or value-adding partnerships (Johnston and Lawrence, 1988), may encourage innovation and they may also provide the advantage of short lines of communication, quick and constant flow of information, and so on. Bartmess and Cerny (1993) call these relationships the external or inter-organisational links connecting the capabilities of the firm. These competencies allow firms to transfer these close relationships to a source of competitive advantage. Furthermore, the economies which may be considered as external to an individual firm or industry are internalised within the industry's cluster. This will be discussed in more detail in the next section when the competitive strategies are related to the environmental determinant factors.

Grant (1991b), referring to the lack of precision in Porter's 'national diamond' framework, states that the role of supporting and related industries in promoting competitive advantage appears to be largely through their effect on factor conditions and demand conditions, which implies the dynamism and interaction of the environmental factors. However, suppliers and end-users located near to each other can take advantage of short lines of communication, quick and constant flow of information, and on-going exchange of ideas and innovations (Porter, 1990). Therefore, a firm should take advantage of such elements and consider them when it formulates its competitive strategy, an idea that will be discussed in more detail below.

6.3.4 Environmental stability and simplicity

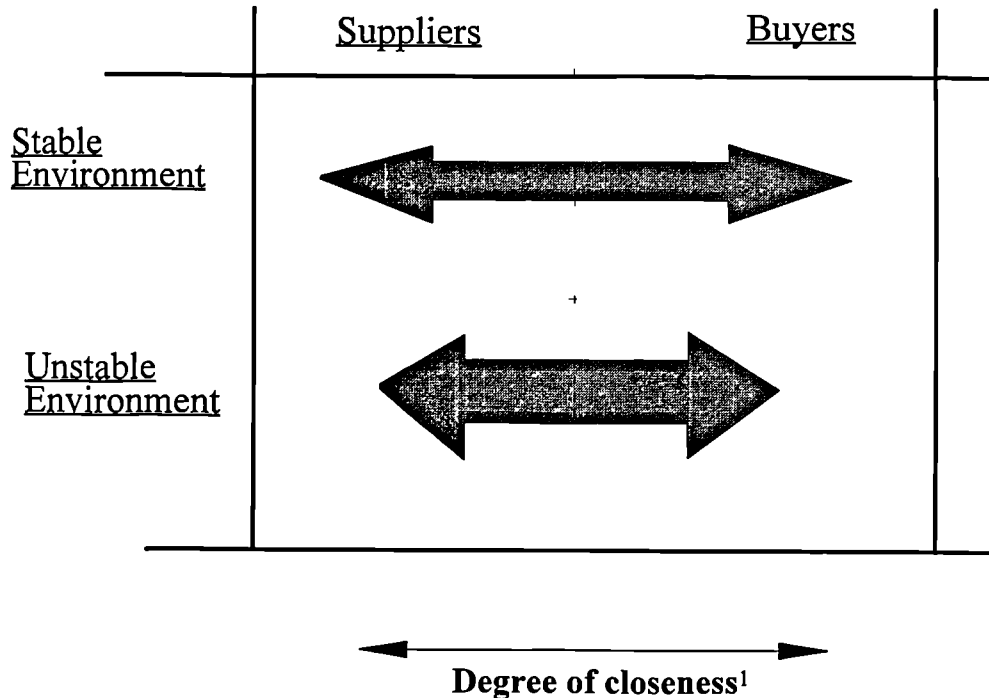
A firm's environment can range from stable to dynamic; Mintzberg (1979:268) describes this as ranging from that of the wood carver, whose customers demand the same pine sculptures decade after decade, to that of the detective squad, which never knows what to expect next. A firm's environment can also range from simple to complex, from that of the manufacturer of folding boxes who produces his simple products with simple knowledge to that of the space agency which must use knowledge from a host of the most advanced scientific fields to produce extremely complex products. These two environmental dimensions have also been conceptualised by Duncan (1972) as the two dimensions of environmental uncertainty: stable-dynamic, indicating the rate of change, or stability, in environmental factors; and simple-complex, measuring the number of environmental factors that need to be addressed and the similarity between them.

Environmental complexity and dynamism are related to information uncertainty (Lawrence and Lorsch, 1967). Environmental uncertainty, therefore, can be defined as a state in which critical information about organisations, activities, and events is not known, and cause and effect relationships among environmental elements are also unclear (Aldrich, 1979; Thompson, 1967; Huber and Daft, 1987; Bantel, 1993). Research findings have suggested that uncertain environments are associated with different settings. For example, Hage and Aiken (1970) find a relationship between uncertain environments and extensive participation in organisational decision making, less formalised job design, and rapid programme innovation. March and Simon (1958) also find that uncertain environments are associated with lower task specialisation, less internal consensus, and more organisational slack.

Both environmental simplicity and stability are expected to influence the achievement and the sustainability of the firm's competitive advantage. For example, there will be minimal learning requirements in stable environments (Tushman & Keck, 1990), hence managers will feel little need to make changes in their strategies (Bourgeois, 1985). Miller (1988) argues that users of a strategy such as price leadership are likely to confront the least environmental unpredictability and change. In such environments, Bantel (1993) also argues that managers will use established routines (Aldrich, 1979; Porter, 1980), including routinised problem solving (Eisenhardt, 1989). On the other hand, researchers (e.g. Burns and Stalker, 1961; Miles and Snow, 1978; Miller, 1988; Miller et al, 1988) find a strong relationship between innovation and environmental complexity and uncertainty. In such environments, where managers are less able to forecast future events, they are less likely to rely on routines but more likely to make organisational changes (Aldrich, 1979; Pfeffer and Salancik, 1978), and to be flexible in their planning processes (Hrebiniak and Snow, 1982; Lawrence and Lorsch, 1967; Miller and Friesen, 1983; Bantel, 1993).

These two dimensions of environmental uncertainty can be related to the two dimensions of competitive advantage which are the supply and demand sides (or suppliers and buyers). This relationship is illustrated in Figure 6.2.

Figure 6.2:
Environmental uncertainty and Competitive advantage



There is usually a specialisation role that each organisation will contribute to the wider value system (Porter, 1985), until the product or service reaches the consumer. Firms therefore, rarely if not at all, are able to undertake all of the value activities that they need in their chain of activities from the raw materials, product design through production and marketing, to the final consumers. Thus, these activities from either the suppliers' or the buyers' sides will affect a firm's competitive advantage. However, as discussed in Chapter 3, the distinctions and the links between the supply and demand sides of any

¹ Short arrows mean a close relationship with suppliers and/or buyers, at the same time they are more widely indicative of a large amount of information and knowledge exchanged in this close relationship. The reverse is true with the long and thin arrows.

potential competitive advantage are very important. In discussing environmental factors, the nature of the firm's relationship with its suppliers and buyers is also an important factor. The extent of this relationships can be determined by the degree of closeness between the firm and its suppliers and/or buyers in different environments. Close and open relationships have been used by Brook and Remmers (1970) to define the relations between head office and subsidiaries; if the significant decisions regarding the subsidiaries are taken at head office, this will be called a "close relationship"; the reverse is called an "open relationship". In this study, close and open relations are used to describe the extent of relationships between the firm and its suppliers and buyers, what is referred to as the degree of closeness of any relationship, as illustrated in Figure 6.2.

The information and knowledge that are exchanged between the firm and the buyers and/or suppliers depends on the interchange, and relationships between them. Porter (1990) argues that competitive firms are not spread evenly through the economy but connected in clusters consisting of industries related by links of various kinds. Firms, therefore, may establish relations with suppliers or customers, or among a group of firms engaged in related activities which is referred to as architecture (Kay, 1993). This architecture is found where a group of firms share knowledge, or establish fast response times, on the basis of a series of relational contracts with each other. A firm may also establish this relationship with a government agency in a regulated environment, or with key technology suppliers in fast moving high-tech industry (Bartmess and Cerny, 1993). Brooke and Remmers (1970) emphasise the importance of close relationships in firms that are technically-oriented and which are concerned with manufacturing new inventions or maintaining high levels of quality. Therefore, the development of distinctive networks often

allows some firms, as Kay (1993) notes, to obtain competitive advantage in areas of the world which others have found difficult to penetrate. Therefore, the more information and knowledge that needs to be exchanged between the firm and the buyers and/or suppliers, the closer they should be to each other, and vice versa. Therefore, short arrows in Figure 6.2, mean a close relationship with suppliers and/or buyers; at the same time, they are more widely indicative of a large amount of information and knowledge that have been exchanged in this close relationship. The reverse is true with the long and thin arrows. Thus, in an unstable environment a firm is expected to have a close relationship with both suppliers and buyers, while in stable environments the firm is expected to have an open relationship with both sides, as illustrated in Figure 6.2.

6.4 Environmental factors and competitive strategies

Firms need to maintain "strategic coherence" in order to achieve and sustain the potential offered by their competitive advantage. As mentioned earlier, one aspect of this general strategic coherence is "organisational coherence". The internal part of this coherence has been discussed in the previous chapter. The external part of the organisational coherence will be discussed and thus achieved through appropriate links between firms' competitive strategies and the external environmental factors. Since competitive strategies have been defined, they will also be used in this section as a benchmark in measuring this part of organisational coherence. These links will then be directly hypothesised and tested in later chapters.

Firms using a price leadership competitive strategy are required to have the characteristics of cost advantage on the supply side. Such firms, therefore,

devote much effort to cost control so that above-average returns can be obtained. These characteristics imply a stable supply side to an activity. In addition, since firms using a price leadership competitive strategy are not expected to invest largely in the development of distinctive competencies, they will base their competitive advantage not on capabilities but on strategic assets (Kay, 1993), economies of scale, natural resource endowment, and other factors. Thus, a price leadership competitive strategy is expected to be more effective when it is linked to such factor conditions. When the supply side activities are stable, for reasons that have been discussed earlier, innovative competition based on differentiated competence is prevented because innovation will disrupt static efficiency. Thus, a firm may exploit a cost advantage. In this case, factor conditions, as one of the environmental factors, will be the central feature. Firms using a price leadership strategy may find that basic factors such as natural resources, basic physical infrastructure and banking systems are the most significant source of their competitive advantage. While the competing product or customer's preferences change quickly in an unstable environment, they are usually less advantageous in a stable environment (Miller et al, 1988); hence, firms that are following a price leadership competitive strategy seek out customers who care more about price than innovation or image (Miller, 1988). Skivington and Daft (1991) also argue that firms that base their competitive advantage on low cost are often found in markets where commodity-like products and price-sensitive buyers collectively pressure them to engage in price competition. In addition, since consumers are price-sensitive, marketing that is based on reputation and extended consumer use is unimportant here. Hambrick (1983b), Miller (1988) and Kim and Lim (1988), among others, have argued that cost leadership strategies are appropriate in stable and predictable environments. Miller (1988) argues that complex and dynamic environments

create severe problems for companies trying to be cost/price leaders; hence, a price leadership strategy is most effective in simple and stable environments, since environments that are complex or subject to much change will create severe diseconomies for organisations trying to pursue a price leadership strategy. Thus, in such stable and simple environments, an open relationship with either suppliers or buyers is required to achieve competitive advantage.

A firm using a differentiation competitive strategy may achieve its competitive advantage, on the supply side, by using its resources, technology and organisational competencies. In this case, a firm is striving to offer an existing product more efficiently and create the most up-to-date and attractive products. Burns and Stalker (1961), Hage and Aiken (1970), and Miles and Snow (1978) argue that there is a strong relationship between innovation and environmental uncertainty. Competing products or customers' preferences alter significantly and quickly in unstable, dynamic and changing environments (Bylinsky, 1976; Miller, 1988; Mintzberg, 1979; Duncan, 1972). Miller (1988) also finds that innovation correlates with, and seems to do best in, complex and dynamic environments. Spital and Bickford (1992) argue that it seems to be reasonable to suggest that one reason why Miller found a differentiation strategy related to and more frequent in the complex and dynamic environment is that it is perceived to be a successful strategy, and is therefore retained and replicated. This interpretation is corroborated by McCarthy et al (1987), who reported that the chief executive officers in their sample perceive that successful firms in dynamic environments are characterised by product innovation. Since uniquely appealing offerings are sought to inspire buyer loyalty and reduce price elasticity (Davies and Lyons, 1982; Porter, 1980), a differentiation competitive strategy also attempts to create a unique image for a product, which in turn requires managers to have a good understanding of customer preferences

(Miller, 1988). In addition, a differentiation competitive strategy through innovative differentiation will involve new technology, unforeseen customer and competitor reaction, and the confluence of many unstructured marketing problems (Hofer and Schendel, 1978; Mils and Snow, 1978; Miller, 1988; Miller and Friesen, 1984; Zaltman et al, 1973). All of these factors increase environmental complexity and dynamism. These will also increase the importance and the necessity of having a close relationship with customers. In addition, such factors require firms using a differentiation competitive strategy to invest more in the development of long-term resources and competencies rather than in basic factor conditions. Moreover, when a firm targets the most sophisticated and demanding customers that have the most difficult needs, it can help establish leadership in quality and innovation (Grant, 1991b). Therefore, a differentiation competitive strategy can provide more competitive products in such changing, dynamic and complex markets (Burns and Stalker, 1961; Porter, 1980; Thompson, 1967; Zaltman et al, 1973). To achieve its advantage, a firm needs also close relationships with related and supporting industries in its environment in order to provide a quick and constant flow of information to respond flexibly to changing circumstances.

Each of the price leadership and differentiation competitive strategies has been derived from two different foundations of the competitive advantage. Therefore, these two competitive strategies represent two extremes in the previous discussions, where a PL strategy stands at one end and a DIF strategy at the other. A PL competitive strategy is more effective in simple and stable environments, when there are open relationships with buyers and suppliers and when it is linked to basic factor conditions, while the opposite is true for a differentiation strategy. The other two competitive strategies, however, which are low cost differentiation and imitation have the same supply sides as,

respectively, PL and DIF competitive strategies. Thus, both of these two strategies are expected to be between these two extremes in terms of environmental factors. The demand side characteristics of low cost differentiation competitive strategy, which are different from those of the PL strategy, have the centrality of marketing activities. To achieve a marketing differentiation advantage on the demand side, a firm needs to exploit close links with buyers. Such activities make this strategy more necessary and effective in dynamic and complex environments than PL competitive strategy. However, a low-cost advantage is needed in a low cost differentiation strategy to generate supporting funds for the marketing differentiation characteristics. In addition, such a strategy is not based on innovative competition because innovation will disrupt the efficiency, and it needs to exploit a cost advantage on the supply side. Furthermore, unlike DIF competitive strategy, low cost differentiation, which bases its supply side activities on cost advantage rather than on innovation, requires a more stable and simple environment than a DIF competitive strategy.

Turning to the demand side characteristics of the imitation and differentiation competitive strategies, it can be seen that the former requires more emphasis on price than the latter. The price competition characteristic of the demand side makes the *imitation competitive strategy more effective in simple and stable environments*. However, to achieve an innovation advantage on the supply side, such firms need to improve the technologies and products first introduced by differentiators after a risk-reducing lag. Thus, since an imitation competitive strategy has similar supply side characteristics to a differentiation strategy, it will be closer to a differentiation strategy than to the PL strategy in terms of the environmental factors.

6.5 Conclusion

Five environmental factors have been discussed in this chapter as external potential barriers to achieving competitive advantage. These are factor conditions, demand conditions, related and supported industries, environmental stability, and environmental simplicity. The lack of fit between these environmental factors and the four competitive strategies may prevent firms from achieving their competitive advantage. In other words, the appropriate links between these factors and the four competitive strategies will form the external part of the organisational coherence, an aspect of "strategic coherence" that needs to be maintained in order to achieve and sustain the potential offered by the competitive advantage. These links will be hypothesised in Chapter 7 and tested in later chapters.

Chapter 7

Research methodology

7.1 Introduction

This chapter describes the procedure followed in conducting this research. The chapter consists of a discussion of the research objectives, research hypotheses and research design. It also includes an identification of the sample size, sample selection techniques used, data collection instruments, questionnaire design, methods and procedure for data collection, pre-testing phase, and the techniques for data analysis.

7.2 Research objectives

This study focuses on how organisations achieve and sustain competitive advantage. It has two main objectives.

The first objective (which has been introduced and developed in Chapters 3-6) deals with a theoretical framework by examining related literature in developing a better understanding of competitive advantage and generic strategies, as well as the important aspects that may affect a firm's achievement and the sustainability of its competitive advantage. The strategic management literature on competitive advantage and generic strategies, mainly based on Porter's (1980, 1985) work, has been extended in these chapters. In particular, instead of the different generic strategies put forward by Porter, four

competitive strategies are developed. These are (1) price leadership, (2) low cost differentiation, (3) imitation and (4) differentiation. These competitive strategies require internal consistency, referred to as 'competitive coherence' which is one of the three aspects of a 'strategic coherence' model (which has been introduced in the first chapter and discussed thereafter). The second aspect of strategic coherence is referred to as 'organisational coherence', which was developed based on the links between the four competitive strategies and internal and external elements affecting an organisation's ability to achieve its competitive advantage. However, the creation of these links is not automatic or simple. The difficulties increase with growing dynamism and complexity of the environment in which an organisation is operating. While competitive and organisational coherence might exist accidentally, the third aspect developed in this study is called 'cognitive coherence'. Thus, because of the increasing complexity of markets and competition, firms need a multi-variable approach to strategic coherence in order to achieve and sustain their competitive advantage; hence the lack of coherence in one or more of these aspects is a barrier to a firm's achieving and sustaining its competitive advantage. ◡

The second objective is therefore: to determine the validity of the theoretical framework as applied to two different industries (petrochemicals and food) in Saudi Arabia, as will be discussed later. The empirical testing of this framework will also examine whether western strategic management models are applicable in a developing country like Saudi Arabia. This chapter will discuss the methods that will be used to achieve this objective.

7.3 Research hypotheses

The focus of the discussions in the previous chapters was on how organisations achieve and sustain competitive advantage, and on the presence of the major barriers that may prevent firms from achieving and sustaining their competitive advantage. Based on these discussions and for the purpose of achieving the research objectives, an overall hypothesis which gives a general guidance to the investigation, and then sub-hypotheses to operationalise this main hypothesis, have been developed. Each of the first pair of hypotheses tests a particular aspect of strategic coherence; in addition, the second pair of hypotheses tests barriers that may prevent firms from achieving their competitive advantage. As the discussion proceeds additional hypotheses will be introduced where appropriate.

I. Overall hypothesis:

Hypothesis 1.1: Firms that have strong strategic coherence should have high level of performance.

Hypothesis 1.2: Lack of coherence will prevent lower-performing firms from achieving their competitive advantage

II. Sub-hypotheses:

Competitive coherence:

Hypothesis 2.1: High performing firms should have high coherence between two particular foundations of competitive advantage.

Hypothesis 2.2: Lack of coherence predicted in hypothesis 2.1 will prevent lower performing firms from achieving their competitive advantage.

Cognitive coherence:

Hypothesis 3.1: High performing firms should have high coherence between objective and subjective views of the competitive strategies.

Hypothesis 3.2: Lack of coherence predicted in Hypothesis 3.1 will prevent lower-performing firms from achieving their competitive advantage.

Organisational coherence:

Hypothesis 4.1: In the high-performing firms, a particular competitive strategy will be associated (related) with particular supporting (internal and external) variables, as described in Table 7.1.

Hypothesis 4.2: The lack of one or more of the associations predicted in Hypothesis 4.1 will prevent the lower-performing firms from achieving their competitive advantage.

Table 7.1: Expected links between competitive strategies and supporting variables

Supporting variables	Competitive strategies			
	Price leadership	Low cost differentiation	Imitation	Differentiation
Formalisation	++	+	-	--
Authority delegation	--	-	+	++
Risk avoidance	++	+	-	--
Liaison devices	--	-	+	++
Prospectors	--	-	+	++
Analysers	o	o	o	o
Defenders	++	+	-	--
Strategic planning	--	-	+	++
Financial control	++	+	-	--
Strategic control	o	++	++	o
Environmental stability	++	+	-	--
Environmental simplicity	++	+	-	--
Related & supported industries	--	-	+	++
Demand conditions	o	o	o	o
Factor conditions	+	+	-	-

Expected relationships: ++ high and positive; + moderately positive; -- high and negative; - moderately negative; o neutral.

7.4 Research design

The significance of this study is that it combines descriptive and hypothesis-testing research. In the first part, it is concerned with the

development of a theoretical framework to understand competitive advantage and generic strategies, as well as the way in which organisations achieve and sustain competitive advantage, and the presence of the major barriers that may prevent them from achieving and sustaining their competitive advantage. The second part of this study, however, is concerned with empirical testing of the theoretical framework. Furthermore, since this theoretical framework was developed on the bases of the existing literature which is mainly dealing with western companies, and since the data were collected from a developing country which is Saudi Arabia, the empirical testing of this framework will examine whether western strategic management models are applicable in a developing country like Saudi Arabia.

7.5 Population of the study

There is a very little strategic research in general and especially in the area of competitive advantage which has been done in Saudi Arabia, as well as in many similar countries. Therefore, it is interesting, and at the same time motivating for the researcher, to see the application of western literature and in particular that discussed in this research in a developing country such as Saudi Arabia. The uniqueness of Saudi Arabia in terms of economic, social, and political characteristics makes it one of the most stable rapidly developing countries in the world. Empirical tests have been carried out to examine how organisations achieve and sustain competitive advantage and the presence of barriers that may prevent Saudi Arabian firms from achieving and sustaining their competitive advantage. Another reason of choosing Saudi Arabia is that the researcher originates from Saudi Arabia, therefore he will be more attuned to the issues relating to the firms in that country.

Most existing studies have developed links between a firm's strategy and its organisational and/or environmental factors across different industries. Ginsberg and Venkatraman (1985) revealed that 22 of the 25 studies reviewed adopted a multi-industry sample for testing the impact of different variables on strategy. Others, such as Hambrick (1983a), developed a taxonomy of environmental variables that cut across the boundaries of multiple industries and then developed a taxonomy of firm position within each environment. However, those who have studied a single industry have tended to assume environmental homogeneity. For example, Dess and Davis (1984) assume that the single industry that they investigated (paint and allied product) has a homogenous environment at the Standard Industrial Classification (SIC) four-digit level. Porter (1985) argues that segments of industries have structure, just as industries do, which implies that there are different environments within a single industry. Hatten and Schendel (1977) found that different firms competed differently within an industry because they view their environment on idiosyncratic bases and made their resource allocation decisions on those bases. Kim and Lim (1988) find similar results in Korea, one of the developing countries.

Two industries with different characteristics were chosen to represent the private sector in Saudi Arabia: petrochemicals and food. Initially, there were three different industries which are the previous two and the banking industry. However, after pilot investigation the banking industry was excluded. The reason for this was mainly because of the small number of operating firms in Saudi Arabia (only 12 major banks) compared to the other two industries. The choice of these two industries (petrochemical and food) is for the following two reasons. First, these two industries with their different characteristics and different markets represent the private sector in Saudi Arabia. Second, further analysis can be applied to each industry separately. The advantage of this

analysis is that it allows investigation of the existence of the different ways in which organisations achieve and sustain their competitive advantage and of the presence of the major barriers that may prevent firms from achieving and sustaining their competitive advantage in these two different industries.

7.6 Sampling frame, size, and methods

In order to get the most useful results from the research, two industries with different characteristics were chosen to represent the private sector in Saudi Arabia: the petrochemical and food industries. Three main sources for constructing the sample frame were used. First, the Directory of Saudi Industries (1993) which is issued by the Ministry of Industry and Electricity. This directory includes all manufacturing firms in Saudi Arabia, classified on the basis of their industries. It contains the firm's name, location, address, products, and other information. Second, the Directory of Saudi Arabia's top 1000 companies (1993), which provides a list of each company's name, type of business, address, the name of the highest official in that company, type of ownership, and so on. Third, commercial directories that are issued by the chambers of commerce and industry in the major cities of Saudi Arabia. Cochran (1977) states that relative time, cost and desired degree of precision determines the sample plan and size. Considering such factors in this research, the sample size was determined to be about 220 firms from these two different industries. Since this research is not concerned with small firms, the three sources mentioned above were used together to select the 110 largest manufacturing firms in each industry.

7.7 Data collection instruments

Methods of collecting the data will be discussed in this section. The most commonly used instruments for data collection are questionnaires and interviews (Clover and Balsley, 1979). For deciding which one of these instruments will be appropriate for this study, we should go through the theoretical as well as practical advantages and disadvantages of each instrument.

The questionnaire, as a data collection instrument, has several advantages. The following is a list of the advantages for using the questionnaire for collecting data (Henerson, Morrise and Gibson, 1978; Ary, Jacob and Razavieh, 1979; Isaac and Michael, 1990):

- 1- It permits anonymity.
- 2- It permits a person a considerable amount of time to think about answers before responding.
- 3- It can be given to many people simultaneously.
- 4- It is less expensive than interview, easy to design, self-administering.
- 5- It provides a greater uniformity across measurement situations than do interviews. Each person responds to exactly the same questions.
- 6- Standard instructions are given to all subjects.
- 7- In general, the data it provides can be more easily analysed and interpreted than the data received from oral responses.
- 8- They can be mailed as well as administered directly to a group of people.

Ary, Jacob and Razavieh (1979) argued that the questionnaire is typically an efficient and practical tool, and allows for the use of a larger sample. Moreover, the drop-off method, or personally distributed questionnaire, was found to have a higher response rate than the mailed survey (Lovelock et al, 1976), and it provides greater control over sample design (Emory, 1985). However, there are disadvantages of the questionnaire such as misinterpretation of the questions, and low response rates. Yet careful demonstration of the questionnaire will overcome such problems and other disadvantages such as lack of clarity in the format that may also limit the response rate (Isaac and Michael, 1990; Kerlinger, 1986). Moreover, to maximise the advantages and minimise the weaknesses of the mail survey, the following techniques, as recommended by Dillman (1978) and Emory (1985), were followed:

1. Covering letter: the questionnaire was accompanied by a covering letter using Sheffield University letterhead. It described the nature, purpose, and significance of the research, as well as the significance of the respondent's participation, and it assured the complete confidentiality of information given by the respondent and that it will be used for academic research only. Another covering letter was from King Saud University, Saudi Arabia, the sponsor of the researcher, which was signed by the Dean of the Administrative Sciences College, requesting the respondent to help the researcher in completing the questionnaire and indicating the formality of this data collection. A third covering letter was from the provincial Chamber of Commerce and Industry (signed by the Secretary General) and attached to each questionnaire distributed in that province, which asked the respondent to co-operate by completing the questionnaire and returning it to them.

2. Incentives to increase response: in order to increase the respondent participation, they have been promised to receive an executive summary of the findings, at their choice.

3. Return envelope: a stamped addressed envelop was provided for the respondent, to return the questionnaire to the researcher, to reduce the excuses and expenses of mailing the survey.

4. Style of the questionnaire: the questionnaire was reviewed by academic staff and business managers to ensure its simplicity, clarity and easiness to follow and understand. The Arabic version was also reviewed by different Arabic-English speakers for proof-reading, and to avoid alteration or misrepresentation, after the translation, of the meanings of the questions being asked; and to ensure the accurate translation of the terminology and technical terms. In addition, the Arabic version was pre-tested in the pilot study and improved thereafter.

The interview, as another way of collecting data, also has advantages. Interviews facilitate the gathering of in-depth and detailed information. It also clarifies the questions, and it is better than the questionnaire for obtaining information that requires sequencing or from people who can not read (Henerson, Morrise and Gibson, 1978). However, interviews have disadvantages, such as the expense and their time-consuming nature, and the influential role that the interviewer may play on the respondent.

There are important factors, however, that should be considered in deciding which instrument is to be used. Such factors have been suggested by Berdie and Anderson (1974):

- Number of cases to be surveyed,

- geographical spread of the cases,
- time limitations,
- financial resource limitations,
- efficiency of communication and transportation systems, and
- cultural attitudes toward each of the approaches and their effect on response bias and response rate.

Thus, after the discussion of these two instrument and after assessing each of the factors listed above, in this study the questionnaire will be the main data collection instrument. However, some respondents were interviewed to ensure the confidentiality of the respondent information, to answer any questions they may have concerning the instrument, and to follow-up and encourage the completion of the questionnaire. The researcher uses the mail and the drop-off methods to distribute the questionnaires. However, the drop-off method was used more often as possible, for the reasons discussed earlier and for other reasons such as to ensure that the questionnaire is taken seriously, and to increase the response rate which is important for the successful completion of the study.

7.8 Questionnaire Design

The questionnaire used in this study is designed for the purpose of collecting relevant data needed to conduct this study, as illustrated in Appendix A. The questionnaire was reviewed by knowledgeable people in the field from the Management School in Sheffield University. It was first written in English, then translated into Arabic by the researcher. To ensure that the meaning of the

questions was not misrepresented after the translation, and to ensure the simplicity as well as the clarity of the Arabic version, the translated version was reviewed by academic staff from the Management School and from King Saud university in Saudi Arabia, and by business managers in Saudi Arabia. The questionnaire consists of six sections that measure the different variables needed to conduct this study, as will be discussed next.

The **first section** of the questionnaire asks questions related to competitive strategies. In measuring these variables as well as other variables discussed later, the manager's perception was used to identify the strategy of the organisation.

Snow and Hambrick (1980) identified four measurement approaches to identify and measure strategy. These are: (1) investigator inference (researcher will assesses the organisation's strategy, by using all information available), (2) external assessment (asking experts, e.g. consultant, industry analysts, and so on, to identify the strategies of firms in the sample), (3) objective indicators (using published data, e.g. product-market data, financial reports and other records, to measure strategy), and (4) self-typing (asking the respondents to identify or describe their strategy). Detailed discussion of each approach is presented in Chan and Huff (1991); Conant et al (1990); Ginsberg (1984) and Snow and Hambrick (1980). The self-typing approach will be used in this questionnaire. This method is ideal in its currency as well as that organisation's managers are most up-to-date on the organisation directions and activities (Snow and Hambrick, 1980), and it is useful with a large sample (Conant et al, 1990). Using this type, the different competitive strategies as well as other variables were measured.

In Chapter 3 the different generic strategies that firms may pursue to achieve their competitive advantage were discussed. In the same chapter four foundations of competitive advantage on which a firm may base its competitive advantage were also developed. Questions were therefore developed to measure the four foundations, based on the discussion presented in Chapters 3 and 4, and on the different studies related to this subject, such as Porter (1980, 1985), Miller (1988), Bowman (1992), Bowman and Johnson (1992). Two different ways were used in this study to measure the competitive strategies (objective and subjective), as will be discussed next.

Managers were asked thirty six questions, in the first section of the questionnaire (see Appendix A), related to the four foundations of competitive advantage. Nine questions (3, 9, 18, 20, 27, 29, 32, 33 and 34) were oriented to cost advantage; nine (1, 7, 11, 13, 15, 22, 25, 30 and 35) to price competition; nine (2, 5, 10, 17, 21, 23, 24, 28 and 36) to innovative differentiation; and nine questions (4, 6, 8, 12, 14, 16, 19, 26 and 31) were oriented to marketing differentiation. The managers were asked to assess the appropriateness to their organisation of each question statement on a 5-point scale, with 1 = 'this statement is not relevant to our firm' and 5 = 'this statement accurately describes the situation in our firm'. These thirty-six questions were used to assess the objective view of the organisation's managers in identifying the four competitive strategies (the way of grouping these foundations to get the four competitive strategies will be discussed later). After completing these questions, managers were asked (Question '37', the last in the first section, see Appendix A) to directly rank the four foundations of competitive advantage as are perceived to be relevant to the attainment of competitive advantage for their organisations. This procedure is identified with a subjective way of measuring the competitive strategies that a firm is following.

questions. The three parts of this section were similarly measured on a 5-point scale.

The **third section** of the questionnaire asked questions related to informal control processes, and responses were measured in two different ways. (1) The top managers' risk preference was measured using the Indiana University Risk Taking Index (Ali, 1987), with a 5-point scale, with 1 = strongly disagree and 5 = strongly agree. (2) The three typologies (prospectors, analysers, and defenders) identified by Miles and Snow (1978) were used as proxy indicators of informal control process, as discussed in chapter 5. These typologies were described in paragraphs, and managers were asked to show (on a 5-point scale) to what extent these paragraphs describe their organisations (see Appendix A).

The **fourth section** of the questionnaire asked questions related to the external environment, and responses were measured in two different ways. External environmental variables were initially measured in terms of three categories (factor conditions, demand conditions, and related and supported industries) taken from Porter's (1990) study, as discussed in Chapter 6. Seven questions (1, 5, 6, 7, 9, 11 and 13) to factor conditions; four questions (2, 10, 17 and 18) to demand conditions; and seven (4, 8, 12, 14, 15, 16 and 19) were oriented to related and supported industries. Respondents were asked to describe to what extent these variables were relevant to their organisation and provided them with the possibility of achieving their competitive advantage. Measurement was, once again, on a 5-point scale, with 1 = 'strongly disagree' and 5 = 'strongly agree'. Following this, the importance of environmental simplicity and environmental stability was examined. These two factors were taken from different studies (Child, 1972; Dess and Beard, 1984; Pfeffer and Salancik, 1978; and Miller and Droge, 1986). Three questions (3, 4 and 6) were

oriented to environmental simplicity and four questions (1, 2, 5 and 7) were oriented to environmental stability. These two variables were measured by using the same 5-point scale.

The **fifth section** of the questionnaire asked questions related to organisation performance. Performance was measured by asking the respondents to rate their organisation's performance on four items: sales growth, market share, return on sale and return on assets, which are most the frequently used measures of performance in the strategic management literature (Lenz, 1980; Venkatraman and Ramanujam, 1986), and on an overall performance item. This method of measuring performance has been used for different reasons. First is the availability of data. It is very difficult to get financial data for most Saudi firms, especially those which have limited ownership. This problem was confirmed in the pilot study, where the researcher was not able to collect published performance data except for a few corporations (at different times). Second is the size of the sample (about 220 firms) used in this study, which is large. With such a large sample, a self-typing (Snow and Hambrick, 1980) approach is very useful (Conant et al, 1990), as has been discussed earlier. In this section, the respondents were asked to rate their organisational performance by comparing it to other organisations with similar size and activities in their industry. Performance was rated for the current and the previous three years to assess performance change and stability. Performance was measured by using the same 5-point scale, ranging from bottom 20% to top 20% (see Appendix A).

The **final section** of the questionnaire had descriptive questions, such as position, education, experience in the organisation and in the industry, and the organisation's name, activity, number of employees, and the ownership status.

The respondent was asked if he had any comments, and if he wanted to receive a summary of the overall results of the study.

7.9 Pilot study

A pilot study was undertaken for the purpose of checking the questionnaire and its reliability and validity. A random sample of 26 companies covering the three (original) industries was drawn from the sampling frame. A pilot study was conducted, in anticipation of revealing any problems with the questionnaire or its application in general. This step would allow the researcher to modify and/or re-articulate the questionnaire. Seventeen questionnaires were returned. The analysis of the pilot study data provided more confidence about the theory and the framework developed in the earlier chapters (3-6). For example, based on the managers' answers to the questions related to the foundations of the competitive advantage, the four competitive strategies of the organisations were clearly identified. Even though the sample was small, the data show that there seems to be a direct relationship between *strategic coherence*, as discussed in earlier chapters, and the different levels of performance.

The researcher was able to get direct feedback from thirteen out of the seventeen respondents about the study in general and the questionnaire in particular. In general, the pilot study raised no major questions nor had the respondents any difficulty in answering the questions. A few minor changes were made, such as changing or adding some words or questions to clarify the meaning of information that needed to be obtained from the respondents. For example, three questions were added to identify more clearly the relationship with the suppliers and the buyers.

Therefore in order to meet the reliability and validity criteria, the following points were considered. First, the pilot study was conducted. The

researcher has benefited from meetings with top managers by considering their views and suggestions about the investigated markets as well as the questionnaire. Secondly, the pilot study's results were presented to and discussed with the researcher's supervisor in addition to two professors from the Management School. Their comments and suggestions were considered to improve the quality of this study in general and the questionnaire in particular. Finally, the pilot study's results were a direct indicator of the clarity of the questionnaire and the validity of the research in general. Further discussion on reliability and validity will be presented in Section 7.11.

7.10 Data analysis techniques

The collected data were analysed, using computer programmes such as SPSS and Excel. Different statistical techniques were used in this analysis, and the selection of techniques was based on their relevance to the research questions. Therefore, these techniques were applied where applicable:

1. To analyse the characteristics of the firms and managers, means and frequencies distributions were used.
2. To check the reliability of the questionnaire, Cronbach's alpha was calculated.
3. To classify firms based on their performance and then on their competitive strategies, clustering analysis was performed.
4. To test the significant differences between the performance groups as well as the competitive strategies groups, Analysis of Variance and the Duncan Multiple Range Test were applied.

5. To assess the overall significance of the competitive strategies groups with respect to several variables, Multivariate Analysis of Variance (MANOVA) was applied.
6. To test which variable(s) contribute(s) to the overall significance of the competitive strategies groups, Analysis of Variance (ANOVA) was applied, then the Duncan Multiple Range test was used to compare the four groups of competitive strategies in terms of the variables under study.
7. To test cognitive coherence between the objective and subjective competitive strategies, Pearson correlation and Chi-square were used.
8. To test organisational coherence between the competitive strategies and internal and external variables, Pearson correlation was used; to test the strength of these relationships at different levels of performance, the Z test was applied.
9. To assess the change and stability of performance, t tests were applied. To assess, the change of performance on its different levels, the overall change of performance with respect to each competitive strategy in these different levels and with respect to the individual industry, the same test was also applied.
10. To test the association between the level of performance and the industry's type, and to test the association between the level of performance and the four competitive strategies in each of the industries, the Chi-square test was applied.

7.11 Reliability and validity of the questionnaire

Reliability refers to the consistency of respondents' responses (in general) to all items. Kerlinger (1973:446) defines reliability as "the proportion of the true variance of the total obtained variance of the data yielded by the measuring instrument". Different terms are related to the definition of reliability including consistency, stability, equivalence and agreement (Kerlinger, 1986). Reliability is related to validity in the way that it is necessary and contributes to the validity of the instrument but, it is not a *sufficient condition for its validity* (Emory, 1985). Therefore, to test the reliability of each sub-scale, in this study, the coefficient of Cronbach's Alpha is calculated using the SPSS package. Flynn et al (1990) indicate that Cronbach's alpha is one of the most widely accepted measurements of reliability. Although the score of Cronbach's alpha is more a subjective matter than an objective one, researchers such as Nunnally (1967) suggest that a reliability score approaching 0.80 is desirable; he suggested that in the early stage of research, reliability over 0.50 is acceptable for a new instrument. However, the appropriate value that is usually accepted is 0.60 (Bausel, 1986; Nunnally, 1967).

Table 7.2: Reliability analysis for item scales

Variables	Number of cases	Number of items	Cronbach's Alpha
Cost Advantage	130	9	.876
Price Competition	132	9	.881
Innovative Differentiation	132	9	.920
Marketing Differentiation	128	9	.914
Financial Control	131	5	.788
Strategic Control	131	5	.716
Strategic Planning	130	5	.785
Formalisation	132	5	.861
Authority delegation	132	9	.889
liaison device	132	3	.816
Risk avoided	132	6	.736
Factor Conditions	131	7	.668
Demand Conditions*	131	4	.365
Related & Supported Industries	131	7	.813
Environmental Simplicity	131	3	.775
Environmental Stability	132	4	.737
Current performance	132	5	.895
Previous performance	126	5	.859

* Demand Conditions can be improved to .61 by removing one question (Question number 10 : Local demand rarely gives us an early signal of customer needs).

Table 7.2 shows the results of testing reliability for the items in the survey. The reliability coefficients range between .72 and .92 which fall within

the acceptable range. This indicates that the items in the questionnaire are acceptably reliable, and provides support for the statistical analysis. The exception is with the Demand Condition variable which has the score of .365. This score can be improved to .61 by removing one question. Rather than removing this question from the Demand Condition variable, the significance of its reliability will be discussed later.

Having examined the reliability of the research instrument, the validity of the instrument will also be tested. The validity of a measurement refers to its ability to measure what it is supposed to measure (Ghiselli and Brown, 1955 and Emory, 1985). The validity of this research questionnaire was of concern from the early stage of its development, as mentioned in previous discussions. Each item in the questionnaire, as discussed in Section 7.8 above, was developed from a theoretical and/or empirical concept from the management literature. Furthermore, validity can also be tested by comparing the relationship between the different variables under the study with those of similar relationships discussed in the literature. When the empirical findings are consistent with the theory, this is an indication of instrument validity. The pilot study results, as discussed in Section 7.9, indicate the validity of this research in general. However, the results of the empirical work are also contributing to this validity as will be documented and discussed in the following chapters.

Chapter 8

Empirical work and major findings

8.1 Introduction

This chapter presents an aggregate analysis of the data and the statistical findings of the survey. It contains three parts. The first part presents descriptive results concerning the response rate and the characteristics of the firms and managers investigated. The second part presents the hypotheses to be tested and the results appear in two sections. In the first of these sections the performance levels and the competitive strategies will be identified, then all firms will be classified based on their performance, and then based on their competitive strategies. Further analysis of the competitive strategies will be discussed in the third part by relating the competitive strategies to the internal and external variables. Finally, firms with unclear competitive strategies will be analysed.

8.2 Descriptive findings

8.2.1 Response rate

Top management-related research is expected to have a response rate of an average around 50% or below. As Table 8.1 illustrates, a total of 220 questionnaires were distributed, 110 questionnaires to the food industry companies, and 110 questionnaires to the petrochemical industry companies. A total of 132 usable returns were received, with a response rate of 60%. Sixty-

four responses were received from the food companies, with a response rate of 58%, The other sixty eight responses were received from the petrochemical companies, with a response rate of 62%.

The overall response rate of 60% is considered to be a good rate for a study with a questionnaire as long as that used in this study. It could also be considered good because of the limited experience of the managers in developing countries such as Saudi Arabia in such practical research. Furthermore, this high rate indicates that top executives in a developing country (Saudi Arabia) are as co-operative as those in the developed countries when they are approached correctly. There are three major reasons for such a high response rate:

First, since the questionnaire was directed to top level executives, it was important to enclose a formal letter. Therefore, in addition to the improved format and style of the questionnaire, three covering letters were attached to all questionnaires:

(1) One from Sheffield University Management School, which explained the nature of the questionnaire, the general purpose of the study and assuring the confidentiality of the information given by the respondents, and that it will be used for academic research only.

(2) The second letter was from King Saud University, Saudi Arabia, the sponsor of the researcher, signed by the Dean of the Administrative Sciences College, requesting the respondent to help the researcher in completing the questionnaire.

(3) A third covering letter, from the provincial Chamber of Commerce and Industry (signed by the Secretary General), for each questionnaire distributed in that province, which asked the respondent to co-operate by completing the questionnaire and returning it to them.

Table 8.1: Response rate

Industry Type	Sent out	Received	Usable	Total
Food	110	64 (58%)	64 (58%)	64 (48%)
Petrochemical	110	68 (62%)	68 (62%)	68 (52%)
Not identified		5 --	-- --	-- --
Total	220	137 (62%)	132 (60%)	132 (100%)

Second, the method of distribution: even though it is very difficult to schedule a meeting with top executives, the researcher gave about 65 questionnaires personally to the top executives of firms. Meetings were scheduled with them and during these very short encounters the researcher briefed each of them on his research, requesting their participation, and if possible arranged a longer meeting at the time of collecting the questionnaire. About the same number of questionnaires were distributed by other people. The rest of the questionnaires were posted.

Third, the subject of the research attracted the managers' attention which was expressed in their comments and their requests for an executive summary of the findings.

8.2.2 Characteristics of firms and managers

A few questions, in the last section of the questionnaire, were asked to identify some of the firms' and the managers' characteristics. The discussion of such characteristics will provide the reader with a better understanding of the later detailed analysis. It is also important for readers to have beforehand a general view of the characteristics of the firms and the managers investigated in this study.

8.2.2.1 Company characteristics

To analyse the characteristics of the firms, frequency distributions were utilised. Findings, as illustrated in Table 8.2, show that 52% of the respondents are from the petrochemical industry's firms; 28% of them (i.e. 19 firms) have a formal written joint venture. The remaining 48% of the respondents are from the food industry's firms, where 13% of them (i.e. 8 firms) have a joint venture.

Table 8.2: Characteristics of firms

Firms activities:	Freq.	%				
1- food	64	48				
2- petrochemical	68	52				
Total	132	100%				

Joint venture:	Food		Petrochemical		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes:	8	13	19	28	27	20
No:	65	87	49	72	105	80

Activities with government :	Food		Petrochemical		Total	
	Freq.	%	Freq.	%	Freq.	%
Less than 20%	23	36	25	37	48	36
20% - 40%	18	28	18	27	37	28
40% - 60%	14	22	13	19	27	21
60% - 80%	7	11	10	15	17	13
More than 80%	2	3	2	1	3	2

No. of employees	Food		Petrochemical		Total	
	Freq.	%	Freq.	%	Freq.	%
100-500	40	63	42	62	82	62
500-1000	18	28	18	26	36	27
1000-1500	4	6	7	10	11	8
1500-2500	2	3	-	-	2	2
more than 2500	-	-	1	2	1	1

Firms' activities which are directly involved with the government are another factor that has been investigated. Forty-eight firms (36%, which is the largest percentage) from both industries have 20% or less of their activities involved directly with the government, while only three firms (2%) have more than 80% of their activities involved directly with the government.

The last section in Table 8.2 shows the distribution of the firms in the two industries based on their size, which is measured by the number of employees. In the UK, Devine et al (1985) concluded that most firms in manufacturing are relatively small, with those employing fewer than 100 workers accounting in 1981 for 95% of all firms. They later said that although the details vary, the general picture remains much the same when size is measured in terms of assets or net output instead of employment. Based on published statistics by the Ministry of Industry and Electricity (1994) about manufacturing firms in the two investigated industries (i.e. food and petrochemical) in Saudi Arabia, it has been found that the average number of employees is 100.

Since this study is not concerned with the small firms, the questionnaire was distributed to firms with more than 100 employees. Accordingly, even though a choice of less than 100 employees was given in this question, this choice has no response. As Table 8.2 shows, 62% of firms in both industries have between 100 and 500 employees, and 27% of firms have between 500 and 1000 employees. Comparing the distribution of firms with different sizes in the two industries the Chi-square test was utilised. The Chi-square test with associated values of $\chi^2=3.75$ and $p>0.441$ indicates that there is no significant difference between the two industries in the distribution of the number of employees.

8.2.2.2 Managerial characteristics

To analyse the characteristics of the managers, frequency distributions were also used. The questions that have been asked to get descriptive information about the managers' characteristics will be discussed in this section. One question was asked about the time a manager has spent in his organisation. As Table 8.3 shows, managers have a reasonable experience in their firms, 44% of the respondents have between 5 and 10 years, and 22% have between 10 and 15 years of working experience in their organisations.

Table 8.3: Managerial characteristics

<u>Times managers spent in their firms</u>	Food		Petrochemical		Total	
	<u>Freq.</u>	<u>%</u>	<u>Freq.</u>	<u>%</u>	<u>Freq.</u>	<u>%</u>
Less than 5 years	20	31	19	28	39	29
5 - 10	35	55	23	34	58	44
10 - 15	8	12	21	31	29	22
15 - 20	1	2	3	4	4	3
20 - 25			1	2	1	1
More than 25 years			1	2	1	1

<u>Managers' experience level:</u>	Food		Petrochemical		Total	
	<u>Freq.</u>	<u>%</u>	<u>Freq.</u>	<u>%</u>	<u>Freq.</u>	<u>%</u>
"Above average"	41	64	49	72	90	68
"Average"	23	36	17	25	40	30
"No experience"	-	-	2	3	2	2

<u>Managers' educational level:</u>	Food		Petrochemical		Total	
	<u>Freq.</u>	<u>%</u>	<u>Freq.</u>	<u>%</u>	<u>Freq.</u>	<u>%</u>
High school or below	4	7	-	-	4	3
Bachelor's degree	44	71	56	83	100	78
Master's degree	13	21	11	17	24	18
Ph.D. degree	1	2	-	-	1	1

Another question was asked about the experience that a manager has in the same field of work as his present organisation (ranging from above-average, average, to inexperienced). Findings, as shown in Table 8.3, indicate that managers have a reasonable experience in the field of their work; 68% have an above-average experience, 30% average, and only 2% consider themselves as having no experience.

Finally, a question was asked about the manager's level of education. As Table 8.3 shows, 78% of the respondents have a bachelor's degree, 19% have a master's degree, and 1% have a PhD. degree.

8.3 Hypothesised findings

8.3.1 Performance and competitive strategies

Cluster analysis is a class of techniques used to classify objects or cases into relatively homogenous groups called clusters. Elements in each cluster tend to be similar to each other and dissimilar to other clusters. Cluster analysis is also called classification analysis, or numerical taxonomy. Cluster analysis and discriminate analysis are concerned with classification. However, discriminate analysis requires prior knowledge of the cluster or group membership for each object or case included, to develop the classification rule. In contrast, in cluster analysis there is no *a priori* information about the group or cluster membership for any of the objects. Groups or clusters are suggested by the data, not defined *a priori* (Malhorta, 1993). Cluster analysis has been used widely in the literature for strategic grouping; in addition, it has been known to be more useful than other multivariate techniques in developing empirical taxonomies (Hambrick, 1984; Harrigan, 1985; Kim and Lim, 1988). This approach is used here to

classify the cases (i.e. firms) based on the four foundations of competitive advantage and on current performance.

There appear to be two methods of clustering firms into performance groups and into competitive strategies groups. The first method is to use a multi-tier framework. This can be done by developing a taxonomy of performance setting, and then a taxonomy of strategic groups within each performance group or setting, and vice versa. Therefore, in this case the strategic grouping will follow the performance grouping, or vice versa. The second method is to develop a clustering of performance groups independent of strategic groups, and then to relate the two taxonomies to one another. Even though we find very minimal difference between the two methods, the second approach has been adopted in this study as it appeared to have two advantages: (1) it required a single cluster analysis using the full sample and (2) it facilitated the identification of similarities/differences among different strategic groups across the boundaries of the performance settings.

8.3.1.1 Performance groups

All firms (total of 132) have been clustered based on their current performance. This performance has been measured in the questionnaire by five questions (as shown in Appendix A, Section 5). Following these five questions managers were asked about the extent of their confidence in answering these questions (which measure their organisation's performance), and more than 93% of managers were confident. Furthermore, as discussed in the previous chapter (see Table 7.2) the reliability test result for these questions was 0.895.

Findings of the cluster analysis, as shown in Table 8.4, indicate that there are five clusters or groups of firms. The number of firms in each cluster are 63, 42, 24, 1, and 2 firms, respectively. However, before making any

conclusion about these groups, we used Analysis of Variance (ANOVA) and the Duncan Multiple Range Test (DMRT) to test whether these clusters differed significantly (Anderbreg, 1973). Since clusters four and five have, respectively, 1 and 2 firms, they will be discussed later. When testing the significance in ANOVA, the F-ratio is used. If the F-ratio is significant (i.e. $p < 0.05$), then the null hypotheses of no overall significance difference in the mean scores among groups is rejected.

Table 8.4: Characteristics of clusters resulting from clustering analysis of firms' performance^a

	<u>Cluster 1</u>	<u>Cluster 2</u>	<u>Cluster 3</u>	<u>Cluster 4</u>	<u>Cluster 5</u>	<u>ANOVA</u>
Performance	4.36	3.48	2.04	3.20	2.50	F= 240.42 P=0.000
No. of firms	63	42	24	1	2	

Duncan Multiple Range Tests

1-2	1-3	1-4	1-5	2-3	2-4	2-5	3-4	3-5	4-5
**	**	**	**	**	ns	**	**	ns	**

^a Means are reported.

ns = not significant

** $p < 0.05$

Findings of the ANOVA test (with $F=240.42$ and $P=0.000$), as shown in Table 8.4, indicate that there is an overall significant difference between the five clusters at the 0.05 level of significance. As a further analysis, the Duncan Multiple Range Test was performed to compare these five mean scores. The results of the Duncan's test, as also shown in Table 8.4, indicate that there are only two combinations out of ten which are not significantly different from each other at the 0.05 level of significance.

However, looking at the number of firms in each cluster, we find that there is only one firm in the fourth cluster and only two firms in the fifth cluster. The number of the firms in these two clusters is very small (both counted less than 3% of the total sample) compared to the other three clusters, therefore they will be excluded². Thus by excluding these three firms (which will analyse individually later), the following conclusion can be made. It is clear that there are three major groups of firms which are significantly different from each other, in terms of their performance, at the 0.05 level of significance.

Thus, looking at the mean scores of the first three clusters, the first cluster, with 63 firms, can be identified as high-performing firms, the second cluster, with 42 firms, can be identified as medium-performing firms, and the third cluster, with 24 firms, can be identified as low-performing firms.

8.3.1.2 Competitive strategies

Clustering analysis will also be used to classify all firms (total of 132) based on the four foundations of competitive advantage. All of the 36 questions for measuring the four foundations of the competitive advantage (9 questions each) have been used for the strategic clustering of all firms, as discussed in Chapter 7.

Findings of this clustering are illustrated in Table 8.5. These findings indicate that there are five clusters of firms with 44, 17, 18, 39, and 9 firms in each cluster, respectively. In addition to the number of firms in each strategic group, Table 8.5 illustrates the characteristics of these clusters which will be

² The exclusion of these three firms, in clusters four and five, will improve on power of the ANOVA test as follows: $F = 464.36$ and $p = 0.000$. The Duncan Multiple Range test shows that all three clusters are significantly different from each other at the 0.05 level of significance.

discussed as follows: by looking at the mean scores of the four foundations of the competitive advantage in each cluster, we can see whether each cluster or group of firms has a competitive strategy or not. It has been discussed in previous chapters that each competitive strategy is a particular combination of two of the four foundations of competitive advantage. Analysis of Variance (ANOVA) will be used here to test the difference between the means of the four foundations in each group. If the F-ratio is significant, then the null hypothesis of no overall significance difference in the mean scores among the four foundations is rejected. Furthermore, a comparison procedure was performed to compare these four foundations. Duncan's test will be used to test the significant difference of any two combinations among the mean scores of these foundations. Table 8.5 includes the results of all these three tests.

Table 8.5: Characteristics of clusters resulted from clustering analysis of the competitive advantage foundations^a

Clusters	No. of firms	Foundations of competitive advantage				Duncan Multiple Range Tests						ANOVA
		CA	PC	ID	MD	1-2	1-3	1-4	2-3	2-4	3-4	
		1	2	3	4							
Cluster 1	44	4.27	4.04	2.37	2.14	N.S	**	**	**	**	**	F=186.92 P=0.000
Cluster 2	17	4.27	2.29	2.10	4.41	**	**	N.S	N.S	**	**	F=148.50 P=0.000
Cluster 3	18	2.21	4.22	4.25	2.00	**	**	N.S	N.S	**	**	F=124.00 P=0.000
Cluster 4	39	3.09	2.54	4.31	4.08	**	**	**	**	**	N.S	F=124.00 P=0.000
Cluster 5	9	2.42	2.51	2.41	2.68	N.S	N.S	N.S	N.S	N.S	N.S	F=0.4527 P=0.717

^a Means are reported
N.S = not significant
** p < 0.05

Results of the ANOVA test for the first four clusters of firms indicate that there is an overall statistically significant difference between the four mean scores of the four foundations of the competitive advantage at the 0.05 level of significance. In the fifth cluster, the ANOVA results show that there is not an overall significant difference between the four mean scores of the four foundations of the competitive advantage at the 0.05 level of significance. Thus it can be concluded that this cluster has no clear competitive strategy. However, more analysis of these nine firms, in cluster five, will be discussed in more detail at the end of this chapter.

Analysing cluster one, comparison results of the Duncan's test indicate that only one combination (CA&PC) among the four foundations of the competitive advantage is not significantly different at the 0.05 level of significance. Since the combination of CA and PC form the price leader (PL) competitive strategy, it can thus be concluded that the first cluster, with 44 firms, can be identified with PL competitive strategy.

Analysing cluster number two, comparison results of the Duncan's test indicate that there are two combinations among the four foundations of the competitive advantage that are not significantly different at the 0.05 level of significance. The first combination, which is between CA&MD, forms the low cost differentiation (LCD) competitive strategy. The second combination which is between the PC&ID forms the imitator (IMT) competitive strategy. Since there are no interactions between the two combinations (i.e. each contain different foundations), and since all other combinations are significantly different at the 0.05 level of significance, we can make the following conclusion: clearly the first combination has higher mean scores of the two

foundations (i.e. firms emphasising these foundations more) than the second combination. Thus the second cluster, with 17 firms, can be identified with LCD competitive strategy.

Analysing cluster three, comparison of results of the Duncan's test indicate again that the same two combinations in cluster two also exist in this group of firms. However, the mean scores of the second combination (PC&ID) this time is higher than the first combination (CA&PC). Thus it can be concluded that the third cluster, with 18 firms, can be identified with IMT competitive strategy.

Analysing cluster four, comparison of results of the Duncan's test indicate that only one combination (ID&MD) among the four foundations of the competitive advantage is not significantly different at the 0.05 level of significance. Since the combination of ID and MD forms the differentiation (DIF) competitive strategy, it can be concluded that the fourth cluster, with 39 firms, can be identified with DIF competitive strategy.

Results of the different competitive strategies can therefore be summarised as follows: out of the five major clusters or groups of firms, the first four groups of firms have each been clearly identified with one of the competitive strategies, while the fifth group cannot be clearly identified with any appropriate combination of the four foundations (i.e. with a clear competitive strategy). Further analysis will be done later with this group to find out about the performance as well as the other variables in these firms, which may explain the unclear nature of their competitive strategies.

8.3.2 Competitive strategies and internal and external variables

After having classified all firms in terms of their competitive strategies, a question is now raised concerning the relationships between these competitive strategies and the other variables (supporting variables) either internal (e.g. financial control, prospectors, etc.) or external (e.g. environmental stability, factor conditions, etc.). In other words, we should find out whether a cluster or group of firms with one of the four competitive strategies has the same characteristics and attributes as the other groups, in terms of these variables, or not. These internal and external variables will be explored more fully when we discuss the barriers that may prevent firms from achieving their competitive advantage, but in this section we simply use them to test the differences between the four defined strategic groups. If it is found that each group is different from each other this will give us more confidence about the validity of the questionnaire as a classification and research scheme. It will also give us more confidence that these groups of firms are not only significantly different in terms of their competitive strategies but also with other related variables. The following hypothesis is developed to be tested:

Ho:

Price leadership, low cost differentiation, imitation and differentiation, are identical in terms of the following variables: Analysers, Authority Delegation, Defenders, Demand Conditions, Factor conditions, Financial Control, Formalisation, Liaison devices, Prospectors, Related and Supported Industries, Risk avoidance, Strategic Control, Strategic Planning, Environmental stability and simplicity.

Multivariate Analysis of Variance (MANOVA) is the appropriate technique to test this hypothesis. MANOVA is an extension of Univariate Analysis of Variance (ANOVA), which means that ANOVA is just a special case of MANOVA, the case with a single dependent variable. In ANOVA, we measure the relationship between one independent variable (e.g. competitive strategies) which has more than one category, and one dependent variable (e.g. financial control). MANOVA, on the other hand, is used to explore the relationship between one independent variable, with more than one category, and multiple (more than one) dependent variables (e.g. Analysers, authority delegation, defenders, demand conditions, factor conditions, financial control). Thus, this approach is adapted here to test the above hypothesis.

The major purpose of using MANOVA is to test the overall significance of the group difference in several variables. When using the ANOVA, an F-ratio is utilised. In MANOVA, the Wilks's Lambda criterion is the appropriate statistical approach; however, it could be transferred to F-ratio and used to test the overall significance. If the F-ratio in MANOVA is significant, then the null hypothesis of no overall variation in the mean vectors between the groups is rejected. After determining that there is an overall significance, the researcher must next examine the ANOVA tables which show the contribution of each variable to the overall significance.

Table 8.6 MANOVA Test of overall significance

Wilks' Lambda	F-ratio	Degree of freedom	Level of significance
.0327	14.31	3/114	P< 0.000

MANOVA results, as shown in Table 8.6, indicate an overall significance with Wilks's Lambda of .0327 and F-ratio 14.31 with 3/114 degree of freedom, and probability of exceeding such a value of less than 0.0001. Therefore the null hypothesis of equal mean scores is rejected. It can be concluded that the four groups of competitive strategies have significant differences in at least one of the internal or external variables.

The ANOVA results indicate which variable(s) contribute(s) to the overall significance. In addition, multiple comparison tests were performed, using the Duncan Multiple Range Test, to compare the four groups in terms of the variables under study.

Table 8.7 is a comprehensive table that includes the needed information for presenting the competitive strategy groups and their relationships with the internal and external (supporting) variables. It consists of ANOVA (F-ratio) and its level of significance, mean scores of each of the variables for the four competitive strategies groups, and Duncan's test of multiple comparisons at the 0.05 level of significance.

The data shown in Table 8.7 are very consistent with the discussion of the strategic coherence and the literature review done in the previous chapters. The findings in Table 8.7 will be discussed in two ways: first, by analysing the contribution of the different supporting variables to the overall differences in the four competitive strategies; second, by comparing the four competitive strategies across all the supporting variables.

In the first way of discussing the findings presented in Table 8.7, the individual variable will be analysed across the four competitive strategies. The results of the ANOVA test indicate that all variables contribute significantly, at the 0.05 level of significance, to the overall significance among the four

competitive strategies. Since there are fifteen variables which are classified into three major variable groups, one or two variables from each group will be discussed as an example in this way of discussion.

Financial control is one of the formal control processes variables. This variable contributes significantly to the overall significance among the four groups of competitive strategies. Its associated F-ratio is 40.43, with $p < 0.000$. Price leadership has the highest mean score among the four groups in the financial control variable (4.28), whereas differentiation has the lowest mean (2.75). However, the mean score of Low cost differentiation (3.55) is significantly higher than the Imitation mean score (2.99). When the multiple comparison procedure was performed to compare these four mean scores, using Duncan's test for multiple comparison, the result indicated that three competitive strategies were significantly different from each other. Only imitation and differentiation are not significantly different at the 0.05 level of significance. These findings indicate that those firms that have been identified as price leadership emphasise financial control more than those firms following other competitive strategies, whereas those firms with differentiation strategy emphasise financial control less in their organisation than those firms following other competitive strategies, and the other firms with other strategies are falling in between the two groups. Such a finding is consistent with the existing literature, where cost advantage and price competition are the two foundations of the price leadership competitive strategy which requires a control process that emphasises financial control more than anything else.

Environmental stability is one of the environmental factors that also contributes significantly, ($F = 33.78$, with $p > 0.000$), to the overall variation among the four competitive strategies. The mean scores of price leader (3.99), low cost differentiation (2.39), imitator (2.39), and differentiation (2.70), are

significantly different from each other at the 0.05 level of significance. Comparing the four strategies in terms of environmental stability shows that the firms with PL competitive strategies are emphasising that they work in a stable environment more than those with differentiation. Moreover, the low cost differentiation firms are also emphasising that they work in a stable environment more than those firms with imitation and those with differentiation. Such findings are consistent with the discussion and review of the literature in the previous chapters (e.g. Miller, 1988; Scherer, 1980; Burns and Stalker, 1961; Porter, 1980).

Defenders variable, which has been used as a proxy indicator of the informal control processes, contributes significantly to the overall differences among the four groups of competitive strategies. The F-ratio is 68.35 with $p > 0.000$ level of significance. The mean scores of the price leadership competitive strategy (4.57), low cost differentiation (2.65), imitation (1.89), and differentiation (1.90), are significantly different at the 0.05 level of significance. The PL competitive strategy has the highest mean, which is significantly different from the other three strategy groups. This finding indicates that firms with PL competitive strategies make the most attempt to locate and maintain a secure niche in relatively stable products or services areas. Findings show, on the other hand, that differentiation firms have the lowest mean score which is in the opposite to the price leadership firms in terms of their view of the market and/or of the products or services. Such a finding is also consistent with the literature that has been discussed in the previous chapters.

Table 8.7: Relationships between competitive strategies and supporting variables

Supporting variables		Foundations of competitive advantage mean scores					Duncan's multiple range test					
		ANOVA	1 PL	2 LCD	3 IMT	4 DIF	1-2	1-3	1-4	2-3	2-4	3-4
Formal control	Financial Control	F=40.43 P<0.000	4.28	3.55	2.99	2.75	**	**	**	**	**	ns
Processes	Strategic Control	F=08.46 P<0.000	3.12	4.11	3.74	3.64	**	**	**	ns	**	ns
	Strategic Planning	F=48.62 P<0.000	2.75	2.34	3.60	4.23	**	**	**	**	**	**
	Authority delegation	F=17.56 P<0.000	1.84	2.09	2.43	2.91	ns	**	**	ns	**	**
	Formalisation	F=25.15 P<0.000	4.31	3.75	2.37	3.22	**	**	**	**	**	**
	Liaison Devices	F=19.81 P<0.000	3.04	2.67	3.67	3.50	**	**	**	**	**	ns
Informal control	Defenders	F=68.35 P<0.000	4.57	2.65	1.89	1.90	**	**	**	**	**	ns
Processes	Analysers	F=57.44 P<0.000	2.27	4.41	4.78	2.10	**	**	ns	ns	**	**
	Prospectors	F=40.36 P<0.000	1.75	1.71	2.33	3.90	ns	**	**	**	**	**
	Risk avoidance	F=17.83 P<0.000	3.85	3.64	2.54	3.02	ns	**	**	**	**	**
Environmental factors	Factor conditions	F=11.79 P<0.000	4.08	3.84	3.25	3.49	ns	**	**	**	**	ns
	Demand conditions	F=02.76 p<0.046	3.44	3.71	3.18	3.63	ns	ns	ns	**	ns	**
	R & S Industries	F=32.25 P<0.000	2.84	2.92	3.72	4.08	**	**	**	**	**	ns
	Environmental Simplicity	F=34.77 P<0.000	3.95	3.69	2.31	2.38	ns	**	**	**	**	ns
	Environmental Stability	F=33.78 P<0.000	3.99	3.69	2.39	2.70	ns	**	**	**	**	ns

PL= Price leadership; LCD= Low cost differentiation; IMT= Imitation; DIF= Differentiation.

ns = not significant

** P<0.05

Authority delegation: This variable contributes significantly to the overall significance among the four groups of competitive strategies. Its associated F-ratio is 17.56 with $p > 0.000$. The price leadership firms have the lowest mean score among the four groups in the authority delegation variable (1.84), whereas the differentiation have the highest mean (2.91), and the other competitive strategies are in between. When the multiple comparison procedure was performed to compare these four means, using Duncan's test for multiple comparison, the results indicated that most combinations with one of these two strategies were statistically different at the 0.05 level of significance. These findings indicate that those firms that have been identified as differentiators are more willing to delegate authority in their organisation than those firms following other competitive strategies, whereas those firms with price leadership strategy are less willing to delegate the authority in their organisation than those firms following other competitive strategies, and the other firms with other strategies are falling in between the two groups. Such a finding is consistent with the existing literature, where the complexity and change in the products or process create the need for the delegation of authority to experts most capable of making critical decisions (Miller, 1988; Burns and Stalker, 1961; Miller and Friesen, 1984, Mintzberg, 1979; Thompson, 1967).

The second way of discussing the findings in Table 8.7 is by comparing the four competitive strategies across all variables. Price leadership and differentiation competitive strategies (1&4) are significantly different over almost all variables (total of 15) with the exception of analysers, and demand conditions. The similarity of the two strategies in terms of the analyser variable, as one of the informal process variables, can be explained as follows. When we look at the other variables in the dimensions of the informal control processes, (prospectors and defenders), we find that price leadership firms have the highest

mean score in the defenders variable, whereas the differentiation firms have the highest mean score in the prospectors variable. Thus these firms using both competitive strategies have scored the analysers variable (the middle variable between prospectors and defenders) with similar scores. The mean scores of both strategies in the demand conditions are not significantly different. This means that both of the competitive strategies are emphasising demand conditions similarly. It has been discussed in earlier chapters that different competitive strategies may need to consider the demand conditions in their environments in all circumstances. In addition, it has been found that the demand conditions variable has a low reliability, which may also explain this finding. Apart from these two variables, price leadership and differentiation are significantly different at the 0.05 level of significance across all variables.

Furthermore, analyses of the multiple comparison of the competitive strategies indicate that PL and LCD, and IMT and DIF, respectively, are similar or close to each other. In other words, price leadership and low cost differentiation are not significantly different across almost half of the variables. This is the same as with imitation and differentiation, which are not significantly different in more than half of all variables at the 0.05 level of significance. Moreover analysing LCD and IMT competitive strategies, we find that they are significantly different across almost all variables (12 out of 15). Analysing the mean scores of the internal and external variables in the four competitive strategies, we find the following. When the PL have the highest mean scores, the DIF will have the lowest mean score. The opposite is also true, i.e. when the DIF have the highest mean scores, the PL will have the lowest mean score. The mean score of the other two competitive strategies (i.e. LCD and IMT) are close to the PL and DIF, respectively. The similarity and differences in these four competitive strategies support the general relationships

between these strategies and the supporting variables discussed in the links model (i.e. the barriers to competitive advantage) presented in Chapters 5 and 6 and summarised in table 7.1 in chapter 7. However, it can not be concluded from these findings that one competitive strategy is necessarily superior to others, rather this order of the four competitive strategies merely clarifies the difference between them. More detailed discussions of these four competitive strategies will be presented in the following chapters by discussing the way in which firms achieve and sustain their competitive advantage, and the presence of barriers that may prevent them from achieving competitive advantage. This finding will also help in understanding how such findings can be related to the issue of "stuck in the middle" which will be discussed in the final chapter.

8.4 Firms with unclear competitive strategies

A brief discussion will be presented in this section about the nine firms that have been classified as having unclear competitive strategies. Table 8.8 gives descriptive information about these firms. By analysing these nine firms, based on their level of performance, it has been found that six of them, as shown in Table 8.8, have been classified as low-performing firms, two as medium performing firms and only one as a high performing firm. This finding may explain the unclear nature of the competitive strategies. Two of the remaining three firms, as also shown in Table 8.8, have been classified as medium-performing, and only one firm has been classified as high-performing. Such findings regarding these lower-performing firms are supporting sub-hypothesis 2 of this research which was stated as:

Hypothesis 2.1: High performing firms should have a high coherence between two particular foundations of competitive advantage.

Hypothesis 2.2: Lack of coherence predicted in Hypothesis 2.1 is likely to prevent lower-performing firms from achieving their competitive advantage.

Further analysis of this hypothesis will be made in the next chapter.

Analysing the high-performing firm, we found that it has 20-40% of its activities involved directly with the government. Considering that more than 35% of firms have less than 20% of their activities involved directly with the government, this firm can be considered as having a high direct involvement with the government. The activities are usually undertaken with renewable contracts that last for two to three years, with high payments. This may explain the high performance with unclear competitive strategy in this firm. Another variable that may explain this finding can be seen in the managerial characteristics. This firm has a manager who considers himself as having an average experience, and only has less than five years working in this firm. Thus it can be said that this manager either has no clear vision of the firm's competitive strategy or he is changing its competitive strategy, with his average experience, in such a way that it has not yet affected its performance. The other two firms, have a lower level of performance than this firm, but have a higher direct involvement with the government in their activities. Thus this may also explain why these firms have an average performance while they have no clear competitive strategies, for which we have attempted to give an explanations. However, they still constitute less than 3% of the total sample of this research, which can be considered a very low percentage.

Table 8.8: Descriptive information about firms with no clear competitive strategies

Firm number	Performance	Activities with government	Working experience	Time in the organisation
12	low	more than 80%	above average	10-15 years
27	low	20%-40%	average	5-10 years
68	low	less than 20%	average	less than 5 years
115	low	20%-40%	average	5-10 years
119	low	less than 20%	average	less than 5 years
127	low	40%-60%	above average	5-10 years
117	high	20%-40%	average	less than 5 years
123	medium	60%-80%	average	5-10 years
92	medium	40%-60%	above average	5-10 years

8.5 Conclusion

A response rate of 60% was obtained in this study. 60% of the investigated firms have 100-500 employees, and 27% have 500-1000 employees. Managers of these firms were found to have a reasonable experience in their field of work as well as in their organisation.

Three levels of performance were identified: high, medium and low. These results were obtained by clustering all firms based on their current performance. The significance of differences between these clusters was also confirmed by applying different tests such as ANOVA and Duncan's test.

The four possible competitive strategies developed in Chapter 3 were tested and found to be stable. Thus four competitive strategies were identified. These are: price leadership, low cost differentiation, imitation and differentiation. The identification of these strategies was tested in different ways and found to be stable.

Competitive coherence will be tested in two different ways: firstly, by testing the number of firms with unclear competitive strategies at the different levels of performance; secondly, by testing the strength of the coherence within each competitive strategy at the different levels of performance.

Table 9.1: Competitive coherence across performance levels

Performance levels	No. of firms	Mean scores of the competitive foundations ^a				Competitive Strategies	Mean scores of competitive strategies
		CA	PC	ID	MD		
High performing firms	26	4.36	4.13	2.21	2.26	Price leadership	4.25**
	11	4.33	2.47	2.13	4.44	Low cost differentiation	4.39*
	9	2.07	4.33	4.48	2.17	Imitators	4.41**
	16	2.43	1.84	4.53	4.28	Differentiation	4.41**
	1	1.44	1.89	1.89	3.89	Not clear	---
Medium performing firms	15	4.16	3.93	2.54	2.04	Price leadership	4.04**
	6	4.17	1.96	2.06	4.35	Low cost differentiation	4.26*
	8	2.28	4.08	4.00	1.88	Imitation	4.04**
	9	3.10	2.80	4.16	4.00	Differentiation	4.08**
	2	3.22	3.06	2.61	2.33	Not Clear	---
Low performing firms	3	3.96	3.81	2.93	1.59	Price leadership ^b	---
	14	3.83	3.16	4.17	3.90	Not Clear	---
	5	2.36	2.40	2.49	2.60	Not Clear	---

* and ** indicate that the means of the competitive strategy in the high and medium levels of performance are significantly different at the 0.10 and 0.05 levels, respectively, on the basis of a one-tailed t-test.

^a CA= cost advantage, PC= price competition, ID= innovative differentiation and MD= marketing differentiation

^b because of few firms (only three) with PL in the low-performing firms, they have been excluded from the t-test.

Findings from testing competitive coherence, as shown in Table 9.1, indicate that the low-performing firms have more than twice the number of firms with unclear competitive strategies than at the medium-performance level, and five times as many as those at the high-performance level. Moreover, adding the second subgroup of firms (14 firms) in the low-performing group to the third subgroup will increase the percentage of the firms with unclear competitive strategy at this performance level to 19 firms. Therefore, the number of firms with clear and unclear strategy in the different levels of performance can be tested. The Chi-square test will be used to test the association between the number of firms in these two categories and the different levels of performance. Table 9.2 shows the distribution of firms with clear and unclear competitive strategies at the different levels of performance.

Table 9.2: Chi-square test of clear and unclear competitive strategies

Strategies	Levels of performance			Total
	High	Medium	Low	
Clear strategy	62 (98.4%)	38 (95%)	3 (14%)	103 (82%)
Unclear strategy	1 (1.6%)	2 (5%)	19 (86%)	22 (18%)
Total	63 (50%)	40 (32%)	22 (18%)	125 (100%)

$\chi^2=87.25,$

df=2,

P=0.000

The Chi-square results, ($\chi^2=87.25$, $df=2$, $P=0.000$), in Table 9.2, indicate that the number of firms are different at the 0.01 level of significance at the three levels of performance, and consequently there is an association between the levels of performance and the number of firms in the two categories. Thus, firms with unclear competitive strategy in the low performing firms are more than those at other levels of performance. Since each competitive strategies is a combination of particular link between two foundations of competitive advantage, such findings support Hypothesis 2.1 that high-performing firms should have high coherence between two particular foundations of competitive advantage. At the same time, they support Hypothesis 2.2 that the lack of coherence between two particular foundations of competitive advantage (i.e. competitive strategy) is most likely to prevent lower performing firms from achieving their competitive advantage. However, further discussion of this aspect of strategic coherence is presented next.

Competitive coherence can also be tested through the clear identification of the competitive strategies. Table 9.1 shows that the competitive strategies are more clearly identified in the high-performing group of firms than in the lower-performing group. This can be seen from comparing the mean scores of the two particular foundations which form each competitive strategy across the different levels of performance. For example, in Table 9.1, comparing the scores of CA (4.36) and PC (4.13) of the PL in the high-performing firms on the one hand, and those of the medium-performing firms (CA (4.16) and PC (3.93)) on the other, or if we compare them with those of the low-performing firms, we find that the first is higher than the other two. This is true in all strategies. However, these are only indicative results which will be tested more formally (statistically) by analysing the differences between each of the four competitive strategies at the different levels of performance. Differences between the means

of the competitive strategies can be analysed by using the t-test. Findings of the t-test are presented in the right column of Table 9.1.

Testing the differences between the mean scores of each of the four competitive strategies at the different levels of performance, the results of the t-test indicate that all of the competitive strategies have stronger coherence (i.e. a significantly higher mean score) at the high level of performance compared to the lower level of performance. For example, IMT competitive strategy in the high-performing firms (4.41) has a significant stronger competitive coherence at the 0.05 level of significance than those in the lower-performing firms (4.04). Thus, it can be concluded that strategic coherence is stronger (i.e. competitive strategies are more clearly identified) in the high-performing firms than in the lower-performing firms. Such findings also support Hypothesis 2.1 that high-performing firms should have high coherence between two particular foundations of competitive advantage. At the same time they support Hypothesis 2.2 that the lack of coherence between two particular foundations of competitive advantage (i.e. competitive strategy) is most likely to prevent lower-performing firms from achieving their competitive advantage.

9.2.2 Cognitive coherence

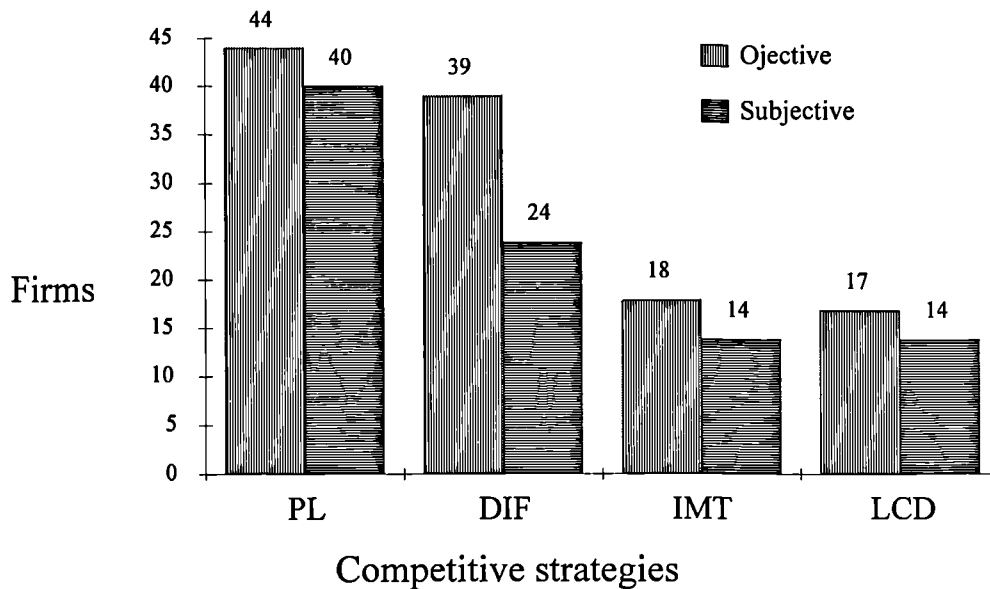
Cognitive coherence will be tested by comparing the two methods (i.e. objective and subjective) of measuring competitive strategies at the different levels of performance. However, these methods will first be introduced. In the previous chapter, all firms were classified into four major groups each with one of the four competitive strategies based on the clustering of responses to the 36 questions (9 to each foundation). This is considered an objective way of measuring competitive strategies. Managers were asked in the first section of the questionnaire, as shown in Appendix A, (Question No. 37) to rank the four

foundations of competitive advantage in the way most appropriate to their organisation for attaining competitive advantage. This is considered a subjective way of measuring competitive strategies that a firm is following. Therefore, based on the four groups of firms, i.e. the four competitive strategy groups, that have been defined in the objective way, the analysis will be on how well the same manager(s) recognise(s) the competitive strategy that their organisation(s) is/are following.

Figure 9.1 shows the findings from the two ways of measuring competitive strategies. For example, it illustrates that 91% (40 out of 44) of managers in the first group of firms with PL competitive strategy are able to recognise their organisations as actually following this strategy. 82% (14 out of 17) of managers in the fourth group of firms with LCD competitive strategy are able to recognise their organisations as actually following this strategy.

Relating these competitive strategies to the different performance levels, cognitive coherence between objective and subjective views of the competitive strategies (Hypothesis 3.1) can be tested. At the same time, the barriers that may prevent the lower-performing firms from achieving their competitive advantage can also be tested by comparing these two methods of measuring competitive strategies (Hypothesis 3.2). In other words, existence of lack of cognitive coherence in the lower-performing firms will be an indication of the existence of barriers that prevent such firms from achieving their competitive advantage.

Figure 9.1:
Number of firms in two methods of measuring competitive strategies



Testing cognitive coherence can be done by comparing the objective and the subjective ways of measuring the competitive strategies at the different levels of performance. Pearson correlation coefficients were calculated to analyse the cognitive coherence in these two methods at the different levels of performance. This correlation coefficient indicates the strength of correlation between the two variables. Pearson correlation coefficients (r) and their level of significance for each level of performance are illustrated in Table 9.3.

Table 9.3: Pearson correlation between objective and subjective competitive strategies

Level of performance	No. of firms	Pearson correlation*	p
High	62	0.80	0.000
Medium	40	0.58	0.000
Low	19	0.29	0.149

* Pearson correlation between objective and subjective competitive strategies.

Findings in Table 9.3 indicate that the correlation between the two methods of measuring competitive strategies is significant in the high and medium-performing firms, but not significant in the low-performing firms. The high-performing firms have a high correlation between the two methods of measurement ($r=0.80$) at the 0.001 level of significance, as shown in Table 9.3. However, the low-performing firms have insignificant correlation between these two methods of measuring the competitive strategies at the 0.05 level of significance ($r=0.29$), as shown in Table 9.3. These findings indicate that high-performing firms have high coherence between objective and subjective competitive strategies. Such findings support Hypothesis 3.1.

Furthermore, the existence of cognitive coherence at the different levels of performance can be tested. Therefore, the number of firms with matched and unmatched strategy in each level of performance can be tested. For the purpose of this comparison, a firm that has identified the same strategy in objective and subjective ways is considered as having a matched strategy and vice versa. The Chi-square test will be used to test the association between the number of firms in these two categories (i.e. the number of firms with matched and unmatched strategies) and the different levels of performance.

Table 9.4: Comparison of objective and subjective competitive strategies

Strategies	Level of performance			Total
	High	Medium	Low	
Matched	54 (87%)	30 (75%)	8 (42%)	92 (76%)
Unmatched	8 (13%)	10 (25%)	11 (58%)	29 (24%)
Total	62 (51.2%)	40 (33.1%)	19 (15.7%)	121 (100%)

$\chi^2=16.19$ $df=2$ $P=0.000$

The Chi-square results, ($\chi^2=16.19$, $df=2$, $P=0.000$), as shown in Table 9.4, indicate that the number of firms are different at the 0.01 level of significance at the three levels of performance, and consequently there is an association between the levels of performance and the number of firms in the two categories. Examining the number of firms in each category, as shown in Table 9.4, it can be seen that the number of firms with a matched strategy in the high-performing firms (54) is higher than the number of those with unmatched strategy (7). The opposite is true with firms at the low level of performance. These findings indicate that competitive strategies are more recognised by managers in the high-performing firms than by those in the low performing firms. Such findings then support Hypothesis 3.1, that high-performing firms have a high coherence between objective and subjective views of the competitive strategies. These findings also support Hypothesis 3.2, that the lack of cognitive coherence may prevent lower-performing firms from achieving their competitive advantage.

9.2.3 Organisational coherence

In Chapters 5 and 6, certain links (or relations) between the internal and external (supporting) variables and the competitive strategies have been developed. As introduced in the first chapter and discussed in Chapters 5 and 6, the appropriate link between the four competitive strategies and these variables is called "organisational coherence". Therefore, organisational coherence will be tested in this section by relating the internal and external (supporting) variables to the four competitive strategies at the different levels of performance. By comparing these relationships at the different levels of performance, barriers (either internal or external) that may prevent firms from achieving their competitive advantage can be identified.

The Pearson correlation coefficient is used to measure the simple relation between two variables. It will be used here to test the relationship between the supporting variables and the four competitive strategies at the different levels of performance. Table 9.5 illustrates the Pearson correlation coefficients (r) and their levels of significance. Different levels of significance have been presented in Table 9.5 for the purpose of comparison. In comparing the two correlation coefficients at the two levels of performance, the Fisher's Z-transformation test will be used. Blalock (1972), Spiegel (1972), Davies and Goldsmith (1972), Stopher and Meyburg (1979), Yule and Kendall (1950) and others recommend this test as the way of comparing correlation coefficients. Blalock (1972:406) states that if the two correlations are based on independent samples, we can transform each of the r 's into z 's and then make use of the formula for the standard error of the difference between two z 's, which is analogous to that for the standard error of a difference between means. Such a test is also used in empirical work such as Miller (1988).

Table 9.5: Pearson correlation between competitive strategies and internal-external variables.

Supporting variables	Price leadership ^a		Low cost differentiation		Imitation		Differentiation	
	H	M	H	M	H	M	H	M
Financial control	0.795 ****	0.579 ****	0.180	0.111	-0.003	-0.127	-0.648 ****	-0.518 ****
Strategic control	-0.186	-0.274 *	0.139	0.142	0.050	0.077	0.330 ***	0.453 ***
Strategic planning	-0.743 ****	-0.233	-0.313 **	-0.305 *	0.177	0.574 ****	0.619 ****	0.444 ***
Authority delegation	-0.602 ****	-0.444 ***	-0.003	-0.140	0.102	0.221	0.668 ****	0.459 ***
Liaison devices	-0.772 ****	-0.345 **	-0.178	-0.310 **	0.089	0.357 **	0.689 ****	0.333 **
Formalisation	0.695 ****	0.414 ***	0.463 ****	0.357 **	-0.180	-0.369 **	-0.455 ****	-0.359 **
Prospectors	-0.742 ****	-0.411 ***	-0.174	-0.013	0.048	0.207	0.633 ****	0.542 ****
Analysers	0.086	-0.186	-0.059	-0.165	0.245 *	-0.053	0.047	-0.047
Defenders	0.720 ****	0.531 ****	0.112	0.097	-0.200	-0.248	-0.770 ****	-0.609 ****
Risk avoidance	0.575 ****	0.281 *	0.425 ***	0.266 *	-0.243 *	-0.306 **	-0.412 ***	-0.273 *
Factor conditions	0.526 ****	0.325 **	0.171	0.469 ***	-0.037	-0.273 *	-0.413 ***	-0.081
Demand conditions	0.162	-0.094	0.328 ***	0.258 *	-0.092	-0.131	0.030	0.213
Related & supported industries	-0.669 ****	-0.305 **	-0.306 **	-0.072	0.234 *	0.251	0.593 ****	0.432 ***
Environmental Simplicity	0.689 ****	0.363 **	0.459 ****	0.164	-0.284 **	-0.295 *	-0.530 ****	-0.434 ***
Environmental Stability	0.649 ****	0.337 **	0.390 ***	0.231	-0.334 ***	-0.367 **	-0.580 ****	-0.414 ***

H= high-performing firms (N=63).

M= medium-performing firms (N=40).

^a because of few firms (only three) with PL in the low-performing firms they have been excluded.

**** p< 0.001;

*** p< 0.01;

** p< 0.05;

* p< 0.1

p> 0.1

9.2.3.1 Price leadership competitive strategy

Table 9.5 shows that this competitive strategy in the high-performing firms is positively associated with the following variables: financial control, formalisation, defenders, risk avoidance, factor conditions, environmental simplicity, and environmental stability; and negatively associated with strategic planning, prospectors, related and supported industries, authority delegation, and liaison devices. Such findings are consistent with the literature that has been discussed in Chapters 5 and 6. These results support Hypothesis 4.1 stated in Chapter 7.

Comparing these relationships between the PL competitive strategy and the supporting variables at the two levels of performance, barriers that may prevent firms from achieving their competitive advantage can be identified. Findings presented in Table 9.5 indicate two things:

(1) PL competitive strategy has the same associations (either positive or negative) with all variables in the medium and high-performing firms.

(2) Since all these positive and negative associations in the high-performing firms are consistent with the literature, and since they have a higher correlation with the PL for the high-performing firms than for the medium-performing firms, the links with these variables could be considered as a barrier that may prevent the medium-performing firms from achieving their competitive advantage. However, even though these correlations are higher for the high-performing firms, such a difference could have occurred fairly frequently by chance. Thus, the differences between these associations at the two levels of performance can be tested by using the Z-test.

The results of the Z-test, as presented in Table 9.6, indicate that 11 out of the 15 variables associated with the PL are significantly different at the 0.10 or 0.05 levels of significance. Thus, these variables can be considered as barriers that prevent medium-performing firms from achieving their competitive advantage. Such findings support Hypothesis 4.2 stated in Chapter 7.

Table 9.6: Price Leadership and the importance of supporting variables

Supporting variables	HPF ^a	MPF	Z-value ^b
Strategic planning	-0.743	-0.233	3.43149
Liaison devices	-0.772	-0.345	3.17271
Prospectors	-0.742	-0.411	2.46999
R&SI	-0.669	-0.305	2.35465
Environmental Simplicity	0.689	0.363	2.22023
Financial control	0.795	0.579	2.02098
Environmental Stability	0.649	0.337	2.01596
Formalisation	0.695	0.414	1.98864
Risk avoidance	0.575	0.281	1.74578
Defenders	0.72	0.531	1.50701
Analysers	0.086	-0.186	1.30818
Demand conditions	0.162	-0.094	1.22864
Factor conditions	0.526	0.325	1.17931
Authority delegation	-0.602	-0.444	1.04442
Strategic control	-0.186	-0.274	0.44333

^a HPF= high-performing firms (N=63) and MPF= medium-performing firms (N=40).

^b The Z-value must be equal to or greater than 1.28, 1.645 and 2.33, respectively, to reach the 0.10, 0.05 and 0.01 levels of significance (Bolted).

These variables which are considered as barriers that prevent medium-performing firms from achieving their competitive advantage are ranked based on the results of the Z-test, as shown in Table 9.6. As can be seen, strategic planning, liaison devices, prospectors, and related and supported industries variables are at the top of the list, and they are all negatively correlated to PL. Since users of this competitive strategy are devoted to cost control, so that above-average return can be obtained even with low prices, and since products are more standardised and less innovative, there is little need for long-term planning or co-ordination between specialists such as engineers and scientists who are more useful for handling complex, unstructured problems.

Furthermore, firms using a PL competitive strategy are likely to confront the least environmental complexity and change (Porter, 1980, Hambrick, 1985; Miller, 1988) because environments that are complex or subject to much change will create severe diseconomies for organisations trying to pursue a PL strategy. These high-performing firms are emphasising that they are working in stable and simple environments and have open relationships with their related and supported industries.

Thus, the 11 variables listed in Table 9.6 can be considered (based on their ranking) as more important variables to be considered by the medium-performing firms using PL competitive strategy in order to achieve their competitive advantage. Although the other four variables listed in Table 9.6 are not as important as the previous 11 variables in terms of differentiating between the two levels of performance, they should still be considered by the medium-performing firms in order to achieve their competitive advantage; their importance is based on the way that they are ranked in Table 9.6.

9.2.3.2 Low cost differentiation competitive strategy

As Table 9.5 shows, this competitive strategy in the high-performing firms is significantly positively associated with the following variables: risk avoidance, demand conditions, environmental simplicity, environmental stability and formalisation; and significantly negatively associated with strategic planning, and related and supported industries variables. Other results should be considered before discussing Hypothesis 4.1. These are:

(1) the rest of the variables (with the exception of demand conditions, which will be explained later) listed in Table 9.5 are correlated with LCD strategy in the way they were predicted (see table 7.1 in Chapter 7). However, these relationships did not reach the level of significance as presented in Table 9.5.

(2) in comparing the correlations, in both directions, of all variables with the LCD in the high-performing firms and those with the PL at the same level of performance, findings indicate that these variables are less correlated to the LCD than to the PL competitive strategy. These findings are consistent with the literature discussed in chapters 5 and 6. Such findings therefore are largely supporting Hypothesis 4.1.

The demand conditions variable is predicted to have a neutral association with LCD in the high-performing firms; instead, it is significantly positively correlated to LCD. However, as discussed in Chapter 6, the links between a competitive strategy and demand conditions variable are related to the degree of environmental certainty that is required. Firms using LCD are expected to have less environmental certainty than PL, therefore they may need to emphasise this variable more, as will be discussed later. Moreover, this variable has a low reliability score, as discussed earlier, which may partly explain this exception.

By comparing these positive and negative relationships between the LCD competitive strategy and the supporting variables in the high and medium-performing firms, barriers that prevent these firms from achieving their competitive advantage can be identified. Since all these associations in the high-performing firms are consistent with the literature, and since they are less emphasised by the medium-performing firms, the links with these variables could be considered as a barrier that may prevent the medium-performing firms using LCD competitive strategy from achieving their competitive advantage. However, by using the Z-test the differences between these relationships at the two levels of performance can be tested.

The results of the Z-test presented in Table 9.7 indicate that there are two variables (environmental simplicity and factor conditions) that are significantly different between the high and the medium-performing firms at the 0.10 or 0.05 levels of significance. Thus, it can be concluded that these two variables may be considered as barriers that prevent lower-performing firms from achieving their competitive advantage. Such findings support the Hypothesis 4.2.

Although firms with LCD are not expected to be in environments as stable or simple as those firms using PL competitive strategy, they still need more simple environments than those firms using a DIF competitive strategy because of their different supply side characteristics. Medium-performing firms seem to overemphasise the factor conditions variable. Such an emphasis will make LCD closer to the PL competitive strategy than being an LCD. Firms using LCD need to balance their emphasising of this variable to satisfy the demand side characteristics of marketing differentiation.

Table 9.7: Low cost differentiation and the importance of supporting variables

Supporting variables	HPF ^a	MPF	Z-value ^b
Factor conditions	0.171	0.469	1.602280
Environmental Simplicity	0.459	0.164	1.575857
R&SI	-0.306	-0.072	1.163250
Risk avoidance	0.425	0.266	0.863967
Environmental Stability	0.39	0.231	0.841704
Prospectors	-0.174	-0.013	0.776070
Liaison devices	-0.178	-0.31	0.670433
Authority delegation	-0.003	-0.14	0.657545
Formalisation	0.463	0.357	0.608699
Analysers	-0.059	-0.165	0.512274
Demand conditions	0.328	0.258	0.365282
Financial control	0.18	0.111	0.336213
Defenders	0.112	0.097	0.072302
Strategic planning	-0.313	-0.305	0.042170
Strategic control	0.139	0.142	0.014590

^aHPF= high-performing firms (N=63) and MPF= medium-performing firms (N=40).

^bThe Z-value must be equal or greater than 1.28, 1.645 and 2.33, respectively, to reach the 0.10, 0.05 and 0.01 levels of significance (Boded).

However, it can be noted that both of these variables (i.e. environmental simplicity and factor conditions) are environmental variables. Therefore, it seems that external environmental links differentiate the two performance groups in terms of the LCD competitive strategy. Finally, although these two variables are the most important for medium-performing firms with LCD

strategy in order to achieve their competitive advantage, there are other variables that can also be considered. Table 9.7 lists all variables based on their importance as differentiators between the two levels of performance; thus they should be considered by medium-performing firms as they have been ranked in Table 9.7.

9.2.3.3 Imitation competitive strategy

Table 9.5 shows this competitive strategy in the high-performing firms is significantly positively associated with analysers, and related and supported industries; and negatively correlated with risk avoidance, environmental stability, and environmental simplicity. Other results should be considered before discussing Hypothesis 4.1. These are: (1) the rest of variables listed in Table 9.5 are correlated with IMT strategy in the way they were predicted, but these relationships did not reach the level of significance, as presented in Table 9.5. (2) in comparing the correlations, in both directions, of all variables with IMT in the high-performing firms and those with DIF at the same level of performance, findings indicate that these variables are less correlated to the IMT than to the DIF competitive strategy. These findings are consistent with the literature discussed in Chapters 5 and 6. Such findings, therefore, largely support Hypothesis 4.1.

Table 9.8: Imitation and the importance of supporting variables

Supporting variables	HPF ^a	MPF	Z-value ^b
Strategic planning	0.177	0.574	2.26253
Analysers	0.245	-0.053	1.44516
Liaison devices	0.089	0.357	1.35493
Factor conditions	-0.037	-0.273	1.15888
Formalisation	-0.18	-0.369	0.97866
Prospectors	0.048	0.207	0.77231
Financial control	-0.003	-0.127	0.59444
Authority delegation	0.102	0.221	0.58330
Risk avoidance	-0.243	-0.306	0.32497
Defenders	-0.2	-0.248	0.24098
Demand conditions	-0.092	-0.131	0.18829
Environmental Stability	-0.334	-0.367	0.17938
Strategic control	0.05	0.077	0.12925
R&SI	0.234	0.251	0.08611
Environmental Simplicity	-0.284	-0.295	0.05723

^a HPF= high-performing firms (N=63) and MPF= medium-performing firms (N=40).

^b The Z-value must be equal to or greater than 1.28, 1.645 and 2.33, respectively, to reach the 0.10, 0.05 and 0.01 levels of significance (Bolded).

Since there was no IMT competitive strategy identified in the low-performing firms, the discussion of this competitive strategy will be between the high and the medium-performing firms with IMT competitive strategy. In comparing these positive and negative relationships between the IMT competitive strategy and these variables in the high and medium-performing

firms, barriers that may prevent firms with IMT from achieving their competitive advantage can be identified. Findings indicate that both the positive and the negative relationships between the supporting variables and IMT are more associated with the IMT in the high-performing firms than in the medium-performing firms. Since these associations are consistent with the existing literature as discussed earlier, these links could be considered as barriers that may prevent the medium-performing firms using IMT from achieving their competitive advantage. However, the results of the Z-test, as shown in Table 9.8, indicate that there are three variables (strategic planning, analysers and liaison devices) that are significantly different, at the 0.10 or 0.05 levels of significance, between the high and the medium-performing firms. Thus, it can be concluded that these variables are barriers that prevent lower-performing firms from achieving their competitive advantage. Such findings support Hypothesis 4.2.

Variables presented in Table 9.8 are ranked based on their importance as barriers that may prevent lower-performing firms from achieving their competitive advantage. At the top of the list are the three significant differentiator factors. It can be noted, as illustrated in Table 9.5, that all three variables are internal variables. Therefore, it seems that internal links differentiate the two subgroups of performing firms in terms of the IMT competitive strategy. It was discussed in the previous section that environmental links differentiate the two subgroups of performing firms in terms of the LCD competitive strategy. This comparison indicates that the internal links are more important for firms using IMT competitive strategy than those with LCD strategy, and vice versa. Since firms with IMT competitive strategy are emphasising price competition in terms of their demand side links, the innovation of competitors will be imitated only after a considerable risk-

reducing lag. However, medium-performing firms with IMT seem to overemphasise the two formal control processes variables (strategic planning and liaison devices), as shown in tables 9.5 and 9.8. In addition, as discussed earlier, the analysers' culture is between those of the prospectors and the defenders. Therefore, because the demand side activities of IMT (price competition) which require different functional links compared to that of the marketing differentiation in the DIF, IMT is expected to be more effective in organisations that have the characteristics of the analysers' culture. Thus, such variable should be more emphasised by medium-performing firms with IMT competitive strategy in order to achieve their competitive advantage. Finally, although these three variables are the most important variables to be considered by the medium-performing firms with IMT strategy in order to achieve their competitive advantage, there are other variables that can also be considered.

Table 9.8 lists all variables that are related to IMT based on their importance as a differentiators between the two levels of performance; thus they should be considered by medium-performing firms as they have been ranked in Table 9.8, noting that most of these variables are overemphasised by the medium performing firms which make them closer to the DIF than to the IMT competitive strategy.

9.2.3.4 Differentiation competitive strategy

Table 9.5 indicates that the DIF competitive strategy in high-performing firms is significantly positively associated with the following variables: strategic planning, strategic control, prospectors, related and supported industries, authority delegation, and liaison devices; and negatively positively associated with: financial control, defenders, risk avoidance, factor conditions, environmental simplicity, environmental stability, and formalisation. These

findings are consistent with the literature that has been discussed in Chapters 5 and 6. Such findings support Hypothesis 4.1.

Comparing these relationships between the DIF competitive strategy and the supporting variables at the two levels of performance, barriers that may prevent firms from achieving their competitive advantage can be identified. Findings presented in Table 9.5 indicate two things:

- (1) DIF competitive strategy has the same associations (either positive and negative) with all variables in the medium and in the high-performing firms.
- (2) Since all these positive and negative associations in the high-performing firms are consistent with the literature, and since they have a higher correlation with the DIF for the high-performing firms than for the medium-performing firms, the links with these variables could be considered as a barrier that may prevent the medium-performing firms from achieving their competitive advantage. However, even though these correlations are higher for the high-performing firms, such a difference could have occurred fairly frequently by chance. Thus, the differences between these relationships at the two levels of performance can be tested by using the Z-test.

Table 9.9: Differentiation and the importance of supporting variables

Supporting variables	HPF ^a	MPF	Z-value ^b
Liaison devices	0.689	0.333	2.38298
Factor conditions	-0.413	-0.081	1.70694
Defenders	-0.77	-0.609	1.49218
Authority delegation	0.668	0.459	1.48303
Strategic planning	0.619	0.444	1.17363
Environmental Stability	-0.58	-0.414	1.05852
R&SI	0.593	0.432	1.04848
Financial control	-0.648	-0.518	0.94509
Prospectors	0.663	0.542	0.91135
Demand conditions	0.03	0.213	0.88818
Risk avoidance	-0.412	-0.273	0.75284
Strategic control	0.33	0.453	0.69432
Environmental Simplicity	-0.53	-0.434	0.59750
Formalisation	-0.455	-0.359	0.54944
Analysers	0.047	-0.047	0.44846

^a HPF= high-performing firms (N=63) and MPF= medium-performing firms (N=40).

^b The Z-value must be equal to or greater than 1.28, 1.645 and 2.33, respectively, to reach the 0.10, 0.05 and 0.01 levels of significance (Boded).

The results of the Z-test indicate that there are four variables (liaison devices, factors conditions, defenders, and authority delegation) associated with the DIF which are significantly different at the 0.10 or 0.05 levels of significance, as shown in Table 9.9. Thus, these variables can be considered as

barriers that prevent medium-performing firms from achieving their competitive advantage. Such findings are supporting Hypothesis 4.2.

It can be seen from Table 9.9 that the liaison devices variable (Z-value 2.38) is the most important variable to be considered by medium-performing firms in order to achieve their competitive advantage, followed by factor conditions, defenders, and authority delegation. Since these firms are concerned with innovation to offer existing products more efficiently or to introduce new products/services, such firms need an organisational structure which encourages and motivates development and innovation, hence co-ordination between business units, which helps to provide the collaboration of specialists from different areas, is essential. These complexities, as discussed earlier, create reciprocal interdependencies that require close contact, through integrative liaison devices, among managers; at the same time, these complexities require the delegation of authority to experts in the firm.

Furthermore, since these organisations aim to lead competitive actions and to generate such new products/processes faster than competitors, they can be expected to respond rapidly to early signals concerning areas of opportunity and be first in new product and market areas. Therefore, a prospectors' culture in these organisations is expected to be effective in facilitating such activities rather than a defenders' culture.

As discussed in Chapter 6, firms using differentiation competitive strategy are required to invest more in the development of long-term resources and competencies rather than in basic factor conditions, a variable that has been less emphasised in the high-performing firms, as has been predicted.

Finally, although the four variables at the top of the list in Table 9.9 are the most important to be considered by the medium-performing firms with DIF

strategy in order to achieve their competitive advantage, there are other variables that can also be considered. Table 9.9 lists all variables based on their importance as differentiators between the two levels of performance. Since the correlations of these variables with DIF are consistent with the literature, they should also be considered by medium-performing firms as they have been ranked in Table 9.9.

9.2.3.5 Comparing competitive strategies

Based on the previous analysis of the four competitive strategies, the following statement can be made:

(1) analysing the four competitive strategies in the high-performing firms, as shown in Table 9.5, we find that all variables that are significantly positively correlated to the PL are significantly but negatively correlated to the DIF competitive strategy. The opposite is also true.

(2) analysing the LCD and IMT we find the following: (a) All variables that are significantly correlated with PL in the high performing firms (either positively or negatively) are also correlated in the same way with the LCD at the same level of performance, but with lower significance. (b) All variables that are significantly correlated with DIF in the high-performing firms (either positively or negatively) are also correlated in the same way with the IMT at the same level of performance, but with lower significance.

Based on the analysis of these competitive strategies, we were able to identify the barriers that may prevent firms with each one of these competitive strategies from achieving their competitive advantage. These findings are based, however, on the aggregate analysis of the two industries. Therefore, further analysis of barriers that may prevent firms from achieving their competitive

advantage will be discussed in the next chapter when the two industries are discussed separately. Therefore, different barriers may exist with respect to each competitive strategy in each industry. All these barriers will then be summarised and discussed together in Chapter 11.

9.3 Analysis of performance groups

As discussed in the methodology chapter, the same five questions concerning current performance were used to evaluate firm performance three years ago (which we will call 'previous' performance), as shown in Appendix A. All firms have been classified in the previous chapter based on their current performance, hence previous performance can be used to compare the change of performance in the different groups of firms with different competitive strategies. Since all firms have been classified into three performance groups (i.e. high, medium, and low) based on current performance, in this section we will test the change of performance within each group of firms. A brief discussion will be given about these changes in performance, then we will relate them to the previous discussions on the competitive strategies groups.

Figure 9.2 shows the relationship between current and previous performance in the high-performing firms. The change in performance has been calculated by subtracting the previous performance from the current performance. Therefore, zero indicate that there is no change in the performance of the firm(s), while positive results indicate an improvement in the performance, and negative results indicate a decrease in performance. It can be seen clearly in Figure 9.2 that there are more firms in this group which have on the whole made an improvement in their current performance. In other words, the current performance in most of the cases is better than the previous

performance. The differences between means of the current and previous performance of the high-performing firms were tested by using the t-test. Findings show that the mean scores of performance of this group have increased significantly at the 0.05 level of significance from 3.78 three years ago to 4.36 in the current year, as shown in Table 9.10.

Figure 9.2:
Current and previous performance in high performing firms

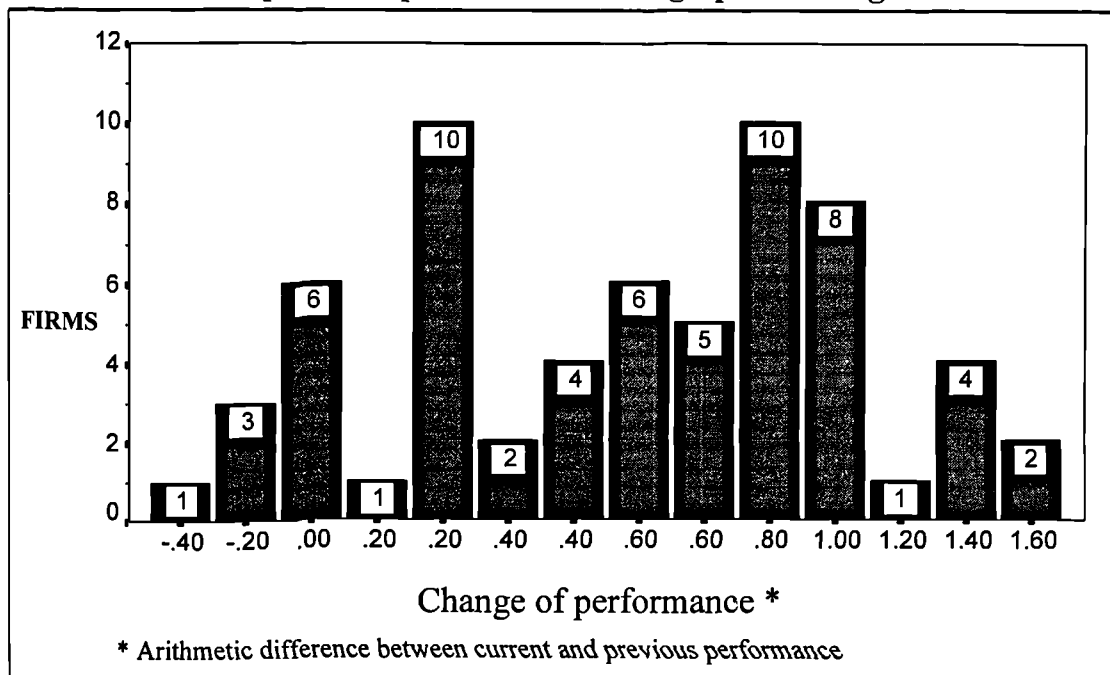


Table 9.10: Current and previous performance by performance groups

Performance levels	Number of firms	Current performance	Last performance
High-performing firms	63	4.36	3.78**
Medium-performing firms	42	3.48	3.48
Low-performing firms	20	1.97	2.32*

* and ** indicate that the means of the current and previous performance are significantly different at the 0.10 and 0.05, respectively, on the basis of the two-tailed t-test.

In the medium-performing group of firms, as shown in Figure 9.3, some firms have improved their performance while others have not. However, the mean score of the current and previous performance of the medium performing firms was analysed using the t-test, as presented in Table 9.10. Findings indicate that the mean score of the current performance of this group is the same as three years ago, as shown in Table 9.10.

Figure 9.3:
Current and previous performance in medium-performing firms

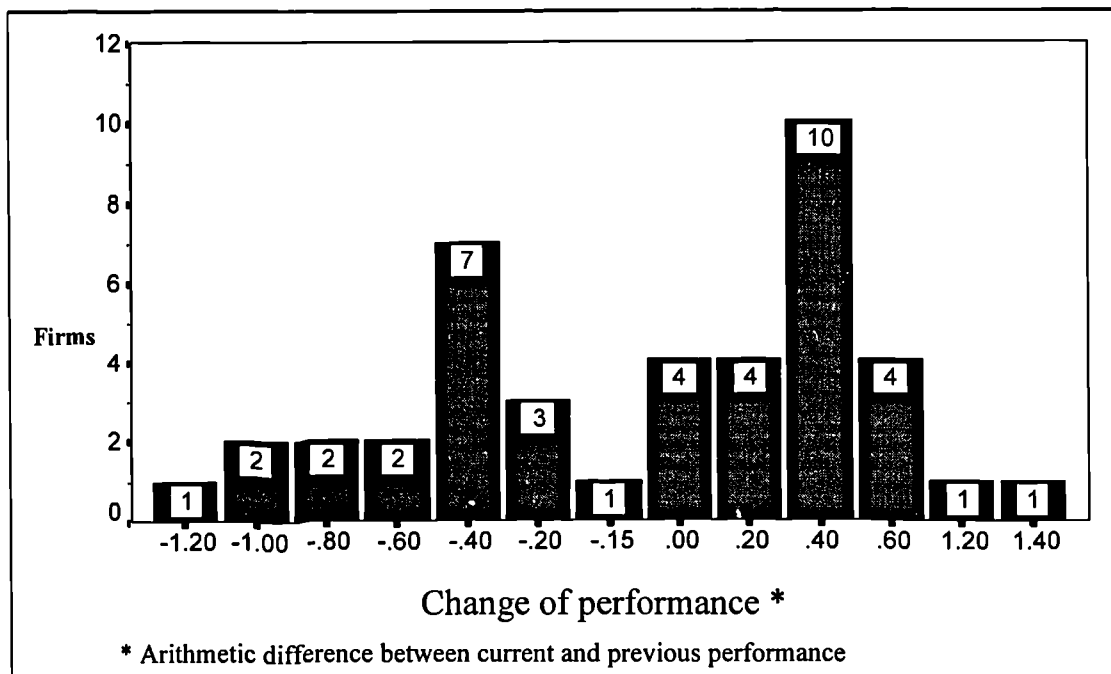
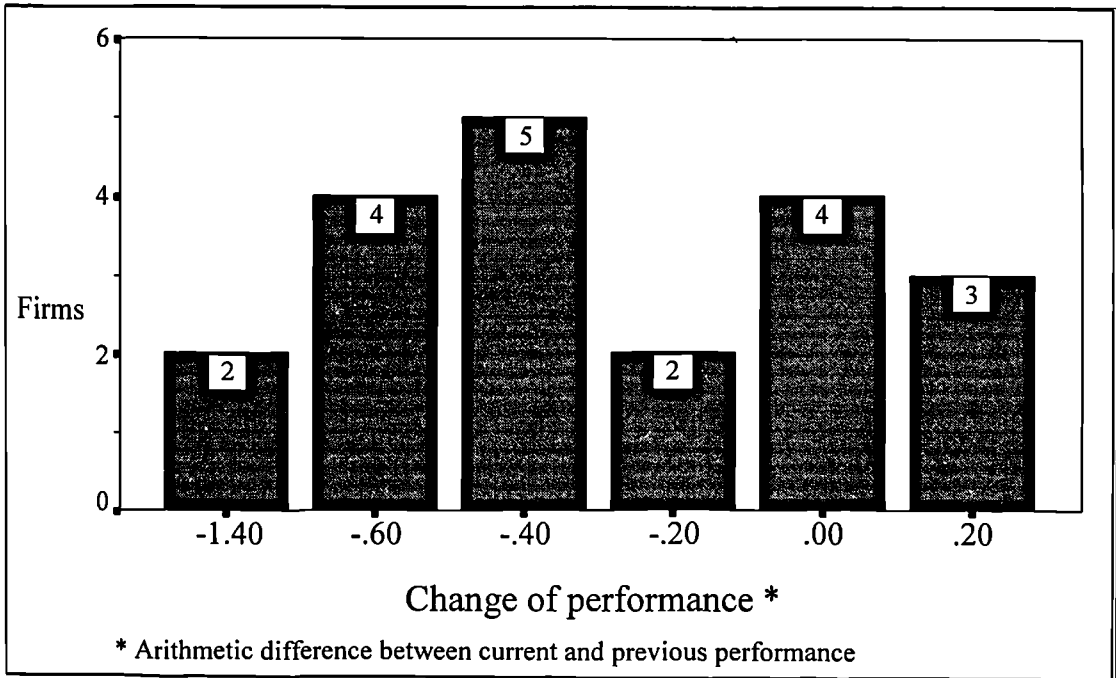


Figure 9.5 shows the relationship between the current and the previous performance in the low-performing firms. It can be seen clearly that there are more firms in this group have on the whole a better level of performance three years ago than in the current year. Using the t-test, the difference between the current and previous performance was tested. Findings show that the mean scores of performance of this group have decreased significantly at the 0.10 level of significance from 2.32 three years ago to 1.97 in the current year, as

shown in Table 9.10 (four firms have been excluded from the comparison made in this performing group because they did not respond to the previous performance questions).

From the findings presented in Figures 1, 2, 3, and Table 9.10, the following conclusions can be drawn. The change in performance is different in the high, medium, and low-performing firms. Current performance is mainly above previous performance in the high-performing firms, while it is below previous performance in the low-performing firms, and almost the same as previous performance in the medium-performing firms. Moreover, in analysing the mean scores of the three levels of performance it has been found that the ranking of the mean scores is unchanged (i.e. the ranking of the previous performance is the same as the current performance), but the dispersion is wider between the different levels of performance.

Figure 9.4:
Current and previous performance in low-performing firms



Relating these changes in performance to the four competitive strategies, the sustainability of competitive advantage can be tested. This is to test whether the results presented in Table 9.10 hold for the different competitive strategies or not. In other words, is the current performance, in the high-performing firms, higher than the previous performance in firms using different competitive strategies?

Results of testing the differences in performance with respect to the four competitive strategies are presented in Table 9.11. Findings show that the mean scores of current performance in the high-performing firms using these four competitive strategies is significantly higher than previous performance at the 0.05 level of significance. For example, the mean scores of performance of firms using PL competitive strategy have increased from 3.76 three years ago to 4.35 in the current year; this difference is significant at the 0.05 level of significance. The mean scores of performance of firms using IMT competitive strategy have also increased from 3.67 three years ago to 4.24 in the current year, where this difference is also significant at 0.05 level of significance. In short, these results indicate that high-performing firms with all of the four competitive strategies are able to sustain their competitive advantage over time.

Table 9.11: Change of performance and competitive strategies

Competitive Strategies	Performance	Number of firms	Current performance	Previous performance
Price Leadership	High	26	4.35	3.76**
	Medium	15	3.52	3.63*
	Low ^a	2	2.70	3.60
Low Cost Differentiation	High	11	4.27	3.69**
	Medium	6	3.53	3.57
Imitation	High	9	4.24	3.67**
	Medium	8	3.48	3.40
Differentiation	High	16	4.49	3.93**
	Medium	9	3.38	3.07

^a because of few numbers of firms, this competitive strategy has been excluded from the t-test.

* and ** indicate that the means of the current and previous performance are significantly different at the 0.10 and 0.05 levels, respectively, on the basis of the two-tailed t-test.

In relating these changes in performance to the previous discussions on the different groups of firms using the different competitive strategies within each of the performance levels, the following conclusion can also be drawn. It has been found that high-performing firms have more strategic coherence than the lower-performing firms, in all three different aspects of strategic coherence discussed earlier. Findings presented in Table 9.11 indicate that high-performing firms not only have a high performance level in the current year but have also improved their performance significantly in the last three years. Therefore, high-performing firms which have maintained strategic coherence

(with respect to all aspects of strategic coherence) are able not only to achieve their competitive advantage but also to sustain it over time.

As a further discussion, since these four competitive strategies are a development of Porter's different competitive strategies, and since Porter's two competitive strategies (i.e. cost leadership and differentiation) are similar to our PL and DIF competitive strategies respectively, it can be argued that firms using these two competitive strategies, as well as those firms using the other competitive strategies (i.e. LCD and IMT), can achieve and sustain their competitive advantage.

In medium-performing firms it has been found that the performance of firms using PL and LCD competitive strategies has decreased, while the performance of firms using the other competitive strategies, i.e. IMT and DIF have increased, as shown in Table 9.11. Even though these changes in performance are not significant (with the exception of PL competitive strategy) they will be used as indicative results. For example, the mean performance scores of firms using PL competitive strategy decreased from 3.63 three years ago to 3.52 in the current year, while the mean scores of performance of firms using DIF competitive strategy have increased from 3.07 three years ago to 3.38 in the current year, as shown in Table 9.11. These findings suggest that as it is difficult for firms to afford to achieve their competitive advantage and consequently get a high level of performance (i.e. cannot maintain a high level of strategic coherence), DIF competitive strategies will be the best competitive strategies for them to follow, then IMT. Since these results are related to the two different industries together, different results might be obtained when these two industries are analysed separately. Therefore, this issue will also be discussed in the next chapter when the two industries are discussed separately.

9.4 Conclusion

It has been found that high-performing firms were able to maintain a high level of strategic coherence (with respect to all three aspects of strategic coherence) than lower-performing firms. By relating the competitive strategies to the different levels of performance, strategic coherence was tested in three different ways with respect to its three aspects. These are:

First, the competitive coherence, tested in two different ways (1) by the number of firms with unclear competitive strategy at the different levels of performance; (2) by the consistency (strength of the coherence) within each competitive strategy at the different levels of performance.

Second, the cognitive coherence, tested by comparing the two methods of measuring the competitive strategies at the different levels of performance.

Third, the organisational coherence, tested by linking the four competitive strategies to the internal and external (supporting) variables.

Barriers that may prevent lower-performing firms with different competitive strategies from achieving their competitive advantage were identified. All barriers that have been discussed in this chapter and those that will be discussed in the next chapter will be summarised in Chapter 11.

Findings indicate that high-performing firms which have more strategic coherence than the lower-performing firms are able not only to achieve their competitive advantage but also to sustain it over time. Such findings were obtained by relating the findings in the first two sections to the change of performance.

Finally, findings presented in this chapter are based on the analysis of the data from the two different industries (food and petrochemical) investigated. However, different barriers to achieving and sustaining competitive advantage might be found when the two industries are analysed separately. The next chapter will therefore analyses and compare results related to these two industries.

Chapter 10

Strategic coherence and barriers to achieving competitive advantage: food and petrochemical industries

10.1 Introduction

This chapter presents a detailed analysis of the food and petrochemicals industries which have been investigated in this research. However, rather than analysing each industry separately, they will be analysed and compared together. In Chapter 8, all firms were classified independently into performance groups and into different competitive strategy groups. In this chapter these two groups will be related to one another in each industry to analyse the way in which firms achieve and sustain their competitive advantage, and the presence of different barriers that may prevent firms in each industry from achieving their competitive advantage.

The three different aspects of strategic coherence (competitive, cognitive and organisational) will be tested in this chapter with regard to the two industries. The lack of coherence (in one or more of these aspects) is considered as a barrier that may prevent firms from achieving their competitive advantage. Therefore, barriers to achieving competitive advantage will be discussed at the same time as discussing the different aspects of strategic coherence. Performance change (i.e. previous and current performance) will then be related

to the discussion of strategic coherence in each industry. Before we analyse the different aspects of strategic coherence and the barriers, findings of the performance classification regarding each industry will be discussed.

10.2 Performance in the two industries

A total of 132 usable questionnaires returns were received. Sixty-four respondents were from the food industry, and sixty-eight were received from the petrochemical industry. All firms were clustered in terms of their performance, in Chapter 8, by using cluster analysis, then tested by using ANOVA and the Duncan Multiple Range Test. The results of these tests indicate that there are three levels of performance (i.e. high, medium, and low). In this chapter firms have been classified based on their activities as food industry and petrochemical industry firms.

Table 10.1: Performance classification of firms in two industries

Levels of performance	Petrochemical industry firms		Food industry firms	
	Number of firms	Mean of performance	Number of firms	Mean of performance
High	37	4.38	26	4.32
Medium	19	3.49	23	3.47
Low	12	2.17	12	1.92

Table 10.1 shows the classified firms and their performance mean scores at each level of performance within each industry. Findings, as presented in Table 10.1, indicate that all the three levels of performance (i.e. high, medium,

and low) exist among the firms in the food and in the petrochemical industries. It also shows the number of firms at each level of performance in the two industries.

Having classified all firms in the two industries based on their performance, they can be compared by testing the relationship between the industry's type and the level of performance. Comparing the two industries in terms of their performance, the following hypothesis was developed:

H0: There is no association between the level of performance and the industry type.

The Chi-square test for independence is the appropriate test to determine if there is an association between the industry and the level of performance. The Chi-square test results ($\chi^2=1.92742$, $df =2$, $P =0.38148$), as shown in Table 10.2, indicate that petrochemical and food industries are not significantly different in the three levels of performance, and consequently there is no association between the industry type and the level of performance.

Table 10.2: Association between levels of performance and industry type

Industry type	Level of performance			Total
	High	Medium	Low	
Food	26 (41.3 %)	23 (54.8 %)	12 (50 %)	61 (47.3 %)
Petrochemical	37 (58.7 %)	19 45.2	12 (50 %)	68 (52.7 %)
Total	63 (48.8 %)	42 (32.6 %)	24 (18.6 %)	129 (100 %)

$\chi^2=1.92742$ $df = 2$ $P= 0.38148$

10.3 Strategic coherence

To test the different aspects of strategic coherence (competitive coherence, cognitive coherence and organisational coherence), the three levels of performance and the four competitive strategies identified previously in Chapter 8 will be linked together in this section. The different hypotheses that are related to these different aspects of strategic coherence as well as those that are related to the barriers to achieving competitive advantage were presented in Chapter 7 will be tested in this chapter with regard to each of the two industries separately. As discussed in Chapter 9, the lack of coherence in these aspects of strategic coherence is considered as a barrier that may prevent firms from achieving their competitive advantage; therefore these barriers will then be tested, in the two industries, at the same time as discussing the different aspects of strategic coherence.

10.3.1 Competitive coherence

This aspect of strategic coherence, in each industry, will be tested in two different ways: firstly, by testing the number of firms with unclear competitive strategy at the different levels of performance; secondly, by testing the strength of the coherence (internal consistency) within each competitive strategy at the different levels of performance.

Table 10.3: Competitive strategies and performance levels in petrochemical industry

Levels of Performance	Sub-group No.	No. of Firms	Mean scores of competitive foundations ^a				Competitive Strategy	Mean scores of competitive strategies
			CA	PC	ID	MD		
High performing firms	1	14	4.40	4.31	2.14	2.29	PL	4.35*
	2	5	4.47	2.47	2.27	4.53	LCD	4.50*
	3	8	2.10	4.31	4.51	1.90	IMT	4.41*
	4	10	2.62	2.02	4.53	4.39	DIF	4.46*
Medium performing firms	1	4	4.11	3.92	2.00	2.03	PL	4.01*
	2	4	4.17	1.81	2.06	4.31	LCD	4.24*
	3	4	2.42	4.03	4.14	1.81	IMT	4.08*
	4	5	3.09	2.93	4.18	4.07	DIF	4.12*
	5	1	3.67	3.78	2.33	3.33	NC	--
Low ^b performing firms	1	2	4.22	4.00	2.94	1.61	PL	--
	2	8	3.96	2.99	4.10	3.96	NC	--
	3	1	2.00	2.56	2.67	2.89	NC	--

PL= Price leadership; LCD= Low cost differentiation; IMT= Imitation; DIF= Differentiation; NC= not clear.

* means of competitive strategy at high and medium-levels of performance are significantly different at 0.05 level on basis of t-test.

^a CA= cost advantage, PC= price competition, ID= innovative differentiation, and MD= marketing differentiation.

^b because of few firms (only two) with PL in the low-performing firms they have been excluded from t-test.

Table 10.4: Competitive strategies and performance levels in food industry firms

Levels of Performance	Sub-group No.	No. of Firms	Mean scores of competitive foundations ^a				Competitive Strategy	Mean scores of competitive strategies
			CA	PC	ID	MD		
High performing firms	1	12	4.31	3.93	2.29	2.21	PL	4.12
	2	6	4.22	2.48	2.02	4.37	LCD	--
	3	6	2.11	1.54	4.52	4.11	DIF	4.31
	4	1	1.89	4.56	4.22	4.33	IMT ^a	--
	5	1	1.44	1.89	1.89	3.89	NC	--
Medium performing firms	1	11	4.17	3.93	2.74	2.04	PL	4.05
	2	2	4.17	2.28	2.06	4.44	LCD ^a	--
	3	4	3.11	2.64	4.14	3.92	DIF	4.03
	4	4	2.14	4.14	3.86	1.94	IMT	--
	5	1	2.78	2.33	2.89	1.33	NC	--
Low performing firms	1	1	4.22	3.44	2.89	1.56	PL ^b	--
	2	6	3.65	3.39	4.28	3.81	NC	--
	3	4	2.44	2.36	2.44	2.53	NC	--

PL= Price leadership; LCD= Low cost differentiation; IMT= Imitation; DIF= Differentiation; NC= not clear.

^a CA= cost advantage, PC= price competition, ID= innovative differentiation, and MD= marketing differentiation.

^b because of few firms with these competitive strategies, they have been excluded from the t-test.

Competitive strategies and performance levels in the petrochemical and food industries are respectively presented in Tables 10.3 and 10.4. These tables contain descriptive information about the different classifications that have been analysed in Chapter 8. Therefore, they illustrate the number of firms that have been identified with different competitive strategies within each performance group. They also illustrate the mean scores of each of the four foundations of competitive advantage within each subgroup of the competitive strategy in the two industries.

Testing strategic coherence through the number of firms with unclear competitive strategies, in each industry, the performance groups (i.e. high, medium, and low) need to be related to the competitive strategy groups to identify the competitive strategies that exist within each of the performance levels. At the same time, other findings from these relationships in the two industries will be discussed and compared. Therefore, within each performance level, firms with all of the competitive strategy groups will be compared in the two industries, then the number of firms with unclear competitive strategies will be compared across the different levels of performance in both industries.

Comparing the high-performing groups in the two industries, Table 10.3 shows that the high-performing firms in the petrochemical industry are classified into four subgroups. The first subgroup (with 14 firms) has been identified as PL, the second subgroup (with 5 firms) has been identified as LCD, the third subgroup (with 8 firms) has been identified as IMT, and the last subgroup (with 10 firms) has been classified as DIF competitive strategy.

Table 10.4 shows that high-performing firms in the food industry have been classified into five subgroups, the first, second, and third subgroups being identified as PL, LCD, and DIF, respectively. However, only one firm in the

fourth subgroup has been identified as IMT. Although this firm which have identified initially with IMT, the strategy of this firm is not as clear as it is on the other levels of performance or in the petrochemical industry. The fifth subgroup, also with only one firm, cannot be regarded as having any of the four competitive strategies.

Thus, the differences between the two industries in the high-performing groups can be summarised as follows:

- (1) there are no firms that have been classified as having no clear strategy among the petrochemical industry firms;
- (2) four firms have been identified as IMT in the petrochemical industry, while there is only one firm among the food industry firms, which has been initially identified as IMT;
- (3) DIF competitive strategy has been followed by ten firms in the petrochemical industry, and by six firms in the food industry, however, in terms of their distribution, the other competitive strategies (i.e. PL and LCD) are very similar in the two industries.

The number of firms at each level of performance, in each industry, will be tested by the end of this discussion. In addition, the difference of the two industries in terms of the number of competitive strategies, can be explained by the different nature of the two markets. This will also be explained further after discussing the other levels of performance.

Comparing the medium-performing groups in the two industries, five subgroups have been identified in each industry. Four of them have been identified with the four competitive strategies, while the fifth subgroup with only one firm in each industry cannot be identified with any competitive

strategy, as shown in Tables 10.3 and 10.4. The only difference between the two industries in this medium-performing group is that there are more firms (11) in the food industry following the PL competitive strategy than firms (4) following the same strategy in the petrochemical industry.

Classifying the third group of firms, i.e. the low-performing firms in both industries, it has been found that there are three subgroups in each industry as shown in Tables 10.3 and 10.4. The first subgroup in each industry has been classified as PL. However, there are only two firms in the petrochemical industry and only one firm in the food industry, as shown respectively in Tables 10.3 and 10.4, that have been identified with this competitive strategy. Although the second and the third subgroups in the low-performing firms are identified as having no clear competitive strategy, they are different. The last subgroups in both industries have been already classified (in the previous chapters) as having no clear competitive strategies. The second subgroups in both industries (6 firms in the food industry and 8 firms in the petrochemical industry) are those firms which have initially been identified with DIF competitive strategy, as discussed in Chapter 9. However, these firms have been analysed and discussed in the previous chapter when competitive strategies were related to the performance groups. It was concluded there that when these firms (i.e. low-performing firms) are separated from other levels of performing firms, their DIF competitive strategy is not as clear as it is at the other levels of performance. Still, when this subgroup of firms is split into two subgroups in the two industries, it has been found that each subgroup is not as clear as it is at the other levels of performance. For example, in the petrochemical industry (which has a large number of firms in this subgroup compared to the food industry) as shown in Table 10.3, it was found that this subgroup has the highest mean score in the ID, and that it has the same mean scores in MD and CA; whereas the DIF

competitive strategy is the combination of the MD and ID only. Therefore, these subgroups in both industries cannot be clearly identified with DIF competitive strategy. Thus, with the exception of the three firms with the PL in this group of performing firms (i.e. the low-performing group), there are no clear competitive strategies that can be assigned to the low-performing group in both industries.

Based on the analysis of these two levels of performance (i.e. high and medium) some findings can be discussed. It seems that there are more firms in the food industry with PL competitive strategy (23) than firms with PL (18) in the petrochemical industry. However, the result seems to be the opposite with the DIF competitive strategy; in the petrochemical industry 15 firms, in the food industry 10 firms. It can be argued that the petrochemical market is more technological-oriented than the food market. Therefore, considering the nature of the two markets, it is expected that the food market is less dynamic and less changing than the petrochemical market. Thus, firms in such a market are expected to be less innovative and therefore adopt the PL competitive strategy more than firms in the petrochemical industry. The opposite is also true with the DIF competitive strategy. There will be further discussion of the different number of firms existing in the two industries, with these two strategies as well as the other two competitive strategies (i.e. LCD and IMT), at the end of this section.

Thus it could be concluded from this analysis of the three levels of performance that the four competitive strategies in the high and medium-performing firms in both industries can be clearly identified. The difference between the two industries in this regard is that one firm in the high-performing firms in the food industry has no clear competitive strategy. However, the four competitive strategies cannot be clearly identified (with the exception of the three firms in both industries) in the low-performing firms. Comparing the

number of firms with unclear competitive strategies across the different levels of performance in both industries, findings can be summarised as follows. The number of firms with unclear competitive strategies in the food industry were 2, 1, and 10 in the high, medium, and low-performing firms respectively. However, in the petrochemical industry there were no firms with unclear competitive strategy in the high-performing firms, one firm among the medium-performing firms, and nine firms among the low-performing. Thus, the number of firms with unclear competitive strategy in the low-performing firms is higher than those in other levels of performance in both industries.

Such findings in both industries support Hypothesis 2.1 that high-performing firms should have a high coherence between two particular foundations of competitive advantage. At the same time, they support Hypothesis 2.2 that the lack of coherence between two particular foundations of competitive advantage may prevent lower-performing firms from achieving their competitive advantage.

In testing competitive coherence through the internal consistency of each competitive strategy, the information presented in Tables 10.3 and 10.4 will be used. The strength of this coherence can be seen from comparing the mean scores of the two particular foundations which form each competitive strategy across the different levels of performance. Then it can also be seen from comparing each competitive strategy across the different levels of performance.

The mean scores of the foundations of the competitive advantage for the petrochemical and food industries are illustrated respectively in Tables 10.3 and 10.4. Comparing the mean scores of the two foundations of the competitive advantage (which form each of the competitive strategies) at the different levels of performance, findings indicate that the competitive strategies are more

clearly identified in the high-performing group of firms than in the lower-performing group. Considering one (or both) of the two particular foundations of competitive advantage which form one of the four competitive strategies in the high-performing firms and comparing it with the same foundation in a lower level of performance, findings indicate that the former is higher than the latter. For example, considering the scores of CA (4.40) and of PC (4.31) of the PL in the high-performing firms in Table 10.3, and comparing them with those of the medium-performing firms in the same industry (CA (4.11) and PC (3.92)), or comparing them with those of the medium-performing firms in the other industry (i.e. the food industry firms, in Table 10.4), findings indicate that the first is higher than the other two in both industries. This is true of all strategies.

Such findings indicate that competitive strategies are more clearly identified in the high-performing group of firms than in the lower-performing group of firms in each industry as well as across industries. Although such findings are indicative in both industries, they also support Hypothesis 2.1 that high-performing firms should have a high coherence between two particular foundations of competitive advantage. At the same time, they support Hypothesis 2.2 that the lack of coherence between two particular foundations of competitive advantage is likely to prevent lower-performing firms from achieving their competitive advantage.

Finally, competitive coherence can be tested by comparing the differences between the mean scores of each of the four competitive strategies at the different levels of performance. The t-test will be used for testing the difference between these means. The results of the t-test, in Table 10.3, indicates that all of the competitive strategies are significantly different (at the 0.05 level of significance) at the two levels of performance. In other words, competitive strategies have a significantly stronger coherence (i.e. a higher

mean score) at the high level of performance compared to the lower level of performance in the petrochemical industry. For example, DIF competitive strategy in the high-performing firms (4.46) has a significant stronger competitive coherence at 0.05 level of significance than those in the lower-performing firms (4.12). This is true with all of the competitive strategies in the petrochemical industry. Because of the small number of firms in the food industry only PL and DIF will be compared. As Table 10.4 shows, the results of the t-test indicate that the differences between the mean scores of the competitive strategies are not significant. Although the differences between these means are not significantly different, both PL and DIF strategies have higher mean scores in the high-performing firms than at the lower level of performance. Such results can be used as an indicative of competitive coherence in the food industry.

Thus, based on these three different ways of testing competitive coherence, it can be concluded that competitive coherence is stronger (i.e. competitive strategies are more clearly identified or internally consistent) in the high-performing firms than in the lower-performing firms in each of the two industries. Such findings, in these two industries, support Hypothesis 2.1 that high-performing firms should have a high coherence between two particular foundations of competitive advantage. At the same time, they support Hypothesis 2.2 that the lack of coherence between two particular foundations of competitive advantage is likely to prevent lower-performing firms from achieving their competitive advantage.

As a further comparison of the two industries, the different number of firms with the four competitive strategies at the different levels of performance will be tested, as mentioned earlier in this section. Since it has been found that there are no clear competitive strategies in the low-performing firms, the four

competitive strategies at the two levels of performance (i.e. high and medium levels of performance) will be tested. The following hypothesis was developed to be tested:

H0: In the petrochemical industry there is no association between the four competitive strategies and the levels of performance.

Table 10.5: Chi-square test of petrochemical firms' competitive strategies

Competitive strategies	High-performing firms	Medium-performing firms
Price leadership	14 (37.8 %)	4 (23.5 %)
Low cost differentiation	5 (13.5 %)	4 (23.5 %)
Imitation	8 (21.6 %)	4 (23.5 %)
Differentiation	10 (27 %)	5 (29.4 %)
Column Total	37 (68.5 %)	17 (31.5 %)
$\chi^2=1.45946$	df =3	P=0.69166

To test the nature of the distribution of the four competitive strategies in the two levels of performance, the Chi-square is used. The finding, as shown in Table 10.5 ($\chi^2=1.45946$, df =3, P =0.69166), indicates that the four competitive strategies in the petrochemical industry are not significantly different at the two performance levels. Thus it can be concluded that the four competitive strategies are not different in terms of performance in the petrochemical industry.

For the food industry the following hypothesis was developed to test the number of firms with the four competitive strategies at the different levels of performance:

H0: In the food industry there is no association between the four competitive strategies and the levels of performance.

The results in Table 10.6, where Chi-square value =3.9253, df =3, and p=0.2696, indicate that the above hypothesis cannot be rejected. Thus, it can be concluded that the four competitive strategies are not different in terms of performance in the food industry.

Table 10.6: Association between competitive strategies and levels of performance

Competitive strategies	High-performing firms	Medium-performing firms
Price leader	12 (48 %)	11 (52 %)
Low cost differentiation	6 (24 %)	2 (9 %)
Imitator	1 (4 %)	4 (19 %)
Differentiation	6 (24 %)	4 (19 %)
Column Total	25 (54.3 %)	21 (45.7 %)
$\chi^2=3.92533$	df =3	p =0.26964

10.3.2 Cognitive coherence

Cognitive coherence will be tested by comparing subjective and objective ways of measuring competitive strategies at the different levels of performance. These two methods have been discussed in the previous chapter, therefore we will move directly to compare them in the two industries to find out if there is any difference between them. For each industry, the Pearson correlation coefficient between the subjective and objective competitive strategies was calculated to analyse the cognitive coherence. Pearson correlation coefficients (r) and their level of significance for each level of performance in the food and petrochemical industries industry, are illustrated respectively in Tables 10.7 and 10.8.

Findings in Tables 10.7 and 10.8 indicate that the correlation between the two methods of measuring the competitive strategies is significant in the high and medium-performing firms, but not significant in the low-performing firms in both industries. For example, the high-performing firms in the food industry show a high correlation between the two methods of measurement ($r=0.81$) at the 0.000 level of significance, as shown in Table 10.7. However, the low-performing firms have insignificant correlation between these two methods of measuring the competitive strategies at the 0.05 level of significance ($r=0.11$). This is also true of the petrochemical industry firms, as shown in Table 10.8. These findings, in both industries, means that competitive strategies are more recognised by managers in the high-performing firms than by managers in the lower-performing firms in both industries. Such findings support Hypotheses 3.1 and 3.2.

Table 10.7: Pearson correlation between objective and subjective competitive strategies in food industry

Level of performance	No. of firms	Pearson correlation*	p
High	25	0.81	0.000
Medium	22	0.63	0.002
Low	9	0.11	0.785

* Pearson correlation between objective and subjective competitive strategies.

Table 10.8: Pearson correlation between objective and subjective competitive strategies in petrochemical industry

Level of performance	No. of firms	Pearson correlation*	p
High	37	0.79	0.000
Medium	18	0.54	0.020
Low	10	0.47	0.175

* Pearson correlation between objective and subjective competitive strategies.

As discussed in the previous chapter, the existence of cognitive coherence at the different levels of performance can be tested by comparing the number of firms with matched and unmatched strategy at each level of performance in each industry. For the purpose of this comparison, a firm that has identified the same strategy in the objective and subjective way is considered as having a matched strategy, and vice versa. The Chi-square test will be used to test the association between the number of firms in these two categories (i.e. the number of firms with matched and unmatched strategies) and the different levels of performance.

Table 10.9: Comparison of objective and subjective competitive strategies in food industry.

Strategies	Level of performance			Total
	High	Medium	Low	
Matched	20 (80%)	15 (68%)	2 (22%)	37 (66%)
Unmatched	5 (20%)	7 (32%)	7 (78%)	19 (34%)
Total	25 (44%)	22 (40%)	9 (16%)	56 (100%)

$\chi^2 = 9.9$ $df = 2$ $p = 0.007$

Table 10.10: Comparison of objective and subjective competitive strategies in petrochemical industry

Strategies	Level of performance			Total
	High	Medium	Low	
Matched	34 (92%)	15 (83%)	6 (60%)	55 (85%)
Unmatched	3 (.08%)	3 (17%)	4 (40%)	10 (15%)
Total	37 (57%)	18 (28%)	10 (15%)	65 (100%)

$\chi^2 = 6.18$ $df = 2$ $p = 0.04$

The results of the Chi-square tests of the food and petrochemical industries are shown in Tables 10.9 and 10.10, respectively. Findings in both industries indicate that the number of firms are different at the 0.01 level of significance at the three levels of performance, and consequently there is an

association between the levels of performance and the number of firms in the two categories in each industry. Examining the number of firms, in the food industry, in each category, as shown in Table 10.9, it can be seen that the number of firms with a matched strategy in the high-performing firms (20) is higher than those with unmatched strategy (5). The opposite is true with firms at the low level of performance. Similar findings can be seen in the petrochemical industry firms, as shown in Table 10.10.

These findings indicate that competitive strategies are more recognised by managers in the high-performing firms in both industries than by those in the lower-performing firms. Such findings, in the food and petrochemical industries, support Hypothesis 3.1, that high-performing firms have high cognitive coherence between objective and subjective views of the competitive strategies. These findings also support Hypothesis 3.2, that the lack of cognitive coherence may prevent lower-performing firms from achieving their competitive advantage.

10.3.3 Organisational coherence

Relating internal and external (supporting) variables to the four competitive strategies at the different levels of performance, organisational coherence can be tested in each of the two industries. Certain links (or relations) between these variables and the competitive strategies have been discussed in previous chapters. These relationships will be tested in this section by comparing them at the different levels of performance; barriers (either internal or external) that may prevent firms from achieving their competitive advantage can also be identified.

As discussed in Chapter 9, Pearson correlation coefficients will be used to test the relationship between these variables and the four competitive strategies at the different levels of performance in each industry. The Fisher's Z-transformation test will be used in this section to compare the two correlation coefficients at the different levels of performance in each industry. Each competitive strategy within the performance groups will be analysed and compared in terms of its relationship with the supporting variables in each industry. Since there are no clear competitive strategies in the low-performing firms, with the exception of the three PL in both industries, the four competitive strategies will be compared at this section in the high and medium levels of performance.

The structure of this analysis, therefore, will be as follows: the four competitive strategies will be analysed one by one in both industries. The order of analysing these strategies will be: price leadership (PL), differentiation (DIF), low cost differentiation (LCD), and then imitation (IMT). Both the positive and the negative relationships between the competitive strategies and the supporting variables will be analysed. By comparing these relationships between the different levels of performance, barriers that may prevent firms from achieving their competitive advantage will be identified. The two industries will be compared to analyse the different barriers that may exist in each industry in terms of the analysed competitive strategy.

10.3.3.1 Price leadership competitive strategy

The PL competitive strategy in the high-performing firms of the petrochemical and food industries, as Table 10.11 shows, is significantly positively associated with the following variables: financial control, formalisation, defenders, risk avoidance, environmental simplicity,

environmental stability, and factor conditions. On the other hand, this competitive strategy, in both industries, is significantly negatively correlated with the following variables: strategic planning, authority delegation, liaison devices, prospectors and related and supported industries.

Findings indicate that the PL competitive strategy in the high-performing firms in the two industries is very similar in terms of its association with all variables. These results in both industries are consistent with the literature discussed in Chapters 5 and 6. Such findings support Hypothesis 4.1 in Chapter 7.

Comparing these relationships between the PL competitive strategy and the supporting variables at the two levels of performance, barriers that may prevent firms in each industry from achieving their competitive advantage can be identified. Findings presented in Table 10.11 indicate two things:

(1) PL competitive strategy has the same associations (either positive or negative) with all variables in the medium and in the high-performing firms. This is true in both industries.

Table 10.11: Pearson correlation between PL competitive strategy and supporting variables at different performance levels in two industries

Supporting variables			Petrochemical industry firms		Food industry firms	
			PH	PM	FH	FM
Internal Variables	Formal control processes	Financial control	0.72 ****	0.59 ***	0.87 ****	0.58 ***
		Strategic control	-0.20	-0.17	-0.18	-0.32
		Strategic planning	-0.78 ****	-0.14	-0.70 ****	-0.36
		Authority delegation	-0.55 ***	-0.32	-0.74 ****	-0.51 **
		Formalisation	0.58 ***	0.46 *	0.85 ****	0.29
		Liaison devices	-0.76 ****	-0.34	-0.81 ****	-0.40 *
	Informal control processes	Prospectors	-0.64 ****	-0.64 ***	-0.85 ****	-0.29
		Analysers	0.16	-0.07	-0.02	-0.25
		Defenders	0.73 ****	0.62 ***	0.74 ****	0.49 **
		Risk avoidance	0.59 ***	0.25	0.55 **	0.28
External variables	Environmental variables	Env. Simplicity	0.56 ***	0.49 **	0.89 ****	0.22
		Env. Stability	0.54 ***	0.22	0.78 ****	0.41 *
		Demand conditions	0.26	0.08	0.07	-0.15
		Factor conditions	0.44 ***	0.29	0.62 ***	0.33
		R&SI	-0.63 ****	-0.16	-0.75 ****	-0.34

PH= high-performing firms in petrochemical industry (N=37); PM= medium-performing firms in petrochemical industry (N=18), FH= high-performing firms in food industry (N=26) and FM= medium-performing firms in food industry (N=22).

**** p< 0.001
 *** p< 0.01
 ** p< 0.05
 * p< 0.1
 p> 0.1

(2) Since all these positive and negative associations in the high-performing firms in the two industries are consistent with the literature, and since they have a higher correlation with the PL for the high-performing firms than for the medium-performing firms, the links with these variables could be considered as a barrier that may prevent the medium-performing firms in the two industries from achieving their competitive advantage. However, even though these correlations are higher for the high-performing firms, such a difference could have occurred by chance. Thus, the differences between these associations at the two levels of performance can be tested by using the Z-test.

The results of the Z-test, as presented in Table 10.12, indicate that there are 4 and 9 out of the 15 variables associated with the PL in the petrochemical and food industries, respectively, which are significantly different at the 0.10 or 0.05 levels of significance. Thus, these variables, in each of these two industries, can be considered as primary barriers that prevent lower-performing firms from achieving their competitive advantage. Such findings support Hypothesis 4.2 in Chapter 7.

These variables that prevent medium-performing firms in the two industries from achieving their competitive advantage are ranked on the basis of their Z-values, as shown in Table 10.12. Although these firms in the two industries are using the same competitive strategy it seems that barriers to achieving competitive advantage are different from one industry to the other.

Table 10.12: Price Leadership and the importance of supporting variables

Petrochemical industry firms				Food industry firms			
Supporting variables	PH	PM	Z-value ^b	Supporting variables	FH	FM	Z-value ^b
Strategic planning	-0.78	-0.14	-2.942	Env. Simplicity	0.89	0.22	3.906
Liaison devices	-0.76	-0.34	-2.063	Formalisation	0.85	0.29	3.067
R&SI	-0.63	-0.16	-1.889	Prospectors	-0.85	-0.29	-3.045
Risk avoidance	0.59	0.25	1.400	Liaison devices	-0.81	-0.40	-2.243
Env. Stability	0.54	0.22	1.207	Financial control	0.87	0.58	2.188
Authority delegation	-0.55	-0.32	-0.924	R&SI	-0.75	-0.34	-1.992
Financial control	0.72	0.59	0.764	Env. Stability	0.78	0.41	1.985
Analysers	0.16	-0.07	0.731	Strategic planning	-0.70	-0.36	-1.606
Defenders	0.73	0.62	0.682	Defenders	0.74	0.49	1.369
Demand conditions	0.26	0.08	0.602	Factor conditions	0.62	0.33	1.247
Factor conditions	0.44	0.29	0.562	Authority delegation	-0.74	-0.51	-1.225
Formalisation	0.58	0.46	0.544	Risk avoidance	0.55	0.28	1.042
Env. Simplicity	0.56	0.49	0.290	Analysers	-0.02	-0.25	0.744
Strategic control	-0.20	-0.17	-0.116	Demand conditions	0.07	-0.15	0.710
Prospectors	-0.64	-0.64	-0.040	Strategic control	-0.18	-0.32	0.493

PH= high-performing firms in petrochemical industry (N=37); PM= medium-performing firms in petrochemical industry (N=18), FH= high-performing firms in food industry (N=26), and FM= medium-performing firms in food industry (N=22).

^b Z-value must be equal to or greater than 1.28, 1.645 and 2.33, respectively, to reach 0.10, 0.05 and 0.01 levels of significance (Bolted).

As can be seen from Table 10.12, three of the four variables which should be considered by the medium-performing petrochemical firms in order to

achieve their competitive advantage, are internal variables. However, both internal and external variables need to be considered more by the medium-performing food industry firms in order to achieve their competitive advantage. Therefore, environmental links seem to be more important in the food industry than in the petrochemical industry. The nature of the petrochemical market, which is more technical and complex and less stable than the food market, may explain this difference; therefore, medium-performing firms in the petrochemical industry need to give more emphasis to these variables (strategic planning, liaison devices, risk avoidance, and related and supported industries) in order to achieve their competitive advantage.

The importance of these variables can be explained by considering the following: (1) Since medium-performing firms with PL in both industries are emphasising (with significant positive correlation, see Table 10.11) financial control as one of the formal control processes, they need on the other hand to minimise the efforts in strategic planning, as discussed in previous chapters. (2) These firms, as has also been discussed in previous chapters, are expected to have open relationships with firms in the related and supported industries, because their customers care more about the price than about quality, image or novelty, which can be delivered through the close relationships.

Since firms with PL are expected to have a routine nature of operation which causes managerial interdependencies to be pooled and co-ordination to be effected through formal controls and hierarchies; and since these firms in both industries are emphasising financial control and formalisation in their organisations (see Table 10.11), then the liaison devices should not be emphasised by medium-performing firms in both industries, nor should authority delegation be emphasised in the medium-performing firms in the food industry.

Furthermore, because of the stability and simplicity of the demand side, managers of firms using PL competitive strategy should avoid taking risks in their decisions and should also consider themselves as defenders rather than prospectors, as discussed in Chapter 5. Findings, in Table 10.12, indicate that there is a trade-off between these two variables in the two industries. Considering the simplicity and stability of the environment in which these firms are working, the prospectors and risk avoidance variables should be considered by the medium-performing firms in the food and petrochemical industries respectively, in order to achieve their competitive advantage.

Finally, although the other variables listed in Table 10.12 are less important differentiators (i.e. have not reached the level of significance) between the two levels of performance, they also should be considered by the medium-performing firms in order to achieve their competitive advantage. In other words, these variables can be considered as secondary barriers. The importance of these variables in each industry is based on the way that they are ranked in Table 10.12 with respect to the two industries.

10.3.3.2 Differentiation competitive strategy

Analysing the correlation results presented in Table 10.13, DIF in the high-performing firms in the petrochemical industry is associated significantly positively with the following variables: strategic planning, prospectors, related and supported industries, authority delegation, and liaison devices. In addition to these variables, the DIF in the high-performing firms in the food industry is associated also significantly positively with the strategic control variable. With the exception of this variable (which will be discussed later), these associations in both industries are consistent with the existing literature that has been discussed in previous chapters. Table 10.13 also shows that DIF in the high-

performing firms in the petrochemical and food industries is significantly negatively associated with the following variables: financial control, defenders, risk avoidance, factor conditions, environmental simplicity, environmental stability, and formalisation. These findings are also consistent with the existing literature discussed in Chapters 5 and 6. They also indicate the similarity of the two industries with regard to these correlations with the DIF. These results support Hypothesis 4.1 in Chapter 7.

The correlation of the strategic control variable with DIF in the food industry, however, can be explained by the different nature of the two markets. It has been discussed that the food market seems to be more stable and simple than the petrochemical market. However, since DIF in the food industry's firms is negatively associated with the environmental stability and environmental simplicity variables (as shown in Table 10.13), this association will be more clarified more when we discuss the barriers to achieving competitive advantage with regard to DIF competitive strategy.

Table 10.13: Pearson correlation between DIF competitive strategy and supporting variables at different performance levels in two industries

Supporting variables			Petrochemical industry firms		Food industry firms	
			PH	PM	FH	FM
Internal Variables	Formal control processes	Financial control	-0.63 ****	-0.61 ***	-0.69 ****	-0.38 *
		Strategic control	0.27	0.27	0.41 **	0.57 ***
		Strategic planning	0.72 ****	0.51 **	0.49 **	0.40 *
		Authority delegation	0.62 ****	0.54 ***	0.73 ****	0.45 **
		Formalisation	-0.38 **	-0.34	-0.58 ***	-0.33
	Liaison devices	0.65 ****	0.32	0.74 ****	0.39 *	
	Informal control processes	Prospectors	0.66 ****	0.52 **	0.62 ***	0.65 ***
		Analysers	-0.17	-0.27	0.29	0.14
		Defenders	-0.77 ****	-0.80 ****	-0.77 ****	-0.44 **
		Risk avoidance	-0.47 ***	-0.26	-0.37 *	-0.23
External variables	Environmental variables	Env. Simplicity	-0.49 ***	-0.26	-0.58 ***	-0.59 ***
		Env. Stability	-0.38 **	-0.18	-0.83 ****	-0.56 ***
		Demand conditions	-0.20	0.17	0.33	0.21
		Factor conditions	-0.36 **	-0.10	-0.52 ***	-0.02
		R&SI	0.61 ****	0.31	0.57 ***	0.49 **

PH= high-performing firms in petrochemical industry (N=37); PM= medium-performing firms in petrochemical industry (N=18), FH= high-performing firms in food industry (N=26), and FM= medium-performing firms in food industry (N=22).

**** p< 0.001
 *** p< 0.01
 ** p< 0.05
 * p< 0.1
 p> 0.1

In analysing the barriers that may prevent medium-performing firms from achieving their competitive advantage, the positively and negatively associated variables with the DIF at the two levels of performance will be compared. At the same time, we will compare the existence of these barriers in the two industries with regard to this competitive strategy. Findings presented in Table 10.13 indicate two things:

(1) DIF competitive strategy has the same associations (i.e. the significant correlations either positive or negative) with all variables in the medium and in the high-performing firms. This is true of both industries.

(2) Since all these positive and negative associations in the high-performing firms of the two industries are consistent with the literature discussed in Chapters 5 and 6, and since they have a higher correlation with the DIF for the high-performing firms than for the medium-performing firms, the links with these variables could be considered as a barrier that may prevent the medium-performing firms in the two industries from achieving their competitive advantage.

For the comparison of the high and the medium-performing firms, the differences between these associations at the two levels of performance can be tested by using the Z-test, as discussed in the previous section. The results of the Z-test, as presented in Table 10.14, indicate that there are 1 and 6 out of the supporting variables associated with the DIF in the petrochemical and food industries, respectively, which are significantly different at 0.10 or 0.05 levels of significance. Thus, these variables, in each of these two industries, can be considered as primary barriers that prevent lower-performing firms from achieving their competitive advantage. Such findings support Hypothesis 4.2 in Chapter 7.

Table 10.14: Differentiation and the importance of supporting variables

Petrochemical industry firms				Food industry firms			
Supporting variables	PH	PM	Z-value ^b	Supporting variables	FH	FM	Z-value ^b
Liaison devices	0.65	0.32	1.427	Factor conditions	-0.52	-0.02	1.793
R&SI	0.61	0.31	1.252	Defenders	-0.77	-0.44	1.786
Demand conditions	-0.20	0.17	-1.232	Env. Stability	-0.83	-0.56	1.721
Strategic planning	0.72	0.51	1.105	Liaison devices	0.74	0.39	-1.716
Factor conditions	-0.36	-0.10	-0.911	Authority delegation	0.73	0.45	-1.467
Env. Simplicity	-0.49	-0.26	-0.893	Financial control	-0.69	-0.38	1.433
Risk avoidance	-0.47	-0.26	-0.782	Formalisation	-0.58	-0.33	1.010
Env. Stability	-0.38	-0.18	-0.716	Strategic control	0.41	0.57	0.668
Prospectors	0.66	0.52	0.675	Risk avoidance	-0.37	-0.23	0.514
Authority delegation	0.62	0.54	0.401	Analysers	0.29	0.14	-0.507
Analysers	-0.17	-0.27	0.349	Demand conditions	0.33	0.21	-0.426
Defenders	-0.77	-0.80	0.324	R&SI	0.57	0.49	-0.365
Formalisation	-0.38	-0.34	-0.145	Strategic planning	0.49	0.40	-0.358
Financial control	-0.63	-0.61	-0.099	Prospectors	0.62	0.65	0.191
Strategic control	0.27	0.27	-0.009	Env. Simplicity	-0.58	-0.59	-0.082

PH= high-performing firms in petrochemical industry (N=37); PM= medium-performing firms in petrochemical industry (N=18), FH= high-performing firms in food industry (N=26), and FM= medium-performing firms in food industry (N=22).

^b Z-value must be equal to or greater than 1.28, 1.645 and 2.33, respectively, to reach 0.10, 0.05 and 0.01 levels of significance (Bolded).

Variables in Table 10.14 are ranked on the basis of their Z-test value. This ranking indicates the importance of these variables as differentiators between the two levels of performance. In the petrochemical industry firms, the liaison devices variable (which is significantly different at the two levels of performance) is at the top of this list. In addition to this variable, the following variables are on the top of the list with regard to the food industry firms: factor conditions, defenders, environmental stability, authority delegation, and financial control. These variables should have the priority to be considered by the medium-performing firms in each industry in order to achieve their competitive advantage.

Although the liaison device variable is significantly associated with the DIF in the medium-performing firms in both industries, it has a very low degree of significance compared to the high-performing firms in both industries, as can be seen in Tables 10.13 and 10.14. For firms with DIF which are expected to introduce new products and methods, liaison devices will provide the forum in which to lobby for the required ideas. Thus this variable needs to be emphasised more by the medium-performing firms in both industries.

Although the related and supported industries variable is not significantly different at the two levels of performance, it seems to be more important in the petrochemical industry than in the food industry, as shown in Table 10.14. This variable is also not significantly emphasised by the medium-performing firms in the petrochemical industry, as shown in Table 10.13. Firms with DIF, which are usually technically-oriented and which maintain high quality, need to have a close relationship with the related and supported industries to ensure their high quality. It has also been discussed that firms in the complex and dynamic environments need to maintain these close relationships more than those firms that are working in less complex and

dynamic environments. Thus the importance of this variable in the petrochemical industry can be explained again by the different nature of the markets of the two industries. However, for the same reasons discussed above, other environmental variables such as factor conditions and environmental stability are more important to be considered by medium-performing firms in the food industry than those in the petrochemical industry, as illustrated in Table 10.14.

Furthermore, findings in Table 10.14 indicate that there is a trade-off between financial control and strategic planning in the two industries' firms. Findings indicate that the financial control variable is more negatively associated with DIF in the high-performing firms than in the medium-performing firms in both industries. However, this variable seems to be more important in the food industry than in the petrochemical industry. Firms with DIF are expected to be flexible in their budgeting and financial control, on the other hand they are expected to emphasise long-term planning. This difference between the two industries can be explained by the association that these firms have with the other formal control processes variables, as shown in Table 10.14. For example, firms in the food industry are not strongly emphasising strategic planning but instead they are emphasising financial control. Therefore these DIF firms, in the two industries, seem to be either clearly away from financial control or have more emphasis on strategic planning. This will also explain the previous point concerning the strategic control in the food industry that has been discussed with the positively associated variables.

Finally, it has been discussed that all the variables significantly associated (either negatively or positively) with the DIF in the high-performing firms, in both industries, are consistent with the literature. Therefore, although the other variables listed in Table 10.14 are less important differentiators (i.e.

have not reach the level of significance) between the two levels of performance, they also should be considered by the medium-performing firm, in each industry, in order to achieve their competitive advantage. The importance of these variables is based on the way that they are ranked in Table 10.14 by the two industries.

Before moving to the discussion of the third competitive strategy, there are some common findings in the last two competitive strategies (i.e. PL and DIF) in both industries that can be noted. In analysing the high-performing firms with PL in both industries, it has been found that these PL values are very similar in terms of their relationships with supporting variables (see Table 10.11). In analysing the high-performing firms with DIF in both industries, it has been found that these DIF values are also very similar in terms of these relationships, with the exception of strategic control which has been discussed (see Table 10.13). Having noted this, and by comparing the two strategies in high-performing firms in the two industries, it has been found that all the variables negatively-related to the PL are positively related to the DIF, and vice versa, which is true of both industries. This indicates that these two competitive strategies are completely different in terms of all the links with the internal and external (supporting) variables. The other competitive strategies (i.e. LCD and IMT), are therefore expected to be in between these two competitive strategies.

10.3.3.3 Low cost differentiation

Table 10.15 shows that the LCD in the high-performing firms in the petrochemical industry is significantly positively associated with the following variables: formalisation, risk avoidance, environmental stability, environmental simplicity and demand conditions; and significantly negatively associated with the following variables: analysers, and related and supported industries. Results

of the correlation, as shown also in Table 10.15, indicate that the LCD in the high-performing firms in the food industry is significantly positively associated with the following variables: strategic control, analysers, environmental simplicity, and demand conditions; and significantly negatively associated with the following variables: strategic planning and prospectors. These findings indicate that all these associations between the LCD and the supporting variables in both industries (with the exception of the analysers variable which will be explained later) are consistent with the existing literature discussed in Chapters 5 and 6. Although other variables have not reached the level of significance as they were predicted, such findings are generally supporting Hypothesis 4.1 in Chapter 7.

With the exception of environmental simplicity and demand conditions, the LCD competitive strategy in the two industries seems to be different in terms of the positive and negative associations between the supporting variables and LCD. These differences will be analysed with the analysis of barriers that may also exist in these two industries. In analysing the barriers that may prevent medium-performing firms from achieving their competitive advantage, the variables positively and negatively associated with LCD at the two levels of performance will be compared. At the same time, the existence of these barriers in the two industries with regard to this competitive strategy will be compared.

Table 10.15: Pearson correlation between LCD competitive strategy and supporting variables at different performance levels in the two industries

Supporting variables			Petrochemical industry firms		Food industry firms	
			PH	PM	FH	FM
Internal Variables	Formal control processes	Financial control	0.23	0.28	0.13	0.17
		Strategic control	0.01	0.24	0.39**	0.00
		Strategic planning	-0.19	-0.42*	-0.55***	-0.21
		Authority delegation	0.04	0.03	-0.02	-0.25
		Formalisation	0.56****	0.45*	0.31	0.38*
		Liaison devices	-0.20	-0.39	-0.13	-0.23
	Informal control processes	Prospectors	-0.01	-0.16	-0.46**	0.07
		Analysers	-0.43***	-0.18	0.65****	-0.17
		Defenders	0.24	-0.02	-0.17	0.34
		Risk avoidance	0.54***	0.52**	0.28	0.12
External variables	Environmental variables	Env. Simplicity	0.48***	0.32	0.40**	0.07
		Env. Stability	0.52***	0.45*	0.19	0.16
		Demand conditions	0.33*	0.17	0.33*	0.30
		Factor conditions	0.18	0.65***	0.22	0.42*
		R&SI	-0.30*	-0.52**	-0.31	0.20

PH= high-performing firms in petrochemical industry (N=37); PM= medium-performing firms in petrochemical industry (N=18), FH= high-performing firms in food industry (N=26), and FM= medium-performing firms in food industry (N=22).

**** p< 0.001
 *** p< 0.01
 ** p< 0.05
 * p< 0.1
 p> 0.1

Findings in Table 10.15 indicate that all these positive and negative associations in the high-performing firms of the two industries that have been discussed previously are consistent with the literature. Since they have a higher correlation with the LCD for the high-performing firms than for the medium-performing firms, the links with these variables could be considered as a barrier that may prevent the medium-performing firms in the two industries from achieving their competitive advantage. However, even though these correlations are higher for the high-performing firms, such a difference could have occurred fairly frequently by chance. Thus, the differences between these associations at the two levels of performance can be tested by using the Z-test.

The results of the Z-test, as presented in Table 10.16, indicate that there are 1 and 6 out of the 15 variables associated with the LCD in the petrochemical and food industries, respectively, which are significantly different at the 0.10 or 0.05 level of significance at the two levels of performance. Thus, these variables, in each of these two industries, can be considered as primary barriers that prevent lower-performing firms from achieving their competitive advantage. Such findings support Hypothesis 4.2 in Chapter 7.

Table 10.16: Low cost differentiation and the importance of supporting variables

Petrochemical industry firms				Food industry firms			
Supporting variables	PH	PM	Z-value ^b	Supporting variables	FH	FM	Z-value ^b
Factor conditions	0.18	0.65	-1.892	Analysers	0.65	-0.17	3.012
Analysers	-0.43	-0.18	-0.888	Prospectors	-0.46	0.07	-1.829
Defenders	0.24	-0.02	0.866	Defenders	-0.17	0.34	-1.707
R&SI	-0.30	-0.52	0.842	R&SI	-0.31	0.20	-1.680
Strategic planning	-0.19	-0.42	0.806	Strategic control	0.39	0.00	1.311
Strategic control	0.01	0.24	-0.748	Strategic planning	-0.55	-0.21	-1.296
Liaison devices	-0.20	-0.39	0.670	Env. Simplicity	0.40	0.07	1.137
Env. Simplicity	0.48	0.32	0.624	Authority delegation	-0.02	-0.25	0.757
Demand conditions	0.33	0.17	0.565	Factor conditions	0.22	0.42	-0.719
Prospectors	-0.01	-0.16	0.475	Risk avoidance	0.28	0.12	0.561
Formalisation	0.56	0.45	0.445	Liaison devices	-0.13	-0.23	0.337
Env. Stability	0.52	0.45	0.291	Formalisation	0.31	0.38	-0.224
Financial control	0.23	0.28	-0.187	Financial control	0.13	0.17	-0.139
Risk avoidance	0.54	0.52	0.082	Demand conditions	0.33	0.30	0.123
Authority delegation	0.04	0.03	0.030	Env. Stability	0.19	0.16	0.112

PH= high-performing firms in petrochemical industry (N=37); PM= medium-performing firms in petrochemical industry (N=18), FH= high-performing firms in food industry (N=26), and FM= medium-performing firms in food industry (N=22).

^b Z-value must be equal to or greater than 1.28, 1.645 and 2.33, respectively, to reach 0.10, 0.05 and 0.01 levels of significance (Bolted).

The supporting variables in Table 10.16 are ranked on the basis of their Z-test value. This ranking indicates the importance of these variables as differentiators between the two levels of performance. In the petrochemical industry firms, the factor conditions variable (which is significantly different at the two levels of performance) is at the top of this list. This should have the priority to be considered by the medium-performing firms with LCD in the petrochemical industry in order to achieve their competitive advantage. With regard to the food industry firms, the following variables are at the top of the list: analysers, prospectors, defenders, related and supported industries, strategic control, and strategic planning. These variables should have the priority to be considered by the medium-performing firms with LCD in the food industry in order to achieve their competitive advantage.

On analysis of these variables with the LCD in the food industry, findings as shown in Table 10.16 indicate that the analysers variable is the most important one. This variable is significantly positively correlated with the LCD in the high-performing firms, while on the other hand it is correlated negatively with the LCD in the medium-performing firms. This can be explained by the analysis of the other variables that are associated with the LCD in the food industry. Such analysis indicates that high-performing firms in the food industry are emphasising the work in a simple environment, as shown in Table 10.15. Firms in such environments, do not need to be always 'first' in a new product or market (i.e. prospectors) because the environment is not that complex nor so quickly changing. On the other hand, these firms are not expected just to look for a secure market to offer a limited range of products or services (i.e. defenders), because their environment is not that stable for such actions. Thus firms with LCD need to move quickly to follow a carefully selected set of more

promising new developments in the food industry in order to achieve their competitive advantage.

With regard to the association between the analysers variable and the LCD competitive strategy, the case of the petrochemical industry seems to be quite different from that of the food industry. Although this variable does not significantly differentiate the two levels of performance in the petrochemical industry, it is still the second important variable, as shown in the list in Table 10.16. Findings in Table 10.15 indicate that the high-performing firms in the petrochemical industry have no positive association between the LCD and any of the informal control processes, nor with the formal control processes variables (with the exception of the formalisation variable). Instead, there is a negative relationship between the LCD and the analysers variable as one of the informal control processes variables. However, these findings can be explained by the analysis of the other relationships between the LCD and other variables of high-performing firms in this industry. LCD in the high-performing firms is significantly positively associated with environmental stability, risk avoidance, and formalisation, as shown in Table 10.15. Considering these variables together, the following conclusion can be drawn. Once the firms with the LCD are working in a stable environment, emphasising formalisation in their organisations, and with managers who are not willing to take any risk in their decisions, then the formal and informal control processes require less emphasis. Since this situation is different from that of the food industry, such findings can be also seen by analysing the findings in Table 10.15 which also indicate that all these three variables (environmental stability, risk avoidance and formalisation) are not significantly associated with the LCD, as discussed earlier.

Furthermore, findings in Table 10.16 indicate that strategic planning is another variable that is significantly different at the two levels of performance in

the food industry. This variable is significantly correlated with the LCD in the high-performing firms but not with the LCD in the medium-performing firms in the food industry. However, in the petrochemical industry this variable is more emphasised by the medium-performing firms than by the high-performing firms. Although this emphasis is not significantly different at the two levels of performance in the petrochemical industry, these findings support the previous argument made regarding the formal control processes variables with LCD in the positively correlated variables. Thus firms in the food industry should minimise their efforts towards this formal control processes variable (strategic planning) where it is not as important as for the petrochemical industry's firms with this competitive strategy.

Strategic control and environmental simplicity are other variables that are significantly different at the two levels of performance in the food industry, as shown in Table 10.16. Findings indicate that these variables are significantly positively correlated to the LCD in the high-performing firms in the food industry but not correlated with the LCD in the medium-performing firms in this industry. As discussed earlier, high-performing firms in the food industry are considered to be analysers, working in a dynamic but simple environment, and have a clear identification of their formal control processes. Thus, it could be concluded from the previous discussion that these variables positively correlated with LCD in the high-performing firms should be considered more by the medium-performing firms in the food industry in order to achieve their competitive advantage.

Findings in Table 10.16 indicate that the related and supported industries variable is significantly different at the two levels of performance in the food industry firms with LCD. As discussed in the earlier chapters, firms with LCD are not expected to have close relationships with related and supported

industries. Therefore, medium-performing firms in the food industry need to reconsider their emphasis on this variable in order to achieve their competitive advantage. The case is different with firms in the petrochemical industry. It seems that the medium-performing firms in this industry have more emphasis on LCD and this variable than the high-performing firms, which means that medium-performing firms are emphasising more open relationships than the high-performing firms. Although the related and supported variable should be negatively correlated to LCD as has been discussed earlier, it seems that the medium-performing firms with LCD in the petrochemical industry are closer to PL than to LCD by emphasising this variable. Therefore, medium-performing firms in the food industry need to reconsider their emphasis on this variable in order to achieve their competitive advantage.

The factor conditions variable is significantly different at the two levels of performance in the petrochemical industry firms with LCD. Medium-performing firms in this industry, as shown in Table 10.16, seem to emphasise the factor conditions variable more than the high-performing firms. Even though this variable is expected to be positively correlated with LCD competitive strategy, medium-performing firms seem to be closer to PL than LCD competitive strategy by this emphasis. Moreover, considering the characteristics of the supply and demand sides of the LCD competitive strategy, and the findings of the IMT competitive strategy which will be discussed in the next section (where only one of the high-performing firms uses IMT), it seems that it is more difficult for a firm to be high-performing.

Finally, considering the overall comparisons that have been made of the last three competitive strategies (i.e. PL, DIF and LCD) with the internal and external variables, it seems generally that the LCD competitive strategy is closer to the PL strategy than to the DIF. However, further discussion in this regard

will be made at the end of this section when all of the four competitive strategies are analysed.

10.3.3.4 Imitation competitive strategy

Findings of the clustering analysis of the competitive strategies show that there is only one firm with IMT competitive strategy in the high-performing firms in the food industry. Therefore, as there was not sufficient data to help with any conclusion, this level of performance will be excluded from analysis. Table 10.17 shows that IMT in the high-performing firms of the petrochemical industry is significantly positively correlated with the following variables: analysers, and related and supported industries; and significantly negatively correlated with the following variables: defenders, risk avoidance, demand conditions, environmental stability, environmental simplicity and formalisation. These findings indicate that all these associations between the IMT and the supporting variables (with the exception of the analysers variable, which will be explained later) are consistent with the existing literature discussed in Chapters 5 and 6. Although other variables have not reached the level of significance as they were predicted, such findings in the petrochemical industry generally support Hypothesis 4.1 in Chapter 7.

Table 10.17: Pearson correlation between IMT competitive strategy and supporting variables at different performance levels in the two industries

Supporting variables			Petrochemical industry firms		Food industry firms
			PH	PM	FM
Internal Variables	Formal control processes	Financial control	-0.21	-0.37	-0.04
		Strategic control	0.10	-0.10	0.32
		Strategic planning	0.21	0.77 ****	0.32
		Authority delegation	0.10	0.23	0.27
		Formalisation	-0.44 ***	-0.38	-0.51
	Liaison devices	0.16	0.40 *	0.31	
	Informal control processes	Prospectors	0.09	0.13	0.38
		Analysers	0.49 ***	-0.15	0.09
		Defenders	-0.40 ***	-0.25	-0.40
		Risk avoidance	-0.53 ****	-0.54 ***	-0.11
External variables	Environmental variables	Env. Simplicity	-0.55 ****	-0.15	-0.54
		Env. Stability	-0.46 ***	-0.41 *	-0.41
		Demand conditions	-0.35 **	0.08	-0.26
		Factor conditions	-0.15	-0.47 *	-0.15
		R&SI	0.38 **	0.65 ***	0.00

PH= high-performing firms in petrochemical industry (N=37); PM= medium-performing firms in petrochemical industry (N=18), and FM= medium-performing firms in food industry (N=22).

**** p< 0.001
 *** p< 0.01
 ** p< 0.05
 * p< 0.1
 p> 0.1

Comparing these correlations between IMT and the supporting variables in the high-performing firms with those in the medium-performing firms, barriers that may prevent firms in the petrochemical industry from achieving their competitive advantage can be identified.

Findings in Table 10.17 indicate that all these positive and negative associations in the high-performing firms that have been discussed previously are consistent with the literature. Since they have a higher correlation with the IMT for the high-performing firms than for the medium-performing firms (with the exception of risk avoidance and RIS variables), the links with these variables could be considered as a barrier that may prevent the medium-performing firms in the petrochemical industry from achieving their competitive advantage. However, even though these correlations are higher for the high-performing firms, such a difference could have occurred fairly frequently by chance. Thus, the differences between these associations at the two levels of performance can be tested by using the Z-test.

The results of the Z-test, as presented in Table 10.18, indicate that 4 out of the 15 variables associated with the IMT in the petrochemical industry are significantly different at 0.10 or 0.05 levels of significance. Thus, these variables can be considered as primary barriers that prevent lower-performing firms from achieving their competitive advantage. Such findings support Hypothesis 4.2 in Chapter 7.

The supporting variables in Table 10.18 are ranked on the basis of their Z-test value. This ranking indicates the importance of these variables as differentiators between the two levels of performance. At the top of this list, four variables are significantly different at the two levels of performance, which are strategic planning, analysers, environmental simplicity, and demand conditions. As can be seen, these variables are representing formal and informal

control processes variables as well as environmental variables. These four variables should have the priority to be considered by the medium-performing firms with IMT in the petrochemical industry in order to achieve their competitive advantage.

Table 10.18: Imitation and the importance of supporting variables

Supporting variables	H	M	Z-value ^b
Strategic planning	0.21	0.77	-2.585
Analysers	0.49	-0.15	2.223
Env. Simplicity	-0.55	-0.15	-1.501
Demand conditions	-0.35	0.08	-1.413
R&SI	0.38	0.65	-1.214
Factor conditions	-0.15	-0.47	1.131
Liaison devices	0.16	0.40	-0.854
Strategic control	0.10	-0.10	0.633
Financial control	-0.21	-0.37	0.577
Defenders	-0.40	-0.25	-0.553
Authority delegation	0.10	0.23	-0.439
Formalisation	-0.44	-0.38	-0.255
Env. Stability	-0.46	-0.41	-0.183
Prospectors	0.09	0.13	-0.134
Risk avoidance	-0.53	-0.54	0.046

H= high-performing firms (N=37) and M= medium-performing firms .

^b Z-value must be equal to or greater than 1.28, 1.645 and 2.33, respectively, to reach 0.10, 0.05 and 0.01 levels of significance (Boded).

The strategic planning variable, as shown in Table 10.18, seems to be the most important variable to be considered by the medium-performing firms in the petrochemical industry. Although the strategic planning variable should be positively correlated to IMT, as discussed earlier, it seems that the medium-performing firms with IMT in the petrochemical industry are closer to DIF than to IMT in emphasising this variable. Since firms with IMT are expected not to be as innovative as those with DIF competitive strategy, they are expected not to have very close relationships with their related and supported industries as those with DIF. Although this variable has not reached the level of significance at the two levels of performance, it is expected to be positively correlated with this competitive strategy. However, similar to the strategic planning variable, this variable is also over emphasised by medium-performing firms. Therefore, these firms seem to be closer to DIF than IMT competitive strategy in this emphasis.

Thus, medium-performing firms need to balance these relationships (i.e. with strategic planning, and the related and supported industries) with the view of the environment and the other variables such as demand conditions, in order to achieve their competitive advantage.

Finally, findings in Table 10.17 indicate that the risk avoidance, environmental simplicity, environmental stability, and formalisation variables are the most important in the petrochemical industry's high-performing firms with IMT. It was found that these variables are also the most important variables in high-performing firms when the LCD was discussed earlier in Table 10.15, but in the opposite direction (i.e. positively correlated). Such findings indicate that the direction of association between these variables and the IMT is similar to those with DIF, i.e. all these variables are also negatively associated with DIF in the high-performing firms. A similar direction of association also

exists between these variables and the other two competitive strategies which are PL and LCD. More details of these relationships will be discussed in the next section.

10.3.3.5 Comparing competitive strategies

Based on the previous discussions, the four competitive strategies can be compared with each other in terms of their links with the supporting variables. It has been found that PL and DIF competitive strategies each have the same relationships (either positive or negative) with the internal and external (supporting) variables in the two industries. However, the PL values will always be opposite to the DIF values in all variables in both industries. Thus, these two competitive strategies were found to be completely different in terms of the links with the supporting variables.

Moreover, it has been found that each of the other two competitive strategies (i.e. LCD and IMT) does not have the same relationships with the supporting variables in the two industries, but they are closer to the PL and DIF competitive strategies, respectively. Since it has been found that LCD is closer to PL than IMT is, then in terms of these relationships with the supporting variables, the four competitive strategies can be ranked on the "strategic spectrum" as follows: PL, LCD, IMT, and DIF. Similar findings have been found when the mean scores of these supporting variables were compared in the discussion of the classification of these competitive strategies in Chapter 8. These results can merely clarify the difference between the four competitive strategies. However, it can not be concluded from these findings that one competitive strategy is necessarily superior to others. These findings will also help in understanding how such findings can be related to the issue of "stuck in the middle" which will be discussed in the final chapter.

10.4 Strategic coherence and performance changes

Finally, changes in the performance of firms in both industries will be discussed. As discussed in previous chapters, the same five questions regarding the current performance were asked to evaluate the firm's performance three years ago, as shown in Appendix A. Since all firms have been classified into three performance groups (i.e. high, medium, and low), the change of performance within each group of firms in each industry will be tested. A brief discussion will be given on these changes in performance, then the changes will be related to the four competitive strategies at the different levels of performance.

Figures 10.1 and 10.2 show the relationship between current and previous performance in the high-performing firms in the food and petrochemical industries, respectively. The same procedures used in chapter 9 to calculate the performance change were applied here. It can be seen clearly from Figures 10.1 and 10.2 that high-performing firms, in both industries, have an improvement in their performance. In other words, there are more firms that have on the whole improved their performance, either in the food industry or in the petrochemical industry. The mean score of the high-performing firms in both industries was analysed by using the t-test. Findings, as shown in Table 10.19, indicate that the mean scores of performance of this group in the food industry increased significantly at the 0.05 level of significance, from 3.82 three years ago to 4.32 in the current year. The mean scores of high-performing firms in the petrochemical industry increased also significantly at the 0.05 level of significance from, 3.76 three years ago to 4.38 in the current year, as shown in Table 10.20.

Figure 10.1:
Current and previous performance in high-performing firms in food industry

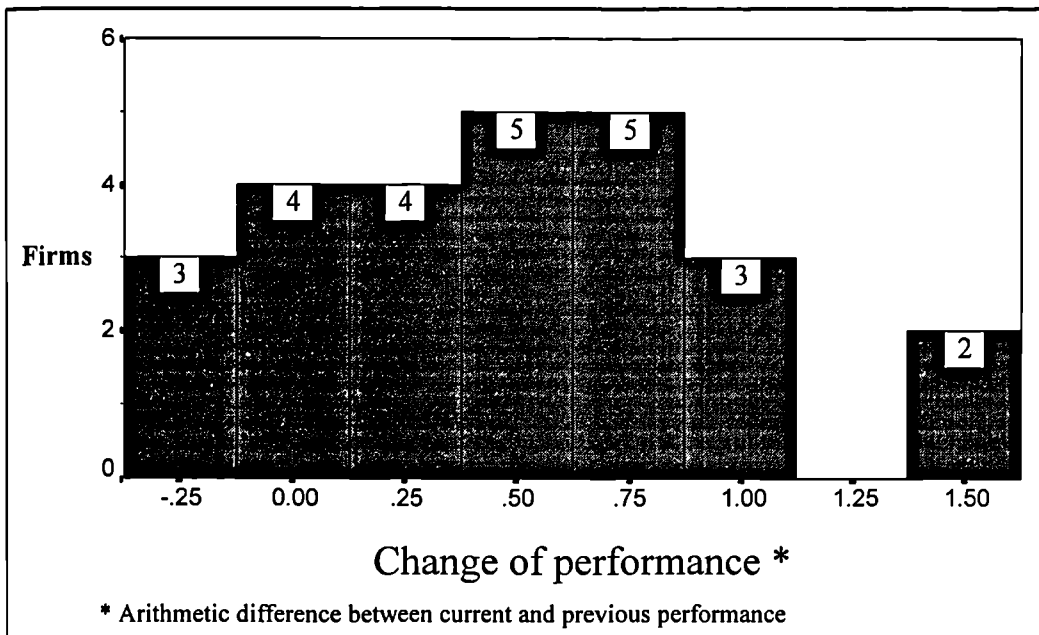


Figure 10.2:
Current and previous performance in high-performing firms in petrochemical industry

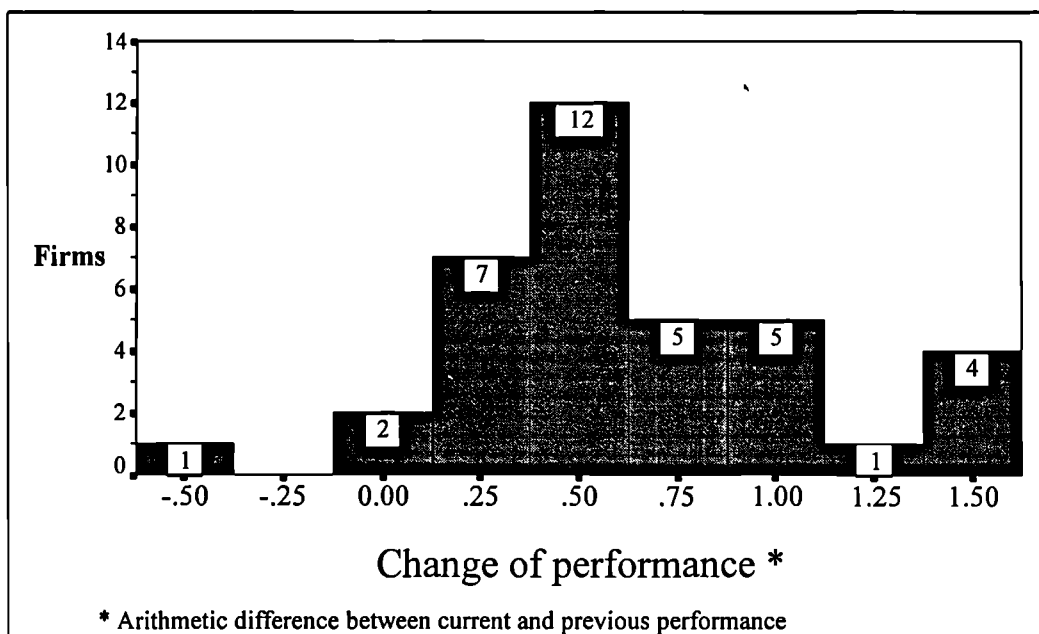


Table 10.19: Current and previous performance by performance groups in food industry

Performance levels	Number of firms	Current performance	Previous performance
High-performing firms	26	4.32	3.82**
Medium-performing firms	23	3.47	3.55
Low-performing firms	12	1.92	2.27**

* and ** indicate means of current and previous performance significantly different at 0.10 and 0.05 levels, respectively, on basis of two-tailed t-test.

Table 10.20: Current and previous performance by performance groups in petrochemical industry.

Performance levels	Number of firms	Current performance	Previous performance
High-performing firms	37	4.38	3.76**
Medium-performing firms	19	3.49	3.39
Low-performing firms	8	2.05	2.40

* and ** indicate means of current and previous performance significantly different at 0.10 and 0.05 levels, respectively, on basis of two-tailed t-test.

In the medium-performing group of firms, as shown in Figures 10.3 and 10.4, some firms have improved their performance while others have not, in both industries. As Table 10.19 shows, the mean scores of current performance of the medium-performing firms in the food industry are 3.47, compared to 3.55 three years ago. In the petrochemical industry, we found that the mean scores of current performance of the medium-performing firms are 3.49 compared to 3.39 three years ago, as shown in Table 10.20. Therefore the difference between the mean scores of the current and previous performance within each industry is

minimal. So the mean scores of current performance of medium-performing firms in both industries are almost the same as three years ago.

Figure 10.3:
Current and previous performance in medium-performing firms in food industry

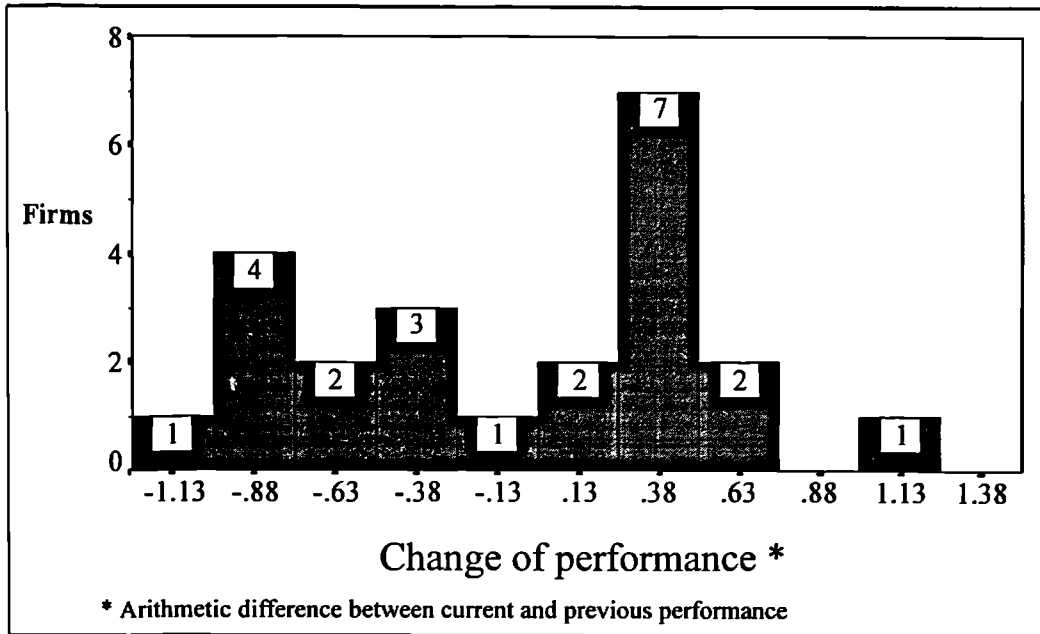
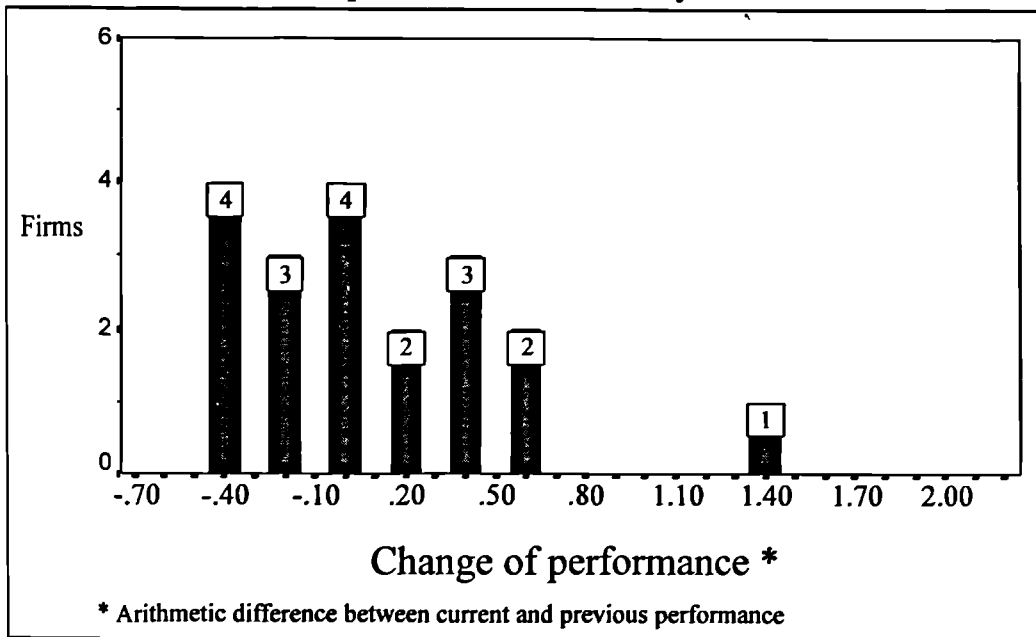


Figure 10.4:
Current and previous performance in medium-performing firms in petrochemical industry



Figures 10.5 and 10.6 show the relationship between current and previous performance in the low-performing firms. Findings in these two figures indicate that more firms in both industries had a better level of performance three years ago than in the current year. It can also be seen that the mean scores of performance of the low-performing firms in the food industry have been decreased significantly at the 0.05 level of significance, from 2.27 three years ago to 1.92 in the current year, as shown in Table 10.19. The mean scores of the low-performing firms in the petrochemical industry decreased from 2.40 three years ago to 2.05 in the current year, as shown also in Table 10.20 (four firms have been excluded because they did not respond on previous performance).

Figure 10.5:
Current and previous performance in low-performing firms in food industry

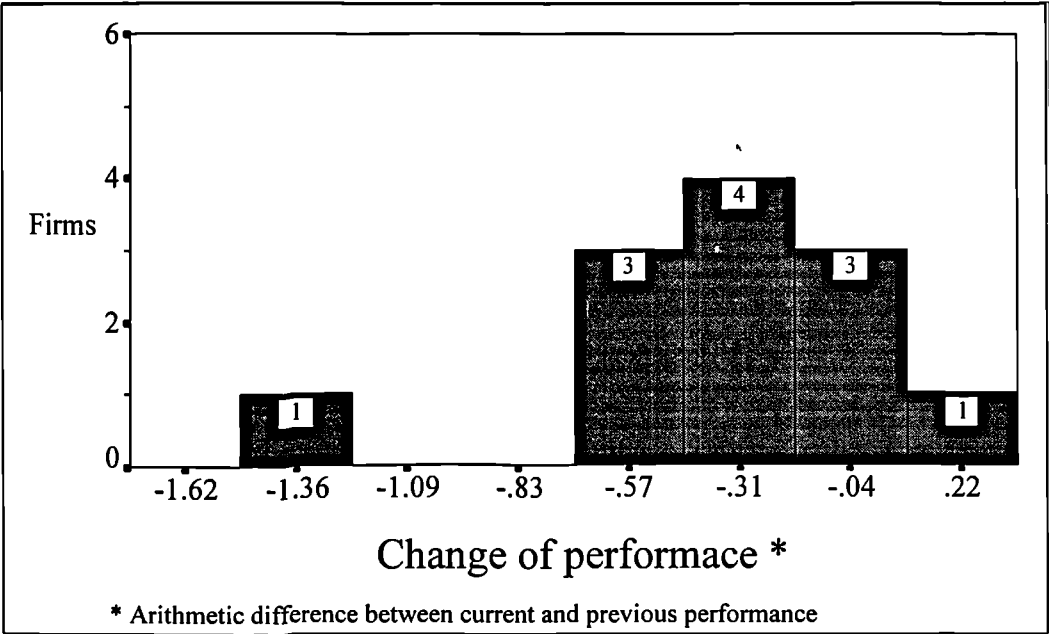
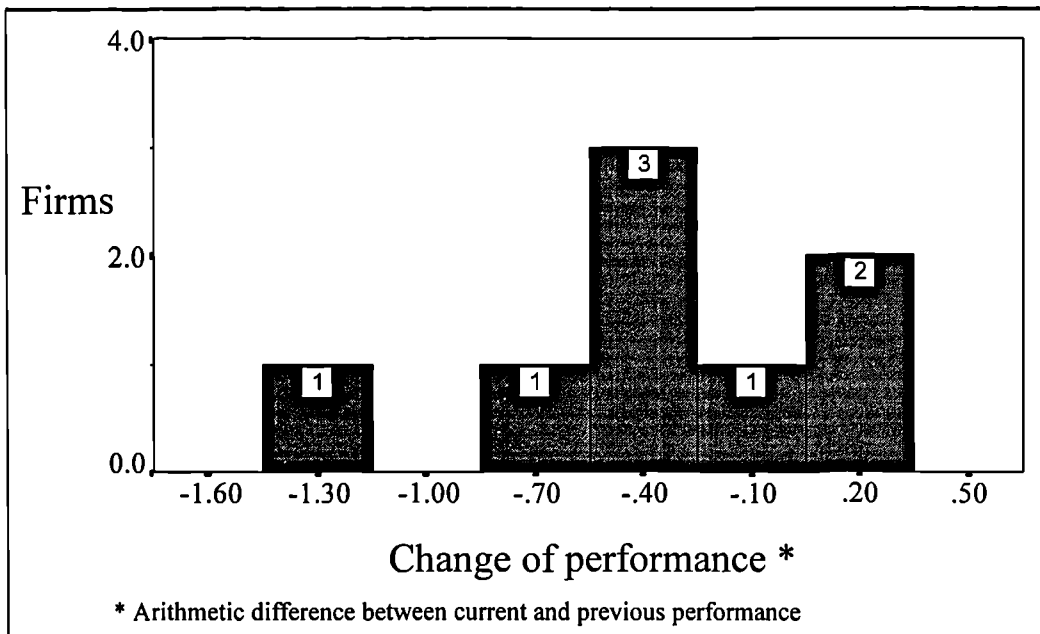


Figure 10.6:
Current and previous performance in low-performing firms in
petrochemical industry



In relating the previous discussions of firms with the four competitive strategies at the different levels of performance in the two industries (i.e. the different aspects of strategic coherence) to the changes in performance, the following conclusion can be drawn. It has been found, in both industries, that high-performing firms have more strategic coherence than the lower-performing firms in all the three different aspects of strategic coherence. It has also been found that high-performing firms, in both industries, have a significant improvement in their current performance compared to that of three years ago, while low-performing firms had a better performance three years ago than in the current year. Medium-performing firms seem to maintain the same level of performance. Thus high-performing firms, in both industries, not only have a high performance level in the current year but also have improved their performance in the last three years significantly at the 0.05 level of significance. In other words, high-performing firms which have more strategic coherence

than lower-performing firms are able not only to achieve their competitive advantage but also to sustain it over time. The same conclusion was made when we discussed the two industries together in the previous chapter. However, it has been found that there were different barriers with each of the four competitive strategies in the two industries. These differences, as well as the similarities, will be summarised in the next chapter.

As a further discussion of this sustainability of competitive advantage, the change in the performance of firms using different competitive strategies in the two industries can also be tested. Tables 10.21 and 10.22 show current and previous performance of firms using different competitive strategies in the food and petrochemical industries, respectively.

In the medium-performing firms, the performance of some firms has increased while the performance of others has decreased. All of these changes are not significant (with the exception of the DIF in the food industry). Therefore, these results indicate that medium-performing firms are able to maintain their level of performance.

It can be seen clearly that high-performing firms (which have high strategic coherence) using any one of the four competitive strategies are able to achieve and sustain their competitive advantage over time. This is true in both industries. In other words, as long as the high-performing firms maintain a high level of strategic coherence, they can achieve and sustain their competitive advantage, no matter what strategy they use or type of industry in which they work, as illustrated in Tables 10.21 and 10.22. For example, the mean scores of performance of the high-performing firms using PL competitive strategy in the food industry have increased significantly at the 0.05 level of significance, from 3.68 three years ago to 4.30 in the current year, as shown in Table 10.21.

Similarly, the mean scores of performance of the high-performing firms using the same competitive strategy in the petrochemical industry have also increased significantly at the 0.05 level of significance, from 3.83 three years ago to 4.40 in the current year, as shown in Table 10.22. Another example is the mean scores of performance of the high-performing firms using LCD competitive strategy in the food industry which increased significantly at the 0.05 level of significance from 3.73 three years ago to 4.17 in the current year, as shown in Table 10.21. The mean scores of performance of the high-performing firms using the same competitive strategy in the petrochemical industry also increased significantly at the 0.05 level of significance, from 3.64 three years ago to 4.40 in the current year, as shown in Table 10.22. Thus it can be concluded that high-performing firms in both industries which have maintained more strategic coherence (with respect to all aspects of strategic coherence) than lower-performing firms are able not only to achieve their competitive advantage but also to sustain it over time.

Table 10.21: Change of performance and competitive strategies in food industry

Competitive strategies	Performance levels	No. of firms	Current performance	Previous performance
Price leadership	High	12	4.30	3.68**
	Medium	11	3.53	3.75
Low cost differentiation	High	6	4.17	3.73**
	Medium ^a	2	3.60	3.50
Imitation	High ^a	1	4.20	4.20
	Medium	4	3.45	3.65
Differentiation	High	6	4.53	4.07*
	Medium	4	3.40	2.90**

^a because of few firms this competitive strategy has been excluded from t-test.

* and ** indicate that the means of current and previous performance significantly different at 0.10 and 0.05 levels, respectively, on basis of two-tailed t-test.

Table 10.22: Change of performance and competitive strategies in petrochemical industry

Competitive strategies	Performance levels	No. of firms	Current performance	Previous performance
Price leaders	High	14	4.40	3.83**
	Medium	4	3.50	3.30
Low cost differentiators	High	5	4.40	3.64**
	Medium	4	3.50	3.60
Imitators	High	8	4.25	3.60**
	Medium	4	3.50	3.15
Differentiators	High	10	4.46	3.84**
	Medium	5	3.36	3.20

* and ** indicate that the means of current and previous performance significantly different at 0.10 and 0.05 levels, respectively, on basis of two-tailed t-test.

10.5 Conclusion

This chapter has presented discussion of the results on strategic coherence and barriers to achieving competitive advantage regarding the food and petrochemical industries. Findings have indicated that there is no association between the level of performance and the type of industry to which firms are related. It has been found that high-performing firms were able to identify their competitive strategies more clearly than the lower-performing firms. Such results have been tested in different ways, such as the number of firms with clear and unclear strategies and the internal consistency of these competitive strategies (competitive coherence). It also been found that these competitive strategies are not associated with the different level of performance in both industries.

Managers in the high-performing firms were able to recognise more explicitly their firms' competitive strategies than those in the lower-performing firms. Such findings were obtained by comparing the objective and subjective competitive strategies at the different levels of performance.

High-performing firms have achieved a stronger organisational coherence than the lower-performing firms. This aspect of strategic coherence was tested by analysing the links between the four competitive strategies and the supporting variables, based on the links model that has been developed in Chapters 5 and 6.

Although it has been found that strategic coherence was maintained (with respect to all its three aspects), different barriers exist with respect to each of the competitive strategies in the two industries. These barriers will be summarised in the next chapter.

Finally by relating the idea of strategic coherence to the change of performance, the sustainability of competitive advantage was analysed. It has been found that high-performing firms which have more strategic coherence than lower-performing firms are able not only to achieve their competitive advantage but also to sustain it over time. Such findings were true of both industries.

Chapter 11

Summary and conclusions

This study has been conducted to investigate competitive strategies and the resulting barriers to achieving competitive advantage. It takes the petrochemical and food industries in Saudi Arabia for its empirical applications. Based on the findings of this research, it is fair to say that firms can achieve competitive advantage through different means. Competitive strategies are those means that enable firms to achieve and sustain their competitive advantage. Based on the review and discussion of the existing literature, this research clarifies the concept of competitive advantage as well as the means of achieving it. It also provides firms with a wider selection of means (four different generic competitive strategies) to achieve and sustain their competitive advantage. These competitive strategies have been tested and confirmed to be stable in this research. The findings of this research are basically consistent with the previous theoretical and empirical work of many scholars which has been highlighted in different places in this study.

It seems more difficult to find out why firms cannot achieve and sustain their competitive advantage than to provide alternative ways of achieving them. Therefore this research raises and explores this issue. It discusses and analyses the various barriers that prevent firms from achieving their competitive advantage. Again, based on a review and discussion of the existing literature, a model of ideal links between the four competitive strategies and the internal and external (supporting) variables has been developed. It has been hypothesised that high-performing firms will be closer to such a model than lower-performing

firms. This hypothesis has been empirically tested in different ways and at different levels and found to be accepted.

This chapter presents a summary and conclusions to the thesis. It will contain three major parts. The first will summarise and draw conclusions based on the findings related to the conceptualisation of the nature of competitive advantage and competitive strategies, and possible barriers to achieving competitive advantage. The second part will summarise and present a conclusion to the empirical findings that have been discussed in Chapters 8-10. The final part will present possible implications of the findings, the contributions of the present study, limitations, and suggestions for further research.

11.1 Theoretical framework

It has been suggested in this study that generic strategies, as usually formulated, fail to accommodate a number of important issues. This failure places limits on the extent to which the literature in the area can offer insights into strategic management. The problems involved have been discussed under three general points: it is important to differentiate supply and demand side effects; competitive strategies are derived from particular foundations of competitive advantage; finally, the coherence of particular generic strategies is specific to a market-industry strategic position.

This study extends the strategic management literature on competitive advantage and generic strategies, mainly based on Porter's (1980, 1985) work. In particular, instead of the different generic strategies put forward by Porter, four competitive strategies are developed. These are (1) price leadership, (2) low cost differentiation, (3) imitation and (4) differentiation. The development of

these strategies is based on the distinction and links between particular foundations of competitive advantage. The two competing approaches of sustainable competitive advantage, which are resource-based and market position approaches, have been discussed to develop four foundations of competitive advantage. Both of these approaches are needed for current and future competition. An important theme, which derived from the discussion of the existing literature related to these two approaches, is that a firm should distinguish between the supply and demand sides of its competitive advantage in order to understand the competitive dynamics and position of a particular industry-market. Therefore, two of the four foundations of competitive advantages discussed in this study operate on the supply side: cost advantage (CA) and innovative differentiation (ID). The other two foundations are derived from demand side factors: price competition (PC) and marketing differentiation (MD).

The distinction and links between these foundations which define the limits to particular generic strategies that can be developed by firms implies that a 'stuck in the middle' problem does not exist at this level, because these foundations to competitive advantage can be combined to produce coherent strategies - an aspect of the discussion that will be presented later in this final chapter. Finally, it can be concluded that this repositioning of Porter's work has two important effects: it removes the ambiguities about Porter's two generic strategies (cost leadership and differentiation) that have been highlighted and discussed in Chapter 3, and it expands the ways in which the firms might achieve and sustain a competitive advantage.

It has also been argued in this study that competitive strategies require internal consistency, referred to as 'competitive coherence', which is one of the three aspects of a 'strategic coherence' model. Therefore, the distinction between

foundations of competitive advantage and the ways in which these are used to develop competitive strategies allow us to measure the internal consistency of these competitive strategies. In addition 'organisational coherence' needs to be built, involving the structure of internal and external elements affecting an organisation's ability to achieve its competitive advantage. The creation of this structure is not automatic. The difficulties increase with the growing dynamism and complexity of the environment in which an organisation is operating. Based on the discussion and review of the literature related to the achievement and sustainability of competitive advantage, certain links between the four competitive strategies and the internal and external variables have been developed. These links, which are discussed in Chapters 5 and 6, have been referred to as organisational coherence (a summary of these links is also presented in Table 7.1 in Chapter 7). While competitive and organisational coherence might exist accidentally, the third aspect of strategic coherence which is called 'cognitive coherence', has also been developed. Based on the developments of these aspects of strategic coherence, it has been proposed in this study that the lack of coherence in one or more of these aspects is a barrier that may prevent a firm from achieving and sustaining competitive advantage. The empirical findings related to these aspects of strategic coherence and to competitive strategies will be summarised in the next section.

11.2 The empirical work

The results of the empirical work will be summarised in four sections. The first section considers competitive strategies. The second summarises the barriers that prevent firms using these competitive strategies. The third section will summarise findings on the subject of strategic coherence. The final section will summarise findings related to the issue of "stuck in the middle". These

summaries, however, are not to be used as a substitute for previous chapters, and readers are encouraged to refer to those chapters for further analysis and discussion of these results.

11.2.1 Competitive strategies

Four competitive strategies (price leadership 'PL', low cost differentiation 'LCD', imitation 'IMT', and differentiation 'DIF') are clearly identified, based on the results of the data analysis. As discussed earlier, each of the competitive strategies is a combination of two particular foundations of competitive advantage (with a total of 4 foundations). Using cluster analyses on these four foundations (with 36 questions), five clusters have been found; four of them have been identified with the four competitive strategies. Different tests, such as Analysis of Variance (ANOVA) and Duncan's Multiple Range Test (DMRT), have been used to test the identification of each competitive strategy within each cluster. Furthermore, to confirm the identification of the different clusters from each other, not only on the basis of the four foundations of competitive advantage but also among the different internal and external variables, different tests have been applied. Such tests are Multivariate Analysis of Variance (MANOVA), NOVA and DMRT, as shown in table 8.8.

Having confirmed the existence and stability of these competitive strategies, we can argue that firms will have more alternative ways to achieve and sustain competitive advantage than those suggested by Porter (1980, 1985). This argument refers back to the earlier discussion of Porter's competitive strategies where he assumes that firms need to use either cost leadership or differentiation strategies, or they will be "stuck in the middle". Further discussion of this issue will be presented later. After having clearly identified the four competitive strategies, the coherence between the two particular

foundations in each competitive strategy was tested across the different levels of performance. Results relating to this coherence will be presented later when the concept of strategic coherence is discussed.

11.2.2 Barriers to achieving competitive advantage

In Chapters 5 and 6 the ideal model of links between each competitive strategy and the internal and external variables was discussed. It was hypothesised that high-performing firms will have better links than lower-performing ones. In Chapters 9 and 10 these links have been tested and analysed, respectively, at the aggregate level, and in terms of the two different industries. From these analyses the following general conclusions can be drawn. At the aggregate level of analysis different barriers exist with different competitive strategies. This is also true when it is applied to the two industries separately. Results regarding these general conclusions can be summarised in two different ways. First, we will summarise the general barriers that prevent firms with different competitive strategies from achieving their competitive advantage; then we will move to a more detailed discussion of how the specific barriers relate to each competitive strategy in the two industries.

In the analysis of general barriers that may prevent firms from achieving their competitive advantage, it has been found that there is some priority in those barriers that face firms using each competitive strategy. In other words, lower-performing firms using a particular competitive strategy need to consider some barriers more than others. In the development and discussion of the ideal model, it has been discussed that firms need to have positive links with some variables and negative links with others (see Chapters 5 and 6). However, when these links were analysed, it was found that even though there are some variables which need to be emphasised positively by firms using one of the

competitive strategies, such variables have been over-emphasised by lower-performing firms. This over-emphasis prevents these firms from achieving their competitive advantage. In this summary we will refer to such variables as those that should not be positively prioritised. The same can be applied to the negative links, where such variables will be classified as those which should not be negatively prioritised. Thus, each competitive strategy will be presented below with all variables that have been considered as potential barriers for those firms using a particular strategy. These variables will be ranked according to their importance: the ranking of these variables indicates the priority in terms of consideration and efforts that lower-performing firms with such competitive strategy need to direct to the links (either positive or negative) with these variables.

Table 11.1 presents a summary of the barriers that prevent medium-performing firms from achieving their competitive advantage. The detailed analysis and discussion of these barriers is presented in Chapter 9. It has been concluded that firms using different competitive strategies face different barriers for achieving competitive advantage. These barriers exist with the lack of appropriate links, either positive or negative, that these firms have between the competitive strategies and the internal and external variables (Chapter 5 and 6). For example, medium-performing firms using a PL competitive strategy need to be positively linked to some variables (e.g. environmental simplicity, financial control, environmental stability, formalisation, and risk avoidance) and negatively to other variables (e.g. strategic planning, liaison devices, prospectors, and related and supported industries) in order to achieve their competitive advantage.

**Table 11.1: Barriers to achieving competitive advantage:
Aggregate analysis**

(ranked from important to least important in each strategy)

Competitive strategies	Variables that should be linked		Variables that should not be prioritised	
	positively	negatively	positively	negatively
Price leaders	* environmental simplicity, * financial control * environmental stability, * formalisation, * risk avoidance, * defender, * analysers, * demand conditions, * factor conditions.	* strategic planning, * liaison devices, * prospectors, * related and supported industries, * authority delegation		* strategic control
Low cost differentiators	* environmental simplicity, * risk avoidance, * environmental stability, * formalisation, * demand conditions, * financial control, * defenders	* related and supported industries, * prospectors, * strategic planning.	* factor conditions, * strategic control	* liaison devices, * authority delegation, * analysers
Imitators	* analysers		* strategic planning * liaison devices * prospectors, * authority delegation, * strategic control, and * related supported industries	*factor conditions * formalisation, * financial control * risk avoidance, * defenders, * demand conditions * environmental stability, * environmental simplicity.
Differentiators	* liaison devices, * authority delegation, * strategic planning, * related and supported industries, * prospectors.	* factor conditions, * defenders, * environmental stability, * financial control * risk avoidance, * environmental simplicity, * formalisation	* demand conditions, * strategic control	* analysers

It can be seen from Table 11.1 that these links are different when firms are using PL, DIF, IMT or LCD competitive strategies. The ranking of these variables (either negatively or positively) with respect to each competitive strategy shows the importance of their consideration by the medium-performing firm. For example, the most important variable, among those that should be positively considered by the medium-performing firms using LCD competitive strategy, is environmental simplicity, while the least important one among these variables is the defenders, as shown in Table 11.1. It can also be seen that the liaison devices variable needs to be emphasised positively by medium-performing firms using DIF strategy, while this variable is over-emphasised by medium-performing firms using IMT competitive strategy. Thus, it can be concluded that the barriers that are faced by firms using different competitive strategies are also different.

Tables 11.2 and 11.3 present a summary of the detailed analysis of the barriers that prevent medium-performing firms in the food and petrochemical industries, respectively, from achieving their competitive advantage. On comparing the links between the supporting variables and the four competitive strategies, a conclusion was drawn. In terms of the barriers to achieving competitive advantage in the two industries, it has been found that due to the different nature of the two investigated industries different barriers exist with each competitive strategy in each industry. This conclusion can be highlighted in the following two points.

**Table 11.2: Barriers to achieving competitive advantage:
food industry
 (ranked from important to least important in each strategy)**

Competitive strategies	Variables that should be linked		Variables that should not be prioritised	
	positively	negatively	positively	negatively
Price leadership	<ul style="list-style-type: none"> * environmental simplicity, * formalisation, * financial control, * environmental stability, * defenders, * factor conditions, * risk avoidance. 	<ul style="list-style-type: none"> * prospectors, * liaison devices, * related and supported industries, * strategic planning, * authority delegation. 		<ul style="list-style-type: none"> * analysers, * demand conditions, * strategic control
Low cost differentiation	<ul style="list-style-type: none"> * analysers, * strategic control, * environmental simplicity, * risk avoidance, * demand conditions, * environmental stability. 	<ul style="list-style-type: none"> * prospectors, * defenders, * related and supported industries, and * strategic planning. 	<ul style="list-style-type: none"> * factor conditions, * formalisation, and * financial control 	<ul style="list-style-type: none"> * authority delegation, and * liaison devices.
Differentiation	<ul style="list-style-type: none"> * liaison devices, * authority delegation, * analysers, * demand conditions, * related and supported industries, * strategic planning. 	<ul style="list-style-type: none"> * factor conditions, * defender, * environmental stability, * financial control, * formalisation, * risk avoidance. 	<ul style="list-style-type: none"> * strategic control, * prospectors. 	<ul style="list-style-type: none"> * environmental simplicity.

**Table 11.2: Barriers to achieving competitive advantage:
petrochemical industry**

(ranked from important to least important in each strategy)

Competitive strategies	Variables that should be linked		Variables that should not be prioritised	
	positively	negatively	positively	negatively
Price leadership	* risk avoidance, * environmental stability, * financial control, * analysers, * defender, * demand conditions, * factor conditions, * formalisation, * environmental simplicity.	* strategic planning, * liaison devices, * related and supported industries, * authority delegation, * strategic control.		
Low cost differentiation	* defenders, * environmental simplicity, * demand conditions, * formalisation, * environmental stability, * risk avoidance, * authority delegation.	* analysers	* factor conditions, * strategic control, * financial control.	* related and supported industries, * strategic planning, * liaison devices, * prospectors
Imitation	* analysers, * strategic control.	* environmental simplicity, * demand conditions, * defenders, * formalisation, * environmental stability, and * risk avoidance.	* strategic planning, * related and supported industries, * liaison devices, * authority delegation, *prospectors	* factor conditions, * financial control, and * risk avoidance.
Differentiation	* liaison devices, * related and supported industries, *strategic planning, * prospectors, * authority delegation.	* demand conditions, * factor conditions, * environmental simplicity, * risk avoidance, * environmental stability, * formalisation, * financial control.		* analysers, * defenders

First, in general (i.e. with a few exceptions that have been discussed in Chapter 10), variables that should be considered (either positively or negatively) by the medium-performing firms using PL competitive strategy in the petrochemical industry are the same variables that should be considered by those firms using the same competitive strategy in the food industry. The same can be also applied to the DIF competitive strategy. This might be seen as an indication of the general application of these two competitive strategies. However, although the links between either of these competitive strategies and these variables are similar in both industries, the priority for considering these variables is different. For example, the most important variable to be considered positively by the medium-performing firms using PL competitive strategy in the food industry is environmental simplicity, while the most important to be considered positively by the medium-performing firms using this competitive strategy in the petrochemical industry is risk avoidance. It can also be seen from Tables 11.2 and 11.3 that the most important variable to be considered negatively by the medium-performing firms using DIF competitive strategy in the food industry is factor conditions, while the most important to be considered negatively by the medium-performing firms with the same competitive strategy in the petrochemical industry is demand conditions.

It can be concluded from these findings that these differences in the barriers to achieving the competitive advantage, associated with the same competitive strategy, reflect the different nature of the product-market conditions of the two industries. These differences, as well as the detailed analysis of these barriers, are presented in chapter 10.

Second, turning to the other two competitive strategies which are IMT and LCD, because there are not enough data with regard to IMT in the food industry, as discussed in Chapter 10, only LCD can be discussed at this point.

The case with LCD is different from that with PL and DIF competitive strategies. Generally speaking, in addition to the difference in priority of consideration, the variables that should be considered (either positively or negatively) by the medium-performing firms using LCD in the petrochemical industry are different from those that should be considered by other firms using the same competitive strategy in the food industry, as shown in Table 11.3. For example, the most important variable to be considered positively by the medium-performing firms using LCD competitive strategy in the food industry is analysers, while the least important is environmental stability. On the other hand, the most important variable to be considered positively by the medium-performing firms using LCD in the petrochemical industry is defenders, while the least important is authority delegation. It can be concluded from these findings that (1) the nature of the two industries is different, (2) PL and DIF are more general competitive strategies than LCD, a point that we shall return to when we discuss the concept of "stuck in the middle".

11.2.3 Strategic coherence

It has been proposed in this study that firms need strategic coherence to achieve and sustain their competitive advantage. The different aspects of strategic coherence were discussed at the same time as the barriers to achieving competitive advantage were analysed in Chapters 9 and 10, although they are in fact different. It was concluded from the previous section that firms using different competitive strategies face different barriers to achieving and sustaining their competitive advantage. It was also concluded that due to the different nature of the two markets, firms using the same competitive strategies face different barriers in each industry. But the situation with strategic coherence is different. All the three aspects of strategic coherence (competitive,

organisational and cognitive) have been maintained by high-performing firms using any of the competitive strategies, either at the aggregate level of analysis or at the individual level of each industry. Findings related to these aspects will be summarised in the following discussion.

Once the stability of the four competitive strategies had been confirmed, they were linked to differential performance to test the implications of strategic coherence. Then the sustainability of competitive advantage by firms using these different competitive strategies at the different levels of performance was tested. Using cluster analysis, firms have been grouped based on their current performance. Three major groups of firms were found. These firms were identified as high, medium and low-performing firms (Chapter 8). Different tests such as ANOVA and DMRT have been used to confirm the identification of each performance group of firms in these clusters.

Based on findings from the different clusters with regard to the identification of the three levels of performance and the identification of the four competitive strategies (which have been discussed earlier), the idea of strategic coherence has been tested in three major ways. These methods of testing strategic coherence were conducted when the four competitive strategies were linked to the different performance levels.

The first method tested the identification and internal consistency of the four competitive strategies at the different levels of performance (competitive coherence). In this method, the coherence between the two particular foundations of competitive advantage in each competitive strategy was tested across the different levels of performance. This test was applied first at the aggregate level of analysis (i.e. in the two industries together), then in each industry separately. In both cases it was found that high-performing firms have

more competitive coherence than those at the other levels of performance (see Chapters 9 and 10). These findings have been identified in two different ways. The first way shows that each competitive strategy is more clearly identified (i.e. internally consistent) by the high-performing firms than by firms at the other levels of performance. The second way shows that there are more firms with unclear competitive strategies among firms at the lower-performing level than those at other levels of performance.

The second method of testing strategic coherence was through analysis of the links between the four competitive strategies and the supporting variables, as presented in Chapters 9 and 10. This aspect of strategic coherence (which was referred to as organisational coherence) was tested against the model that was discussed and developed in Chapters 5 and 6 (barriers to achieving competitive advantage). It has been concluded that different barriers (i.e. links with the supporting variables) exist with different competitive strategies. It has also been concluded that high-performing firms have more organisational coherence than those at the other levels of performance. Furthermore, from the discussions of the barriers to achieving competitive advantage in the two different industries separately, it was also concluded that there is more organisational coherence between the competitive strategies and the internal and external variables in the high-performing firms than in firms at the other performing levels (see Chapter 10).

Finally, it has been found that the competitive strategies are not accidentally identified. Therefore, the third method of testing the strategic coherence was regarding the explicit recognition of managers of their competitive strategies. In this method, objective and subjective competitive strategies have been compared in cognitive coherence (see Chapter 9). In other words, this way tests the coherence between the explicit recognition of

managers of their competitive strategies and the implicit or objective identification of these competitive strategies. Managers in high-performing firms are able to recognise their competitive strategies more than managers at the other levels of performance. Thus, cognitive coherence is found to be stronger in the high-performing firms than in the others.

These methods of testing strategic coherence have also been applied to the two industries (i.e. food and petrochemical, see Chapter 10) separately. It has been found that the three aspects of strategic coherence (competitive, organisational and cognitive) have been maintained to a greater extent by high-performing firms than by firms at other performing levels in both industries. These aspects of strategic coherence were related to changes in performance i.e. current performance compared to previous performance (see Chapter 9 and 10). It has been found that high-performing firms in both industries (either at the aggregate level of analysis or on the basis of the individual industry) are able not only to achieve their competitive advantage but also to sustain it over time.

Based on this discussion, it can be concluded that firms will achieve and sustain their competitive advantage when their strategies are coherent. This strategic coherence is achieved in three different ways: (1) consistency of the particular foundations of competitive advantage that form a competitive strategy, i.e. "competitive coherence"; (2) consistency of the appropriate links between the competitive strategy and the internal and external variables, i.e. "organisational coherence", and (3) consistency between the objective and subjective strategies, i.e. "cognitive coherence".

11.2.4 Stuck in the middle

Four foundations of competitive advantage have been developed in a model (Figure 3.2 in Chapter 3) with two dimensions, namely: supply/demand and stable/innovative, to form particular competitive strategies that can be developed by firms. In Chapter 8, four competitive strategies have been tested and found to be coherent. These are price leadership, low cost differentiation, imitation and differentiation.

Although these competitive strategies were a development of Porter's competitive strategies (as has been discussed in Chapters 3 and 4), it has been found that Porter's competitive strategies are broad and over-simplified, taking into consideration the following: (1) the analysis and critique of Porter's competitive strategies discussed in earlier chapters; (2) the fact that a firm needs to be unique in such a way that it can perform better than its competitors; and (3) the increasing complexity and nature of competition in markets. Thus the four competitive strategies will provide firms with more alternative ways of being unique and consequently give them more power to cope with the increasing competition successfully. This leads to the discussion of the issue of 'stuck in the middle'.

These findings can be related to the discussion of the issue of 'stuck in the middle', articulated originally by Michael Porter (1980, 1985). The term "stuck in the middle" has been used by Porter to indicate the characteristics of a firm that engages in more than one generic strategy but fails to achieve any one of them. The idea of 'stuck in the middle' therefore suggests that successful companies should pursue only one strategy and avoid being stuck between several strategies. Discussing the different generic strategies, Porter argues that a firm which is stuck in the middle tries to achieve competitive advantage

through every means but achieves none. Although this argument has been generally accepted, many studies have empirically tested Porter's work (e.g. Murray, 1988; Phillips, Chang, and Buzzell, 1983; Hill, 1988; Woodruffe, 1993) and concluded that there are firms which are not simply following either cost leadership or differentiation strategies but following both strategies simultaneously, and yet maintaining an above-average performance. Oskarsson and Sjoberg (1994) conclude in their study that rather than a 'stuck in the middle', firms found a 'luck in the middle' strategy. As discussed in Chapter 3 the same principle used by Porter (with regard to the independence of competitive strategies) has been followed in the development of the competitive strategies framework. However, it has been concluded that the classification of these competitive strategies is more complex than Porter suggested. Although the issue of "stuck in the middle" has been discussed in more detail in Chapter 3, the relevance of this issue to the framework developed in this study will be presented in this section. This issue has different interpretations (e.g. Cronshaw and Davis, 1990; Bowman, 1992; Cronshaw, Davis and Kay, 1994).

Cronshaw, Davis and Kay (1994), discussing the issue of "stuck in the middle", argue that the idea that successful companies should pursue only one strategy and avoid being stuck between several strategies has become an important tenet of corporate thinking. They, however, distinguish and appraise three different interpretations of this concept. First, when interpreted narrowly as referring to the appeal of a product to its target buyers, Porter's proposition implies that companies must be *down-market* or *up-market*, but *nothing in-between*. Such a view, as they discuss it, is belied by the evident success of companies such as Sainsbury's, which earns substantial economic rents in a mid-market position. Cronshaw and Davis (1990) also argue that many of the world's most successful companies are based on mid-market positioning:

Sainsbury's is between Kwik Save and Marks and Spencer, Trust House Forte is between Holiday Inns and the Hilton chain, Barclays fall between the Co-op bank and Coutts for current account services, and so on (Cronshaw and Davis, 1990: 106). Second, Porter can be interpreted more broadly as suggesting that firms need strategic clarity and that they will do better to pursue either cost or quality objectives rather than to seek a mix of the two. PIMS data and other evidence as discussed by Cronshaw, Davis and Kay (1994), shows however, that intermediate positions are indeed profitable and are successfully exploited by many firms; more discussion of this issue is also presented in Chapter 3. Finally they concluded that Porter's strategy is best employed as a classification scheme of strategic outcomes - it says that firms which fail in both cost and quality dimensions perform poorly.

Therefore, since this study investigates the different barriers that may prevent firms from achieving and sustaining their competitive advantage, relating the results obtained in this study to the idea of "stuck in the middle" we will be able to underline more clearly these firms that may be "stuck in the middle". Considering the concept of strategic coherence that has been discussed in the previous section (in all its three levels: competitive coherence, organisational coherence and cognitive coherence), it has been found that firms need to have strategic coherence in order to achieve and sustain their competitive advantage. The issue of stuck in the middle, with the three interpretations proposed by Cronshaw, Davis and Kay (1994) and others, is related to competitive coherence. In other words, when Porter talks about firms that fail to achieve their competitive advantage or are stuck in the middle (whether stuck in the middle is interpreted as being stuck between strategies or between markets), he was talking about one aspect of the strategic coherence mentioned earlier, which is competitive coherence. Therefore, considering the

similarity of Porter's two competitive strategies, cost leadership and differentiation, to PL and DIF competitive strategies respectively, and also considering the issue of "stuck in the middle" as defined by Porter, we may turn to the example of Sainsbury's, in which Cronshaw, Davis and Kay (1994) make their conclusion and agree that Sainsbury's is not stuck in the middle. However, it will be argued that Sainsbury's is not using either of the two competitive strategies (i.e. cost leadership and differentiation) but using another one, i.e. low cost differentiation. Thus following the development of the four competitive strategies, those firms which are considered by Porter as being stuck in the middle can be identified as using different competitive strategies. This argument can be also generalised to other studies (e.g. Murray, 1988; Phillips, Chang, and Buzzell, 1983; Hill, 1988; Woodruffe, 1993) which argue that firms can pursue both cost leadership and differentiation simultaneously.

Thus, even though our development of Porter's competitive strategies provides firms with more alternative ways of achieving their competitive advantage (i.e. not being stuck in the middle between cost leadership and differentiation), stuck in the middle is an expression with a meaning that is more general than only failing to have an appropriate competitive strategy. Therefore, in addition to being stuck in the middle with respect to competitive coherence, organisational coherence as well as cognitive coherence need to be maintained.

Firms may then be stuck in the middle in terms of their competitive strategies. As discussed earlier, firms need to have an appropriate link between two particular foundations of the four foundations of competitive advantage (competitive coherence). Firms that are unable to identify clearly their competitive strategies, by having an appropriate link as discussed in Chapters 8, 9 and 10, will be considered as being stuck in the middle.

As discussed in Chapters 5 and 6, this study has developed an ideal model of links between internal and external variables and competitive strategies in order for firms to achieve and sustain their competitive advantage. This model has been empirically tested in different ways and levels and found to be accepted. Firms, therefore, can be considered as being stuck in the middle when they have an inappropriate link between competitive strategies and the different supporting variables. Examples of such inappropriate links are discussed in Chapters 9 and 10 and summarised in the previous section. Finally, as it has been found that managers' explicit recognition of their firms' competitive strategies (cognitive coherence) is related to the achievement and sustainability of competitive advantage, firms may be stuck in the middle when managers have no explicit recognition of their firms' competitive strategies. Therefore, it has been found that a firm can be stuck in the middle in three different places. These are as follows: (1) when a firm identifies its competitive strategy; (2) when the firm forms the links either in the internal or external environments; (3) when managers recognise or perceive the strategies that their organisations are following.

Thus, since firms need to maintain all the three different aspects of the strategic coherence in order to achieve and sustain their competitive advantage and not be stuck in the middle, in failing to maintain one or more of these coherences, firms are unlikely to achieve their competitive advantage. Therefore, it can be suggested that further research in this area will improve understanding of the competitive strategies and the achievement and sustainability of competitive advantage.

11.3 Implication of findings

Although the literature which has been used in the discussion of this research, either on competitive strategies or on barriers to achieving competitive advantage, was mainly related to western markets and western companies, the findings of this research, as presented by the Saudi top executives, are applicable to the western companies and markets. The findings also show that the theories developed on and for the western companies can be applied to the non-western countries such as Saudi Arabia. However, these findings will undoubtedly be more beneficial to the Saudi companies than to any other companies. Thus the findings of this research show that strategic research related to competitive strategies and the achievement and sustainability of competitive advantage is fruitful, even in developing countries such as Saudi Arabia, and that it can help identify theories unique to developing countries and increase at the same time the external validity of theories developed in industrialised countries.

11.4 Contributions of the study

It is believed that the present study makes a contribution to the strategic management literature in general and to the concept of competitive advantage and generic strategies in particular. It also develops different ways of analysing and determining barriers to achieving competitive advantage. It offers useful information to the food and petrochemical industries firms in particular, and to the Saudi Arabian firms in general.

- 1 Different approaches to the market position of the firm have been discussed and related to the resource-based approach to develop the concept of competitive advantage and the generic strategies. Based on

this development, the present study provides firms with four competitive strategies (price leadership, low cost differentiation, imitation and differentiation), to compete in their market. The development of these strategies involves two aspects: theoretical and empirical. Therefore, In these two ways competitive strategies are derived rather than being imposed. The study also develops an ideal model of links between internal and external variables and competitive strategies in order for firms to achieve and sustain their competitive advantage. It also develops the concept of strategic coherence, that firms will achieve and sustain their competitive advantage when their strategies are coherent.

- 2 In addition to the body of literature contributed by this study, it provides useful empirical data and information that help in analysing and testing the theoretical framework presented in the study. The results of this analysis could help firms to see alternative ways of competing in their markets and to benefit from adapting and pursuing an effective and coherent competitive strategy in order to achieve their competitive advantage. This contribution is also of special benefit to the Saudi Arabian firms and, in particular, in the two investigated industries.
- 3 To the knowledge of the researcher, this study addresses an issue that has not been addressed in Saudi Arabian industries, namely that of competitive strategies and barriers to achieving competitive advantage. In addition to the special contribution to the Saudi Arabian firms, this study aims to extend developed (Western) strategy models and literature to a developing country (Saudi Arabia) and to determine whether that literature is relevant to Saudi Arabia. The results are consistent with those found in the existing literature, lending support to the view that western strategy models seem to be applicable to developing countries

such as Saudi Arabia. These results also contributed toward the external validity of these models.

11.5 Limitations

This study, like any other, has its limitations. This section will highlight some of these limitations.

- 1 The firms investigated in this study were from two different Saudi Arabian industries: food and petrochemical. One may suspect that findings related to the barriers to achieving competitive advantage could have been different when competitive strategies are used in other industries with drastically different technological and/or economic structure.
- 2 The difficulty of deciding the effect of the non-respondents. The response rate was 60%. Those who did not respond were assumed to be normally distributed across the variables of this study. This is a potential cause of any possible confusion in the results.
- 3 The lack of availability of publicly published data about Saudi Arabian firms. This limitation has forced the adoption of subjective and self-reporting methodologies.
- 4 Closely associated with the previous limitation is the questionnaire as the main method of data collection. This method relies on self-reporting as a basic source of data. The benefits and limitation of using questionnaires in this study were discussed in detail in Chapter 7. Validation procedures and techniques used in this study have tried to

minimise the limitations of using questionnaires. However, questions may still remain on these limitations.

Taking account of these limitations, we can now recommend other areas for future research.

11.6 Areas for further research

The study focused on the barriers to achieving competitive advantage and how the lack of the different aspects of strategic coherence prevent firms from achieving and sustaining their competitive advantage. Although the objectives of this study have been achieved, this study does not claim its findings are conclusive, but rather lay the groundwork for subsequent research. The following areas that remain unexplored could benefit from further investigation:

- 1 A replication of this study is recommended to be applied to other countries and/or to other industries in Saudi Arabia, using the two available versions of the questionnaire. Replication could enhance the value and general applicability of the results in the present study, particularly in the competitive strategies and the barriers to achieving and sustaining competitive advantage. Additional empirical work needs to be done to see if these findings may be generalised to other countries and/or industries.
- 2 With appropriate funding and time, other methods of collecting data such interviews with the respondents and/or more detailed case studies are recommended. Such methods will provide the researcher with more information about the investigated firms and industries and minimise the limitations of the questionnaire mentioned earlier.

information about the investigated firms and industries and minimise the limitations of the questionnaire mentioned earlier.

- 3 Further research can be conducted to explore the idea of "stuck in the middle", as mentioned earlier.
- 4 Other external potential barriers to the achievement and sustainability of the competitive advantage, such as public activities and institutional activities, are worth consideration in future research. The same can also be applied to other internal potential barriers to the organising strategy, such as those related to individual careers, perceptions, cognition and so on (which are referred to as "individual (or behavioural) strategies" in Chapter 5). Since these potential barriers were considered outside its scope, they have not been discussed in this study.
- 5 Finally, it is hoped that this study contributes to a better understanding of the competitive advantage and competitive strategies, as well as the barriers that may prevent firms from achieving and sustaining competitive advantage. It is also hoped that the present study has laid some basis for future research.

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Questionnaire

Appendix A1:
Questionnaire (Covering letters)



SHEFFIELD UNIVERSITY MANAGEMENT SCHOOL

Department of Accounting & Finance
Department of Business Studies
Department of Economics

Chairman: Dr F A Fretwell-Downing
Director of Teaching: Mr G P Marshall
Head of Department: Professor D L Owen
Head of Department: Professor R L Payne
Head of Department: Professor S Holly

Dear

We are currently carrying out a research in the Sheffield University Management School, UK. This research is about barriers to achieving competitive advantage; we are taking some of the Saudi Arabia industries as a case study for this research. We have chosen you to give us some information about your organisation and its industry and environment for the propose of academic research only. We can promise you that your answers will be treated in the strictest confidence.

The results of this research will help organisations, especially in Saudi Arabia, to understand the real barriers that may prevent them from achieving their competitive advantage.

Your co-operation and careful answers to these questions is an essential element for the success of this research which will form the basis of Mr. Mohammed Al-Awadh's Ph.D. thesis. Thus your co-operation will be appreciated. We hope that your organisation will benefit as well from this study. Thanking you in advance for your help.

Dr. Michael Dietrich
Lecturer in Economics and
Business Policy.
Sheffield University
Management School, UK

Mohammed Al-Awadh
Ph.D. student
Sheffield University
Management School, UK



Department of Accounting & Finance
Department of Business Studies
Department of Economics

Chairman: Dr F A Fretwell-Downing
Director of Teaching: Mr G P Marshall
Head of Department: Professor D L Owen
Head of Department: Professor R L Payne
Head of Department: Professor S Holly

الموكر سعادة مدير

السلام عليكم ورحمة الله وبركاته وبعد ...

أفيد سعادتكم بأن هذا إستبيان لبحث أقوم به في كلية الإدارة بجامعة شفيلد البريطانية. ويدور هذا البحث حول عوائق تحقيق الميزات التنافسية في منشآت الأعمال ، وسوف يتم تطبيق هذه الدراسة على مجموعة من الشركات في بعض الصناعات السعودية.

وبناء على أهمية الدور الذي تقوم به شركتكم الموقرة فقد وقع الاختيار عليكم لإعطاء بعض المعلومات عن منشآتكم ، ورأيكم في الصناعة وبيئة الأعمال من حولكم. علماً بأن جميع إجاباتكم سوف تعامل بسرية تامة ولغرض البحث العلمي فقط.

نتائج هذا البحث سوف تساعد منشآت الأعمال ، وخاصة السعودية ، على فهم العوائق الحقيقية التي قد تحول دون تحقيقهم للميزات التنافسية التي يطمحون إليها.

هذا ويعتبر تعاونكم وإجاباتكم الدقيقة على هذه الاسئلة عاملاً هاماً لإنجاح هذه الدراسة ، والتي هي الأساس الذي تقوم عليه رسالة الدكتوراه للطالب/ محمد العوض ، وسيكون تعاونكم ، بلا شك ، مقدراً أشد التقدير. كما نتمنى أن تستفيد منشآتكم من نتائج هذه الدراسة. شاكرين لكم مقدماً تعاونكم والله الموفق.

د. مايكل دترك

استاذ الإدارة الإستراتيجية

كلية الإدارة ، جامعة شفيلد ، بريطانيا

محمد عبدا لله العوض

طالب الدكتوراه ، كلية الإدارة

جامعة شفيلد ، بريطانيا

Date: التاريخ : No.: الرقم :

الى من يهمه الأمر

السلام عليكم ورحمة الله وبركاته، وبعد،

يقوم الأخ/محمد عبدالله العوض، أحد مبعثي قسم إدارة الأعمال بالكلية الى جامعة شفيلد البريطانية .. بجمع المعلومات اللازمة لأطروحته للدكتوراه عن : «عوائق تحقيق الميزات التنافسية»..

لذا .. أكون شاكراً تفضلكم بمساعدته في الحصول على البيانات الضرورية بهذا الخصوص ..

مقدراً لكم كريم تجاوبكم ..

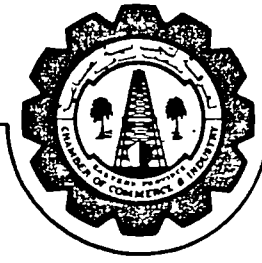
ولكم خالص التحية .. والسلام ...

١١ / ٢٢

عميد الكلية

عبدالله بن محمد الفيصل





العدد : ٩/
التاريخ :
المرفقات : استبيان

المحترمين

سعادة / المدير العام

السلام عليكم ورحمة الله وبركاته

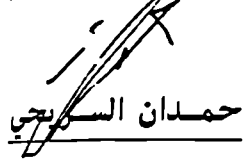
يقوم الباحث محمد عبدالله العوض بجمع المعلومات اللازمة لاطروحة للدكتوراه عن "عوائق المنافسة في الشركات السعودية".

نرجو التكرم بتعبئة بيانات الاستبيان المرفق لكم، وإعادته إلى الإدارة الصناعية في الغرفة التجارية الصناعية للمنطقة الشرقية، آمليين أن يصلنا الاستبيان خلال الاسبوع القادم (المنتهي في ١٦/١/١٤١٥هـ).

شاكرين لكم كريم تعاونكم .

وتفضلوا بقبول خالص تحياتنا ،،،

الأمير العام


حمدان السويدي



الغرفة التجارية الصناعية بجدة

JEDDAH CHAMBER OF COMMERCE & INDUSTRY

هاتف ١١١١١١ - ص.ب ١٣٦٤ جدة ٢١٤٣١ - تليكس ٦٠٣٧٨٢ - فاكس ٦٠١٧٣٣٣
Tel : 6515111 P. O. Box : 1264 Jeddah 21431 - Telex : 601069 GHURFA SJ. - Fax : 6517373

الرقم : ٥٨ / ٤١٥/٦١٠٠/

سعادة / المدير العام الموقر

السلام عليكم ورحمة الله وبركاته :

يقوم الباحث / محمد عبدالله العوض بجمع المعلومات اللازمة لاطروحة للدكتوراه عن [عوائق المنافسة في الشركات السعودية] .

نأمل التكرم بتعبئة بيانات الاستبيان المرفق لكم واعادته الى الادارة الصناعية في الغرفة التجارية الصناعية بجدة ، آمين أن يصلنا الاستبيان خلال الأسبوع القادم (المنتهى في ١٣/١/١٤١٥ هـ) .

شاكرين لكم اهتمامكم .

وتقبلوا خالص تحياتنا ،

١٤١٥/١/٤

س / س

مدير الادارة الصناعية

م. محمد عمر كابلا

Appendix A2:
Questionnaire (English version)

1. General Strategy

Each of the following statements is designed to help discover how you see your firm's strategy. If the statement does not apply at all to your organisation, then circle #1. If the statement accurately describes the situation in the organisation, circle #5. The numbers 2 to 4 enable you to indicate intermediate positions in between these two extremes.

This Statement is not relevant to our firm	This Statement of little relevance to our firm	This Statement of some relevance to our firm	This Statement is quite relevant to our firm	This statement accurately describes the situation in our firm
1	2	3	4	5

- | | | | | | |
|--|---|---|---|---|---|
| 1- We try to offer the cheapest unbranded products/services in our market. | 1 | 2 | 3 | 4 | 5 |
| 2- We always try to be ahead of competitors in product/service innovation. | 1 | 2 | 3 | 4 | 5 |
| 3- We place a considerable emphasis on the control of operating costs. | 1 | 2 | 3 | 4 | 5 |
| 4- We place major emphasis on advertising and promotion so that we can charge an above-average price. | 1 | 2 | 3 | 4 | 5 |
| 5- We regularly increase the research and development spending on the line of products/services to offer new product/services. | 1 | 2 | 3 | 4 | 5 |
| 6- We try to differentiate our products/services from the competition, so we can charge premium prices. | 1 | 2 | 3 | 4 | 5 |
| 7- We emphasise competitive price in our marketing communications. | 1 | 2 | 3 | 4 | 5 |
| 8- We place major emphasis on prior analysis of market needs to adapt our product/services to meet them if necessary. | 1 | 2 | 3 | 4 | 5 |
| 9- There is a lot of pressure here to minimise overhead costs. | 1 | 2 | 3 | 4 | 5 |
| 10- Products/services development is given top priority in our organisation. | 1 | 2 | 3 | 4 | 5 |
| 11- Because we offer very similar product/services to the competition, we try to maintain competitive pricing. | 1 | 2 | 3 | 4 | 5 |
| 12- We try to offer the best quality products/services in our industry. | 1 | 2 | 3 | 4 | 5 |
| 13- We think that our customers are more concerned about price than anything else. | 1 | 2 | 3 | 4 | 5 |
| 14- We put more emphasis on product image in our marketing communication than anything else. | 1 | 2 | 3 | 4 | 5 |
| 15- The main competitive strategy in our organisation is based on low price competition. | 1 | 2 | 3 | 4 | 5 |
| 16- We think that our customers are more concerned about the quality of the product/service than anything else. | 1 | 2 | 3 | 4 | 5 |
| 17- We try to use process innovation to support the quality of product/services. | 1 | 2 | 3 | 4 | 5 |
| 18- We aim to be the lowest cost producer in our industry. | 1 | 2 | 3 | 4 | 5 |
| 19- We try to maintain a highly trained and motivated sales force. | 1 | 2 | 3 | 4 | 5 |
| 20- Top priority is given to the lowest cost suppliers. | 1 | 2 | 3 | 4 | 5 |

This Statement is not relevant to our firm	This Statement of little relevance to our firm	This Statement of some relevance to our firm	This Statement is quite relevant to our firm	This statement accurately describes the situation in our firm
1	2	3	4	5

- 21- Research and new product development capability is central to our competitive advantage. 1 2 3 4 5
- 22- We try to offer similar products/services to our competitors but with a lower price. 1 2 3 4 5
- 23- There is an ongoing plant modernisation program to keep the efficiency of equipment comparable to that of our major competitors. 1 2 3 4 5
- 24- In order to offer a unique product we have more effective equipment maintenance and replacement policies. 1 2 3 4 5
- 25- We try to put tight control on the cost of research and development to offer low product/services prices. 1 2 3 4 5
- 26- We spend the highest percentage of our sales revenue on marketing expenses (activities). 1 2 3 4 5
- 27- We try hard to *maintain the maximum feasible* utilisation of our productive capacity. 1 2 3 4 5
- 28- We regularly use our core technological competencies to operate in new markets. 1 2 3 4 5
- 29- We try to use process innovation to reduce costs. 1 2 3 4 5
- 30- We try to improve the process of operation to offer low price products /services. 1 2 3 4 5
- 31- We try to maintain and improve the quality of our product/service to maintain our good reputation. 1 2 3 4 5
- 32- We regularly have a tendency to operate in familiar markets, and avoid any risk with new markets. 1 2 3 4 5
- 33- Cost minimisation is more important than high quality product/service. 1 2 3 4 5
- 34- We try to have a product portfolio to exploit synergism and then reduce overall costs. 1 2 3 4 5
- 35- We try to put tight control on the marketing expenditure to offer low price product/service. 1 2 3 4 5
- 36- We think that our customers are more concerned about the new and innovative product/service than anything else. 1 2 3 4 5
- 37- Please rank the following means of attaining competitive advantage in the way most appropriate for your organisation. 1 is the first priority, 2 the second, and so on.
- [] Minimum cost [] Price competition
- [] Unique competencies and new developments [] Marketing differentiation and product/services branding.

A. Organisational formal control processes

Each of the following statements is designed to help discover how you view your firm's formal control processes. If the statement does not apply at all to your organisation, then circle #1. If the statement accurately describes the situation in the organisation, circle #5. The numbers 2 to 4 enable you to indicate intermediate positions in between these two extremes.

This Statement is not relevant to our firm	This Statement of little relevance to our firm	This Statement of some relevance to our firm	This Statement is quite relevant to our firm	This statement accurately describes the situation in our firm
1	2	3	4	5

- 1- All levels in our organisation are encouraged to put forward relevant ideas. 1 2 3 4 5
- 2- Top management in our organisation give more prominence to short-term financial performance in assessing strategies. 1 2 3 4 5
- 3- Top management in our organisation try to place less emphasis on short-term corporate control than building long-term advantage. 1 2 3 4 5
- 4- The prime profit responsibility, in our organisation, is pushed down to the lowest level in the organisational structure. 1 2 3 4 5
- 5- Top management in our organisation is involved in details with businesses strategies to build long-term competitive advantage. 1 2 3 4 5
- 6- Top management in our organisation place a heavy burden on the technical and product related capability and knowledge of the corporate management group. 1 2 3 4 5
- 7- Our company emphasises co-ordination amongst its different businesses even though this complicates short-term financial control. 1 2 3 4 5
- 8- Top management in our organisation is trading-off between a wide portfolio of interests, and long time horizons that some businesses require. 1 2 3 4 5
- 9- Top management in our organisation try to exercise tight control against results achieved, while taking into account both financial & strategic objectives. 1 2 3 4 5
- 10- Top management in our organisation try to set flexible performance targets to promote strategic planning. 1 2 3 4 5
- 11- Top management interventions in businesses activity is limited in our organisation. 1 2 3 4 5
- 12- Top management in our organisation is primarily concerned with short-term financial results and control against annual targets. 1 2 3 4 5
- 13- We frequently insist on business action plans to correct variances in performance in our organisation. 1 2 3 4 5
- 14- We prefer to avoid overlaps between businesses in our organisation. 1 2 3 4 5
- 15- In our organisation, lower level units are required to work towards inflexible short-term performance targets, which are directly linked to ongoing corporate strategic planning processes. 1 2 3 4 5

This Statement is not relevant to our firm	This Statement of little relevance to our firm	This Statement of some relevance to our firm	This Statement is quite relevant to our firm	This statement accurately describes the situation in our firm
1	2	3	4	5

Formalisation

- 1- Our organisation has a very large number of written rules and policies. 1 2 3 4 5
- 2- A 'rules and procedures' manual exists and is readily available within this organisation. 1 2 3 4 5
- 3- There are complete written job descriptions for most jobs in this organisation. 1 2 3 4 5
- 4- The organisation keeps a written record of nearly everyone's jobs performance. 1 2 3 4 5
- 5- There is a formal orientation programme for most new members of the organisation. 1 2 3 4 5

The use of structural liaison devices

- 1- We have interdepartmental committees which are set up to allow departments to engage in joint decision making. 1 2 3 4 5
- 2- We have task forces which are temporary bodies set up to facilitate interdepartmental collaboration on a specific project. 1 2 3 4 5
- 3- We have liaison personnel whose specific job it is to co-ordinate the efforts of several departments for purposes of specific projects. 1 2 3 4 5

Delegation of authority

Using the scale below, please rate the extent to which the chief executive officer of the firm delegates decision-making authority in each of the nine key areas of decision making.

No delegation of authority	Lower advise, central decision	Joint decision	Central advice lowe decision	Complete delegatio of authority
1	2	3	4	5

- 1- Raising of the long-term capital. 1 2 3 4 5
- 2- Selection of new investments. 1 2 3 4 5
- 3- Acquisitions. 1 2 3 4 5
- 4- Development of new products. 1 2 3 4 5
- 5- Marketing strategy. 1 2 3 4 5
- 6- Pricing. 1 2 3 4 5
- 7- Research and development. 1 2 3 4 5
- 8- Hiring and firing of senior management personnel. 1 2 3 4 5
- 9- Changes in corporate policy. 1 2 3 4 5

B. Organisational informal control

Please use the scale below to show to what extent do you agree or disagree with each statement.

Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	2	3	4	5

- 1- In our organisation, using new untested methods to do the job always leads to tragic errors. 1 2 3 4 5
- 2- To be secure in his job, our managers must think carefully about their decisions. 1 2 3 4 5
- 3- Managers, in our organisation, always ask higher authority's agreement about their work even if it is not that important. 1 2 3 4 5
- 4- In our organisation, there must be clearly identified steps in the decision-making process. 1 2 3 4 5
- 5- Our decisions are always made without getting enough information. 1 2 3 4 5
- 6- Our management must depend, sometimes, on intuition when making decision. 1 2 3 4 5

Each of the following paragraphs describe different types of organisation. Please note that none of the types listed below is inherently "GOOD" or "BAD", and none of them may describe exactly your organisation. Please use the scale below to show to what extent these paragraphs describe your organisation.

Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	2	3	4	5

This organisation attempts to maintain a broad range of products/services and always tries to improve them. This organisation responds rapidly to early signals concerning areas of opportunity, and these responses often lead to a new round of competitive actions. This organisation tries to be "first in" with new product and market areas even if not all of these activities prove to be always highly successful. 1 2 3 4 5

This type of organisation attempts to maintain a stable limited level of products and services, and at the same time it moves out quickly to follow a carefully selected set of the more promising new developments in the industry. Therefore, it never tries to be first in new product or service, but by carefully monitoring the actions of major competitors in areas compatible with their stable products-market base, it can frequently be "second in" with a more cost efficient product or service. 1 2 3 4 5

The attempt in this organisation is to locate and maintain a source of niche in a relatively stable products or services area. In general, this organisation looks for a secure market and it tends to offer a more limited range of products or services than its competitors, therefore it is not in the forefront of the developments in the industry. This organisation tends to ignore industry changes that have no direct influence on current areas of operation and to concentrate instead on doing the best job possible in a limited area. 1 2 3 4 5

C. Organisational Environment

There are factors, in any business environment, which may affect a firm's ability to achieve its competitive advantage. Below is a list of statements which represent some of these factors. Please use the scale below to show to what extent you agree or disagree with each statement.

Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	2	3	4	5

- 1- The rich abundance of natural resources is the most significant source of our competitive advantage. 1 2 3 4 5
- 2- We feel that domestic buyers are the world's most demanding buyers for the product/service we provide. 1 2 3 4 5
- 3- Our competitive strategy is based on following the initiatives of the market leader. 1 2 3 4 5
- 4- We try to have a close relationship with our suppliers to get a quick and constant flow of information between us. 1 2 3 4 5
- 5- The basic physical infrastructure (such as transportation and communication systems) confers a unique competitive advantage for us. 1 2 3 4 5
- 6- Technical skilled labour is very important in our industry. 1 2 3 4 5
- 7- Financial institutions that we deal with are providing us with good services to achieve our advantage. 1 2 3 4 5
- 8- Supplying industries deliver the lowest cost inputs to our need. 1 2 3 4 5
- 9- Managerial skilled labour is very important in our industry. 1 2 3 4 5
- 10- Local demand rarely gives us an early signal of the customers' needs. 1 2 3 4 5
- 11- The absence of a stock market limits our ability to fully achieve our competitive advantage. 1 2 3 4 5
- 12- To ensure the maintenance of high quality of inputs we have regular contracts with supplying companies. 1 2 3 4 5
- 13- Government Development Funds provide us with great opportunities to build our competitive advantage. 1 2 3 4 5
- 14- We feel that domestic competition promotes competitive advantage in our industry. 1 2 3 4 5
- 15- It is strategically important that we are in the same geographical area as our suppliers. 1 2 3 4 5

Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	2	3	4	5

- 16- We try to have a close relationship with our customers to get a quick and constant flow of information between us. 1 2 3 4 5
- 17- We feel that domestic demand creates a competitive environment in our industry. 1 2 3 4 5
- 18- We feel that domestic demand is very sophisticated and anticipatory. 1 2 3 4 5
- 19- It is strategically important that we are in the same geographical area as our customers. 1 2 3 4 5

Environmental uncertainty

- 1- Our firm must rarely change its marketing process to keep up with the market and competitors. 1 2 3 4 5
- 2- The rate at which products/services are getting obsolete in the industry is very slow. 1 2 3 4 5
- 3- If I were asked to describe the external environment, in general, surrounding our organisation, I would say it is very simple, which means that I need little information about the environment. 1 2 3 4 5
- 4- Actions of competitors are quite easy to predict . 1 2 3 4 5
- 5- Demand and consumer tastes are fairly easy to forecast. 1 2 3 4
- 6- The production/service technology is not subject to very much change and is well established . 1 2 3 4 5
- 7- If I were asked to describe the external environment, in general, surrounding our organisation, I would say it is very stable, which means that it has few changes and they are easy to predict. 1 2 3 4 5

3. Organisation performance

Please use the scale below to show the level of performance of your organisation comparing yourself with your major competitors.

Performance scale:

Bottom 20% 0-20%	20-40%	40-60%	60-80%	Top 20% 80-100%
1	2	3	4	5

Using the scale above, please circle the appropriate number which reflects your organisational performance in each factor (criterion) below for the current year and the last three years:

	<u>Current Year</u>	<u>Last three years</u>
1- Sales growth	1 2 3 4 5	1 2 3 4 5
2- Return on assets	1 2 3 4 5	1 2 3 4 5
3- Market share	1 2 3 4 5	1 2 3 4 5
4- Return on sales	1 2 3 4 5	1 2 3 4 5
5- Overall performance	1 2 3 4 5	1 2 3 4 5

To what extent are you confident about the above answers:

- Very confident
- Confident
- Not confident

4. Descriptive information

1- Name of the company

2- Main activity (activities)

3- What is your organisational position?

4- What is the approximate total number of employees in your organisation?

- less than 100 more than 1,000 but less than 1,500
- more than 100 but less than 500 more than 1,500 but less than 2,500
- more than 500 but less than 1000 more than 2,500

5- What is your level of education and/or training?

- High school or under Master's degree
- Bachelor's degree Ph.D. degree

6- How long you have been in this organisation?

- less than 5 years more than 15 but less than 20
- more than 5 but less than 10 more than 20 but less than 25
- more than 10 but less than 15 more than 25 years

7- How do you see your experience in this activity?

- above average
- average experience
- inexperienced

8- What proportion of your organisation's activities are directly related to the government.

- 20% or less
- 20-40%
- 40-60%
- 60-80 %
- 80% or more

9- Does your organisation have a joint venture (formal written) agreement with a foreign company? yes no

10- Would you be willing to participate in follow-up interview?

- yes no

11- How many people are directly reporting to the CEO:

12- If you wish to have a summary of the overall results of this research please write your address:

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13- If you have any comments about this survey, please write them:

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Thank you for making this study a success.
Please return this completed survey, in the envelope provided to:
M. Al-Awadh
Management School,
University of Sheffield
9 Mappin Street
Sheffield S1 4DT UK

Appendix A3:
Questionnaire (Arabic version)

١. الاستراتيجية العامة

تهدف العبارات التالية إلى معرفة وجهة نظركم حول الإستراتيجية المتبعة في منشآتكم. فإذا كانت العبارة لا تنطبق على منشآتكم إطلاقاً فالرجاء إختيار الرقم "١" أما إذا كانت العبارة تصف الحالة التي تكون عليها منشآتكم تماماً فالرجاء إختيار الرقم "٥" كما هو موضح في الجدول أدناه. أما الأرقام "٢-٤" فإنها تعطيك حرية الاختيار بين هذين الطرفين.

لا تنطبق هذه العبارة على منشآتنا إطلاقاً	لا تنطبق هذه العبارة على منشآتنا إلى حدٍ كبير	هذه العبارة تنطبق على منشآتنا إلى حدٍ ما	تنطبق هذه العبارة على منشآتنا إلى حدٍ كبير	تصف هذه العبارة الحالة التي عليها منشآتنا تماماً
١	٢	٣	٤	٥

- ١- نحاول تقديم أرخص المنتجات/ الخدمات في أسواقنا بغض النظر عن علاماتها التجارية.
- ٢- نحاول دائماً أن نحتل الصدارة بين المنافسين فيما يتعلق بتطوير المنتج/ الخدمة.
- ٣- نولي عملية التحكم بتكاليف العمليات إهتماماً كبيراً.
- ٤- نركز على الإعلان والدعاية حتى نفرض أسعاراً أعلى من المتوسط.
- ٥- نزيد الإنفاق على البحوث والتطوير بشكل مستمر حتى نستطيع تقديم منتجات/ خدمات جديدة.
- ٦- نحاول تمييز منتجاتنا/ خدماتنا عن المنافسة حتى نفرض أعلى سعر ممكن.
- ٧- نحاول التركيز على الأسعار التنافسية في جميع إتصالاتنا التسويقية.
- ٨- نولي التحليل المسبق لحاجات السوق إهتماماً كبيراً حتى نستطيع تكيف منتجاتنا/ خدماتنا لتلبيتها.
- ٩- نواجه ضغطاً شديداً لترشيد المصاريف غير المباشرة.
- ١٠- يتصدر تطوير المنتجات/ الخدمات قائمة الأولويات في منشآتنا.
- ١١- رغم أننا نقدم منتجات/ خدمات مشابهة لما يقدمه المنافسون إلا أننا نحاول المحافظة على أسعار تنافسيه.
- ١٢- نحاول تقديم أفضل المنتجات/ الخدمات من حيث الجودة في مجال صناعتنا.
- ١٣- نعتقد بأن عملائنا يهتمون بالأسعار أكثر من أي شيء آخر.
- ١٤- نحاول التركيز على سمعة المنتج/ الخدمة في جميع إتصالاتنا التسويقية أكثر من أي شيء آخر.
- ١٥- نقوم إستراتيجية المنافسة في منشآتنا على أساس المنافسة السعرية (أي تقديم أقل سعر ممكن).
- ١٦- نعتقد بأن عملائنا يهتمون بجودة المنتج/ الخدمة أكثر من أي شيء آخر.
- ١٧- نحاول دائماً الإبتكار والتجديد في جميع نشاطاتنا لتقديم منتجات/ خدمات ذات جودة عالية.
- ١٨- نطمح بأن نكون أقل المنافسين تكلفة في مجال صناعتنا.
- ١٩- نحاول دائماً المحافظة على رجال المبيعات ذوي الكفاءات والطموح العالية.
- ٢٠- نعطي الأولوية للمورد الأقل تكلفه في جميع عمليات التوريد.
- ٢١- تعتبر الكفاءات والقدرات المتخصصة ببحوث تطوير المنتجات الجديدة المحور الذي نعتمد عليه في ميزاننا التنافسية.

لا تنطبق هذه العبارة على منشأتنا إطلاقاً	لا تنطبق هذه العبارة على منشأتنا إلى حدٍ كبير	هذه العبارة تنطبق على منشأتنا إلى حدٍ ما	تنطبق هذه العبارة على منشأتنا إلى حدٍ كبير	تصف هذه العبارة الحالة التي عليها منشأتنا تماماً
١	٢	٣	٤	٥

- ٢٢- نحاول تقديم منتجات خدمات مشابهة لما يقدمه المنافسون ولكن بأسعار أقل. ١ ٢ ٣ ٤ ٥
- ٢٣- لدينا برنامج مستمر لتحديث وحدات الأعمال حتى تكون جميع معداتها ذات فعالية عالية مقارنة بتلك التي لدى المنافسين الرئيسيين. ١ ٢ ٣ ٤ ٥
- ٢٤- حتى نقدم منتجات/خدمات فريدة فإن لدينا سياسات إحلال وصيانة فعالة لجميع المعدات. ١ ٢ ٣ ٤ ٥
- ٢٥- نحاول قدر الإمكان ترشيد نفقات البحوث والتطوير لتقديم منتجات/خدمات بأسعار منخفضة. ١ ٢ ٣ ٤ ٥
- ٢٦- ننفق أعلى نسبة من إيرادات المبيعات على مصاريف التسويق. ١ ٢ ٣ ٤ ٥
- ٢٧- نحاول أن نعمل بكامل طاقتنا الإنتاجية لخفض التكاليف الإجمالية. ١ ٢ ٣ ٤ ٥
- ٢٨- نعتمد عند التفكير في الدخول والعمل في الأسواق الجديدة على كفاءتنا الفنية. ١ ٢ ٣ ٤ ٥
- ٢٩- نحاول دائماً الإبتكار والتجديد في جميع عملياتنا التشغيلية بغرض تقليل التكلفة. ١ ٢ ٣ ٤ ٥
- ٣٠- نحاول تطوير عمليات التشغيل لكي نقدم أسعاراً منخفضة. ١ ٢ ٣ ٤ ٥
- ٣١- نحاول تطوير جودة منتجاتنا/خدماتنا حتى نحافظ على سمعتنا الجيدة. ١ ٢ ٣ ٤ ٥
- ٣٢- لدينا الرغبة الدائمة في الدخول ألي الأسواق الكبيرة للإستفادة من حجم الطلب الكبير وبالتالي خفض التكاليف الإجمالية. ١ ٢ ٣ ٤ ٥
- ٣٣- نعتبر تقليل التكاليف أهم من جودة المنتج/الخدمة. ١ ٢ ٣ ٤ ٥
- ٣٤- نحاول قدر الإمكان أن يكون لدينا مجموعة من المنتجات المتكاملة للإستفادة من ذلك في خفض التكاليف الإجمالية. ١ ٢ ٣ ٤ ٥
- ٣٥- نولي ترشيد مصاريف التسويق إهتماماً كبيراً لكي نحفض أسعارنا. ١ ٢ ٣ ٤ ٥
- ٣٦- نعتقد بان عملائنا يهتمون بالمنتجات/الخدمات الجديدة أكثر من أي شي آخر. ١ ٢ ٣ ٤ ٥

٣٧- على أي عنصر من عناصر المنافسة الأساسية التالية تعتقد بأن منشأتكم تبني

ميزاتها التنافسية. الرجاء ترتيبها حسب الأهمية: ١ ثم ٢

- () تخفيض التكاليف () المنافسة السعرية
- () التطوير و التجديد و المحافظة () التسويق بشكل متميز والاهتمام
- على الكفاءات والقدرات النادرة. بالعلامات التجارية للمنتجات/ للخدمات.

٢- عمليات التنظيم الرسمية

الغرض من العبارات التالية هو معرفة وجهة نظرهم حول عمليات التنظيم الرسمية في منشأتكم. فإذا كانت العبارة لا تنطبق على منشأتكم إطلاقاً فالرجاء إختيار الرقم "١" أما إذا كانت العبارة تصف الحالة التي تكون عليها منشأتكم تماماً فالرجاء إختيار الرقم "٥" كما هو موضح في الجدول أدناه. أما الأرقام "٢-٤" فإنها تعطيك حرية الاختيار بين هذين الطرفين.

لا تنطبق هذه العبارة على منشأتنا إطلاقاً	لا تنطبق هذه العبارة على منشأتنا إلى حدٍ كبير	هذه العبارة تنطبق على منشأتنا إلى حدٍ ما	تنطبق هذه العبارة على منشأتنا إلى حدٍ كبير	تصف هذه العبارة الحالة التي عليها منشأتنا تماماً
١	٢	٣	٤	٥

- ١- تشجع منشأتنا كافة المستويات الإدارية على تقديم الآراء والأفكار ذات العلاقة. ١ ٢ ٣ ٤ ٥
- ٢- تولى الإدارة العليا في منشأتنا اهتماماً كبيراً للأداء المالي على المدى القصير عند تقويم الاستراتيجيات. ١ ٢ ٣ ٤ ٥
- ٣- لتحقيق ميزات تنافسية على الأجل الطويل تحاول الإدارة العليا في منشأتنا أن تكون مرنة فيما يتعلق بالمصاريف الإجمالية على الأجل القصير. ١ ٢ ٣ ٤ ٥
- ٤- المستويات الدنيا في التنظيم هي المسئول الأول والأساسي عن الأرباح في منشأتنا. ١ ٢ ٣ ٤ ٥
- ٥- تحاول الإدارة العليا في منشأتنا أن تشارك وحدات الأعمال في إعداد إستراتيجياتها الخاصة لبناء ميزات التنافسية طويلة الأجل. ١ ٢ ٣ ٤ ٥
- ٦- تعطي الإدارة العليا في منشأتنا وزناً كبيراً للكفاءات الإدارية والقدرات الفنية المتعلقة بالمنتج. ١ ٢ ٣ ٤ ٥
- ٧- نحاول التأكيد على ضرورة التنسيق بين قطاعات (أقسام) منشأتنا على الرغم مما قد يسببه ذلك من تعقيد في المعاملات المالية على الأجل القصير. ١ ٢ ٣ ٤ ٥
- ٨- نحاول الإدارة العليا في منشأتنا الجمع بين أنواع مختلفة من الأنشطة مع الأخذ في الاعتبار الفترات الزمنية الطويلة التي تحتاج إليها بعض وحدات الأعمال. ١ ٢ ٣ ٤ ٥
- ٩- نحاول الإدارة العليا في منشأتنا أن تضع رقابة شديدة على النتائج المحققة مع الأخذ في الاعتبار كل من الأهداف المالية و الاستراتيجية. ١ ٢ ٣ ٤ ٥
- ١٠- نحاول الإدارة العليا في منشأتنا وضع أهداف الأداء بشكل مرن لكي تشجع على التخطيط الإستراتيجي. ١ ٢ ٣ ٤ ٥
- ١١- تتدخل الإدارة العليا في أنشطة وحدات الأعمال في منشأتنا بشكل محدود جداً. ١ ٢ ٣ ٤ ٥
- ١٢- تهتم الإدارة العليا في منشأتنا بشكل أساسي على النتائج المالية قصيرة الأجل لتحقيق أهدافها السنوية. ١ ٢ ٣ ٤ ٥
- ١٣- نركز دائماً على خطط وحدات الأعمال لتعديل المخبرات الأداء في منشأتنا. ١ ٢ ٣ ٤ ٥
- ١٤- نتجنب تداخل أنشطة وحدات الأعمال في منشأتنا. ١ ٢ ٣ ٤ ٥
- ١٥- نطلب من المستويات الدنيا في منشأتنا تحقيق أهداف أداء محددة على أن تكون مرتبطة بالخطة الإستراتيجية الحالية. ١ ٢ ٣ ٤ ٥

لا تنطبق هذه العبارة على منشأتنا إطلاقاً	لا تنطبق هذه العبارة على منشأتنا إلى حد كبير	هذه العبارة تنطبق على منشأتنا إلى حد ما	تنطبق هذه العبارة على منشأتنا إلى حد كبير	تصف هذه العبارة الحالة التي عليها منشأتنا تماماً
١	٢	٣	٤	٥

إستخدام وسائل الاتصال الرسمية (ضمن الهيكل الإداري)

- ١- يوجد لدينا لجان تمثل أقسام المنشأة وذلك لإعطاء الفرصة لهذه الأقسام في المشاركة في إتخاذ القرار. ١ ٢ ٣ ٤ ٥
- ٢- يتم تشكيل لجان مؤقتة لتسهيل عملية التعاون بين الأقسام المعنية عند وجود مشاريع (حالات) محددة. ١ ٢ ٣ ٤ ٥
- ٣- يوجد لدينا مسؤول مهمته الأساسية التنسيق بين أقسام مختلفة وذلك لإنجاز عمل أو مهمة محددة. ١ ٢ ٣ ٤ ٥

الرسمية

- ١- لدى هذه المنشأة العديد من الأنظمة والسياسات المكتوب التي يلزم التقيد بها. ١ ٢ ٣ ٤ ٥
- ٢- يوجد لدينا دليل "للأنظمة والإجراءات" يوضح كيفية أداء الأعمال. ١ ٢ ٣ ٤ ٥
- ٣- يوجد في هذه المنشأة وصف كامل مكتوب لكل وظيفة يوضح طبيعتها ومهامها وكيفية أدائها. ١ ٢ ٣ ٤ ٥
- ٤- تحفظ المنشأة بسجل خاص بكل موظف وأدائه الوظيفي. ١ ٢ ٣ ٤ ٥
- ٥- يوجد في هذه المنشأة برنامج تعريف (تأهيل) رسمي لأغلب الموظفين الجدد. ١ ٢ ٣ ٤ ٥

تفويض السلطة (الصلاحيات)

الرجاء التفضل بتحديد إلى أي مدى يقوم رئيس المنشأة بتفويض صلاحيات إتخاذ القرار في كل من المجالات الرئيسية التالية. الرجاء إستخدام الجدول التالي لتحديد ذلك.

لا يفوض أي قدر من الصلاحيات	القرار مركزي ولكن مع أخذ آراء الآخرين	يشترك الجميع في إتخاذ القرار	يفوض القرار مع التوجيهات	تفويض كامل للصلاحيات
١	٢	٣	٤	٥

- ١- زيادة رأس المال. ١ ٢ ٣ ٤ ٥
- ٢- إختيار الإستثمارات الجديدة. ١ ٢ ٣ ٤ ٥
- ٣- التملك "Acquisition" ١ ٢ ٣ ٤ ٥
- ٤- تطوير منتجات جديدة. ١ ٢ ٣ ٤ ٥
- ٥- إستراتيجية التسويق. ١ ٢ ٣ ٤ ٥
- ٦- التسعير. ١ ٢ ٣ ٤ ٥
- ٧- البحوث والتطوير. ١ ٢ ٣ ٤ ٥
- ٨- توظيف أو فصل أحد مدراء الإدارات. ١ ٢ ٣ ٤ ٥
- ٩- التغيير في سياسة المنشأة. ١ ٢ ٣ ٤ ٥

٣- عمليات التنظيم غير الرسمية

باستخدام الجدول الموضح أدناه ، الرجاء توضيح إلى أي مدى تتفق أو لا تتفق مع العبارات التالية.

لا أوافق مطلقاً	لا أوافق	معتدل	أوافق	أوافق تماماً
١	٢	٣	٤	٥

- ١- يؤدي استخدام طرق جديدة غير مألوفة لأداء العمل في منشأتنا إلى أخطاء جسيمة (كوارث إدارية). ١ ٢ ٣ ٤ ٥
- ٢- لضمان مستقبله الوظيفي، يجب على المدير في منشأتنا التفكير بروية في جميع قراراته. ١ ٢ ٣ ٤ ٥
- ٣- يطلب المدراء في منشأتنا دائماً موافقة الجهات العليا على عملهم حتى ولو كان الموضوع غير مهم. ١ ٢ ٣ ٤ ٥
- ٤- لا بد من وجود خطوات محددة لطريقة إتخاذ القرارات في هذه المنشأة. ١ ٢ ٣ ٤ ٥
- ٥- نتخذ كثيراً من القرارات دون الحصول على معلومات كافية. ١ ٢ ٣ ٤ ٥
- ٦- يجب أن تعتمد الإدارات في منشأتنا أحياناً على اللبهية والتقدير الشخصي في قراراتها. ١ ٢ ٣ ٤ ٥

كل فقرة من الفقرات التالية تصف نوع من أنواع المنشآت. يرجى ملاحظة أن أيّاً من هذه التوصيفات لا يعنى بالضرورة أن المنشأة "جيدة" أو "سيئة". كما أن أيّاً من المنشآت الموصوفة قد لا تماثل تماماً منشأتكم. وباستخدام الجدول أعلاه الرجاء توضيح إلى أي مدى ترى أن أحد هذه الأوصاف ينطبق على منشأتكم.

٧- منشأة أ: تحافظ هذه المنشأة على مجموعة واسعة من المنتجات/ الخدمات وتعمل

دائماً على إدخال تغييرات على هذه المجموعة لتحسين أدائها. كما أن هذه المنشأة

تستجيب بسرعة للمؤشرات المبكرة عن الفرص السوقية ، و بالتالي تتخذ قرارات

تنافسية سريعة إستجابة لهذه الحاجات. لذلك فإن هذه المنشأة تحاول دائماً أن تكون "

في المقدمة " فيما يتعلق بالأسواق أو بتقديم منتجات/ خدمات جديدة حتى لو لم تكن

جميع هذه النشاطات ناجحة دائماً.

١ ٢ ٣ ٤ ٥

٨- منشأة ب: تحافظ هذه المنشأة على مجموعة مستقرة و محددة من المنتجات/

الخدمات وتحاول في نفس الوقت التحرك بسرعة لتابعة مجموعة من النشاطات الجديدة

في الصناعة والمختارة بعناية. لذلك فإن هذه المنشأة لا تحاول أبداً أن تكون في المقدمة

فيما يتعلق بالمنتجات/ الخدمات الجديدة ، ولكنها تقوم بمراقبة نشاطات المنشآت

المنافسة في المجالات المنسجمة مع طبيعة أسواقها المستقرة. ولهذا فإن هذه المنشأة لا تمنع

من أن تكون في المرتبة الثانية في الأسواق طالما أنها تقدم منتجات/ خدمات بأقل تكلفة. ١ ٢ ٣ ٤ ٥

٩- منشأة ج: تحاول هذه المنشأة تأمين و حماية قطاع "جزء" معين من سوق المنتجات/

الخدمات الذي يوصف بأنه مستقر. وبشكل عام فإن هذه المنشأة تبحث عن سوق

مستقر وآمن ، وتحاول تقديم مجموعة محدودة من المنتجات/ الخدمات مقارنة مع

المنافسين. لذلك فإن هذه المنشأة ليست رائدة في تطوير المنتجات/ الخدمات في مجال

صناعتها. كما أنها تميل إلى تجاهل التغيرات التي ليس لها تأثير مباشر على نشاطاتها

الحالية ، وبدلاً من ذلك تفضل التركيز على تحقيق أفضل النتائج الممكنة من نشاطات

محددة وخاصة القائمة حالياً.

١ ٢ ٣ ٤ ٥

٤ - البيئة

في أي بيئة تجارية ، هناك عدد من العوامل التي تؤثر في قدرات المنشأة على تحقيق ميزات التنافسية. فيما يلي قائمة ببعض هذه العوامل. باستخدام الجدول الموضح أدناه الرجاء توضيح إلى أي مدى تتفق أو لا تتفق مع العبارات التالية.

لا أوافق مطلقاً	لا أوافق	معتدل	أوافق	أوافق تماماً
١	٢	٣	٤	٥

- ١- يعتبر توفر الموارد الطبيعية بشكل كبير مصدراً مهماً لميزاتنا التنافسية. ١ ٢ ٣ ٤ ٥
- ٢- لدينا شعور بأن المشترين المحليين يمثلون الطلب الأكبر عالمياً على المنتج/ الخدمة التي نقدمها. ١ ٢ ٣ ٤ ٥
- ٣- تعتمد إستراتيجيتنا التنافسية على متابعة مبادرات الشركات الرائدة في السوق. ١ ٢ ٣ ٤ ٥
- ٤- نحاول دائماً تكوين علاقات قوية مع الموردين لنتمكن من تبادل المعلومات معهم بشكل سريع ومستمر. ١ ٢ ٣ ٤ ٥
- ٥- توفر لنا عناصر البنية الأساسية (مثل شبكات الطرق وأنظمة الاتصالات) ميزات تنافسية فريدة. ١ ٢ ٣ ٤ ٥
- ٦- تعتبر العمالة المدربة فنياً مهمة جداً في مجال صناعتنا. ١ ٢ ٣ ٤ ٥
- ٧- توفر الأنظمة البنكية (المالية) التي نتعامل معها خدمات جيدة لتحقيق ميزاتنا التنافسية. ١ ٢ ٣ ٤ ٥
- ٨- توفر الصناعات المحلية المساندة المدخلات التي نحتاج إليها بتكاليف منخفضة جداً. ١ ٢ ٣ ٤ ٥
- ٩- تعتبر الكوادر الإدارية المدربة مهمة جداً في مجال صناعتنا. ١ ٢ ٣ ٤ ٥
- ١٠- نادراً ما يعطينا الطلب المحلي المؤشر المبكر لاحتياجات عملائنا في السوق. ١ ٢ ٣ ٤ ٥
- ١١- إن غياب سوق الأسهم يحد قدراتنا من الاستغلال الأمثل لميزاتنا التنافسية. ١ ٢ ٣ ٤ ٥
- ١٢- لضمان الجودة التي نحتاج إليها في مدخلاتنا فإن لدينا عقود مستمرة مع شركات توريد محددة. ١ ٢ ٣ ٤ ٥
- ١٣- توفر صناديق التنمية الحكومية فرصاً كبيرة لبناء ميزاتنا التنافسية. ١ ٢ ٣ ٤ ٥
- ١٤- نشعر بأن المنافسة المحلية تعتبر عنصراً مهماً للمحافظة على الميزات التنافسية في صناعتنا. ١ ٢ ٣ ٤ ٥
- ١٥- يعتبر وجود الموردين في نفس منطقتنا الجغرافية أحد العناصر المهمة إستراتيجياً. ١ ٢ ٣ ٤ ٥
- ١٦- نحاول دائماً تكوين علاقات قوية مع المستهلكين لنتمكن من تبادل المعلومات معهم بشكل سريع ومستمر. ١ ٢ ٣ ٤ ٥
- ١٧- نشعر بأن الطلب المحلي يساعد على خلق بيئة تنافسية جيدة في صناعتنا. ١ ٢ ٣ ٤ ٥
- ١٨- نشعر في أغلب الأحيان بأن الطلب المحلي على المنتجات/ الخدمات التي نقدمها ذو مستوى عالٍ ومستمر. ١ ٢ ٣ ٤ ٥
- ١٩- يعتبر وجود المستهلكين في نفس منطقتنا الجغرافية أحد العناصر المهمة إستراتيجياً. ١ ٢ ٣ ٤ ٥

لا أوافق مطلقاً	لا أوافق	معتدل	أوافق	أوافق تماماً
١	٢	٣	٤	٥

التنبؤ البيئي

- ١- نادراً ما تحاول منشأتنا تغيير عملياتها التسويقية لمواكبة السوق والمنافسين.
- ٢- يعتبر معدل تدهور السلع والخدمات في صناعتنا منخفض جداً .
- ٣- لو طلب منى وصف البيئة الخارجية والمحيطية بأعمالنا ، بشكل عام ، لقلت بأنها بيئة بسيطة. أي أنني أحتاج ألي معلومات قليلة للتعرف عليها.
- ٤- من السهل جداً علينا توقع تصرفات المنافسين.
- ٥- من السهل جداً علينا توقع التغير في أذواق وطلبات المستهلكين.
- ٦- تعتبر تقنيات الإنتاج والخدمات مستقرة وليس فيها تطور مستمر.
- ٧- لو طلب منى وصف البيئة الخارجية والمحيطية بأعمالنا ، بشكل عام ، لقلت بأنها بيئة مستقرة. أي أن هناك تغيرات قليلة ومن السهل التنبؤ بها.

٥. أداء المنشأة

يمكن استخدام المقياس المين أدناه لبيان مستوى الأداء في منشأتكم مقارنة مع المنافسين الرئيسيين.

أقل من ٢٠٪ في الصناعة	٢٠٪ - ٤٠٪	متوسط الصناعة ٤٠٪ - ٦٠٪	٦٠٪ - ٨٠٪	أعلى ٢٠٪ في الصناعة
١	٢	٣	٤	٥

باستخدام المقياس أعلاه ، الرجاء وضع دائرة حول الرقم الذي يعكس أداء المنشأة في السنة الحالية وقبل ثلاث سنوات ، لكل

عامل من العوامل التالية:

السنة الحالية	قبل ثلاث سنوات
١ - نمو المبيعات.	١ ٢ ٣ ٤ ٥
٢ - العائد على الأصول.	١ ٢ ٣ ٤ ٥
٣ - الحصة السوقية.	١ ٢ ٣ ٤ ٥
٤ - العائد على المبيعات.	١ ٢ ٣ ٤ ٥
٥ - الأداء بشكل عام.	١ ٢ ٣ ٤ ٥

٦- ما مدى تأكدكم من تقويم الأداء السابق.

[] متأكد تماماً

[] متأكد.

[] غير متأكد

٦. معلومات وصفية

- ١- اسم المنشأة؟
.....
- ٢- مجال نشاطها الأساسي؟
.....
- ٣- ما هو مسمى وظيفتك؟
.....
- ٤- ما هو العدد التقريبي لمجموع العاملين في هذه المنشأة؟
[] أقل من ١٠٠
[] من ١٠٠ إلى أقل من ١٥٠٠
[] من ١٥٠٠ إلى أقل من ٢٥٠٠
[] أكثر من ٢٥٠٠
- ٥- مؤهلاتك العلمية أو التدريبية:
[] ثانوية أو أقل [] ماجستير
[] شهادة جامعية [] دكتوراه
- ٦- مدة خبرتك في هذه المنشأة:
[] أقل من ٥ سنوات
[] من ٥ إلى أقل من ١٠
[] من ١٠ إلى أقل من ١٥
[] من ١٥ إلى أقل من ٢٠
[] من ٢٠ إلى أقل من ٢٥
[] أكثر من ٢٥
- ٧- كيف يمكن أن تصف خبرتك في هذا المجال:
[] فوق المتوسط.
[] متوسطة.
[] ليس لدي خبرة تذكر في هذا المجال.
- ٨- ما هي نسبة نشاطاتكم التي تقومون بها مباشرة مع الدولة:
[] أقل من ٢٠%
[] ٢٠% - ٤٠%
[] ٤٠% - ٦٠%
[] ٦٠% - ٨٠%
[] أكثر من ٨٠%
- ٩- هل لمنشأتكم شراكه (Joint venture) رسمية ومكتوبة مع منشآت أخرى؟
[] نعم [] لا
- ١٠- هل من الممكن إجراء مقابلة قصيرة معك في المستقبل؟
[] نعم [] لا
- ١١- كم عدد الأشخاص الذين لهم إتصال إداري مباشرة برئيس الشركة (المدير التنفيذي):.....

١٢- إذا كان لديك الرغبة في الحصول على خلاصة نتائج هذا البحث ، الرجاء كتابة العنوان:

.....
.....
.....
.....

١٣- إذا كان لديك أي إضافات أو تعليقات حول هذا الإستفتاء ، الرجاء كتابتها:

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شكراً جزيلاً على مساهمتكم في إنجاح هذا البحث.

أرجوا إعادة هذه الإستمارة بعد تعبئتها إلى

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و ذلك في الظروف المرفق مع هذه الإستمارة.

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