THE PROCESS OF STRATEGY FORMULATION IN SMALL AND MEDIUM ENTERPRISES IN GREECE AND THE ROLE OF ACCOUNTING INFORMATION

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ABSTRACT

This thesis examines the strategy formulation of small and medium enterprises in Greece by measuring the two principal dimensions of the strategy formulation process, the normative/descriptive dimension and the individual/collective dimension. For the purposes of the thesis a theoretical model of strategy formulation is proposed and evaluated, drawing upon the principles of contingency theory which presumes that there is no exclusive approach to strategy formulation which applies likewise to all firms in all circumstances. According to contingency theory there are many variables or factors which predict and influence the decision of formulating a strategy.

Furthermore, the thesis investigates the role of accounting information on the process of strategy formulation by examining the relationship between the adoption of a specific strategy formulation approach and the information sources that SMEs use, the extensiveness of accounting information usage and the perceived usefulness of accounting information to SME managers.

Using a data-triangulation (semi-structured interviews and a questionnaire), the findings of the study show the following:

First, organizational size, perceived environmental volatility, the level of technology and specific owner manager characteristics (experience and education) are all significant predictors of SMEs adoption of a specific strategy formulation approach.

Second, accounting information usage is positively associated with the normative and collective strategy formulation approaches. More specific, SMEs which utilize a broad range of information sources, which engage in extensive accounting information utilization and

which perceive accounting information as very useful are positively correlated with the normative and collective approaches of strategy formulation.

Third, financial performance was found to have a positive relationship with the descriptive and individualistic approach to strategy, meaning that SME owner managers who employ emergent strategies without the collaboration and participation of others in the process tend to achieve higher levels of profitability.

Fourth, significant differences were found between SMEs having a different ownership status (family and non-family SMEs) and belonging to different business sectors (retail, construction and service providing firms) in relation to strategy formulation approach.

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DEDICATION

I dedicate this thesis to my son

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Chapter 1 INTRODUCTION

1.1 Background to the research

Strategic management has become one of the main processes through which organisational performance can be improved (Andrews *et al*., 2009; Meyer *et al*., 2007; Andrews *et al*., 2006; Boyne *et al*., 2006). It is the process of identifying objectives, setting targets, selecting courses of actions to achieve them and implementing those actions (Bracker *et al.*, 1988). In the past several decades, strategic management scholars have investigated the association between strategy formulation processes of organisations and their impact on financial and non-financial performance (Hart and Banbury, 1994; Verreynne, 2006). Academic research has resulted in the development of several models, which attempt to explain and predict the constructive effect of strategy formulation on the firms' performance. However, the majority of these models have focused on large organisations and the issue at hand here is the suitability of these models in explaining performance in small and medium enterprises (SMEs). Research has started to investigate and develop models of strategy making in SMEs only recently (Verreyenne, 2006; French *et al*., 2004; Burke and Jarratt, 2004)

Apart from in the context of organisational size, there is an ongoing dispute in academic literature about the strategy formulation behaviour of organisations. The main disagreement between researchers is whether strategy formulation should be a normative or a descriptive procedure, in order to enhance organisational performance. Empirical research has not managed to clarify this issue and several studies have produced mixed results. The prescriptive (normative) view suggests that the formulation of strategy is a proactive approach, with organisations being able to identify their internal and external opportunities and threats, purposely allocate resources and formally analyse the business environment to make decisions (Barney, 1986a; Schoemaker and Amit, 1994; Ansoff, 1965; Porter, 1996, 2001). On the other hand, the descriptive (emergent) view proposes that strategy formulation is a reactive approach, where strategic plans deviate from those originally designed, due to several internal and external factors (Mintzberg and McHugh, 1995; Quinn, 1980; Smircich and Stubbart, 1985).

Another issue that has been widely discussed in academic literature is the centralisation of processes in strategy formulation (Ansoff, 1965; Mintzberg, 1979). Individualistic and collective approaches are the second dimension of strategy formulation that this study will attempt to address. These two approaches are used in several strategic models that describe how strategy is formulated (Ansoff, 1987; Chaffee, 1985; Mintzberg *et al*. 1998). The individualistic view of strategy formulation assumes that the manager of an organisation is solely responsible for deciding which information will be used and what the objectives of the process are. Several studies have examined this strategy approach and have found multiple benefits for the organisation (Ansoff, 1987; Nonaka, 1988; Mintzberg *et al*., 1998; Harrington, 2001). In contrast, the collective approach is described as the active participation and involvement of employees in the process of strategy formulation (Barringer and

Bluedorn, 1999). There are a number of studies in favour of this approach, especially in times of high environmental uncertainty and turbulence (Eisenhardt, 1989; Sharfman and Dean, 1997).

The second topic this thesis will try to address is the importance of the integration of accounting information into the strategy formulation process. Empirical research associating strategic formulation with the use of accounting information in the context of SMEs is limited, and only a number of recent studies have examined this relationship (Langfield-Smith, 2005). It has been suggested that the strategic formulation process requires more intensive coordination and informational input than any other procedure in an organisation (Steiner, 1979; Mintzberg, 1994). Hatten and Hatten (1997) argued that fair usage of accounting information is expected to create competitive advantage for organisations, while Schwenk (1995) outlined the need for research on the role of accounting information in the strategic formulation process. Other researchers have also recommended that proper management and usage of accounting information is essential for explaining organisational deficiencies (Cantrell and Colby, 1993).

1.2 Significance of the study

The main purpose of this thesis is to address an essential question posed by SME owners and managers: Can a specific strategy formulation approach assist in improving the firm's financial performance? The impact of strategy formulation on financial performance is an important question for SMEs. The prominence and importance of SMEs in the vitality of modern economies, in terms of employment and innovation, has been identified by many academic and empirical studies. One of the main problems that SMEs face is the high failure

rate and it is only natural that research should centre on topics that are pertinent to the survival of SMEs and their profitability.

From the literature, it has been noted that several aspects of organisations have been examined, in terms of influence on and importance to the organisational processes. Various studies have investigated a number of factors that affect strategy formulation processes, such as organisational size (Blau and Schoenherr, 1971; Blau, 1972; Child 1972a; Child 1975; Pugh and Hickson, 1976; Lindsay and Rue, 1980; Katsikeas, 1994; Glaister and Falshaw, 1999; Hendricks and Singhal, 2001; Stonehouse and Pemperton, 2002; Wincent, 2005), perceived external environmental volatility (Burns and Stalker, 1961; Hage and Aiken, 1969; Mintzberg, 1979; Porter, 1980; Pennings, 1992; Mintzberg *et al*., 1995; Peel and Bridge 1998; Andersen, 2001; Baines and Langfield-Smith, 2003; Balta *et al.,* 2009; Pansiri and Temtime, 2010), level of technology and technical systems employed (Perrow, 1967; Thomson, 1967; Woodward, 1965; Tracey *et al.,* 1999; Parker, 2000; Entrialgo *et al*., 2000; O'Regan and Ghobadian, 2005), owner-manager characteristics (Kets de Vries and Miller, 1986; Noel, 1989; Kets de Vries, 1993; Bamberger, 1994; McCarthy and Leavy, 2000; Analoui and Karami, 2003; Kraus, 2007; Wijewardena *et al.,* 2008) and the different characteristics of firms (Kets de Vries, 1993; Makridakis *et al.,* 1997; Glaster and Falshaw, 1999; Andersen, 2001; Coskun and Altunisk, 2002; Aragon-Sanchez and Sanchez-Marin, 2005; Miller and Le Breton-Miller, 2005; Blumentritt, 2006; Nordqvist and Melin, 2010).

Apart from examining these factors, this thesis will attempt to combine previous literature and examine two other important issues deriving from prior academic studies:

- The role of accounting information in the strategy formulation process and;
- The link between different business objectives (financial and non-financial) and the dimensions of strategy formulation;

The motivation for this study is to assist in the improvement of understanding of SME managers and SME-related officials concerning strategy formulation dimensions and the role of accounting information in the strategy formulation process, thus contributing to the improvement of the financial performance of SMEs through the adoption of the appropriate approach to strategy formulation.

The significance of the findings of this study lies in the benefits they offer to SME owner managers, government officials and to researchers in this field. The identification of the effects of internal and external factors on the constructs of a theoretical model of strategy formulation, and the identification of the importance of accounting information for strategic purposes, will ensure that future research in this area will be able to use the findings of this study for further research in different contexts, as well as assisting managers in selecting a suitable strategy formulation process

1.3 Aim, research questions and objectives

1.3.1 Aim of the study

The aim of this study is threefold:

1. The first aim is to develop and test an integrated theoretical model linking all the main contingency factors of strategy formulation, as these have been identified by previous strategic management research, to predict the adoption of a specific approach to strategy formulation by SMEs.
2. The second aim is to investigate the effect of accounting information on the constructs of strategy formulation. Specifically, the present study will examine how accounting information affects the main constructs of strategy formulation and influences SMEs in selecting a specific approach.

3. The third aim is to examine the relationship between strategy formulation dimensions and financial performance. In particular, this thesis will investigate the relationship between the strategy formulation process and the perceived profitability of SMEs.

1.3.2 **Research questions**

The research questions in this study are as follows:

1. What are the important factors that affect SMEs when it comes to selecting a specific strategy formulation approach?
2. How does accounting information affect these constructs, and ultimately affect SMEs, in selecting a specific approach to strategy formulation?
3. How does the strategy formulation process affect the financial performance of SMEs?

1.3.3 **Research objectives**

To achieve the aims of the study, the following objectives have been defined:

1. To use the established theory of 'contingency' into the strategy formulation process, in order to develop a new theoretical model of strategy formulation.
2. To design and develop a valid and reliable survey instrument to measure the strategy formulation constructs of the theoretical framework.
3. To evaluate and test the new model of strategy formulation with a sample of Greek small and medium enterprises.
4. To investigate the associations in the model's constructs between contingency factors, dimensions of strategy formulation and financial performance.
5. To investigate the relationships in the model's constructs between the dimensions of strategy formulation and organisational objectives.

6. To examine the influence of accounting information on the constructs of the strategy formulation process.
7. To explore the differences in the model's constructs between the dimensions of strategy formulation and the SMEs characteristics.

1.4 Delimitation of scope

The survey research population is delimited to small and medium enterprises (SMEs) in Greece. The research is focused on this type of organisation since, according to statistics and academic literature; they have an enormous impact on the Greek economy. In addition, the decision to employ a homogeneous sample of organisations was considered against that of a heterogeneous sample (that is, organisations of all sizes). It was decided that companies from all different business sectors were to be included in the analysis, but only if they were identified as SMEs under the European (EU) definition of small and medium enterprises.

An alternative research population to that employed in the present study would be a diverse sample employing organisations of all sizes and from different countries. When organisations from a variety of contexts are employed, the potential confounding of structural factors, such as different sizes or different countries, can be addressed by means of statistical techniques. The advantage of this type of design would lie in terms of greater external validity and generalisation of the results. Furthermore, results that are more clear-cut could be obtained because, most likely, a more heterogeneous sample would be obtained. The more heterogeneous the sample, the greater the likelihood of an existing relationship being identified (Nunnally, 1978). On the other hand, it is uncertain that statistical techniques could achieve appropriate control over structural variables relevant to this case (Tabachnick and Fidell, 1996; Field, 2000). Therefore, the danger of confounding of the results becomes acute.

Homogeneous samples allow for the improvement of internal validity (Nunnally, 1978) but limit the generalising of findings to Greek SMEs.

To summarise, in the context of the present investigation, the confounding of results due to the influence of structural variables is a more serious problem than limiting the external validity of the study. A valid result can be generalised and further substantiated with additional research into other types of organisations and countries. However, an invalid result can lead to false conclusions and hence to wrong directions in further research and future practice.

1.5 Structure of study

This thesis is comprised of ten chapters, followed by list of references and appendices. This chapter, **Chapter One**, provides an overview of the thesis and the background of the research, aims, questions, objectives and a brief outline of the significance of the study.

The remaining chapters of the thesis are organised as follows:

Chapter Two starts by presenting the definition of a small and medium enterprise based on regulations of governmental organisations and on characteristics identified by previous academic research. It continues by outlining the importance of SMEs for modern economies and in the context of Greece in particular. Furthermore, the link between SMEs and strategy formulation is discussed by providing information about the drivers of strategy in SMEs and the barriers these organisations face when formulating their plans. Finally, the nature of strategy in SMEs is highlighted and discussed.

Chapter Three continues with a review of the literature, this time focussing on the nature and dimensions of strategy formulation processes. It presents the two major dimensions of strategy formulation that have been identified from the literature. The first

dimension is concerned with the rationality of strategy formulation, with different researchers and academics arguing whether strategy is a normative procedure or an emergent reaction. The second dimension is concerned with the centralisation of decision-making, with various researchers arguing for the efficiency of an individualistic approach, while others outline the importance of a collective approach. Based on a review of the relevant literature, this chapter also provides some important aspects of the strategy making procedure and, furthermore, it discusses the different views of strategy formulation as a process and as content. Finally, some criticisms made of the strategy making process are examined and discussed.

Chapter Four continues with the literature review by focussing on the second part of this study**:** the role of accounting information in the strategy formulation process. Based on a review of the relevant literature, this chapter firstly discusses the importance of accounting information for organisations. This is followed by a discussion of the sources that SMEs use to seek and gather information. Furthermore, the accounting information applications are examined, with a focus on financial management and management accounting. This chapter also investigates the type of accounting information that SMEs utilise for efficient business management. Finally, it presents the link between strategy formulation process and accounting information usage.

Chapter Five presents the new theoretical framework of strategy formulation process. The framework used in the present study is based on the Contingency Theory of Organisations, which argues that there is no optimal course of action to organise an organisation, to manage a firm, or to make decisions (Lawrence and Lorsch, 1967). The contingent factors of organisational size, technology, perceived environmental volatility and owner-manager characteristics are examined in an attempt to construct a general theoretical framework for the study. This chapter also presents the link between the fit of contingent

factors and strategy formulation with performance and defines the measures used in the study to assess the firms' performance. Finally, it discusses the limitations of contingency theory and the measures adopted to address these limitations.

Chapter Six presents the research methodology, research approach and research methods adopted. The first section of this chapter begins with a justification of the selection of the research paradigm and methodology, followed by a discussion of the overall research process, itself divided into three main stages. This is followed by a discussion of the specific research strategies employed in different stages. This, in turn, is followed by a description of the setting of the study, the population selected for it and the data collection procedures employed. It must be mentioned, that the qualitative (pilot) study took place at the beginning of 2009 and the quantitative (main) study was conducted at the end of the same year. Finally, the statistical methods, the theories underlying the statistical analyses used and measurement issues are discussed.

Chapter Seven is concerned with the pilot study conducted, prior to the administration of the main research instrument. The companies selected for semi-structured interviews are presented first and the analysis of these interviews is discussed afterwards. Finally, there is a presentation of the main findings of the pilot study and their implications for the design of the main research instrument.

Chapter Eight describes the preliminary steps that statisticians propose to be taken to prepare and organise the data collected via questionnaires, and how to proceed to the main analysis and test the hypotheses in subsequent chapters. This is followed by a description of the preparation of the data and the creation of appropriate databases for statistical analysis. After this, the testing of the internal and external reliability of the data and the validity of the

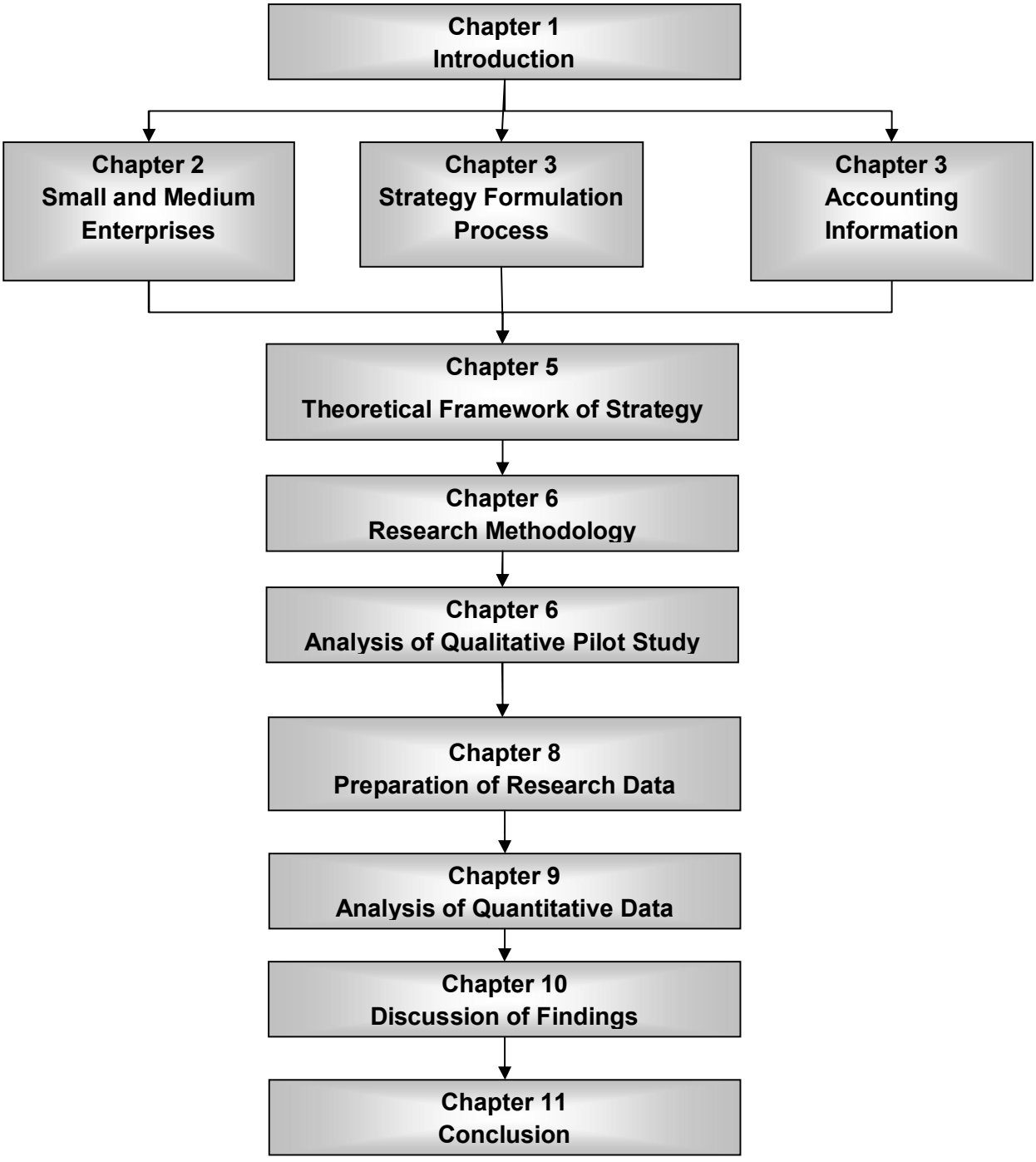
scales applied is discussed. In the end, based on the results of the reliability and validity tests, the measurement of dependent and independent variables and the computation of final measures are presented.

Chapter Nine tests all the hypotheses related to the empirical evaluation of the integrated theoretical framework. Multivariate regression analysis is undertaken to test the constructs of the strategy formulation dimensions, which the theoretical framework defines to be the predictors of SME strategy formulation approaches. Further, the association of strategy formulation and accounting information usage is examined, the link between strategy formulation dimensions and different organisational objectives is presented and, finally, the relationship between strategy formulation approaches and firms' financial performance is identified. All these relationships are tested using Pearson coefficient correlation. At the end of this chapter, an ANOVA test is employed to examine the differences concerning the dimensions of strategy formulation between different business sectors and different types of ownership structure. This chapter discusses the extent to which the newly developed theoretical model can be used to predict and explain the strategy formulation process of SMEs and present the relationships between strategy formulation dimensions and accounting information usage. Finally, it examines which approach in strategy formulation is associated with improved financial performance.

Chapter Ten discusses the research findings reported in Chapter Nine in the context of the adopted integrated theoretical framework of strategy formulation. This chapter draws on the relationship between the findings and the literature review, and provides a critical discussion of the overall research.

Chapter Eleven provides an overview of the study and identifies its contributions to knowledge. Some contributions relate to strategy formulation research, while others relate to the effects of accounting information usage on the strategy formulation process. The chapter discusses the limitations of the study and offers suggestions for future research. It concludes with the main findings of the current research. Figure 1.1 shows the overall process and structure of the thesis.

Figure 1.1: Structure of current study



Chapter 2 SMALL AND MEDIUM ENTERPRISES (SMES)

2.1 Introduction

SMEs play a crucial part in the economic growth of a country. SMEs contribute to outputs and employment and can also affect the competitive ability of the large organisations (Husband and Mandal, 1999). SMEs influence the competitiveness of large organisations by providing high quality inputs (Van der Weile and Brown, 1998). According to Ghobadian and Gallear (1996), SMEs are the "life-blood" of modern economies. The importance of small and medium size businesses for future economic development has also been reflected in a number of policy papers that have focused attention on the role of entrepreneurship, owner-managers and the small firm sector (Deakins *et al.,* 2002). Examples include EU policy on sustainability (EC, 1999b) and the Competitiveness White Paper (DTI, 1998). This chapter consists of five sections, including the introduction. Section 2.2 presents how SMEs are defined by the EU and by academic literature. Section 2.3 discusses the importance of SMEs for modern economies, and especially for the Greek economy. Section 2.4 presents the linkage of strategy and SMEs in literature by discussing the strategy drivers for SMEs, the barriers they face

during the formulation and implementation of their plans and, finally, the nature of strategy in SMEs. Section 2.5 summarises the important aspects of this chapter.

2.2 Definition of SMEs

One of the major difficulties facing researchers interested in studying SMEs is that there is no commonly accepted definition of what constitutes a small or a medium-sized business (Gibb, 1993). Various quantitative criteria (such as number of employees, capital, profits, sales and market share) and qualitative criteria (such as managed by owner-managers, lower level of hierarchy and specialisation) have been used (Coskun and Altunisk, 2002). SMEs could be defined by a number of factors, such as size, location, age, structure, organisation, ownership through innovation and technology (Department of Industry, Science and Tourism, 1997; Office of Small Business, 1998). The Commission of the European Communities (1992) recognised the need for "flexibility" when defining SMEs. In 2003, the European Commission defined SMEs as organisations employing fewer than 250 people. This was disaggregated into three parts and, in order for an organisation to qualify as an SME, it had to satisfy the employee and the independence criteria, plus either the turnover or the balance sheet criteria:

Criterion	Micro-Business	Small Business	Medium business
Maximum number of employees	9	49	249
Maximum annual turnover	2 million €	10 million €	50 million €
Maximum annual balance sheet total	2 million €	10 million €	43 million €

Table 2.1: SME qualification criteria (http://ec.europa.eu/enterprise/ enterprise_policy/sme_definition /index_en.htm)

Despite the independence criteria, SMEs can still include organisations managed by non-owner-managers. Some SMEs are owned by a single owner/manager or a small number of individuals. These companies can be classified as independent. Other small and medium-sized firms are wholly owned subsidiaries of larger companies. On this basis, SMEs are those enterprises that employ between 10 and 249 people. For the purpose of this dissertation, the criteria set by the European Commission for defining a SME will be adopted.

2.2.1 Defining SMEs by unique characteristics

Being a small firm is not just about size, defined in simple statistical terms. Small firms also have important defining characteristics (Burns, 2001). The Bolton report (1971) described a small firm as satisfying three criteria, all of which defy practical statistical application:

[1] *Market influence.* The small firm has a very small share of the market and, as a result, it has no power to influence the prices or the quantities of the goods or services that it provides.

[2] *Independence*. The owner-managers are free from outside control in taking their own decisions, compared with large organisations.

[3] *Personal Influence*. The management of a small firm has a personalised character. The owner-manager is involved in all aspects of the business and in all major decision-making. Frequently, there is little devolution or delegation of authority.

Burns (2001) argues that the first criterion of the Bolton report suffers from two fundamental problems. Firstly, with the definition of market and secondly, with the ability of the small firm to influence price and quantity sold in the market. Burns notes that some of the most successful small firms operate in market niches so slim that they dominate the market segment, with no clear competition, and they can influence both price and quantity sold.

Maurer (1988) on the other hand, noted that SMEs rely excessively on customers and suppliers but do not have any control or influence over them.

Wynarczyk *et al.* (1993) noted that, due to the uncertain conditions of their markets, the real characteristics that define small firms are innovation and evolution. Small firms face far more complex and uncertain markets than large organisations. They also have a small client base and it is impossible for them to influence the price of their product. Uncertainty also characterises the owner-manager's own aspirations and incentives (Burns, 2001). Storey and Sykes (1996) argued that the small firm is usually not troubled with formal systems and its management style is more judgmental, involving fewer human resources and therefore can be applied more rapid. Although it lacks the ability to influence the market, it can be much more responsive and flexible to environmental changes. Therefore, the small firm is likely to adjust more quickly than larger organisations to circumstances of market turbulence. Levy and Powell (1998) concur by stating that small businesses lack the formal and standardised procedures of large organisations, allowing them to be more flexible and adaptive. SMEs have shortages in working capital and finance capital, are unaware of their competitors' practices and products and have inconsistent documentation and record keeping. All these previously mentioned problems can explain the flexible, informal and environmentally dependant nature of the small firms.

Another defining characteristic of the SMEs is the purpose behind their establishment. Empirical research has shown that the founders of small enterprises have a variety of reasons for going into business (Collis and Jarvis, 2002) and that the owners of small firms pursue a range of goals (Stanworth and Curran, 1973; 1976; Scase and Goffe, 1980). Often they place a higher value on autonomous survival and stability than the pursuit of financial growth.

2.3 Importance of SMEs

In most advanced countries, the number of small firms is increasing. The role of SMEs is important in the economy of every country as they are provide employment opportunities and support to the large manufacturing organisations (Gunasekaran *et al.,* 2000). According to Duan and Kinman (2000), SMEs are important to every national and local economy because they have the potential to become large enterprises.

Looking at the context of this study, SMEs make a great contribution in all EU economies. More than 99% of all European firms are classified as SMEs under the EU definition of SMEs, providing 67% of the private sector jobs and contributing to more than 50% of the total value added by firms in the EU (European Commission, 2011). SMEs contribute 65% of EU turnover (Burns, 2001). Small firms dominate many service sectors, including hotels and catering, retailing and wholesale sectors, and also have a vital part to play in construction and manufacturing sectors. In the EU, there are approximately 15 million enterprises, employing just fewer than 95 million people, working in non-primary sectors (European Commission, 2011). Of these, 13,000 units were classified as large enterprises, which is 0.09% of the total. SMEs represent over 95% of the commercial organisations in the EU.

European SMEs face the double challenge of confronting both global competition and factors related to European integration (Wielemaker *et al.*, 2000). The advent of the Economic Monetary Union (EMU) was potentially the most significant economic event in Europe in the last 50 years. The formation of the euro-zone and the single European market requires a new outlook for business managers and owners, since this market is composed of almost 300 million consumers. Markets are generally now multi-cultural and transactional. Research dealing with large companies has shown that they have responded to the impact of the single

market by adopting a similar cultural profile and by having the required financial and time resources (Smallbones *et al.,* 1999). For example, a study conducted by Whittington *et al.* (1999) examined the organisational change in Europe and focused on firms employing more than 500 employees. By contrast, although there has been adequate research dealing exclusively with SMEs, most of it has a qualitative nature and concentrates on SME experts' opinions (Smallbones *et al.,* 1999).

2.3.1 The importance of SMEs in Greece

The contribution of SMEs to development, employment and social coherence in Greece is substantial. In Greece, enterprises that have fewer than 50 employees account for 99.5% of the total number of enterprises and employ 74% of the private sector workforce. It should also be noted that Greek SMEs provide 70% of new employment, reinforce the regional development and financial balance of the regions and make up part of a cohesive financial and social link within Greek society. The role of SMEs in the national economy and employment is vital, since the main business model in Greece is, and will remain, the micro-enterprise, which employs less than 10 persons (EOMMEX, 2008).

According to the criteria set by the European Commission, Greece has more than 733,000 qualified SMEs and, on average, they employ 11 people. SMEs with 0-9 salaried workers number 321,000, or 43.8% of the total, with 508,000 salaried workers, or average employment of 1.6%. SMEs with 10 to 49 salaried workers number 16,100 or 2.2%, employing in total 303,000 workers with average employment at 18.8%, a number that means the majority of the enterprises in this category employ less than 20 people. Finally, SMEs with 50 to 249 employees total 2200, or 0.3%, with average employment being 101 employees, which is just above the limit of 100 employees.

This means that micro-enterprises with 0-9 employees, and in total 943,000 self-employed or salaried employees, comprise 55.6% of employment; small enterprises with 10-49 employees comprise 18% of employment with 303,000 people, of which 287,000 are salaried; medium sized firms, of 50-249 people, comprise 13% of employment, with 222,000 salaried employees. In total, the SMEs employ 1,695,000 people, of which 712,000, on average, are salaried. The big enterprises, with over 250 employees, comprise only the 13.5 per cent of employment, with 230,000 salaried employees. As a result, the proportion of employment in SMEs is 87.5 per cent, compared with 13.5 per cent for large enterprises, to and, as far as salaried work is concerned, the proportion is 75% to 25% (EOMMEX, 2008).

2.4 Linking SME and strategy

Academic research has been conducted on several broad fronts in order to define strategy and examine strategy practices in SMEs, from planning and implementation processes, to the individual personality of the owner-manager. Interest in examining strategic practices in SMEs has increased in the last two decades because of the realisation of the importance of SMEs' in national and world economies (Papazov and Mihaylova, 2010). The formulation of strategy in SMEs has been the theme for several academic researchers. Some studies (Gibb and Scott, 1985; Bracker and Pearson, 1986) examined the link between strategy formulation and implementation and performance in SMEs, while others (Boyd, 1991; Miller and Cardinal, 1994) explored the nature of strategy making and performance in the small firm context. Perry *et al*., (1997) have suggested that strategy should be examined in the everyday operating environment of the small firm. In a study by Opren (1985), it is proposed that owner-managers can benefit from an organised and rational strategic formulation, because it provides the firm with alternative solutions that can lead to success. Litvak (1992) noted that strategic techniques enabled SMEs to survive in the dynamic business environment. Bracker

et al. (1988) investigated the relationship between SMEs and strategic formulation practices and concluded that long-term planning is beneficial when competing in turbulent and dynamic environments. In a study conducted by Sexton and Van Auken (1985), it was established that small firms engaging in strategic processes have lower levels of failure compared with small firms that do not use any strategic techniques. A recent study by Papazov and Mihaylova (2010) suggested that SMEs have lower profit margins than larger organisations because they make insufficient use of strategic planning techniques.

Recent academic research has also attempted to establish a relationship between strategic planning and performance in SMEs (O'Regan and Ghobadian, 2005; Germanos *et al.,* 2009). Kraus *et al.* (2006) examined previous empirical studies and concluded that academic literature identifies a positive association between formalised strategic planning and performance. In their analysis, 79% of the studies reviewed found that proactive strategic planning has a positive impact on performance. Although the majority of the studies conclude that a positive relationship exists between strategy and performance in SMEs, there are still some authors who question the overall value of formalised strategic formulation and implementation and argue that, in dynamic and turbulent markets, flexibility and responsiveness are the important conditions for survival (Kraus and Kauranen, 2009). Schwenk and Shrader (1993) noted that the formulation and implementation of strategic plans are useful for small firms, but to a lesser extent than expected. This view is evident in the literature, where there are a number of studies that found no relationship between strategy and performance in SMEs (French *et al*., 2004; Bhide, 1994; Mintzberg *et al.,* 1995).

2.4.1 **Drivers of strategy in SMEs**

Contrary to larger organisations, which operate in a well-organised and structured manner, SMEs are greatly affected by the decisions of the owner-manager. The definition of strategy

in SMEs is often perceived as person-centred rather than process-driven. Nahavandi and Malekzedah (1993) argue that the style and personality of the manager is central to the strategy definition process. The connection between manager and strategy has been confirmed in several research studies (Kets de Vries, 1993; Bamberger, 1994) with more recent suggestions (McCarthy and Leavy, 2000; Papazov and Mihaylova, 2010) that strategy formulation in a small firm might be induced by some crisis or 'episode' that the owner-manager has to face within the firm. It is suggested that research examining the strategic processes of SMEs should always consider the role of the entrepreneur (Berry, 1998). The individual characteristics and vision of the owner-manager are the driving force for any small firm and the success of the strategic business plan is greatly influenced by the abilities, education and experience of the entrepreneur. Papazov and Mihaylova (2010) noted that many publications on SMEs have attempted to confirm a relationship between strategy and personal characteristics of the owner-manager, such as age, education, experience and professional training.

Several studies have focused on identifying the relationship between the owner-manager's characteristics, strategy and performance (Keats and Bracker, 1988; Bhutta *et al*., 2008; Wijewardena *et al*. 2008). A study conducted by Lenz and Lyles (1985), highlights the importance of active participation and support of the owner-manager in the strategic planning of the company. Other studies also emphasise the importance of active involvement of the owner-manager in the successful implementation of strategy (Koufopoulos *et al*., 2005). According to Pansiri and Temtime (2010), small business failure can be explained by, and attributed, to the insufficient training, education and experience of the SME owner-managers. In literature, it is suggested that managers must be in a position to understand and apply the sophisticated strategic processes and practices that an effective strategic formulation requires

(Berry, 1998). It is argued that the application of strategic practices in SMEs is an obvious confirmation of the intersection between entrepreneurship and strategic management (Kraus and Kauranen, 2009). Carland *et al*. (1984) examined the role of the entrepreneur in an organisation and he concurred that the owner manager's personality and individual characteristics are critical factors for strategic formulation design and implementation in a firm. Pansiri and Temtime (2010) agree, who noting that organisational processes and structures are developed around the awareness, preferences, traits and abilities of the SME managers. The rationality of strategy formulation is discussed by McCarthy (2003), who noted that owner-managers formulate and apply their strategies in completely different ways than suggested by the strategy textbooks. Strategic decisions are not the outcome of a top management team but reflect the subjective beliefs, orientations and attitudes of the owner-manager (Kraus and Kauranen, 2009). Therefore, the owner manager's personal aims, characteristics and ideals will have a major impact on the SME's strategy (Kraus, 2007)

Ownership and the capital structure of small firms is another critical factor in the deployment of strategic formulation (O'Regan and Ghobadian, 2002). Most of the SMEs follow lifestyle or satisfying strategies (Simon, 1960) with the purpose of maintaining profitability and ensuring that the business continues to exist. A number of studies have indicated that a positive relationship between ownership and strategic direction exists, while others have depicted mixed results. Accordingly, the impact and influence of ownership structure on the strategic processes in SMEs is far from clear (O'Regan and Ghobadian, 2002). Variyam and Kraybill (1993) agree and state that ownership is a crucial aspect in the adoption of a strategy approach. They note that, besides most of the factors mentioned in literature as important predictors of strategy formulation, a firm's approach to strategy is likely to be affected by its ownership structure. They suggested that normative strategic

formulation processes are less likely to be applied in family owned SMEs, whereas they are more likely to be evident in subsidiary and independent SMEs, because they tend to have access to the required resources and a greater capacity to bear any risks associated with innovation. In general, it is established in literature that, in small businesses, family firms must be treated as "special cases" of strategic management since family influences can be crucial in defining strategic practices (Miller and Le Breton-Miller, 2005). It is argued that family ownership and management decide many strategic processes (Hall *et al*., 2006). Kets de Vries (1993) noted that, according to some estimates, in the widest sense of the term, 80% of all businesses are managed by families, since they have a significant say in the company's strategic orientation. Strategy orientation and formulation in a small family business reflects the family's principles and ideals, so much so that "the family spirit will very much determine the prevailing attitudes, norms, and values in the company" (Burke and Jarratt, 2004). This view is accepted by many scholars, who view family values, priorities and interests as important factors of the determination of strategy processes (Nordqvist and Melin, 2008). Kets de Vries (1993) concluded that family judgment often overrules rational business reason when it comes to defining strategy. Problems occur when advice and suggestions outside the family circle appear to conflict with those inside, suggesting that family influence is evident on the outsourced advice being utilised and integrated in the process of strategy formulation. Despite the importance of family characteristics for strategy practices in SMEs, there is still little empirical research to investigate family influence on the decision of SMEs on whether to adopt a rational or emergent approach to strategy (Blumentritt, 2006).

Another important aspect that is evident in academic literature on the SME strategy formulation process is related to the business sector they operate in (for example, McKiernan and Morris, 1994). Research conducted by Lowe and Clemens (1990) found greater

association between the service sector and the use of strategic techniques, in comparison with other sectors. According to Aragon-Sanchez and Sanchez-Marin (2005), there are significant variations between industries in relation to strategy formulation approaches. In their study, they have identified significant differences between the manufacturing, service provision and construction sectors. Finally, Andersen (2001) found dissimilarities between the retail sector and the manufacturing sector in an examination of information technology and strategic formulation across different industries.

2.4.2 **Strategy restraints in SMEs**

Although, in academic research, it is assumed that strategy formulation is a formal and rational process, the ability of SMEs to develop such processes is limited (Burke and Jarratt, 2004). SMEs are mainly concerned with developing survival strategies and do not place much importance on market share of product development, when compared with large organisations (Kinra, 1995). According to Mendelssohn (1991), most SMEs are not capable of understanding and integrating the marketing concept into their strategic processes, because of their inability to communicate their long-term strategic plans internally to the organisation. Limited access to finance, shortages in working capital and limited time are considered important issues that prevent owner-managers from focusing on strategic issues and deflect them from long-term strategising (Patterson, 1986). Due to economies of scale and limited resources SMEs, face many difficulties in identifying the competition and improving their competitiveness (Aragon-Sanchez and Sanchez Marin, 2005). French *et al*. (2004), after examining studies on strategic planning in SMEs, concluded that, in many cases, companies were under the illusion that they were formulating and performing strategic activities, when in reality they were only reacting to environmental and organisational changes in an operational

manner. In agreement is the work of Stoner (1983) who notes, based on his research into SMEs that rational strategic formulation exists only in the mind of the owner-manager.

Noble (1999), after a series of exploratory interviews with the managing directors of SMEs, suggested that strategic formulation often falls short as a consequence of SMEs lacking the ability to anticipate and overcome strategy implementation barriers. According to Abell (1978), strategy formulation and implementation should not be carried out separately but as a process of the SME's general business activity. There is no agreement in the literature on what can be defined as a barrier of strategy (Barber *et al.,* 1989). However, research conducted by O'Regan and Ghobadian (2002) summarised a number of general barriers relating to the constraint of strategy effectiveness. Their study confirmed eight main barriers, five of which could be categorized as internal: 1) poor communication; 2) long implementation periods; 3) shortages in working capital; 4) lack of understanding of objectives by the staff; 5) failures and shortages in implementation, and three as external: 6) environmental changes divert attention from implementation; 7) unanticipated external problems arose and 8) external factors impacted on implementation. The findings of other academic studies, which have discovered similar problems influencing the effectiveness of strategy formulation and implementation, agree (Wessel, 1993; Beer and Eisenstat, 2000).

2.4.3 **Nature of strategy in SMEs**

Where researchers have considered strategy making in SMEs, the research tends to be concentrated on determining the degree to which formal strategy-making processes are employed in these firms (Verreynne, 2006). Research on strategy formulation in SMEs has focused at the level of sophistication or formality used to define the strategic process (Lyles *et al*., 1993). There is an ongoing debate in academic circles on whether strategic processes should be formal or informal in nature. According to Herter (1995), the need for a formal

strategic plan is prominent no matter the size of the company, because it presents the opportunity for the manager to view the environment in a more realistic way. It is suggested that small firms that adopt a more formal planning process will place greater emphasis on the quality and outcomes of the strategic decision-making process (French *et al.*, 2004). Clayton (1996) argued that the need for a rational strategic formulation process in the small business sector is paramount and the lack of a formal strategic business plan leads to old-fashioned management practices, including an autocratic style of management practiced by the will of the proprietor or the managing director. According to his views, strategy formulation is negatively affected by informality because strategic objectives are not clear to the employees, who cannot understand the strategic direction of the firm. The findings of French *et al.* (2004) are in agreement, having noted that the absence of a formal planning process limits and misuses the ability of the firm's human resources to aid in the implementation phase of strategy making. Ferguson (1987), in his study on American SMEs, concluded that when strategic objectives are stated in a formal and rational way, then performance tends to improve. Opren agrees (1985), suggesting that formal strategic formulation is more valuable than operational planning in the long term. A longitudinal study by Sexton and Van Auken (1985) concluded that failure rates declined in SMEs that applied formal strategic formulation processes. Similarly Michalisin *et al*. (1997) noted that formal strategic planning systems lead to a competitive advantage for SMEs and Veskaisri *et al*. (2007), in their study, found that formal strategy formulation leads to organisational growth.

McKiernan and Morris (1994), concur that there is a consensus that rational strategic planning facilitates survival, particularly in turbulent environments. However, they regard the formality and sophistication of strategic plans as inappropriate to SMEs since "effective planning systems in SMEs tend to de-emphasize from the need for written documentation and

formal procedures." Robinson and Pearce (1983) also argue against the emphasis on formality measured in terms of the extent of written sophistication and planning formality, since smaller firms tend to apply informal processes to enhance their strategic effectiveness. Barringer and Bluedorn (1999) suggested that SMEs who operate in complex and dynamic markets should avoid employing formal long-term planning since they must first survive the short-term to get to the long-term. In agreement is the work of Aram and Cowen (1990), who outline that SMEs are in need of simplified and informal strategies that will enhance their flexibility and ensure their survival. Entrialgo *et al.* (2000) suggested that SMEs should focus on augmenting flexibility of their planning practices and avoid employing formal processes. Aragon-Sanchez and Sanchez-Marin (2005) noted that the SMEs simplicity of structure allows them to be more flexible and more adaptive concerning their strategic practices. According to Stewart (2003), strategic planning nature in SMEs is unstructured, uneven and confusing and, in most cases, it is developed for dealing with uncertainty in the environment and organisational problems. Chen and Hambrick (1995) suggested that SMEs have the ability to implement informal strategic plans faster, but they do so only when they are under pressure or in danger (Verreynee, 2006). According to Stewart (2003), SMEs tend to approach strategic formulation in an emergent/adaptive way, which has many benefits in terms of performance. In accordance are the findings of research conducted by Robinson and Pearce (1983), where formal planners were found not to outperform the non-planners. Despite the debate of whether a rational or emergent approach to strategy formulation is more suitable for SMEs, there is also a difference in the perception of owner-managers concerning the level of rationality of their planning procedures. It is suggested that SME owner managers are under the illusion that they have a formal and sophisticated planning processes when, at best, their strategy formulation processes are undeveloped and basic (Bracker and Pearson, 1986).

2.5 Summary

The importance of SMEs in modern economies has been outlined in the literature and their contribution to employment, innovation and competitiveness has been extensively documented. There are different ways that SMEs can be defined but, for the purposes of this study, the criteria set by the European Commission will be adopted. Apart from the statistical and quantitative criteria set by the European Commission, SMEs can be defined by their unique characteristics, like their utter reliance on the business environment, their inability to influence their customers and suppliers and their decision-making flexibility, responsiveness and adaptability.

Although academic literature has focused its attention on large organisations when examining aspects of strategy, in recent years there have been various studies focusing on the value and use of strategy formulation and implementation in SMEs. According to the literature, the role of the entrepreneur is the most important internal factor for strategy engagement, while environmental uncertainty and shortages in capital and working force have been identified as the main barriers for strategy formulation. The main difference of opinions in the academic literature has focused on the nature of strategy formulation, with researchers debating on whether strategy in SMEs should be of normative (formal) or descriptive (informal) nature. A thorough discussion and analysis of this dimension of strategy formulation is presented in the following chapter (Chapter 3)

Chapter 3 STRATEGY FORMULATION PROCESS

3.1 Introduction

The importance of strategy has been outlined in several studies. As a term, it refers to a course of action that intends to enhance organisational performance. This chapter's main objective is to review academic literature and present the different considerations that exist concerning the strategy formulation process. Chapter 3 is separated into six sections, including the introduction (Section 3.1). Section 3.2 exhibits how strategy and several strategic terms are defined in literature. Section 3.3 presents the main theoretical foundations of strategy and displays the two principal dimensions of strategy formulation. Section 3.4 examines the strategy making process and investigates the impact of the process on organisational performance. Section 3.5 discusses the main criticisms of strategy that are evident in literature and, finally, Section 3.6 summarises the main aspects of this chapter.

3.2 Definition of strategy

Strategy, as a term, was originally used in military contexts but, in the past 60 years, it has become an expression that is broadly used in the business environment. This term seems to have several meanings, since there is no commonly accepted and universal meaning of

strategy (Quinn, 1980; Mintzberg *et al*. 1998). Due to this fact, the definition of strategy has been a theme of extensive and widespread investigation and research over the past century. According to Freeman and Gilbert (1988), strategy engages in long term actions to counter other actions and achieve a fit between the organisation and the business environment. It has also been described as the procedure of determining the long-term goals and objectives of an organisation, by adopting a specific course of action and by allocating adequate resources (Chandler, 1962).

According to Mintzberg (1978), strategy is pattern of action resulting from intended or unintended strategies. Mintzberg suggested that strategy must be viewed as something more complex than just a simple plan of action and he identified five strategy perspectives: (1) strategy as pattern, (2) strategy as plan, (3) strategy as ploy, (4) strategy as perspective and (5) strategy as position. These perspectives have been the stepping-stone for the development of a definition of strategy in a wider perspective (Mintzberg, 1978, Mintzberg and Waters, 1985). Mintzberg's contribution to the theory of strategy was crucial because it became something greater than mere planning. Mintzberg argues in his study (1978) that, in literature, strategy is treated solely as a course of action that deals with competition, but in practical terms, it can also help in identifying some of the most essential issues concerning the organisation's structure and processes. In a study conducted by Mintzberg *et al*. (1998), which was based on Mintzberg's arguments that strategic processes range from emerging to deliberate, ten approaches (schools) of strategy are presented, proving that strategy as a term is employed in different contexts and situations. These schools can be divided into three groups. The first group consists of schools that recommend how strategy should be formulated (Design, Planning, Positioning), the second group with schools that explain how strategy is created (Entrepreneurial, Power, Learning, Cognitive, Environmental and Cultural), and the third

group with schools that understand strategy making as a transforming procedure (Configurational).

This study adopts the views of Kerin *et al*. (1990) who provided a more modern and comprehensive definition. They defined strategy as a "pattern of planned (logical) and present (developing) objectives, resource deployments, interactions of an organization with markets, competitors, and other environmental aspects". This definition is more fruitful since it includes both the intended and unintended nature of strategy in a dynamic and responsive sense, and embraces a broad range of actors (Burke and Jarratt, 2004). This analysis of strategy suggests that all organisations act strategically, either by employing formal or informal procedures, as a response to the internal and external environment.

According to Reid (1989), the purpose of strategy is to guide the organisation into success by identifying future opportunities, but many times this leads to failure due to the inability of the organisation to implement the proposed strategies successfully. Drucker (1999) noted that the intention of strategy is to support organisations in realising their desired goals and objectives in an unstable and dynamic environment. The continuously changing and turbulent business environment has created the need for a more dynamic and complex strategy in order to cope with the changes (Day and Robstein, 1997). According to Saloner *et al*. (2001), there are different strategies depending on the external and internal characteristics of each organisation. Quinn (1978) agrees that strategy formulation is a developing and instinctive process. However, regardless of the differences, any effective strategy process will incorporate some basic elements such as analysis, formulation, implementation and evaluation. (Pitts and Lei, 1996)

3.2.1 Content and process view of strategy

A major differentiation, which is evident in the academic literature concerning the examination of strategy, is between content and process (Boyne and Gould-Williams, 2003; Andrews *et al.*, 2006). The content view of strategy refers to the appropriateness of strategy selection under particular conditions (Boyne and Walker, 2004). Strategy formulation in the content perspective typically involves decisions in relation to diversification, organisational growth and aligning the firm's strategies with environmental factors (Johnson *et al*., 2008). In general, the content view of strategy is concerned with the type of strategic decision (Olson and Bokor, 1995).

The process view, in contrast, arises from the notion that, due to the complicated and forceful nature of the business environment, it is unfeasible to perform an accurate examination and predict its effects (Elbanna, 2006). Strategy formulation as a process identifies these deficiencies and uncertainties and includes them in the strategic analysis. Strategy as a process also focuses on the means that managers use to change the company's strategic position through selecting the most appropriate strategic approach (Elbanna, 2006, Johnson *et al.,* 2008). In broad terms, process focuses on the formulation and implementation of strategy (Olson and Bokor, 1995).

3.2.2 Definitions of strategic terms

Several terms are used vaguely and interchangeably in the academic literature in relation to strategy, causing problems in distinguishing between the concepts of strategic management, strategic thinking, and strategic planning. Strategy encompasses these aspects, as it leads the organisation into a long-term focus, creating the opportunity to exploit fully the resources available and minimising the threats from the environment (McDonald, 1996). This study will

attempt to give separate definitions to these terms for the comfort of the reader, by summarising the basic notions of each definition.

3.2.2.1 **Strategic management**

The notion of strategic formulation can be identified, in the academic literature, with the works of Chandler (1962) and Ansoff (1965). Strategic management is concerned with identifying the business objectives and actions of strategy and implementing these actions (Bracker *et al.,* 1988). The basis of strategic management, according to Andrews (1987), is that it creates an alignment between the organisation's internal strengths and weaknesses and its opportunities and threats. Hunger and Wheelen (1996) defined strategic management as a mix of decisions and actions that determine the long-term performance of an organisation. Ramachandran *et al.* (2006) suggested that strategic management is concerned with the development of strategic competitive advantages for the creation of value. Coulter (2002) claimed that strategic management enables the scanning of the environment, the development of strategies, their implementation and then the evaluation of their contribution to the performance of the organisation. Goodstein *et al.* (1993) defined strategic management as the process of execution of the strategic plans developed by an organisation. Snow and Hambrick (1980) noted that strategic management is the progression from strategy formulation to strategy implementation. Grunig and Kuhn (2002) stated that strategic management encompasses three important elements: strategic planning, strategy implementation and strategic control. Finally, Hancyk (2004) noted that strategic management is an action-oriented process that focuses on the future direction of the firm.

Concerning the strategic management decisions, Schwenk (1995), illustrated them by defining three fundamental characteristics. Strategic decisions (1) don't have a clear structure, (2) have high requirements of organisational resources and lead to an alternation in

organisational processes, and (3) require high commitment and large amounts of input in the decision process. Johnson (1987) concurred by noting that strategic management decisions can be detected at different levels of managerial actions. Strategic management decisions are concerned with the long-term perspective of the organisation, with the allocation of resources within the organisation and connecting strategic activities to its business environment. The primary variables of strategic management, according to Sandberg (1992), are the firm's resources, processes and field of industry.

3.2.2.2 **Strategic thinking**

Strategic thinking, like the other strategic terms, has various definitions but, in most of them, common features can be identified. Strategic thinking relates to a visualisation of the future developed by an organisation's decision makers, asking employees to approve and adopt a strategic intent for the business, looking more to the long-term operations (Prahalad and Hamel, 1990). From a basic perspective, strategic thinking encompasses the process of collecting information, creating ideas and formulating a strategic plan (De Kluyver, 2000). De Kluyver suggested that effective strategic thinking could be the basis of providing a competitive advantage to an organisation, because its main function is the selection of alternative approaches for improving organisational processes and outcomes and selecting a distinctive action plan that cannot be replicated by others. According to Friedman (2003), strategic thinking is the development of ideas and thoughts involved in strategy formulation and its implementation and it can help the organisation's decision-makers to look further into the future. Liedtka (1998) stated that strategic thinking views strategy formulation and implementation as interactive activities and can act as a guide for managers to make decisions while considering the future on a daily basis. According to Mintzberg (1994), strategic thinking is a collective process that uses perception, vision and out-of-the-box creativity.

3.2.2.3 **Strategic planning**

Strategic planning is the method or procedure by which the decision-makers in an organisation imagine the future and develop the required course of action to realise that vision (Goodstein *et al*., 1993). Michaluk (2002) suggested that strategic planning is the process of identifying what the requirements are of achieving a specific goal. In agreement are the views of Grunig and Kuhn (2002), who noted that strategic planning is a process that attempts to make certain that long-term organisational aims and objectives will be achieved. Kemm (1997) outlined that strategic planning should be examined as the procedure of deciding what it is necessary for a firm to focus its actions on in maintaining or improving its position in the environment. Bryson (1995) concurred by noting that strategic planning is a formally structured effort to make decisions and design activities that will alter the operations, the objectives and the nature of an organisation in an attempt to ensure survivability and growth.

Shrader *et al*. (1989) have described strategic planning as a formal, written, long-range plan, which incorporates the strategies that will help the organisation to achieve its targets and to determine that measures will be applied to control and monitor the overall organisational performance. According to O'Regan and Ghobadian (2002), a strategic planning approach needs to consider experiences, emotions, "gut feeling" and other variables in addition to the structured assessment based on the accessibility and examination of information available. Porter (1994) attempted to divert the focus of attention of strategic planning research by examining the reasons that some companies succeed while others fail. He suggested that, in order to comprehend strategic planning as a method of improving organisational structures and processes, more in-depth research is needed. Although there has been substantial growth in the academic literature explaining competitive success, research is not in a position yet to

analyse fully the procedures that companies follow to accomplish their aims and achieve a better market position.

Ohmae (1983) stated that the rationale of strategic planning is to enable an organisation to gain, as efficiently as possible, a sustainable advantage over its competitors. Hewlett (1999), however, noted the value of the long-term planning process by which companies form their strategies, as it helps them face and understand the complex and dynamic environment in which they operate. He concluded that strategic planning, as an end result, could lead to all the actions required to improve the performance of the firm. In another study by Opren (1985), it was suggested that organisations could have great benefits from strategic planning since it provides them with alternative courses of action that can guide them to achieve their goals.

Pitts and Lei (1996) identified six important elements of a formal strategic plan. These elements are (1) mission statement, (2) environmental scanning, (3) organisational goals and objectives setting, (4) strategy deployment, (5) strategy implementation and (6) evaluating the process. These steps are considered to form the solid foundation of a strategic planning process and are usually common among the various normative strategic planning models (Pitts and Lei, 1996). However, this view of strategic planning is associated with a highly normative approach to strategic management (Mintzberg, 1990).

3.3 Theoretical foundations of strategy

There is an ongoing debate on whether the strategic making process is a rational or an emergent procedure. This raging dispute is focussing mainly on the strategy formulation behaviour of organisations (Ansoff, 1991; Mintzberg 1990; Harrington, 2001). In the academic literature, there are two dichotomous approaches to strategy formulation, the

prescriptive (normative) and the descriptive (emergent). Empirical and academic research has not managed to clarify this issue and more questions arise from the results. Bhimani and Langfield-Smith (2007) have outlined the importance of distinguishing between the prescriptive and descriptive notions of strategy in order to understand better the process of strategy formulation. Although these theories are viewed as contradictory and conceptually different, it can be argued that each focuses on certain characteristics of the formulation process and there is an apparent cohesion of ideas and associations between them. It is suggested that each theory merely provides a different perspective through which organisations can realize their strategic situation (Stonehouse and Pemberton, 2002).

Another important issue, which has been widely discussed in academic literature, is concerned with the centralisation of processes in strategy formulation or "locus of planning" (Ansoff, 1965; Mintzberg, 1979; Harrington, 2001). Individualistic and collective approaches are the two dichotomous approaches of strategy formulation process. These approaches are part of an area of separation between strategic models used to describe how strategy is formulated (Ansoff, 1987; Chaffee, 1985; Mintzberg *et al*., 1998; Harrington, 2001; Verreynne, 2006).

3.3.1 **Prescriptive approach to strategy formulation**

The theory of strategy formulation was initially focused on a model of rationality (Verreynne, 2006). A prescriptive or rational approach, in general, concentrates on management theories that suggest that organisations must aim to maximise their profitability by aligning their internal and external procedures and functions. According to Mintzberg *et al.* (1998) the deliberate approach is based on a view of strategic management supporting the importance of rational and long-term strategy formulation and its foundations lie in the premise of industrial organisational economics and the information economics of strategic fit (Stewart, 2003).

These economic theories are of a normative nature and assume that the actions undertaken by an organisation are connected to the availability of information to the decision-maker and the firm's production transformational process (Stewart, 2003). The prescriptive approach was researched and mostly typified by the work of Ansoff (1965), Andrews (1971) and Porter (1980). Identical terms for the normative approach include the formality of strategic processes (Ramanujam and Venkatraman, 1987; Veliyath and Shortell, 1993), the rational view of strategy (Hart, 1992), the methodical or systematic approach to strategy (Ansoff, 1987) and the normative view of strategy that is expressed by the 3 prescriptive schools of strategy (Design, Planning, Positioning) (Mintzberg *et al.,* 1998). One of the founders and developers of the normative theory was Ansoff (1965), who stated that the strategic formulation process should be approached in a reasonable and rational manner. He stated that organisations should set their objectives and goals and select the suitable actions in order to accomplish them. According to McKiernan and Morris (1994) the emphasis of the prescriptive approach to strategy formulation lies on the "how to" formula. O'Regan and Ghobadian (2002) noted that a prescriptive approach to strategy formulation involves a deliberate means to encompass factors and techniques in an analytical way to achieve specific objectives.

Several researchers have addressed the issue of the prescriptive approach. Armstrong (1982) defined the normative strategy formulation as the process of establishment of identifiable objectives and the required actions to achieve them. Pearce *et al*. (1987) characterised the prescriptive approach as the process of stating the mission, setting the organisational objectives and allocating the required resources to achieve the organisational aims. Boyd and Reuning-Elliot (1998), in an attempt to measure strategy formulation, utilised 5 indicators (trend analysis, competitor analysis, long-term goals, action plans and ongoing evaluation) all associated with the prescriptive approach to strategy. According to Hart and

Banbury (1994), the deliberate approach should be viewed as an analytical approach of strategy formulation, based on formal structure and planning systems. Glaister and Falshaw (1999) suggested that a normative strategy formulation process involves explicit systematic procedures used to gain the commitment and involvement of the stakeholders affected by the strategy selected. Stonehouse and Pemberton (2002) noted that the prescriptive approach of strategic management is of a heavily systematised and deterministic nature that focuses on the long-term strategy formulation devised to achieve an optimal fit between the firm's strategy and its business environment. Verryenne (2005) argued that the prescriptive approach to strategy formulation theory suggests that managers analyse the organisation and the external environment, consider and evaluate all the possible courses of action and select the most suitable strategy. Entrialgo *et al*. (2000) suggested that normative strategy formulation is associated with the proactivity of organisations in anticipating changes and carrying out their strategic plans. The prescriptive approach to strategy formulation is also related to long time horizons. According to Crittenden and Crittenden (2000), the longer the duration of a strategy plan the more formal it tends to be. Andrews *et al*. (2009) characterised rational strategy formulation as an analytical, formal and logical process through which organisations examine the environment and develop policies and procedures to change the organisational status quo. Nordqvist and Melin (2010) argued that the normative approach to strategy formulation could have multiple benefits for an organisation because it monitors and controls the input and output from the strategic process and influences the content and quality of the decisions made during the process.

3.3.2 **Descriptive approach to strategy formulation**

The basic assumption of the prescriptive approach, which takes for granted the homogeneity of the organisations in an industry and the stability of the business environment, has created

the debate between supporters of the prescriptive and the descriptive approaches to strategy formulation. Several academics have argued that strategy is not based on formality and rationality, but also on experimentation, perception and learning (Kraus and Kauranen, 2009). The descriptive or emergent approach suggests that, due to the instability and complexity of the environment, strategy cannot be programmed and specified beforehand but it changes and appears over time (Mintzberg and Waters, 1985; Harrington, 2001), thereby it is a reflection of the progressively more dynamic effects of the outside environment (Hamel, 1996; Miller and Ireland, 2005). The principles of the descriptive approach were set by the work of Mintzberg and his colleagues (Mintzberg and Waters, 1985; Mintzberg *et al.*, 1998) and can be identified in the descriptive schools of strategy (Learning, Environmental and Cognitive Schools). The descriptive approach to strategy formulation is more of a practical approach that emphasises the decision-making behaviour of the organisation (Still, 1974; Harrington, 2001). Strategy formulation is viewed as process of continuous adjustment and corrections according to external situations (Kraus and Kauranen, 2009). Previous studies from Quinn (1978) and Mintzberg (1978) have argued that the strategy making process is an emergent and dynamic procedure and that strategic plans should evolve according to the results and the changes in the internal and external environment of the organisation (Gibbons and O'Connor, 2005). Similarly, Stonehouse and Pemberton (2002) noted that the emergent approach to strategy is a better fit in dynamic and uncertain environments but does not imply a complete absence of strategic orientation.

Synonymous terms for the descriptive approach are 'logical incrementalism', (Lindblom, 1959; Quinn, 1978; Harrington, 2001), the learning perspective (Mintzberg *et al.,* 1998) and the emergent approach (Mintzberg *et al.,* 1995) According to the theory of incrementalism, before strategy is formulated and implemented in a repeating procedure, it is developed by

strategic subsystems that employ interactive learning and testing (Quinn, 1980). In their study, Mintzberg *et al*. (1998) viewed strategy formulation as an evolving and learning procedure and Quinn (1980) noted that the emergent approach considers the instability of the environment and allows managers to make changes to the business strategy at any time, according to the information they have access to.

Evaluating the emergent approach of strategy formulation, Mintzberg *et al.* (1998) outlined the dearth of rules and regulations on how strategy should be formulated; instead, it illustrates how strategy is actually formulated. Harris *et al.* (2000) suggested that the descriptive approach to strategy formulation is more suited to SMEs since by nature they are emergent and adaptive. In the same spirit, Chen and Hambrick (1995) noted that a descriptive approach is more likely to be observed in SMEs because they have faster response rates and quicker competitive reactions.

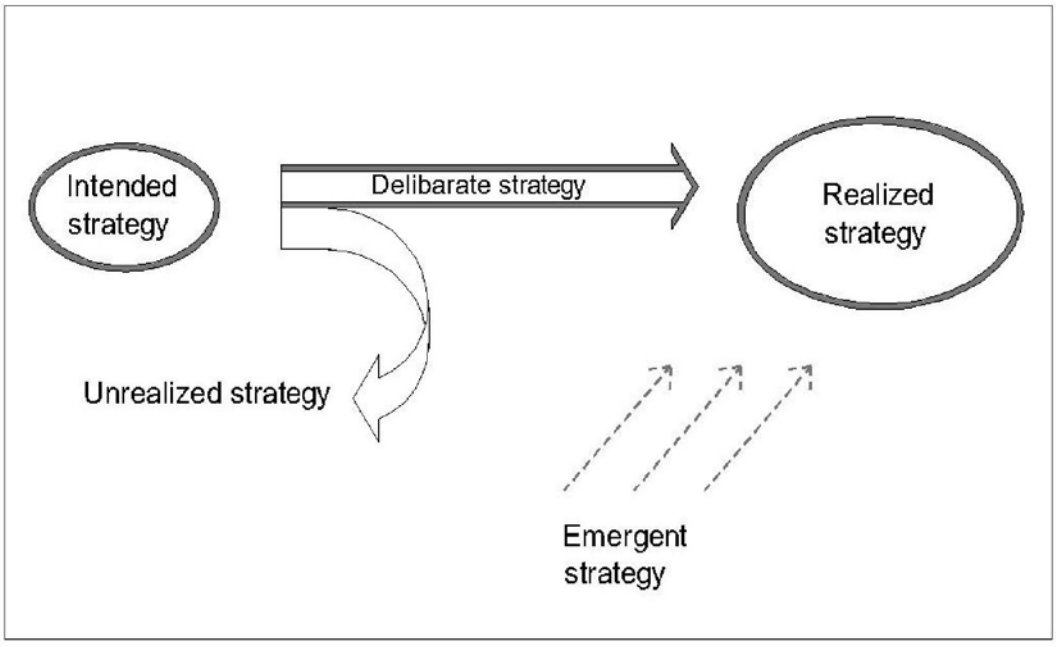
3.3.3 **The Prescriptive-Descriptive dimension**

Although most studies that have examined this dimension have viewed the deliberate and emerging approaches as dichotomous (Boyd, 1991; Harrington, 2001), Mintzberg and Waters (1985) and Mintzberg *et al.* (1998) illustrate the two notions as the ends of a continuum with various elements. Similar to their views, Kleinman and Serfaty (1998) suggested that a solely prescriptive approach would have the inadequacy of not encompassing the human involvement in the process, and conversely, a purely descriptive approach would have the drawback of eliminating the analytical capability in situations where direct applicable data do not exist. Tapinos *et al*. (2005) argued that associating strategy formulation with the highly prescriptive approach is misleading because strategy formulation is a multi-stage process and the two approaches of strategy formulation (prescriptive and descriptive) are not necessarily opposite but can co-exist at different levels of the process. Langfield-Smith (1997) suggested

that deliberate strategy formulation may not always be realised due to impractical beliefs, misjudgements of the environmental effects or changes in the intentions of the decision-makers and that realised strategies may be developed from the intended strategy or may emerge incrementally.

According to the normative approach, deliberate strategies are formulated in advance and they can be described as a pattern in a course of actions (Mintzberg and McHugh, 1985). Consequently, these strategies are developed according to managers' intentions without there necessarily being the existence of formal or written plans. Emerging strategies, on the other hand, are formulated in the course of the organisational conduct in response to changes in the environment, outside the range of managerial intentions (Mintzberg and McHugh, 1985).

Figure 3.1: Strategy formulation process as a continuum



Mintzberg *et al.* (1998) created a model (Figure 1) illustrating that strategy is formulated from the changes that occur between deliberate and emergent strategy continuum.

Brews and Hunt (1999) examined the process of strategy formulation, concentrating on the deliberate-emerging dimension, and defined it as a 'specificity' of strategic ends and means. According to their study, Brews and Hunt (1999) suggested that strategic ends are defined as a set of major goals or objectives of the organisation that influence the direction of the firm, and strategic means are defined as patterns of action which, when implemented, can lead to the realisation of strategic ends. They noted that a high specificity of ends and means suggests a deliberate strategy approach and low ends and means suggest an emergent strategy approach. Consequently, organisations that adopt a deliberate strategy formulation have detailed ends (written plans and specific time horizons) and specific means (analytical plans and a detailed course of action). On the contrary, firms that adopt an emerging strategy formulation have broader ends and unspecific means without structure (Brews and Hunt 1999; Harrington, 2001).

Although the work of Brews and Hunt assisted to explain and comprehend the deliberate and emerging dimension using the specificity criterion, Mintzberg and McHugh (1985) suggested that, for firms with detailed and explicit ends and means, the selection of a deliberate or emerging strategy formulation approach will still depend on the level of alteration of the intentions of the actors involved in the process. According to Harrington (2001), examining the level of adjustment between the deliberate and emerging strategy formulation is required to identify changes in strategy that will finally be implemented, and clarify which of the deliberate plans were not changed and which were altered or replaced by others. In agreement with this view of strategy formulation is the work of Mintzberg *et al*. (1998), who argued that shifting on the deliberate-emerging continuum depends upon the emergent strategies substituting or transforming deliberate strategies.

The majority of previous academic studies have focused on examining the deliberate approach to strategy, neglecting the emergent dimension (for example, Fredrickson and Iaquinto, 1989; Robinson and Pearce, 1983; Rhyne, 1986; Shortell and Zajac, 1990; Boyd and Reuning-Elliot, 1998). According to Brews and Hunt (1999), examining the deliberate approach of strategy is very important but not sufficient for a topic as broad as the strategy formulation. Mintzberg *et al.* (1998) and Mintzberg and Waters (1985) outlined the importance of examining the deliberate approach to strategy combined with the emergent approach. Similarly, Lord (1996) suggests that organisations' strategy formulation processes can fall between these two extremes. In academic literature, it is evident that several researchers concur that the prescriptive and descriptive approaches of strategy formulation should be viewed as complementary (Prahalad and Hamel, 1990; Greenley and Oktemgil, 1996; Stonehouse and Pemberton, 2002).

3.3.4 **Individualistic approach to strategy formulation**

The individualistic approach to strategy formulation is a long-established concept according to which the formulation of strategy is utterly controlled by the CEO or the strategic analysts in large organisations, and by the owner-manager for SMEs (Mintzberg *et al.*, 1998; Harrington, 2001). Based the individualistic view of strategy, the decision-maker decides which information will be used, what the objectives are that the strategy will attempt to achieve, and is responsible for the organising and deployment of the selected strategy (Harrington, 2001). Similarly, according to Hart (1992, p. 335), the individualistic approach supposes that a strong individual manager "exercises total control over the firm". Alternative definitions of this approach are the 'top-down' approach (Ansoff, 1987) and the 'command strategy making' approach (Hart, 1992). Several studies have identified numerous advantages while others have outlined the limitations and weaknesses of the individualistic approach to

strategy formulation (Ansoff, 1987; Nonaka, 1988; Mintzberg *et al*., 1998; Harrington, 2001). The individualistic approach can be very useful in time-restrained situations in stable environments (Nutt, 1989), since it allows a swift assessment of the opportunities and dangers from the business environment and the formulation of the appropriate strategy (Harrington, 2001). On the other hand, according to Nutt (1989), the individualistic approach assumes that the employees of an organisation will comprehend and accept the decisions coming from above, which is not always the case. While Bryson and Bromiley (1993) criticised another fundamental assumption of the individualistic approach to strategy formulation, which implies that the managers will have all the information and expertise required to perform the tasks necessary for formulating an appropriate strategy. In literature, the individualistic approach to strategy can be identified in several strategy models such as the 'Ad Hoc' model (Ansoff, 1987; Harrington, 2001), the 'Entrepreneurial' model (Mintzberg, 1973) and the 'Linear' model (Chaffee, 1985).

3.3.5 Collective approach to strategy formulation

Collective approach to strategy is encompassed by two levels, according to the academic literature: The level of involvement across the organisation laterally (breadth) (Eisenhardt, 1989; Simons *et al*., 1999; Harrington, 2001) and the level of involvement across the organisation vertically (depth) (Barringer and Bluedorn, 1999; Harrington, 2001). Most studies examining the strategy formulation process have focused on the breadth level of the collective approach. Research has shown that higher heterogeneity in the decision-making teams is associated with efficient strategic decisions and openness to innovation and change (Entrialgo *et al*., 2000). The idea behind the lateral level of participation in strategy formulation is that the involvement of employees with diverse backgrounds will give better alternatives and provide a more realistic portrayal of the environment that the organisation is

competing in (Eisenhardt, 1989; Simons *et al*., 1999; Harrington, 2001). The shortcoming of this approach is that employees with diverse views usually lack the ability to come to agreement when making strategic decisions, prolonging the strategy formulation process (Dooley and Fryxell, 1999; Harrington, 2001). In the context of SMEs, due to the shortages in working capital, the value of examining the lateral level of involvement in strategy formulation is questionable. The depth level of collective approach or 'locus of planning', which is more applicable to SME settings, promotes decentralisation in decision-making and the active involvement and collaboration of employees in strategy formulation (Papadakis *et al*., 1998). It can be defined as the active participation of employees in strategy formulation (Barringer and Bluedorn, 1999). According to Entrialgo *et al*. (2000), the benefits of a higher level of participation in the strategy formulation process from all employees outnumber the gains of an exclusive person-centred strategy formulation approach, in terms of information gathering and innovation. The collective approach to strategy formulation has received attention from several authors. Mintzberg (1973) suggested that, in small firms, the involvement of the employees in the strategy formulation process leads to innovative ideas. Similarly, Burgelman (1988) commented that lack of participation in organisational processes leads to overlooking good and original ideas. Wooldridge and Floyd (1990) found that participation in strategy formulation has a positive correlation with improved performance of firms, while Frese *et al*. (1999) suggested that a collective approach to strategy is critical to a firm's success. Moreno-Luzon (1993b) outlined the significance of cooperation of employees in the organisational processes (such as strategy formulation) in enhancing learning and improving organisational culture. Parnell and Crandall (2001) suggested that decision quality and organisational performance are likely to be improved by a participative and cooperative approach to strategy.

Strategy making models that adopt the collective approach are the 'Adaptive' model (Mintzberg, 1973), the 'Learning' model (Quinn, 1980) and the 'Transactive and Generative' model (Hart, 1992).

3.3.6 The Individualistic-Collective dimension

Academic research has shown that the collective approach is more effective in dynamic environments because it can process information in higher volumes, make use of the knowledge that is spread across the firm, and offer better alternatives (Nonaka, 1988; Eisenhardt. 1989; Harrington, 2001). In addition, the use of the collective approach in strategy can help identify opportunities from the environment and avoid threats deriving from it (Barringer and Bluedorn, 1999; Harrington, 2001). The academic literature seems to be in favour of the collective approach when an organisation operates in uncertain environments, due to the flexibility and openness to fresh ideas that is offered from the employees (Eisenhardt 1989; Sharfman and Dean, 1997; Harrington, 2001). Employee involvement in strategy making can encourage higher activity in the process and allow the creation of new ideas (Nonaka, 1988; Hart and Banbury, 1994). The application of a collective approach to strategy formulation can speed up the implementation process and increase information sharing and processing (Nonaka, 1988; Hart and Banbury, 1994; Harrington, 2001). Jarzabkowski and Balogun (2009) argued that strategy formulation could be integrated around common goals only through a process of negotiations, interactions and agreement between the top management and employees. Moreno-Luzon and Peris (1998), in an attempt to measure the dimensions of strategy formulation, have identified the following characteristics: (1) the level of delegation of decision-making power, (2) the level of agreement between management and employees on the proposed strategies and (3) the level of autonomy in respect to control of employees.

This dimension has been described as 'locus of planning' (Barringer and Bluedorn, 1999) and as 'centralization' of decision -making (Lawler, 1993). According to Entrialgo *et al*. (2000), a deep locus of planning suggest a high level of employee participation from all levels in the formulation process, while a low locus of planning suggests an explicit person-centred approach to strategy formulation. Following the suggestions from literature, this study will adopt the individualistic-collective dimension of strategy formulation as a continuum defined by the level of depth of employee involvement in the strategy formulation processes of SMEs.

3.4 **Strategy making process**

The strategy making process has been described as identifying the need for action, selecting the most fitting course of action, implementing it and, finally, evaluating its effect on the organisation (Ansoff, 1987). From the definition, we can understand that the strategy making process is compiled from different phases, including information gathering and processing (strategic thinking), strategy formulation and strategy implementation and evaluation (Barringer and Bluedorn, 1999; Brews and Hunt, 1999; Harrington, 2001).

In this study, the primary focus will be on the strategy formulation process of SMEs, as it incorporates the long-term orientation, level, detail and degree of systematisation of all procedures in an organisation. Strategy formulation is the foundation for the realisation of strategy in an organisation, during which different aspects and issues must be considered. For that reason, the study will include the information-gathering and processing phase, with a special focus on accounting information, to understand how different strategy formulation approaches are influenced by different levels of accounting information utilisation. Strategy formulation will not be treated solely as a formal, planned process but instead it will be

defined based on the deliberate-emergent nature of strategy and the individualistic-collective approach of strategy.

3.4.1 Strategy making formulation

As was previously mentioned, modern organisations operate in dynamic and turbulent environments. The formulation of an effective strategy can be a valuable guide for any company to cope with this instability. According to De Kluyver (2000, p. 7), strategy formulation follows three fundamental steps "where are we now, where do we go, and how we get there". Because all organisations have to face different internal and external conditions, the requirement for different strategies, more fitted to their needs, is preeminent (Saloner *et al*., 2001). In the academic literature, there are almost as many strategic planning processes and models as there are firms (Saloner *et al*., 2001). According to Van der Heijen (1996), an effective strategy making formulation develops according to the unique goals and objectives of an organisation and is dependent upon the internal and external situations it faces.

The formulation of a strategy is a procedure for the advancement of long-term plans, to act successfully in response to environmental opportunities and pressures in the light of the strengths and weaknesses of the company (Houben *et al*., 1999). Despite the large number of processes, there are three broad steps that every process incorporates when formulating a strategy: goal setting, situation analysis and alternative strategies consideration (Crittenden and Crittenden, 2000).

In the academic literature, there are various models examining how the process can be developed and function. Even though the concept is very old, the process was not formally studied until the 1960s, by authors such as Ansoff and Chandler. Since then, in academic

literature, there is an abundance of models, typologies and taxonomies that have been devised and applied for examining the strategy formulation of organisations, with a clear focus on larger firms (for example, Miles and Snow, 1978; Porter, 1980). This study has rejected the use of such models and typologies because, according to Verreynne (2006), the abundance of these typologies has produced several problems in the research of strategy in small firms. Hart (1991) argues that such typologies suffer from a lack of methodological consistency since they examine the same phenomena from different points of view. Rugman and Verbeke (1987), when examining Porter's model of competitive strategy, concluded that it should not be used when examining SMEs due to the inappropriateness of the methods applied. Langfield-Smith (1997) warned against the use of strategic typologies due to their tendency to lead to circular research design. In the same spirit, Hambrick (1980) suggested that research should only emphasise testing relationships between strategic types and variables that are not connected with the basis of strategic typologies. Langfield-Smith (1997), expanding on that view, noted that associating a strategic type (conservative or entrepreneurial) and the level of hostility of the environment would be worthless. Another limitation of strategy typologies, which applies especially to SMEs, is concerned with the presumption that managers view their firm's strategies as having the same focus as the strategy typology applied by the researcher (Archer and Otley, 1991). According to Langfield-Smith (1997), it is an underlying assumption that strategic typologies entail can affect the validity and reliability of the findings.

Adopting the deliberate perspective of strategy formulation, Quezada *et al*. (1999) presented the methodology for formulating an effective business strategy by identifying objectives and beliefs of managers. Viewing from the emergent scope of strategy, Mintzberg and Waters (1985) argued that strategy formulation cannot be assessed in a rational manner

and is modified or replaced according to different internal and external factors. Verreynne (2006) states that decision-makers in an organisation provide the general direction on how strategy will be formulated, but the details of strategy appear during the execution stage according to the actions of the organisational actors.

3.4.2 Strategy formulation impact on organisations

Research has shown effective strategic formulation has several benefits for the organisations (Sarason and Tegarden, 2003). The gains of strategy management and strategic planning are a constant subject of dispute in the academic community. Dyson (2000) has noted that extensive research is required in order to bring in line performance measurement with strategic formulation, since there is only limited research on the effect of strategy on performance. It must be noted that, from reviewing the literature, the researcher has identified that most studies usually refer to the normative approach to strategy formulation when using the term strategy formulation or strategic planning.

The academic research on the effectiveness of strategy formulation on performance has shown diverse results and this is probably because strategy formulation is considered a normative process, neglecting the value of the flexibility and responsiveness that the emergent strategy formulation includes. Most academic studies have concluded that there is a positive relationship between formal strategy formulation and financial performance (Bracker and Pearson, 1986; Schwenk and Shrader, 1993), while others found no relationship between using rational strategic techniques and performance (Robinson and Pearce, 1983; Robinson *et al.*, 1986). In their study, O'Regan and Ghobadian (2005) argued that effective strategy formulation could be a major factor for better performance. Contrary to that research, Robinson (1983) concluded that greater financial performance is not a result of long term planning, but of successful operational planning.

According to Phillips (2000), the effectiveness of the strategy formulation process is dependent on the influence it has over the top-management of an organisation involved in decision-making. He concludes that organisations that use advanced strategy formulation techniques are usually more successful and have a greater financial performance. Krauss *et al*. (2006) examined previous empirical studies to conclude that the majority of academic studies identify a positive association between normative strategy making and performance. In their analysis, 79 per cent of the studies reviewed found that the strategy-making process has a positive impact on performance. Although the majority of the studies showed a positive relationship, as was previously mentioned, there were other studies that did not discover any relationship (French *et al*., 2004). Research conducted by Armstrong (1982) examined the nature of the strategic formulation process and the benefits it has for organisations and concluded that, in a broad sense, the strategic formulation process is beneficial for companies, even though reviewing and comparing different studies was a difficult task.

Peel and Bridge (1998) also examined the connection between strategy and business performance by reviewing previous academic work. As expected, they came to the same conclusions, with several studies showing no connection between the use of formal strategic techniques and performance, and others reporting a positive relationship. Similarly, Phillips' (1996) revision of 32 empirical studies, examining the relationship between strategy and performance in large organisations, exhibited that more than the two-thirds of these studies identified a positive link.

Aram and Cowen (1990) have argued that, in order for strategy formulation to be effective, some preconditions must be present. They also outline the importance of commitment to strategic thinking for the success of strategy formulation, since organisations engage in strategy-making processes only after a crisis, at which point it is too late.

In general, quantitative and qualitative research has shown that firms that undertake strategy-making processes reap financial benefits and other performance gains (Aram and Cowen, 1990; Orpen, 1986; Bracker *et al*., 1998). Quinn (1978), in his study, examines the benefits that an effective strategy-making process can bring to an organisation. He concludes that proper strategic formulation can help the top management and the employees to think in a larger context, to communicate faster, to have a positive stance towards the future and to obtain a large database with information that would otherwise be inaccessible.) In their book, Bryson and Alston (1996) investigate the contribution of strategic management and planning to organisations and conclude that selecting the appropriate strategic techniques can be beneficial in many ways. Developing strategy-making processes increases the effectiveness and efficiency of the organisation, improves understanding and learning, helps managers to make better decisions and develops the capabilities of the organisation.

At this point, it must be mentioned that it is evident from the literature that there is a two-way relationship between strategy formulation process and performance. Research has shown that, apart from the potential impacts of strategy formulation on financial and non-financial performance, performance measurement can influence strategic planning by monitoring the development of the plans and by identifying good performance (Ittner and Larcker, 1998; Neely *et al*., 1995).

3.5 Criticism of the strategy formulation process

The strategy formulation process has also received criticism for not fulfilling the expectations of the decision-makers. Again, this criticism is directed at the rational approach of strategy formulation. According to Harper (2001), one of the reasons for the failure of the strategy formulation process is the inability of managers to comprehend and embrace strategic

thinking. Grant (1999) argues that strategy formulation and implementation fails when the top management of an organisation do not support and shelter the procedure. Perry *et al*. (1993) examined the reasons for the failure of the strategy formulation process and concluded that, due to the action-orientation nature of managers, the strategic perspective is neglected because it is considered a reflective activity. They state that, when the process is designed by the top management, it becomes too analytical and quantitative with an emphasis on financial objectives and goals that employees fail to understand and support.

Perry *et al*. (1993) continue their criticism of the strategic processes focusing on strategic planning by outlining that strategic planning processes do not have the necessary flexibility due to their formal nature and may exclude better alternative courses of action. In addition, strategic planning encourages inaction because it minimises the learning procedure by focusing on specific objectives. Their final criticism of strategic planning is that it limits innovation and creativity because it projects the past into the future. Day and Robstein (1997), in their study, conclude that the attempt to provide standardised strategic formulation processes for organisational use is usually oversimplified and neglects the important elements of strategy. According to Grunig and Kuhn (2002), the academic society has failed to provide the organisations with specific guidelines on how to formulate and implement strategies and how to design strategic plans. Their primary focus is on explaining differences between successful and unsuccessful companies in chosen markets and sectors, neglecting to give specific advice to the practitioners.

Langfield-Smith (1997) argued that an important weakness in the examination of strategy formulation, is the fact that most studies do not distinguish between prescriptive and descriptive strategy formulation when developing their measurement instruments or analysing their results. This results in misleading findings, since managers often have a tendency to

report their deliberate strategies but fail to encompass their realised strategies when completing questionnaires, or they present their emerging strategies as the intended ones.

3.6 **Summary**

Regardless of the criticism that strategy-making processes have received, there is still evidence from the literature that strategic management, strategic thinking and strategic planning, although not clearly defined, play an important role in the long-term performance of the organisation. Even though the dynamic and unstable environment makes it hard to formulate and plan strategy, it is now more critical than ever, according to literature, for organisations to increase their strategy formulation activities. One of the important issues in strategy literature, that needs to be clarified, is the appropriate approach when formulating and implementing a strategy. The dispute amongst academic researchers is concentrated on whether the nature of strategy should be of deliberate or emergent nature, and whether strategy must be formulated using an individualistic approach or a collective approach. Irrespective of which approach to strategy is selected as the appropriate one, it is important that it has strong foundations, as it will face the complex and turbulent nature of the business environment. Following Fitzgerald and Berger's (2002) suggestions, this study argues that the development of strategy formulation has many dimensions and can be seen as a complex process that encompasses both normative and emergent components and both individualistic and collective approaches. Mintzberg (1994) noted that greater empirical research is needed for strategic formulation and fewer theoretical models, while Pitts and Lei (1996) stated that strategic processes can only be effective if they are properly applied by the organisation and the people behind it.

Chapter 4 ACCOUNTING INFORMATION

4.1 Introduction

The significance of accounting information is evident in the management and strategic literature. The purpose of this chapter is to present the importance of accounting information for SMEs and exhibit its role in the design of strategy. This chapter is divided into seven sections including the introduction (Section 4.1). Section 4.2 presents the usage and importance of accounting information for SMEs. Section 4.3 analyses the various sources that SMEs turn to for gathering information for operational and strategic reasons. Section 4.4 discusses the management accounting information applications found in literature. Section 4.5 presents the importance of accounting information in the strategy formulation process, while Section 4.6 presents a fairly new accounting discipline, Strategic Management Accounting, and its effect on organisational processes. Finally, Section 4.7 summarises the main aspects of this chapter.

4.2 The importance and usage of accounting information in SMEs

The importance of economic information has been outlined by several academics. It has been pointed out that research on the use of accounting and financial information should be

extended in order to facilitate decision and strategy making in SMEs. Drury (1996) noted that information, as a subset of data enriches understanding. He added that in order to plan and organise any process in an organisation, information is of great importance. Starbuck *et al*. (1978) indicated that a complete absence of information would lead to organisational decline. Burch and Grudnitski (1989) defined information as "data that have been put into a meaningful and useful context and communicated to a recipient who uses it to make decisions". Drury (1985) presented his decision-making process model and argued that availability and access to information can be observed at the simplest level of planning, for analysing the environment and having access to alternative courses of action.

A study conducted by Randal and Horsman (1998) suggested that, although economic information can make a great contribution to the survivability and prosperity of organisations, researchers tend to overlook it when examining SMEs. Drury and Tayles (1995) outlined the need for thorough research into the way that managers use accounting information and Lybaert (1998) argued that, although the significance of information is acknowledged, there are only a small number of studies examining the utilisation process of accounting information in SMEs. Furthermore, Vaughan *et al*. (1996) point out that the proper use of information by SMEs is a tool of survival and success in dynamic and uncertain environments. Papazov and Mihaylova (2010) noted that accounting information, connected to costs, revenues and the product range, could improve the assessment of SME effectiveness. Mitchell *et al*. (2000) noted that findings derived from studies examining the extent of information utilisation in SMEs strengthen the belief that all types of economic information, including accounting information, are important resources for SMEs, influencing both managerial efficacy and firm performance.

From reviewing the literature, it is apparent that inappropriate and limited utilisation of accounting information and poor financial management, along with other factors, can lead to ineffective management decisions, which in turn lead to poor performance (Baines and Lagfield-Smith, 2003; Chenhall, 2003). Several studies have concluded that high levels of organisational mortality are connected to poor accounting and financial management (Hall, 1992; Chittenden *et al*. 1999). The work of Hormozi *et al*. (2002) suggested that companies are failing because of irregular and erroneous financial management practices. Vaughan and Tague-Sutcliffe (1997) reported that SMEs have high failure rates due to lack of access to accounting information. In literature, it is suggested that financial management, as a practice, has been poor in SMEs (Lewis and Toon, 1986; Nayak and Greenfield, 1994; Poutziouris, Chittenden and Michaelas, 1998). A constant decline in the financial management skills of small enterprise owner-managers has been noted (Jarvis *et al*., 1996). Further evidence from research by Chittenden *et al.* (1999) has concluded that financial management and accounting information usage in SMEs falls behind best practice.

In academic research it is evident that accounting information usage can be used as a predictor of SME failure or success and that good practices of managing information would lead to increased financial performance (Baines and Langfield-Smith, 2003; Cravens and Guilding, 2001; Mahama, 2006; Ittner *et al*., 2003). Innes *et al*. (1991) presented a model using accounting and non-accounting information usage to forecast business failure in specific industries. Lybaert (1998) found a positive correlation between the degree of information usage and small business performance. Solomon and Fernald (1991) pointed out that the availability, access and utilisation of accounting information is crucial for the successful competition by small businesses. It has been accepted that financial management and accounting information usage by SMEs is very important for their survival, development and

success in the modern business environment (Collis and Jarvis, 2002). Beaver and Jennings (2005), examining a number of high performing SMEs, found that common characteristics among these firms were tight financial control, low levels of risk taking and formal strategic plans that were constantly revised according to the accounting information they received. According to Mia and Clark (1999), the use of accounting information in high intensity markets allows the managers to understand the competition and adapt to the environment by assessing their products prices and costs.

From the academic literature, it is evident that accounting information is used for a variety of organisational purposes, from controlling operations to strategic decision-making (Noordin *et al*., 2009; Tourna and Germanos, 2007). According to Coad (1996), the provision of accounting information can improve organisational learning. Cadez and Guilding (2008) suggested that better provision of information results in improved resource allocation. A study by Jarvis *et al*. (1996) found that cash-flow information was considered to be the most frequently used type of information by SME owner-managers and it was used primarily for survival purposes rather than growth reasons. Papazov and Mihaylova (2010) noted that managers seek information relating to profit. Collis and Jarvis (2002) pointed out that the most widely used and most useful types of accounting information are the monthly/quarterly management accounts and cash flow information. Similarly, Papazov and Mihaylova (2010) found, in their study, that the balance sheet, the profit and loss account and the cash-flow statement were utilised by SMEs for management decisions. Cooper *et al*. (2001) noted that budgets are probably one of the most widely used accounting tools. Holmes *et al*. (1991) classified the accounting information types, internally or externally prepared, for SMEs into two groups, namely statutory and non-statutory. The information of a statutory nature included statutory accounts, balance sheet and profit and loss statements. The non-statutory

information included budgeted information, ratios, inter-firm comparisons, break-even points and job costing reports.

4.3 Sources of information

From the literature, it is evident that organisations have access to both internal and external sources of information, which can be formal (written) or informal (oral). External information is obtained from sources outside the enterprise. These include suppliers, customers (Nayak and Greenfield, 1994), printed materials (for example, books, brochures, magazines, journals, newspapers and newsletters), information centres and government agencies (Fann and Smeltzer, 1989; Freidon and Goldsmith, 1989; Siropolis, 1990; Solomon and Ferald, 1991), trade shows and seminar workshops (Smeltzer *et al*., 1988) and professional experts (accountants and bankers). Internal information is usually generated within the enterprise because of the organisational activities and feedback from the employees. Researchers have studied the different sources used by SMEs to acquire information. They found that these firms tended to prefer personal sources to impersonal sources and informal and private sources to formal and public sources (Ren, 1999). A few studies have indicated that the extent and selection of external sources of information depends on the business sector or the industry the SME is operating in (Francis and Brown. 1985; Stone, 1987). According to Cravens and Finn (1983), the firm's size also affects the extent of information source usage. Published evidence reveals that reliance on a combination of internal and external sources of information and advice is capable of influencing the financial performance of the firm and contributes to the overall management style (Orminski, 1991). In literature, several sources of information have been identified as important for an organisation.

4.3.1 **Accountants**

In the existing literature, accountants are considered to be the most important source of advice and information for SMEs (Burke and Jarratt, 2004; Germanos *et al*., 2009). According to Bhimani and Keshtvarz (1999), the accountants' contribution to organisational processes is vital. Accountants are considered to add value to a broad range of management issues. Their extensive knowledge of clients' businesses suggests they are able to satisfy the need for management advisory services (Burke and Jarratt, 2004). Brouthers and Roozen (1999) proposed that the process of information management must be handled by accountants since their expertise lies in data management. The role of accountants as a source of information for SME's has been documented as important for the financial management of organisations. A study conducted by Collis and Jarvis (2002) suggested that, due to the sophisticated nature of the financial and accounting management practices, the role of accountants in preparing and analysing information is substantial. According to Bennet and Robson (1999), accountants are considered to be of great importance to organisations due to their role in providing general business advice or due to their responsibility for completing the statutory audit work (Bennett and Robson, 1999).

Berry, Sweeting and Goto (2006) conducted research into SMEs and found that most of the business advisers were used in a limited way by the owner-managers. Only accountants had a key role in the organisational processes of the SMEs. They also identified that accountants made a significant effort to provide value-adding information for managerial purposes. Another important finding of their study was that SMEs that placed high reliance on business advice provided by accountants also exhibited quicker growth rates. Similarly, the significance of accountants as sources of information was documented in the academic work of Wren and Storey (2002).

Deakins *et al*. (2000) argued that the evolutionary change and dynamic processes of the financial management decisions in SMEs allowed the strengthening of the perception by owner-managers that accountants are a highly important source of information. In a study by Burke and Jarratt (2004), it was identified through a series of interviews that owner-managers were receiving a wide variety of information from their accountants that was applicable in financial and operational management. Alattar *et al*. (2009) found the use of accountants to be responsible for the generation of more information, which was useful for maintaining better planning and control. Thus, the existence of an internal accountant in the organisation resulted in records being well organised, all data being recorded and useful information for planning and control obtained. Marriott and Marriot (2000) found that accountants contribute greatly to increasing the financial awareness of the owner-managers and in providing management accounting services to meet their needs and abilities.

Gooderham *et al*. (2004) stated that, in many countries, SME accountants play an important role as business advisers, in addition to providing statutory accounting services. A study by Deakins *et al*. (2001) indicated that accountants must act as consultants to the owner-managers by providing advice on internal planning, decision-making and control. Berry, Sweeting and Goto (2006) observed, through their research, that accountants made a very significant contribution to financial management and business advice. Chenhall (2003) proposed that accountants with a strategic orientation should not act as sources of information, but must be heavily involved in the management and decision making of organisations. Collis and Jarvis' (2002) study indicated that SMEs benefited from the preparation and provision of the statutory annual accounts by accountants and the opportunity for advice on management issues and decision-making.

The role of accountants as a primary source of advice has, however, been criticised. Kent's study (1994) indicated that many SMEs that employed accountants for financial matters (statutory work) did not receive any management advisory services from them. He highlighted the need for accountants not only to provide financial services but also more value-adding advice. According to Arnold-McCulloch and Lewis (1985), most accountants are reluctant to be involved in SME decision-making processes and the provision of associated information. Marriot and Marriott (1999) argued that owner-managers often perceive the accountants as an extension of the tax system and feel reluctant to request additional information or advice, fearing that they will be charged higher prices. Furthermore, Gladstone and Lee (1995) stressed that the social and cultural gap between accountants and small enterprise owner-managers is a barrier to the proper use of accountants as sources of valuable management accounting information. They mention that this gap is causing difficulties for owner-managers in trusting the external accountants and opening up about their business problems. Chenhall and Langfield-Smith (1998a) suggested that accountants must be more customer-orientated, while Coad (1996) stressed the importance of accountants being less financially oriented and more strategy oriented.

4.3.2 **Other sources of information**

Other types of information can be obtained from interpersonal or personal sources. According to Mintzberg (1994), managers often favour such sources over formal types of information such as accounting information. Many managers and professionals now have direct access to e-mail and electronic bulletin boards. In addition, organisations have generally become more aware of the many potential benefits coming from open communication. Attempts to increase information flow have taken many forms, including newsletters, memos and official publications (Burke and Jarratt, 2004).

The research by Collis and Jarvis (2002) identified bank advisors as a fairly important source of information. According to Kovar and Mauldin (2007), organisations select using external business advisors, such as bank advisors, because of the expertise and objectivity of the information they provide. Burke and Jarratt (2004) disagree by stating that, although bank advisors can provide valuable information in their areas of expertise, their advice on decision-making issues is limited. Government agencies have also been recognized by SMEs as advice providers and, according to Ren (1999), some of the information they offer is vital for the survival and prosperity of the organisation. He mentions that companies of all sizes operating in dynamic environments are dependent on government agencies for advice and support. According to Burke and Jarratt (2004), government agencies (for example, the Chamber of Commerce) offer access to shared experiences of other business practitioners. Ren (1999) claimed that information generated from government agencies is considered valuable in satisfying a broad range of diverse needs. He concluded that information that is provided by the government, in some cases, is unique and might not be available elsewhere.

In literature, the use of social networks as sources of information has been identified in several studies (Aldrich *et al*., 1989; Zimmer and Aldrich, 1987; Greene and Butler, 1996). The role of social networks as sources of information was examined by Hill *et al*. (1999) and a great reliance of SMEs on information and advice coming from friends and family was identified. Burke and Jarratt (2004) argued that social networks, due to their limited experience, often restrain the ability of the firms in identifying and pursuing opportunities. An explanation of this behaviour might be the difficulty that most SMEs face when attempting to obtain the information they need (Chiware and Dick, 2008). Although the contribution of the social networks is associated with the start-up of a firm, the results of their study show that

owner-managers continue to seek advice from it and avoid broadening their experience by seeking advice from more business-focused sources (Burke and Jarratt, 2004).

Information and advice that is obtained through the business environment is usually non-financial and of informal nature. The owner-managers consider customers and suppliers as important sources of advice and their role has been documented in various studies (Burke and Jarratt, 2004). The study of the competition, the current strategic prospects, performances or actions from the past, the market possibilities, the market environment and the internal organisational environment can offer a vast amount of non-financial information that is required for the assessment of strengths and weaknesses of the firm and future development (Houben *et al*., 1999). Non-financial information is of theoretical or technical nature and usually derives from social networks, external and internal business environments (customers, providers and employees), business networks, the media and the internet. The nature of the data is usually informal, but it is often perceived by the owner-managers as very important (Burke and Jarratt, 2004). Vaughan and Tague-Sutcliffe (1997) argued that the informal types of information have a stronger effect on SME survival and success compared to formally prepared information. A study conducted by Specht (1987) indicated that SMEs rely more on personal sources of information than impersonal ones, since personal sources entail immediate feedback. Nordin *et al*. (2009) have outlined the importance of competitor information in developing, monitoring and organisation strategy, while Rangone (1997) suggested that information concerning the competition could augment the organisational effectiveness. Fann and Smeltzer (1989) indicated that SMEs gather information about their competitors indirectly from a number of sources such as suppliers, customers and newspapers. Sammon *et al*. (1984) argued that most managers recognise the importance of competitor

information, but most SMEs are unable to find access to such information in a systematic way.

Orminski (1991) identified a clear relationship between the management style of the organisation and its attitude to information seeking and gathering. Dua (1990) concluded that most SME managers use personal sources of information and rarely choose to use formal information services. Johnson and Kuehn (1987) indicated that SMEs use the marketplace (customers, suppliers and business partners) for gathering information about competitors' products and new market entries. McLachlan (1993) suggested that SMEs search for information from a variety of sources, such as suppliers, customers and trade shows, while Auster and Choo (1993) indicated that the internal (employees) and personal (family and friends) sources of information were found to be the ones most extensively used by managers in their study. Similarly Vaughn *et al*. (1996) found that most SMEs seek and gather information from informal sources such as customers, suppliers, friends, associates and relatives. In his study, Chalmers (1995) indicated that most SMEs do not have a systematic way of seeking information.

4.4 Management accounting information applications

Randal and Horsman (1998) indicated that management accounting information has been neglected in the SME literature, although they are considered the most important type of information in an organisation (Hopwood, 1972). Several authors have outlined the importance of management accounting for organisational success (Ouchi, 1979; Otley *et al*., 1995). McChlery (2000) pointed out the shortage of knowledge about the form and effectiveness of management accounting information within small firms. Jarvis *et al.* (1995) indicated that management accounting might be used in small enterprises but in forms that

might not immediately be recognised as such. The reason behind the failure to examine SMEs in management accounting research might lie in the emergent nature of planning in SMEs. Bhimani and Langfield-Smith (2007) have noted that empirical management accounting has largely adopted the rational perspective of strategy, assuming that strategy formulation as a formal process is in need of a large input of formally presented financial and non-financial information.

In academic literature, several perspectives of management accounting can be identified that appeal to the normative view of organisational planning and decision-making, such as the balance scorecard (Kaplan and Norton, 1992, 1996), activity-based management systems (Kaplan and Cooper, 1998), quality costing (Tayles *et al*., 1996), customer and competitor focused analysis (Rickwood *et al*., 1990; Donelan and Kaplan, 1998) and inter-organisational cost management (Cooper and Slagmulder, 2004). The commonality of all these perspectives of management accounting is the use of formal information to monitor the changes in the internal and external business environment and create instruments to assist the formulation and implementation of strategic procedures (Bhimani and Langfield-Smith, 2007).

Despite that fact, the relatively few studies on management accounting in SMEs demonstrated the great potential that exists for management accounting research in this overlooked area (Mitchell and Reid, 2000). A study by Hall and Young (1991) showed that management accounting mismanagement was a significant factor in the failure of SMEs surveyed. Likewise, Randal and Horsman (1998) found that the lack of management accounting information contributed to small enterprise failure. They have identified the existence of several obstacles averting external accountants from supplying management accounting information to owner-managers' decision-making. A number of studies have suggested that the quality and quantity of management accounting information utilised by

SMEs have a positive correlation with their performance (Raymond and Magnenat-Thalman, 1982; Holmes and Nicholls, 1989). In the same context, Drury (2004) recommended that management accounting information has great value as a control mechanism for evaluating whether various organisational activities and processes are beneficial. Hansen and Mowen (2006) suggested that the application of management accounting systems could provide managers with financial and accounting information related to various activities of the firm, assisting them in planning and decision-making.

Randal and Horsman (1998) suggested that accounting literature does not clearly present the different kinds of management accounting information available which, if properly explained, could be of great assistance in the decision making process. Specifically, owner-managers have little knowledge of some of the techniques of management accounting that might be useful for their planning. Randal and Horsman (1998) noted that even highly educated and experienced managers are unable to understand the power of some management accounting techniques, which might be good indicators of a high level of risk of failure for SMEs.

4.5 Linking accounting information with strategy

Research linking strategic planning with the use of information is very limited but, from the few studies that have been conducted, the results show a positive relationship between information usage and strategy (Hatten and Hatten, 1997). Schwenk (1995) outlined the necessity for research into the role of information in the strategy formulation process, while O'Regan and Ghobadian (2002) commented that the lack of relevant and adequate information is an important obstacle to formal strategy formulation. In the same context, Rogers and Bamford (2002) argued that the strategy formulation process must focus on the

types of information that support the company's strategic orientation. According to Steiner (1979), the strategy formulation process requires a more widespread and continuous coordination and informational input than any other process in an organisation. Similarly, Frezatti *et al*. (2011) noted that no other process requires more information than an organisation's strategy formulation process. Papazov and Mihaylova (2010) suggested that strategy formulation should be based on timely and accurate accounting information. The need for accounting information for strategic formulation purposes have been outlined even by authors who criticise strategic planning, such as Mintzberg (1994). According to Mintzberg, (1994), the process of gathering and utilising information for strategic purposes needs time, effort and resources but is crucial for the success of the plan. In the same spirit, Hatten and Hatten (1997) noted that proper utilisation of the information resources available to organisations are expected to create a competitive advantage while Frezatti *et al.* (2011) argued that managing accounting information should be a priority in the strategy formulation process of organisations. Another study by Cantrell and Colby (1993) has suggested that effective information management can provide solutions to long-term organisational problems. According to Bhutta *et al*. (2008), having easy access to a broad range of information is crucial in the decision-making and the strategy formulation procedures of an organisation. Shank and Govindarajan (1993) suggested that accounting has a significant role in facilitating the development of business strategy. They noted that accounting information constitutes the foundation of financial analysis by identifying the feasible strategies. Bhimani and Keshtvarz (1999) argue that senior accountants have an important responsibility in the provision of information for strategy formulation and implementation in organisations. Horngren *et al*. (1997) noted that accounting facilitates planning and decision making through budgets and other accounting techniques. Quezada *et al*. (2009) suggested that SMEs should

consider the use of accounting information as a measure of the effectiveness of their strategic plans. They noted that these predictors of strategy efficacy could be drawn straightforwardly from the balance sheet or the income statement prepared by the accountant.

Hatten and Hatten (1997) suggested that an efficient strategic formulation process must incorporate a resourceful information processing strategy, while Miles and Snow (1978) noted that, for different strategies, different information resources are required. Consequently, when a firm is formulating its strategy, it should have the means to acquire the information that is needed. According to Rogers and Bamford (2002), the information required by the organisation is associated with the approach of the strategy formulation process, the structure and the environment of the firm. Bhimani and Langfield-Smith (2007) suggested that the interplay between strategy and accounting information use is affected by a variety of contextual, organisational and environmental factors. Frezatti *et al*. (2011) suggested that the provision of managerial financial information that feeds the planning and control processes is critical. Rogers and Bamford (2002) noted that, through the strategic formulation process, information is processed and interpreted, helping to sustain the strategic orientation of a firm. They concluded that improved performance could be achieved if the information requirements of the firm can be integrated into the strategic formulation process of an organisation. Similarly, Ward (1993) suggested that the plans deriving from the deliberate strategy formulation process require extensive informational input from management accounting. Burke and Jarratt (2004) examined the information sources that small businesses turn to for advice. During their study, they detected that firms have a tendency to move from informal to formal information sources to support their strategic practices, taking advice from those specialising in providing information services to SMEs, and thus moving from an emergent to a more deliberate strategy formulation approach. From the findings of their study, it was

evident that owner-managers who continued to obtain information from the same informal sources did not change their strategy formulation approach. Concurring with this view, Frezatti *et al*. (2011) noted that managers who approach strategy formulation in a normative way require a greater deal of formal accounting and financial information to support their decisions. In agreement is the work of Papazov and Mihaylova (2010), who noted that owner-managers use accounting information for decision making purposes. In disagreement with these views are the findings of a research by Hill *et al*. (1999), who identified informal sources of information as more important for providing information for decision-making.

Despite the apparent importance of accounting information for strategic purposes, several authors have criticised the extensive usage of accounting data as a source of support for the strategy formulation process (Peel and Bridge, 1998; Mintzberg *et al*., 1998; Bracker and Pearson, 1986). Mintzberg *et al*. (1998) focused their criticism on the limited scope, complexity, untrustworthiness and usefulness of accounting information data for strategic functions. Other researchers have noted that accounting information is of little assistance to the strategic purposes of the firm, due to the inability of managers to accurately handle and utilise this information (Hall and Young, 1996; Randall and Horsman, 1998). Roslender and Hart (2003) claimed that the failure of accounting information to enhance the strategic processes of organisations is related to the traditional management accounting practices, while Hiromoto (1991) noted that traditional management accounting lacks the ability to provide managers with the information required to improve organisational competitiveness and performance.

4.6 Strategic management accounting

Over the last 30 years a new discipline of management accounting systems has emerged that focuses on providing the information required by managers to assist in the strategy formulation and implementation processes of an organisation. There is no universally acceptable definition of strategic management accounting (SMA) to date (Langfield-Smith, 2008). Simmonds (1981), the founder of the term, has defined it as the provision and examination of management accounting data about an organisation and its competition for developing and monitoring strategy processes and outcomes. According to Roslender and Hart (2003), SMA, in its most primary form, is concerned with making management accounting more strategy-orientated. One of the key differences between SMA and traditional management accounting is that the former considers non-financial information as fairly important (Langfield-Smith, 2008). Several authors have defined SMA as an organisational procedure, following different steps and stages (Lord, 1996; Dixon and Smith, 1993), while others have defined it in terms of its techniques, such as strategic-target costing and activity-based costing, although a consensus has not been reached concerning the appropriateness of the techniques (for example, activity-based costing) (Langfield-Smith, 2008). Although 30 years have passed since SMA was devised, studies on the effectiveness of its techniques have been limited and the process of adaptation by organisations has not been properly documented (Bromwich and Bhimani, 1994; Langfield-Smith, 2008). Tomkins and Carr (1996) noted that SMA research is still at a conceptual level, while Roslender (1996) argued that the majority of studies have a negative and dismissive predisposition towards the importance of SMA.

Despite the limited research into this area of accounting, there are a few studies that have examined SMA application in organisations. There have been several case studies (Cooper and Turney, 1990; Roberts; 1990; Cooper, 1996c; Miller and O'Leary, 1997;

Roslender and Hart, 2003) and surveys addressing the embracing and implementation of SMA (Howell *et al*., 1987; Enmore and Ness, 1991; Karmarkar *et al*., 1990; Innes *et al*., 2000; Gosselin, 2007). The focus of all these studies has been concentrated on large organisations and, from the findings, it is suggested that the adoption rates of SMA techniques have been very low (Gosselin, 2007). According to Ansari *et al*. (2007), the low adoption rates are a consequence of managers' underestimation of the importance of the SMA techniques. Similarly, in a cross-national study of large businesses Guilding *et al*. (2000) concluded that most SMA practices were not adopted and there was a low awareness of the term of strategic management accounting, while Roslender and Hart (2003) observed that SMA practices had limited usefulness in the planning processes of organisations. Several academics have suggested ways to improve SMA adoption by organisations focusing on the role of the accountant (Coad, 1996; Gosselin, 2007; Anderson, 2007) and the role of business consultants (Langfield-Smith, 2008). This study will attempt to identify SMA practices in the planning procedures of SMEs during the qualitative pilot study, but the importance and application of SMA in SMEs is questionable since the majority of studies conducted in this field of research have focussed solely on large organisations, which do not suffer from shortages in resources and capital.

4.7 **Summary**

Accounting information usage has been extensively discussed in the academic literature in relation to its impact on organisations. The focus of this chapter was on the importance of accounting information for SMEs and its impact on the performance and organisational processes. Furthermore, this chapter has identified the sources from which organisations gather information, with a focus on accountants, who are considered the main providers of accounting information. The role of management accounting in assisting in decision-making

has been outlined and the connection between strategy and accounting information has been presented. Finally, a discussion on strategic management accounting practices was provided and the implications of SMA for SMEs were discussed.

Chapter 5 THEORETICAL FRAMEWORK OF STRATEGY FORMULATION

5.1 Introduction

This chapter presents the theoretical framework of the study and presents the constructs selected to examine the strategy formulation process. The chapter is divided into eight sections including the introduction (Section 5.1). Section 5.2 describes the different aspects considered before selecting contingency theory as the basis for designing the theoretical model. Section 5.3 presents the contingency theory and its main assumptions. Section 5.4 illustrates the factors adopted by contingency theory and the factors adopted by this study. Section 5.5 discusses the effect of the contingency factors on organisational performance and how the study measures it. Section 5.6 presents the main limitations of contingency theory and the means adopted by this study to address these limitations. Section 5.7 presents the use of contingency theory in a variety of studies and, finally, Section 5.8 presents the conclusions of this chapter.

5.2 Theoretical considerations in research

"A theory is a unique language, a way to communicate meaning about a phenomenon" (Tosi, 2009). "Like a language, every theory has a vocabulary and a grammar; the vocabulary defines the meaning of the words (concepts and variables) and the grammar defines the relations of the words" (relationships to other words, combination with other words, and how the language is used to create meaning) (Tosi, 2009).

In the academic literature, there is a range of theoretical approaches to organisations. There are two aspects employed to divide these approaches. The first aspect is concerned with whether theory shows organisations as a rational or as a natural model. Rational models are approaches focusing on the formation of an organisation, which have a defined order. Firstly, the organisational targets are set, then the organisational structure or process is designed and then implementation follows. On the other hand natural models distinguish which individuals acting in organisations do not function purely with clear regulations and policies, but attempt to alter them and adjust them (Tosi, 2009). The second aspect is concerned with whether a theory centres on organisations as closed systems or as open systems. A closed system approach views the organisation as a determinate structure and as a result organisational structures are conceived as vehicles to achieve prearranged targets (Thompson, 1967; Tosi, 2009). Closed systems take for granted that the environment is stable, unwavering and everlasting and that the resources required by the organization, exist in large quantities in order to achieve the predetermined objectives (Scott, 2003). On the other hand, an open system approach assumes that organisational processes and structures are deeply influenced by forces and changes from the environment in which they operate. According to Tosi (2009), the environment influences the organisational type, structure, processes and the behaviour of the actors involved.

For investigating the research questions of this study, the open system rational model of contingency theory has been selected because it assumes that there is not an optimal way to manage an organisation, but it is dependent on various aspects deriving from the environment and the behaviour of the individuals involved.

5.3 Contingency theory approach

The contingency theory is considered a theoretical prism through which organisations can be examined. Contingency theory was originally established from the academic work of Burns and Stalker (1961) and was further developed by Woodward (1965) and Payne and Pugh (1976). The contingency approach is one of the major developments that emerged from behavioural organisational research, while it yields many insights and has important empirical and practical support. Contingency theory is a behavioural theory that argues that there is no optimal way of action to organise an organisation, to manage a firm or to make decisions (Lawrence and Lorsch, 1967). Instead, the idyllic way depends upon internal and external factors. The argument of contingency theory, for the purposes of this study, is that there is no general or exclusive approach in formulating a strategy that applies likewise to all firms, in all circumstances. Many variables or factors influence the decision to formulate a specific strategy. The essence of the contingency theory paradigm is that organisational success derives from fitting characteristics of the firm, such as its structure and designed processes, to contingencies that reflect the situation of the firm (Burns and Stalker, 1961; Pennings, 1992). Cadez and Guilding (2008) noted that contingency theory hypothesises that organisational structures and systems are an outcome of internal and external organisational effects. Contingency theory first became important as a theory as a means of explaining variations and changes in the organisational structure of a firm (Thomas, 1986). Contingency theory, in its traditional form, suggests that organisational design is dependent on environmental

stability and technology (Donaldson, 1996). The most important contingencies identified in previous studies are the environment (Burns and Stalker, 1961), organisational size (Child, 1975) and owner-manager behaviour and characteristics (Mintzberg, 1979). According to Donaldson (2001), when a firm succeeds in fitting their characteristics to contingencies, then increased performance is achieved. Consequently, firms try to get out of the misfit that occurs after the alteration of contingencies by redefining their organisational characteristics according to the new contingencies (Donaldson, 2001). As a result, the firm and its processes become shaped by the contingencies, because it needs to fit them to avoid a drop in performance.

According to Mintzberg (1979), the design of organisational structures and processes are the result of a firm's effort to allocate the workforce into specific tasks and coordinate their actions. Coordination is considered the foundation of structure that holds an organisation together (Zahrly, 2009). This study builds on this idea and attempts to analyse the determinants of the strategy formulation process in terms of relationships between its components and the environment of the firm. The choice between the decisions to follow a specific strategy formulation process will depend upon situational contingent variables for each particular firm.

For the purposes of this study, we examine the effect of the contingencies on the decision of an organisation to select a specific process format of strategy formulation. The study will examine the effects of contingency factors on the two dimensions of strategy formulation (the deliberate-emergent dimension and the individualistic-collective dimension).

5.3.1 Traditional contingency theory

Contingency theory provides a theoretical framework that intends to explain the existing practice of organisations. Otley (1980) suggests that contingency theory, as a principle, can be equally descriptive (in explaining why organisations select a specific process of strategy formulation at a specific time) and prescriptive (in explaining the type of strategy formulation that should be used in a particular set of circumstances). Therefore, the contingency approach is used as a theoretical framework to explain the way strategy is formulated as a part of organisational reactions used by the firms to face their environmental conditions. Selto *et al*. (1995) claimed that the contingency theory allows variables, such as the nature of business sector, different types of ownership, owner-manager characteristics, competition power, environmental volatility, organisational size, role of advisors and types of establishments, to be addressed. The study will examine all these factors during the qualitative stage of the research and, depending on the results, it will include most of them in the quantitative stage of the research.

It is suggested that the contingency approach is a theory of equilibrium, in that it explains organisational transformation as a procedure of maintaining balance (Donaldson, 2001). The basic principle of the theory is that when an organisation is in misfit it naturally transforms in order to move into fit. Burns and Stalker (1961) and Woodward (1965) have attempted to depict this movement with the use of contingency theory. They argued that there is a natural motivation and incentive for every organisation in misfit (that is, in a disequilibrium condition) to shift into fit (in which the organisation is in equilibrium position) to get the superior performance that fit produces. On the other hand, when the organisation moves into fit by adjusting its structure and processes, then it consequently increases performance and there is no reason for it to move out of fit. This balance dimension of

contingency theory is consistent with a functionalist form of theory (Donaldson, 2001). Furthermore, Hage (1974) noted that contingency theory could be identified as a cybernetic form of theory, which is focused on decreasing the deficit or diminishing the misfit. Locke and Latham (1990) and Wood and Locke (1990) explained the formation of deficits that are caused by managers who set new performance objectives that exceed their performance ability. Consequently, this creates a gap or deficit, which leads to misfit.

According to Donaldson's contingency theory perspective (2001), the justification of two major issues of this study is offered: the predictive ability, or effect of the contingency factors on the strategy formulation approach, and the contingency transformation, producing this effect in practice. For example, when an organisation in fit adjusts or alters its practices, it consequently shifts into misfit with the contingencies and its performance is reduced (Itzkowitz, 1996). The organisation then changes its practices and processes to fit the level of the contingency variables in order to evade additional performance decrease. In this way, the contingency and the practices move into equilibrium and so raise the relationship between the contingency and the practices. Therefore, it could be argued that the selection of a strategy formulation process approach needs to be matched to the circumstances in which the organisation operates. The match can be tested by using correlation tests between each of the contingent variables and strategy formulation and multiple regression tests to examine the effect of the contingent variables on the strategy formulation process.

5.4 Conceptual and theoretical integration of contingency theory

There are different forms of contingency theories, each connecting a particular factor to some specific aspects of the organisation (Blau 1970, Child 1973a, Woodward 1965). Nevertheless, many of the contingency variables can be reduced to a few underlying constructs that compile

those basic contingency theories (Donaldson, 2001). Likewise, there is a similarity between many of the theories, so that theoretical integration and mixing is possible. Structural contingency theory supports that a misalignment with the contingency variables compels the organisation to change its processes, because of the need to be fit again and maximise its performance (Donaldson, 2001). For that reason, contingency theory is considered deterministic (Astley and Van de Ven, 1983). The organisation responds to changes in the contingencies and, thereby, to the environment that in turn shapes those contingencies.

In literature, the existence of two main contingency theories of organisational structure is identified: the organic theory and bureaucracy theory (Donaldson, 2001). Contingency theory of organisational structure is incorporated in research by the inclusion and examination of the two main contingencies of these theories, task and size (Itzkowitz, 1996). Task is comprised of task uncertainty and task interdependence and is the main contingency factor of organic theory. Size, on the other hand, is the main contingency of bureaucracy theory.

The set of contingencies made up of task uncertainty, technology, technological change and environmental instability include the fundamental concept of uncertainty (Donaldson, 2001). Environmental and technological change lead to uncertainty for the organisation and its managers, creating uncertainty in the tasks conducted inside the organisation. The technology used by the organisation to transform its inputs into outputs also reflects differences in task uncertainty and feeds back to affect task uncertainty (Woodward, 1965). More advanced technology requires greater predictability of the tasks (Woodward, 1965).

There are various contingency theories of many different organisational aspects, such as human resource management (Delery and Doty, 1996), leadership (Fiedler, 1967) and strategic decision-making processes (Frederickson and Mitchell, 1984). All these different contingency theories have many common issues. This thesis will adopt a modified version of

contingency theory of organisational structure and will attempt to show the effect of fit on strategy formulation.

5.4.1 Contingent factors in theory

In the literature of contingency theory, there are many discussions about which variables could be applicable in explaining and predicting a firm's decision to form its processes in a specific way. Jones (1985, p. 304) stated that "the contingency variables may be broadly classified into environmental influences, which occur to a large extent independently of action taken by an organization, and internal variables in respect of which the organization can exercise more discretion". Several prominent academics have significantly contributed to identifying a number of contingency factors. Technology (Woodward, 1965), innovation (Hage and Aiken, 1967a), environmental change (Child, 1975; Jones, 1985), technological change (Burns and Stalker, 1961; Woodward, 1985; Mintzberg, 1979), organisational size (Blau, 1970) and diversification (Rumelt, 1974) are some of the most researched contingencies.

Donaldson (2001) identified the two main contingency factors that have been used in the majority of studies using the contingency theory of organisational structure.

The contingency of organizational size affects the bureaucratic structure and processes of an organisation. The number of employees of a firm affects the level to which its structure is bureaucratic and decentralised (Pugh and Hickson, 1976; Donaldson, 2001). The bureaucratic and decentralised structure is more suitable to a large organisation, because large size leads to recurring operations and administration, so that decision-making can be made by procedures and guidelines, rendering the processes inexpensive and competent (Child, 1975; Donaldson, 2001). On the other hand, a simple un-bureaucratic and centralised structure fits a

smaller organisation because the manager can make decisions, without the use of guidelines, personally and effectively (Child, 1972; Donaldson, 2001). A small organisation that seeks to use the bureaucratic structure will face complexity of operations and it will become ineffective (Donaldson, 2001).

The contingency of the environment affects the mechanistic structure of a firm (Pennings, 1992; Donaldson, 2001). The rate of technological and market change in the environment of an organisation affects whether its structure is hierarchical or participatory (Burns and Stalker, 1961; Donaldson, 2001). The hierarchical structure fits a stable environment, because is efficient for routine operations. In a stable environment, higher-level managers are capable of making decisions according to their experience and the information they possess. In contrast, the participatory structure fits an unstable environment better, because it is more innovation oriented. According to Burns and Stalker (1961), a company with a hierarchical structure that acts in an unsteady environment without being innovative will most probably underperform. Most SMEs adopt a simple mechanistic structure, which is centralised and low on both functional specialisation and formalisation (Pennings, 1992; Donaldson, 2001). Contingency theory notes that organisational structure and processes must fit all contingencies of the environment. Alterations in any of the contingencies will probably lead to change in the preceding structural aspect and processes (Childs, 1973a; Donaldson, 2001). An organisation tends to change its processes and structure to be in alignment with each of these contingencies. Consequently, organisational structure and processes are usually connected (Hage and Aiken, 1969).

5.4.2 Contingency factors of the research

A contingency is any variable that moderates the effect of an organisational characteristic on organisational performance. According to contingency theory, all contingency factors are causes of organisational structure because organisations change their structures to achieve fit and better performance (Donaldson, 2001). However, not all variables that affect organisational structure should be regarded as contingency factors. Whether a factor is a contingency of an organisation relies on whether aligning the structure and the contingency produces better performance. Contingencies of organisational structure include some factors that are internal to the organisation and some that are external to it. For example, organisational size refers to how many are employed in an organisation and consequently is an internal organisational characteristic. Other contingency factors are characteristics of the external environment, such as environmental volatility. However, they influence the internal contingencies, which form other inner organisational characteristics (Donaldson, 2001). Organisational structure is a consequence of the fit of internal contingencies, some of which are caused by the external environment contingencies. As a result, the organisation is formed according to the need to fit its environment (Donaldson, 2001). By drawing on the premise of contingency theory, four factors were identified as probable predictors of a contingency association with strategy formulation approach adoption: (1) organisational size, (2) environmental volatility, (3) level of technology and (4) owner-manager characteristics.

5.4.2.1 Environmental volatility

The external environment of an organisation is an important contingency factor. Its relationship with the strategy formulation especially is considered to be of high significance (Mintzberg, 1979). Kudla (1980) has criticised a series of strategic management studies that decided not to include general environmental conditions in their models. According to Porter

(1980), the essence of strategy formulation is to relate the organisation with the environmental conditions. The strategy-making process tends to be more organic when the environment becomes more dynamic (Mintzberg, 1979). According to Burns and Stalker (1961), organic structure in dynamic environments is decentralised and low on functional specialisation and formalisation, so that employees work without constant supervision and guidelines from the top management. The effect of a stable environment on the firm's strategy formulation is the use of formal plans and a more individualistic approach to the decision-making process. Instability in the environment, on the other hand, drives managers to follow a collective approach to strategy making and the production of emergent plans. According to Waterhouse and Tiessen (1978), the external environment has a strong impact on the level of centralisation and rationality of organisational processes. In a similar spirit, Moreno-Luzon and Peris (1998) noted that the environmental volatility appears to be an important contingency factor which, when measured, can predict the level of formalisation that is required in a specific situation. According to Mintzberg (1979), the more complex the environment, the greater the need is for a collective approach to strategy. In their study, Burns and Stalker (1966) discovered that highly formalised organisations had failed due to their inability to change their prescriptive processes to adapt to the environmental changes. Jones (1985) suggested that the effects of the external environment are important variables in predicting organisational changes, while Kukalls (1991) argued that, as environmental complexity increases, so does the need for a more extensive strategy formulation process. Wright *et al.* (1996) suggested that, since environmental changes are constant, it is important for strategy formulation to follow the pattern of change, so that the two can be in balance. Pansiri and Temtime (2010) suggested that the owner-manager's awareness of the environmental conditions is very important in the strategy formulation process of an organisation. Ansoff and McDonnell (1990) suggested that

reactive strategic responses to environmental change are inadequate, while Andersen (2001) argued that participative and collective decision-making are more effective in dynamic environments. Henderson (1989) noted that, in dynamic environments, organisations are constantly revising and modifying their plans. Miller and Friesen (1983) have empirically established a relationship between rational decision-making and environmental uncertainty and Fredrickson (1984) has found that a normative approach to strategy formulation and implementation is more likely to occur in less dynamic environmental conditions. Similarly, Joyce and Woods (2003) argued that a normative approach to strategy in times of environmental uncertainty is rigid and inflexible, while Govindaraja (1984) argued that environment volatility is an important contingent factor, which affects the performance evaluation style of an organisation. Balta *et al.* (2009) found significant moderating effects of the external environment on the formalisation and centralisation of the strategy formulation process.

Environmental volatility dimensions include the elements of stability, complexity and competition intensity and hostility (Tan and Litschert, 1994; Donaldson, 2001). A variety of items have been adopted by previous studies (Khandawalla, 1977; Miller *et al*., 1998) and properly modified to suit the needs of the study. To measure the significance of this factor for the study, the researcher considers it important to measure the perceived environmental effects on the process of strategy formulation, following the suggestions of Milliken (1987). To measure the perceived environmental volatility, two items were used to capture the environmental stability, two items to measure competition intensity, two items to measure environmental hostility and two items to measure environmental complexity. These items are examined during the qualitative research and the final scale that is used in the quantitative study is tested for validity and reliability.

5.4.2.2 **Organisational size**

Organizational size is a contingent factor that affects many different aspects of a structure and, according to literature; it has a strong effect on many of them (Blau, 1972; Child, 1972a). Several previous studies have confirmed that organisational size is an important contingency factor for designing an effective strategy formulation process (Lindsay and Rue, 1980; Hofer, 1975; Robinson, 1982). The contingent factor of organisational size is usually determined by the number of people who are to be organised within an organisation (Blau, 1970), determining the structure or the process that is required. Size, therefore, can be fittingly operationalised in experimental research by the number of people employed (Pugh *et al*., 1968). The size of the organisation can also closely correlated with other aspects of an organisation, such as number of sales or level of assets, so that these variables can be used as indicators of size (Donaldson, 1996b). However, according to Donaldson (2001), sales and assets are mere alternatives for the number of employees, which remains the main operational measure of size. The reason behind this is that they are not always highly correlated. Similarly, Merchant (1981) has outlined the use of organisational size, measured by number of employees, as a contingent factor of organisational processes. Therefore, for the purposes of the present study, the total number of employees in an organisation will be used to measure the contingency factor of organisational size.

The concept of organisational size as a contingency of organisational structure received support from the studies of Blau and his colleagues (1971). They have argued that, as size increases, it leads to continuous changes in organisational structure. Some of these changes are that increasing size leads to more bureaucratic structuring, such as specialisation, rules and more decentralisation in decision-making (Blau and Schoenherr, 1971), which is consistent with this study's literature review, which argues that SME strategy formulation is more often

of informal nature and centred on the owner-manager. Similarly, Moreno-Luzon and Peris (1998) argued that different sizes related to different degrees of difficulty in forecasting, planning and controlling the organisational activities, while O'Regan and Ghobadian (2002) argued that, as a firm's size increases, it tends to follow more formalised processes. In agreement is the study by Stonehouse and Pemperton (2002), who noted that organisational size is associated with the selection of strategy. Mitzberg (1979) stated that size affects behaviour formalisation and the administrative structure. He suggested that small organisations tend to have simpler structures and a less formalised behaviour in decision-making. Miller *et al*. (1998) found associations between size and the extent of strategic planning, whereas Wincent (2005) noted that organisational size could be an important factor for a firm's performance.

5.4.2.3 **Level of technology**

Contingency theory consists of various studies that outline the importance of the contingency of technology when an organisation decides on the adoption of an organic structure (Perrow, 1967; Thomson, 1967; Woodward, 1965). Perrow is considered one of the major contributors to the theory of technology as a contingency factor. According to his work, technology refers to the perceived nature of the raw materials and the search behaviours involved in processing it, and not in hardware or equipment layout. Thomson (1967), on the other hand, argued that task and technology are major contingency factors of organisational structure. He identified three different types of technologies (mediating, long-linked and intensive) and their corresponding types of organisational structure (pooled interdependence, sequential interdependence and reciprocal interdependence).

This research's use of technology as a contingent factor is in alignment with the work of Woodward (1965), who examined the structures of various companies across different

industries. Woodward investigated various aspects of the organisations both quantitatively and qualitatively, using different measures as indices of the extent to which each company was following the prescriptions of classic management. The research concluded that classic management prescriptions were followed and there was an association with the firm's technology. Woodward's (1965) research identified 3 stages of advancement in technology and stated that, as firms move to more advanced technology, their production becomes smoother and more continuous, leading to better performance. Since one of the objectives of this thesis is to examine the relationship between technology and strategy formulation process in SMEs, Woodward's work is useful. This is because one of her primary aims was to determine how firms' processes were affected by the level of technology applied and required in a specific market, and how this technology reliance influenced the firm's performance (Goehle, 2009). Jelinek and Schoonhoven (1990) suggested that firms with high reliance on technology are more likely to apply a formal planning system, compared with low-technology firms. Drennan and Kennedy (1999) suggested that SMEs, compared with larger organisations, have lower reliance on technology, while Walczuch *et al*. (2000) noted that SMEs have fewer benefits, compared with larger organisations, in association with the use of technical systems. Aragón-Sánchez and Sánchez-Marín (2005) indicated that strategy formulation is highly associated with the organisational level of technology and Andersen (2001) agrees, noting that the level of technology can affect the strategic decision-making process. Similarly Horvath and Fulk (1994) and DeSanctis and Jackson (1994) suggested that the technological level of an organisation affects level of centralisation of the organisational structures.

Mintzberg's (1979) approach to this contingency factor is quite interesting in the fact that he examines the factor from a 'technical system' perspective. According to his work,

there are two dimensions of this system, namely, the degree of regulation and the degree of sophistication. The regulation imposed by the technical system is the extent to which the employee's work is controlled by the instruments he or she uses. Technical system sophistication determines the difficulty of understanding the work process. In general, if the technical system is highly regulated, the work process will be more formalised and the structure of the strategy making will be more collective, formalised and normative. The same effect occurs if the technical system becomes more sophisticated. There will be a tendency to a more participative approach to strategy formulation and more deliberate decision-making. According to Moreno-Luzon and Peris (1998), when a technical system is installed by a firm, it affects the organisational processes and management styles. A highly sophisticated technical system with repetitive steps and routines is positively associated with high levels of formalisation and centralisation. Lucas and Olson (1994) argued that high reliance on technical systems for strategic purposes is extremely problematic, since technology ages fast and it is hard to maintain the benefits it offers to the process. Furthermore, Levy and Powell (1997) suggested that the appliance of new technical systems is directly connected to flexibility and responsiveness capabilities of the organisation, which are directly related to the strategy formulation process.

5.4.2.4 **Owner-Manager characteristics**

According to Donaldson (2001), a variable must be a cause of structure and a cause of contingency. There is a growing body of literature that has identified the owner-manager characteristics as factors influencing, both the strategy formulation of organisations and their performance. This study includes the characteristics of the SME owner-manager as a contingent factor because, according to Miller *et al*. (1988), they are positively correlated with centralisation and formalisation of processes in organisations. If there is some fit between

having an SME owner-manager with specific characteristics (long experience and higher education) and strategy, then these characteristics are a contingency of strategy. This study has rejected the use of owner-manager personality as contingent factor because, according to Lewin and Stephens (1994), the owner-manager personality leads to the adaptation of a specific structure, which is a misfit. In this case, personality should not be considered a contingency, because it is a cause of structure but not a factor that can influence performance. There are plenty of studies in the literature that support the use of managers' characteristics as contingent factors, due to their influence on organisational forms (Attwaijri and Montanari, 1987; Finkelstein and Hambrick, 1996; Miller and Droge, 1986; Montanari, 1979). In addition, according to Fligstein (1991), the functional background of the manager can affect both the strategy and structure of a firm, while Hitt and Tyler (1991) suggest that managers' demographic characteristics have a strong impact on the strategic decision-making process. Similarly, Begley and Boyed (1986) noted that owner-managers have the utmost responsibility for the design of organisational processes. Pansiri and Temtime (2010) indicated that organisational structure is likely to develop around the abilities and characteristics of the owner-manager. Mintzberg (1979) adds a new perspective to the contingency factor of owner-manager characteristics. He states that the more an organisation is controlled by external stakeholders, the more likely it is that its strategy formulation would be decentralised and bureaucratic. He concludes that SME managers, compared with CEO's of large organisations, usually do not have to justify their actions to outsiders, making their strategy formulation process less formalized.

5.4.2.4.1 Owner-Manager's age and experience

Research in the area of strategy formulation has attempted to comprehend why individuals are different in the way they use information and how their abilities differ accordingly. The

approach of referring to demographic traits, such as age or experience, is traditionally considered in research (Wiersema and Bantel, 1992). Old managers avoid risky decisions (Guthrie and Olian, 1991), which implies that younger managers make riskier decisions (Wiersema and Bantel, 1992). Similarly, Sorensen and Stuart (2000) suggested that older managers tend to be stuck in their ways in responding to new opportunities. However, it must be underlined that research supports experience as being a beneficial factor for strategy formulation. This can be derived by the positive association of experience and growth and performance (Bengley and Boyd, 1987) and the more accurate judgement of the value of information (Taylor, 1975). According to Sorensen and Stuart (2000), experience is positively correlated with knowledge and creativity, and according to Davidson (1991), experience is positively related to product strategies. Veskaisri *et al*. (2007) has suggested that experience should be correlated to strategic planning, while Haswell and Holmes (1989) found that managerial inexperience is a critical factor for the survival of an SME.

5.4.2.4.2 Owner-manager educational level

Another characteristic analysed in relation to strategy formulation is the feature of education of the owner-manager. This trait reflects an indicator of the decision-makers knowledge and skill base (Hambrick and Mason, 1984). Research also suggests that education helps span limitations, tolerates uncertainty and helps with integrating complexity (Dollinger, 1984). Hitt and Tyler (1991) noted that education influences the way of evaluating and managing organisations. Gutrie *et al*. (1991) indicated that higher education is associated with increased capacity for information processing and propensity to innovation. Wiersema and Bantel (1992) have empirically linked managers' education levels with strategic orientation of organisations, while Dolinger (1984) has associated higher educational levels with greater open-mindedness and higher integrative complexity. The findings of a study by Bhutta *et al*.

(2008) revealed that owner-manager educational level is connected to the wellbeing of SMEs. Veskaisri *et al*. (2007) suggested that owner-managers with higher education are more aware of their organisation's situation and are more likely to embrace strategic planning, and Cohen and Levinthal (1990) indicated that more educated managers will be able to exhibit more complex cognitive functioning and improved ability for information processing for decision-making purposes. Papadakis *et al.* (1998) verified these views, by identifying a positive relationship between managers' education and ability to manage information, while Wiersema and Bantel (1993) discovered that better educated managers have a tendency to have high demands for detailed information and extensive financial reporting. Papadakis and Barwise's (2002) findings indicated that managers' education, among other variables, is related to organisational decentralisation. Furthermore, Goll and Rasheed (2005) have discovered a significantly positive relationship between educational level and deliberate strategy formulation, while Balta *et al*. (2009) have indicated that the association between manager's education and strategy formulation requires further investigation, due the mixed findings in literature.

5.4.3 **Combining different contingencies**

Researchers have addressed the issue of how to combine different contingencies to establish the fit of an organisational structure. According to Donaldson (2001), there can be multiple contingencies for an organisational structural variable. The consequence of a contingency factor is added to the outcome of the second factor to determine the fit. For example, when a firm is smaller it requires an individualistic approach in strategy formulation, and when it operates in a stable environment then it also requires individualisation in strategy formulation, so that the fit is even more centralised than it would be for just small size or operating in a stable environment on their own.

In some cases, contingency factors can be opposing in their requirements for strategy formulation in order to fit with each other (Donaldson, 2001). According to Child (1972b), the contingencies have 'conflicting implications' for the structure and they are termed 'contradictory contingency factors' (Mintzberg, 1979). Child (1972b) concludes that the contradictory implications of each contingency factor can direct the management of the organisation to a zone of choice. Contrary to that view is Donaldson (2001), who notes that the fit is singular and no zone of choice exists because, according to contingency theory, when one contingency factor requires a high level of structure and the second requires the same structure to be low, then the fit is a medium level of the organisational structure. Donaldson views the effect of each contingency that decides on the fit of a structure as 'additive'.

An empirical study from Gresov (1989) is in agreement with the view of Donaldson. He examined the fit of structure to the combined factors of task uncertainty and horizontal dependence and found that fit and performance, were related, where both contingencies required similar structures. However, when their requirements conflicted, the relationship broke down and organisations had lower performance, supporting the argument that conflicting contingencies lead to misfit. Donaldson (2001) notes that conflicting contingencies may increase the probability of erroneous management choice and further empirical research must examine the conflicting contingencies problem.

5.5 Contingencies effect on organisational performance

According to Donaldson (2001), the contingency factor decides which feature produces high levels of effectiveness in the organisation. The reason we focus on effectiveness in contingency theory is that organisational theory has been concerned with the clarification of success or failure of organisations. However, organisational effectiveness can have a broad

meaning that includes efficiency, profitability and employee satisfaction or innovation rate (Donaldson 2001). This study will attempt to examine the financial performance of SMEs due to its importance for survivability reasons for Greek SMEs.

Contingency theories embrace that there is a fit between organisational processes and contingencies that has a positive effect on performance. In formal terms, there is a trivariate relationship between processes, contingency and performance. Therefore, as a result, when the process variable is at fit with the level of the contingency then we have high performance. On the other hand, performance is low when the process variable is not at a level of fit with the contingency level (Donaldson, 2001). Cadez and Guilding (2008) suggested that fit is conceived as representing a positive impact on performance due to certain combinations of context and structure. Various studies have attempted to search for a trivariate relationship between contingency, organisational design and performance. For example, Woodward (1965) demonstrated that fit of span of the line supervisor's control to the technology contingency is associated positively with organisational performance. Childs (1975) argued that fit of bureaucratic structure to the size contingency is associated positively with organisational performance. This study will attempt to test empirically the level of fit between the selection of a specific strategy formulation process and the contingent factors and the influence of this fit to the organisational performance.

5.5.1 **Link of fit and performance**

According to Cadez and Guilding (2008), the central idea of contingency theory suggests that the organisational structure depends on the fit between organisational context and structure. Fit is the concept that determines the idea behind contingency theory (Donaldson, 2001). Scholars involved in the development of this theory strive to identify what constitutes fit and their primary target is the attempt to identify the effect of fit on performance (Donaldson,

2001). According to Child (1975), for each contingency level there is a level of the organisational structural variable that creates the utmost performance and thereby forms the fit. Consequently, it is implied that high or low performance is dependent upon good or poor mixture of context and structure (Ittner and Larcker, 2001). Thus, fit is the centre of contingency theory because it explains variations in performance, organisational change and the associations between structures and contingencies (Donaldson, 2001). Chenhall (2003), commenting on the concept of fit, indicated that fit implies improved performance, while misfit suggests a drop in performance.

Various researchers have empirically investigated the effect of contingencies on organisational structures, due to the importance of the correlation of fit and performance (Child, 1975; Donaldson, 1987; Khandwalla, 1972; Lawrence and Lorsch, 1967; Hamilton and Shergill, 1993; Ittner and Larcker, 2001; Chenhall, 2003; Gerdin and Greve, 2004). On the other hand, Dalton *et al*. (1980) provided a critical review of the research connecting structure and performance. They argued that, despite the importance of performance, there was a scarcity of research, irregularities in methods used and contradictory findings regarding the main effects of structure and the contingent effects of structure. Despite this view, subsequent studies have found a positive relationship between fit and performance supporting contingency theory (Alexander and Randolph, 1985; Hamilton and Shergill, 1993; Nohria and Ghoshal, 1997; Chenhall, 2003; Bhimani and Langfield-Smith, 2007; Cadez and Guilding, 2008). These studies commented on the relationship by indicating that some of the earlier studies may have fallen short of finding a relationship because of methodological limitations and problems.

5.5.2 Performance measurement

Using a contingency framework, this study does not propose a 'one size fits all' model for the selection of a specific strategy formulation approach by SMEs. Instead, it considers that the approach to strategy formulation must be in fit or match with the demands of the external environment and dependent on specific organisational characteristics. If a good level of fit is achieved then the firm will be more effective and achieve higher performance.

The concept of business performance measurement has received a lot of attention in strategy research (Venkatraman and Ramanujam, 1986). According to Neely (1998), the primary focus of performance measurement is to assist managers in understanding the effectiveness of their organisations and finding ways to improve them. Browne *et al*. (1997) has argued that it is impossible to improve the effectiveness of an organisation without an effective performance measurement. Before deciding how performance will be measured in this study, several issues must be addressed concerning the selection of appropriate measures of performance.

Firstly, the importance of using multiple measures to determine the overall performance of an organisation, rather than relying on a single measure of performance, has been outlined in literature (Freeman *et al*., 2004). A firm's performance, according to Snow and Hrebiniak (1980), is a multi-aspect phenomenon that is difficult to measure. Several studies have focussed in this direction (Boyd, 1991; Venkatraman and Ramanujam, 1986). According to Murphy *et al*. (1996), SME performance measurement must include multiple dimensions of performance where possible. The most commonly employed measures of firms' performance in strategic management literature are profitability measures, such as Return on Investment (ROI) and Return on Sales (ROS) (Chakravarthy, 1986), since they offer a significant indication of a firm's success (Keats and Hitt, 1988) and provide an appraisal of available

resources for future use by the organisation (Li and Simerly, 1998). Despite the widespread use of these measures, several academics have criticised their reliability in a rapidly changing environments because they tend to be nonflexible and often produce deceptive or irrelevant information (Kaplan and Norton, 1992; Carlin, 1999). For the purposes of this study, and taking into consideration the peculiarities of SMEs, this study has decided to use profitability growth measures and relative profitability measures, based on the perceptions of Greek owner-managers surveyed, to determine the effects of strategy formulation on the performance of Greek SMEs.

Secondly, a problem with performance evaluation in strategy literature is that, due to the nature of the strategic plans, they require time to show their effects on organisational performance (Brews and Hunt, 1999). Therefore, it is suggested by literature, that performance measures must include a time lag to measure the effects of strategy. The five-year average profitability measures have been repeatedly used in strategy research (Palmer and Wiseman, 1999). Bracker and Pearson (1986) proposed that a five year space is essential to monitor the association of strategy and performance. This period is sufficient to enable the outcome of a specific approach to strategy formulation to take effect. This study has decided to adopt the time lag aspect in measuring the performance of SMEs.

Following the suggestions and guidelines from literature (Dess and Robinson, 1984), this study has decided to measure the financial performance of SMEs based on self-assessment scales, using a five year profitability growth trend, as suggested by Simons *et al.* (1999) and Brews and Hunt (1999) and the level of satisfaction of profitability compared with close competitors, as suggested by Dess and Robinson, (1984).

5.6 Limitations of contingency theory

While the traditional contingency theory can be used to contribute to strategy formulation research, it has been subject to a number of criticisms or doubts about its practical value to this research. The use of contingency theory in strategy formulation has many potential limitations. The decision to examine the process of strategy formulation when faced with contingency variables has not been addressed in previous research. In addition, the nature of the contingency variables that may affect the firm's behaviour in the process of strategy formulation has not been properly clarified. The contingency theory is considered deterministic and suffers from conceptual and methodological issues (Schreyogg, 1980). Schreyogg argued that the contingency concept is deterministic as it guides to only one best structural 'decision choice' to a specific contextual situation. Greenwood *et al*. (2002) suggested that there has not just been a one-way organisational response to the same environmental conditions. The assumed effect of independent environmental variables in the strategy formulation process (dependent variable) is open to question. For example, a firm might have the power to exercise control over certain features of its environment, or it might have a monopolistic place in the market they operate in and be less influenced by the environmental effects (Mullins and Walker, 1996). Mullins and Walker argued that some firms may be less dependent upon their environment (changes its contingency) and in a more secure position compared with other organisations. Similarly, various scholars have argued against the belief that organisational processes are determined by its situation and have instead asserted that managers have free choice and are held liable for their decisions (Bourgeois, 1984; Whittington, 1989). Child (1972b) has accepted the contingency theory of organisational structure but has implemented the term 'strategic choice' to show that some degree of choice can be introduced at several stages in the process. He explained that by

accepting strategic choice, pessimism and fatalism could be avoided in the organisational theory that adheres to ideas that bureaucracy or other managerially favoured structures are somehow inevitable. This study takes into consideration all the previously mentioned aspects. However, according to my understanding, owner-manager free choice is debatable since SMEs have no control over their environment and it is extremely rare for them to hold a monopolistic place in their environment. Therefore, their structure and process design are heavily dependent on internal and external factors as well. Despite that fact, some studies have rejected the notion that the contingency model leads to changes in the organisational structure (Child, 1972; Whittington, 1989). Whittington rejected the contingency determinism and argued that managers, under the strategic choice theory, have the ability to exercise a free choice over how their companies fare. As a result, any mismatch in contingency factors is likely to have less severe consequences for strategic decisions.

Furthermore, in the academic literature, Donaldson (2001) identified two problems that exist within contingency theory, claiming that they have not been properly dealt with and this may lead to the revision of contingency theory and to its transformation to a new, more dynamic, theory. The new proposed version of contingency theory, the Neo-Contingency theory, is more realistic and more functional according to Donaldson (2001). Neo-Contingency theory, in order to eliminate the challenging aspects of the traditional contingency theory, retains the foundations of the theory but replaces some of its assumptions. This sub-section discusses these difficulties and their relevance for this research as follows:

The first limitation of traditional contingency theory is in explaining the manner in which several factors interact to determine the overall effects on organisations. For example, within this study, there are a number of diverse contingent variables (organisational size, level

of technology, environmental volatility and owner-managers' characteristics), which could affect the adoption of a specific approach in strategy formulation. As a result, the question arises of how to combine the effects of more than one variable to assess their total effects on the issues researched.

Donaldson (2001) argued that this issue could be understood by 'portfolio' theory, which claims that the risk of a portfolio is influenced by the risk of each factor and by the correlation among the factors. If two variables exhibit strong causes but are negatively correlated, then the outcome is a lower effect (lower coefficient value) in the equation than in each of the factors (Brealey and Myers, 1996). However, Randolph and Dess (1984) opposed this view. They argued that these effects should be additive. Therefore, the first effect is added to the second one to yield the overall result on the dependent variable. Although this thought appears to be strongly justified, Van de Ven and Drazin (1985) argued that the overall effect of multiple effects is not the sum of their individual effects. They created a model in which the combination of multiple fits is seen as a system fit. Drazin and Van de Ven (1985) claimed that this should be seen as a whole and should not be a separate analysis of each variable and then just adding them together. Thus, they noted that the effect of multiple contingent variables could not be calculated by simply summing up the consequence of each variable.

This research is in agreement with the above argument that Neo-Contingency theory proposes. It will consider the multiple effects of the multiple contingent variables on the strategy formulation process through using multiple regression analysis, instead of the sum of the effects of those variables individually. It will examine the multiple effects to obtain a model, which explains the participation of each of these contingent variables as a coefficient and their total effects.

The second limitation lies in the vagueness of owner-managers' ability to identify how exactly organisational structures and processes fit their contingencies. Contingency theory leans to an implicit view that managers have a complete understanding of the position of their organisation. However, Donaldson (2001) argued that this view could be characterised as idealistic at best. He claimed that managers might have an idea of the direction in which fit exists and attempt to move their organisations towards that direction, but having complete control and perspective of the situation is something that is impossible. Therefore, it is more probable that an organisation would be able to move into quasi-fit rather than into full-fit. The managers' intention is to move to a perfect fit but they reach only a quasi-fit. The organisation, as a natural reaction, will then modify the structure and processes to narrow the distance between its actual level and that required to fit its contingencies, without eliminating this distance. However, by moving from misfit to quasi-fit, organisational performance will develop and increase. This enhancement in performance is adequate to feed back and start growth again. In sequence, such increase in the contingency increases the misfit and begins to reduce performance, so that, in time, a further alteration in the organisational structure is triggered. Thus, the organisation can go through the cycle of modifying the level of the contingent variable (for example, organisational structure) and process (for example, approach to strategy formulation) despite not attaining full fit. However, the organisation needs only to attain quasi-fit for the feedback effect of performance on the contingency to cause another round of the cycle of growth. Donaldson (2001) claims that an organisation needs only to enter quasi-fit recurrently to experience repeated incremental increases in contingencies and structures. It could be argued that the concept of the organisation moving into quasi-fit is more realistic and more sensible than that of the organisation moving into full fit. The management of an organisation does not need to identify precisely what full-fit is, but

only to know what the right direction is. This model of managerial decision-making is consistent with the theory of bounded rationality. Lacking complete knowledge, managers tend to act only when there is a problem and to use a nearby solution that is not perfect but that satisfies, reducing the magnitude of the problem to an acceptable level. This study accepts that SME owner-managers have limited ability to understand where the perfect fit lies, hence altering their processes to move to a quasi-fit point.

The proposed alterations to contingency theory attempt to make it more practical, more dynamic and more coherent. The changes seek to expand the theory by explaining the consequence of organisational processes on performance as being conditioned by contingencies. It becomes a more rounded theory of organisational performance and change and builds closer relations between organisational theory and the principles of economics and finance (Donaldson, 2001). This study agrees with the majority of the Donaldson's suggestions (2001), who calls for empirical research on the new and adjusted contingency theory.

The limitations mentioned above can be minimised by adopting this new contingency theory model, which builds the basis for the contingency framework through the inductive theoretical approach and testing the validity of applying this framework using the deductive theoretical approach. The new theoretical framework is improved by recognising the criticisms made against the contingency theory. The process of the contribution of contingency theory in this research will be organised in two stages; firstly, using the exploratory study (interviews) and secondly, using a survey questionnaire. Any recommended contingent variables will be examined in the first stage and will be included in the second stage. Overall, this study has attempted to make improvements to the traditional contingency theory by solving the limitations and problems it presents. The study has striven to fill in gaps

and make the theory more rational in nature. In so doing, the study has created a more flexible framework in order to understand the approach to Greek SME strategy formulation. This study sees the managers as formulating their strategies in a way that is acceptable from their experiences and perceptions and contingent to the firm's context. This study is in agreement with the views of Berry, Loughton, and Otley (1991, p. 113) who note that "by adopting multiple initial perspectives, it was hoped that the researcher would remain open to the possibility of discovering new and alternative ways of understanding the phenomena observed".

5.7 Other studies using contingency theory

Despite the criticism and limitations of contingency theory, there are a large number of studies using contingency in the academic literature. Especially in the fields of management and accounting, many researchers and academics have selected contingency theory to examine and study various issues. The most common topics investigated using contingency frameworks are: capital budgeting (Chen, 2008; Hartmann and Moers, 2003; Ezzamel, 1990; Haka, 1987; Larcker, 1981), management accounting (Gerdin and Greeve, 2004, 2008; Hoque and James, 2000; Chenhall and Langfield-Smith, 1998; Covaleski *et al*., 1996; Otley, 1980), management accounting systems (Gerdin, 2005; Moores and Yuen, 2001; Nicolaou, 2000; Bouwens and Abernethy, 2000; Libby and Waterhouse, 1996; Macy and Arunachalam, 1995; Simons, 1987), strategic management accounting (Cadez and Guilding, 2008), various aspects of strategy (Henderson, 1999; Langfield-Smith, 1997; Govindarajan, 1988; Hambrick and Macmillan, 1985; Lindsey and Rue, 1980; Miles and Snow, 1978), decision making (Sanders and Courtney, 1985; Grandori, 1984), management control systems (Woods, 2009; Chenhall, 2003; Harrison and McKinnon, 1999; Fisher, 1998; Simons, 1990), information systems (Franz and Robey, 1987; Raymond, 1985), accounting information usage (Kaplan and

Mackey, 1992; Govindarajan, 1984), work-group effectiveness (Beersma *et al*., 2003; Fry and Slocum, 1984) and leadership (Vecchio, 1979; Jago and Vroom, 1978; Leister *et al*., 1977; Utecht and Heier, 1976; Justis, 1975; Fiedler, 1972). The majority of these studies have considered the criticism of contingency theory and have adjusted their research models accordingly to minimise the problems associated with the use of contingency theory frameworks.

5.8 **Summary**

This chapter has presented the theoretical model and the variables adopted for the purposes of the study. The decision to use a contingency framework was based on the assumption that there is no optimal way to manage an organisation, but it is contingent on several factors originating from the external and internal business environment and the behaviour of the individuals involved. The chapter has presented the principal assumptions of contingency theory and explained the contingent factors linked with the adoption of a specific approach to strategy formulation by Greek SMEs. Furthermore, this chapter has discussed the concept of fit, which is key to the contingency theory and its association with a firm's performance. In addition, this chapter has discussed the performance measurements adopted by this study and has presented the main limitations of the theory. It has proposed methods of dealing with these limitations and, finally, it has presented other studies that have successfully adopted the contingency theory.

Chapter 6 RESEARCH METHODOLOGY

6.1 Introduction

The aim of this chapter is to present the theoretical perspective, the research design, the methodology and methods adopted in this study in order to illustrate the manner in which the research objectives stated in the introduction are addressed. At the end of this research, the outcomes should be relevant, understandable and of benefit for both academics and practitioners. The choice of research methods and methodology should reflect these outcomes. All these objectives have been reflected in the research design and the choice of research methodology. In order to help in the process of the research design and methodology this chapter will respond to numerous important questions. What theoretical perspective informs the research and can be used to accomplish the objectives and questions of this research? What research design and methodological objectives connect the methods to outcomes and influence our choice of specific methods of research? What method- techniques and procedures does this research suggest using? Answers to these questions stem from the research objectives and the nature of the investigation. .

This chapter consists of seven sections including the introduction (Section 6.1). Section 6.2 discusses the selection of the theoretical perspective and the research paradigm assumptions and implications, while Section 6.3 presents the research design with the qualitative research in the first stage and the quantitative research in the second stage. Section 6.4 explains the sampling methods used in the study and how the sample was selected. Section 6.5 discusses the statistical test that will be used to prepare the data and analyse the findings. Section 7.6 explains the measurement issues of the research variables, while section 7.7 summarises the chapter.

6.2 Theoretical perspective

The term 'theoretical perspective' refers to the development of scientific practice based on philosophies and assumptions about the world and the nature of knowledge and, in this context, about how research should be conducted (Hussey and Hussey, 1997; Tourna-Germanou (2007). Paradigms have an essential part in science, almost as with daily life (Babbie, 2004). A paradigm is a theoretical model within which the research is conducted and systematises the researcher's vision of reality (Birley and Moreland, 1998). Paradigms are universally accepted scientific accomplishments that provide both model problems and solutions to practitioners and researchers (Kuhn, 1970). Each paradigm has its own characteristic language, which presents a unique method of organising and interpreting the objects encountered during researchers' engagements with the world.

This part depicts the philosophical position (paradigm) that lies behind the research assumptions and methodology. In literature, there are a number of different theoretical perspectives: positivism, interpretivism (symbolic interactionism, phenomenology and hermeneutics), critical enquiry, feminism and postmodernism (Crotty, 1998; Tourna-Germanou, 2007). Although there are different assumptions and methodological implications

linked with each position, it is unlikely to identify researchers who ascribe to every aspect of one particular position. In reality, researchers move from one view to the other according to the ideas they produce. Paradigms are not true or false; as a way of looking at the world, they are only more or less useful (Babbie, 2004; Tourna-Germanou, 2007). The decision to select any of the alternative theoretical paradigms is usually based on individual judgment. Chua (1986), who argued that researchers choose to use different criteria based on their experience, understanding and judgement to compare and evaluate the theoretical perspectives they use in their research, expressed this. Nevertheless, it is essential for any researcher to be in the position to give a reason for the selection of the paradigm and be aware of the nature of the subject itself. The social scientific reality relies upon which paradigm is selected; its outcome is viewing the world in a specific way through the prism of a specific paradigm (Burrell and Morgan, 1979). Paradigms propose a framework comprising an accepted set of theories, methods and ways of defining data (Hussey and Hussey, 1997; Tourna-Germanou, 2007). The intention of this study is to investigate and examine the factors affecting strategy formulation by Greek SMEs and the role of accounting information in the process. Consequently, the study requires an approach that suits its needs and facilitates better understanding of how accounting information is used in the process of strategy formulation by SMEs and the connection between the process of strategy formulation and the contingency factors.

6.2.1 **Selecting a theoretical perspective**

Hussey and Hussey (1997) and Easterby-Smith, Thorpe and Lowe (1991) claimed that there are two major research paradigms in business research. These two paradigms are named as *positivist* and *interpretivist*. This section will try to examine the assumptions and methodological implications connected with each view, in order to evaluate which of the two research paradigms are more suitable to use in each stage of this research. This assessment

will act as validation for the selection of our research methodology. Although, in theory, the differences between the two research paradigms appear to be straightforward, in practice, when it comes to deciding on the use of qualitative or quantitative methods, this distinction becomes complicated (Burrel and Morgan, 1979; Tourna-Germanou, 2007).

The ***interpretivist*** paradigm was built as an effect of the criticisms of the positivistic paradigm. According to Hussey and Hussey (1997), the interpretivist paradigm is also called the phenomenological paradigm, but the term interpretivist is preferred because it proposes a more holistic philosophical view and prevents misunderstanding with a methodology known as phenomenology. The interpretivist paradigm is concerned with comprehending the actions of individuals from the perspective of the individual researched. There is specific focus on the subjective state of the individual and the subjective features of the human activity. Researchers who support the interpretivist paradigm argue that social reality is directly connected with the human mind and cannot be researched independently (Hussey and Hussey, 1997). Interpretivism is taken to denote an alternative to the orthodoxy of positivism that has held sway for decades. It is predicated upon the belief that a strategy is required that respects the differences between individuals and the objects of the natural sciences, and therefore requires the social scientist to grasp the subjective meaning of social action (Bryman, 2001; Tourna-Germanou, 2007).

The term 'interpretive research' reflects a methodological perspective. It attempts to explain, recognise and interpret the meanings that individuals apply to the structures of the settings in which they act (Baker and Bettner, 1997). The proposal of the interpretivist paradigm is that reality is socially assembled (Babbie, 1998). Consequently, the responsibility of the social researcher is to understand the constructions and meanings that individuals place upon their experience, instead of just gathering facts and examining how some phenomena

occur (Burrel and Morgan, 1979). Easterby-Smith *et al*. (1991) argue that scientists must investigate the reasons behind the different experiences of individuals instead of creating laws explaining human behaviour based on external causes. The strong point of the interpretive approach according to Easterby-Smith *et al.* (1991) lyes on its capability of examining how processes change over time and adjusting to new ideas as they emerge.

Nevertheless, the phenomenological paradigm has many limitations. Scientists have identified a variety of problems associated with the use of an interpretive approach to social and business studies. The main criticisms of the phenomenological paradigm (Chua, 1986; Tourna-Germanou, 2007) are:

- Theory validation raises the issue of how someone can judge the validity of an interpretation if actors cannot be trusted entirely and interpretations are incomplete and dependent on the researcher's subjectivity.
- The use of the actors' agreement as the standard for judging the adequacy of an explanation.
- The small samples investigated in depth or over time may limit the generalisability of the research findings.
- Data collection can take up a great deal of time and resources and the analysis and interpretation of data may be very difficult.

As mentioned before, one of the research objectives is to examine the relationship between strategy formulation and the contingent factors. The interpretive approach will be used in the first exploratory stage of the study. The reason for selecting this approach is that the aim of the exploratory study is to identify new contingent factors that the research process identifies as important. The adoption of the interpretive approach also minimises some of the

limitations of contingency theory by comprehending the views of the individuals (quasi-fit instead of full fit). The implementation of the interpretive approach could be proved useful in identifying factors that are important in influencing the formulation of strategy in SMEs according to the judgment and understanding of the owner-managers.

For the second stage (explanatory) of the research, adopting an approach that could enhance and broaden our understanding of organisational practices was required. For that reason, the ***positivistic*** approach is adopted. Positivistic philosophy is a concept that refers to a set of assumptions about the world and methods of examining it (McNeil, 1990). Gill and Johnson (2002) identified positivism as an approach that emphasises the use of methods, which are supposed to be used in natural sciences, in the social sciences. Positivism is an epistemological position that advocates the application of the methods of natural sciences to the study of social reality and beyond (Bryman, 2001). Donaldson (1996) claimed that the foundations of positivist organisation theory lie in contingency theory.

The positivist approach attempts to offer a logical justification and investigation for different phenomena of the social world by searching for correlations and causal relationships between its elements. The researcher rationally connects abstract ideas in such laws to specific measurements of the social world. The researcher remains detached, unbiased and objective as he examines different aspects of social life, investigates evidence, and replicates the work of other researchers. These processes a lead to a practical base for the laws that govern social life outlined in theory (Neuman, 1994; Tourna-Germanou, 2007).

The intention of the second stage of this research is to study the effect of the contingent factors that are identified in the first stage and through the review of literature. In this second stage of the study, a positivist approach is used to assess a research hypothesis and create an

analytical model. Another motivation for choosing this approach is because it can offer a generalisation of the findings of the research, especially when statistics are drawn from large samples. This research examines the key issues generated from the exploratory study and the existing theory in literature of contingency factors as primary positive theories that describe how strategy is formulated, and how firms are different in their attitude towards accounting information usage and perceived usefulness in the process. Hussey and Hussey (1997, p. 50) claimed that:

> *"If you are a positivist, you are likely to be concerned with ensuring that any concepts you use can be operationalised; that is, described in such a way that they can be measured. Perhaps you are investigating a topic which includes the concept of intelligence, and you want to find a way of measuring the particular aspect of intelligence you are interested in. You will probably use large samples and reduce the phenomena you are examining into their simplest parts. You will focus on what you regard are objective facts and formulate hypotheses. In your analysis you will be seeking associations or causality".*

Researchers who apply a positivist approach in their studies attempt to produce general results through realistic solutions to practical problems. As this study follows a positivistic approach in the second stage, it will attempt to examine how self-assured the research is in stating that the final findings in the sample will be present in the population from which the sample has been drawn. In addition, this philosophy assumes that scientists should clarify means not ends, which are left to decision-makers to decide, based on their needs and goals (Chua, 1986). In order to look at the impact of the positivistic and interpretive approach on the research design and methodology, we should concentrate on the positivistic and interpretive paradigm assumptions and implications.

The main criticisms made of the positivist paradigm (Gill and Johnson, 1997; Hussey and Hussey, 1997) are:

- It is not possible to treat individuals as being separate from their social contexts and they cannot be understood without examining the perceptions they have of their own actions.
- A highly structured research design imposes certain constraints on the outcome and may ignore more appropriate and interesting findings.
- Researchers are not objective, but are part of what they observe. They bring their own interests and values to the research.
- Capturing complex phenomena in a single measure is at best misleading

Positivist paradigm	Phenomenological paradigm
Tends to produce quantitative data	Tends to produce qualitative data
Uses large samples	Uses small samples
Concerned with hypothesis testing	Concerned with generating theories
Data is highly specific and precise	Data is rich and subjective
Location is artificial	Location is natural
Reliability is high	Reliability is low
Validity is low	Validity is high
Generalises from sample to population	Generalises from one setting to another

Table 6.1: Summaries of the two paradigms

6.2.2 Research paradigm assumptions and implications

Both the positivist and interpretive approach consist of four assumptions, which are ontological, epistemological, axiological and methodological assumptions (Creswell, 1994). These assumptions affect the type of methodology that has been adopted in this research.

6.2.2.1 Ontology

Ontological assumptions are concerned with the nature of reality. An essential matter in this respect is whether the 'reality' to be explored is external to the individual or the outcome of the individual mind (Creswell, 1994). The alternative here is whether the reality is objective

and unique, separate from the viewpoints of the researcher (*realism and objectivism*) or that reality is subjective and complicated, as viewed by the individuals or the groups examined in a study (*nominalism or subjectivism*). The nominalist believes that the social world external to individual cognition is comprised of names and concepts, which serve as structures of reality (Burrell and Morgan, 1979; Tourna-Germanou, 2007). Nominalist researchers take for granted that the phenomena are dependant of individual mind and knowledge. For example, within this research the nominalist would assume that the use of accounting information in the process of strategy formulation could not be examined separately from the organisational background effect and the manager's perception. By contrast, the realists claim that the social world is peripheral to individual cognition and the real world is made up of solid and relatively permanent structures. Realism assumes that the phenomena exist externally and independent of the individual mind. It assumes that the human reaction to the phenomena is unaffected by his/her beliefs and judgment. For example, within this research, the realist researcher would assume that the use of accounting information in the process of strategy formulation can be explained by factors separate from the owner-manager, and that both the owner-manager and the accounting information usage in strategy formulation would be directed by some external determinants. This study has adopted a nominalist view in its first stage (exploratory study, interviews). The rationale for choosing a nominal approach is due to the assumption that the decision and need to use accounting information in the strategy formulation process could not be examined independently from the background of the owner-manager and the firm.

This research also has adopted a realistic view in the second stage (the explanatory study, survey). The justification for preferring this approach derives from the ontological view that the positive approach is based on the assumption that reality is an objective phenomenon.

It assumes that a material world, which exists, is independent from the individual. Individuals are not characterised as the architects of their social world (Chua, 1986; Tourna-Germanou, 2007). Crotty (1998) stated that realism is frequently considered to involve objectivism and sometimes we even discover realism identified with objectivism. Guda and Lincoln (1994, p. 108) suggested that there is a connection between the two by stating that 'if for example, "real" or reality is assumed, the posture of the knower must be one of objective detachment or value freedom in order to be able to discover "how things really are" and "how things really work"'. That is the meaning of objectivism and, as a result, reality exists separately from the process of any perception. An objectivistic approach to research consists of formulating a problem, developing a hypothesis, making forecasts based on the hypothesis, developing a set of hypotheses, performing the tests and rejecting or accepting the hypothesis based on the results (Tull and Albaum, 1973).

6.2.2.2 **Epistemology**

The epistemological assumption is concerned with the study of knowledge and what a researcher accepts as legitimate knowledge (Hussey and Hussey, 1997). Epistemology deals with assumptions about the nature and foundations of knowledge (Burrell and Morgan, 1979). An epistemological issue concerns the problem of what is viewed as suitable knowledge in a discipline (Bryman, 2001). Epistemology deals with the study and analysis of knowledge or science by way of establishing criteria about what does and does not comprise science.

Different epistemological considerations are identified in the social sciences literature: positivism and interpretivism (Bryman, 2001), objectivism, subjectivism and constructionism (Crotty, 1998) and positivism and anti-positivism (Burrell and Morgan, 1979). Objectivist epistemology is based on the concept that knowledge exists autonomously of any perception and that only phenomena which are obvious and quantifiable can be justifiably regarded as

knowledge (Hussey and Hussey, 1997). Subjectivist epistemology, on the other hand, is based on the notion that knowledge is imposed on the object by the subject (Crotty, 1998) and phenomenologist epistemology attempts to decrease the distance between the researcher and that which is being researched (Hussey and Hussey, 1997). Constructionist epistemology is based on the idea that knowledge is constructed (Crotty, 1998) and that it does not replicate any external 'transcendent' realities but is contingent on convention, human perception and social experience. Social constructionists argue that the authority of knowledge ultimately derives from a 'knowledge community' of people who agree about the truth: "Knowledge is intrinsically the common property of a group or else nothing at all" (Kuhn, 1970, p. 210).

6.2.2.3 **Axiological assumptions**

Axiological assumptions are concerned with the connection between individuals and their environment. Two extreme viewpoints have been utilised to explain how individuals react to their external environment, the *value-free (deterministic)* and *value-laden (voluntaristic)* views (Burrel and Morgan, 1979). The value-free view considers individuals and their experiences as outcomes of their environment; in other words, people are 'formed' by their external circumstances (Burrel and Morgan, 1979). The value-laden view, alternatively, gives individuals a much more resourceful role. People are regarded as the architect and the regulator of their environment (Creswell, 1994). The first stage of this research has adopted a value-laden view. The rationale for choosing a value-laden approach is that some of the contingency factors can be identified according to the value, beliefs and perceptions of the individuals involved with the strategy formulation process. Using the value-laden view will assist the study to find a balance between the degree of determinism of the selection of strategy formulation by contingency factors and the fact that managers exercise a free choice over the strategic decisions in their firms. The second stage of this research has adopted both

views since the decision of selecting a specific approach to strategy formulation is dependent on the experience and education of the actors and factors internal and external to the organization.

6.2.2.4 **Methodological assumptions**

Methodological assumptions are concerned with the research process. The term 'methodology' refers to the procedures and methods of the research process in general (Creswell, 1994). The centre of attention, from the methodological philosophy perspective, is between the **inductive and deductive** approach to research (Burrel and Morgan, 1979). Scientific and social studies typically involve an "alternation between deduction and induction" (Babbie, 2004). During the deductive phase, one tends to rationalise towards observations, whilst, during the inductive phase, one rationalises from observations; both deduction and induction are paths to the build up of social theories. Trochim (2001) notes that some researchers think of their work as the creation of theory (an inductive approach), whereas others consider that their research is used in order to validate existing theories (a deductive approach). Yin (2003a) argued that all research programmes should start with a theoretical framework, regardless of whether the research is explanatory, descriptive or exploratory.

Although it has been argued in literature that quantitative research is confirmatory and deductive, while qualitative research is exploratory and inductive (Trochim, 2001), both kinds of data can be used in a deductive methodology (Yin, 2003a). In order to achieve the study's aim, the exploration of the dimensions of the strategy formulation process in SMEs and the investigation of the use of accounting information in these dimensions, this study will adopt a form of triangulation research as its methodological approach. Denzin (1978, p. 291) defines triangulation as "the combination of methodologies in the study of the same phenomenon".

Using a multiple approach to research allows a wider and deeper understanding of strategic formulation dimensions compared with a methodologically singular approach. Sieber (1973) stated that the triangulation approach can supply the researcher with inclusive and multiple viewpoints of the phenomena being studied. The rationale of using this approach is that different methodologies are complementary to each other; the weaknesses of one methodology can be overcome by the strengths of another, and vice versa (Cunningham, Young, and Lee, 2000). This study will adopt a data-triangulation (semi-structured interviews and survey research) to study how SMEs formulate their strategies, what the factors are predicting a specific formulation and what the role of accounting information usage is in the process. To serve the purpose of the triangulation approach, this study will follow an inductive approach in the first stage and a deductive approach in the second stage of the research. Using a combination of inductive and deductive approaches will assist the researcher in gaining a wider understanding of the strategy formulation process and the effect of the use of accounting information in the process. It will also help explore and identify the specific factors that may affect the process. Finally, it will help to emphasise and get feedback from the subjects investigated in both interviews and questionnaires.

6.2.3 **Research types**

The three most commonly classified research types are exploratory, descriptive or causal/explanatory, depending on the nature of the research problem and its structure (Babbie, 2004). For the purposes of the main research method of the study, only the descriptive and explanatory types are considered.

Descriptive research generally has more information available than exploratory research, but it is also used to generate hypotheses (Malhotra, 2004). Descriptive research is usually conducted to characterise one or more variables within a population, particularly in

relation to person, place and time (Zikmund, 2003). In addition, since it is conducted to minimise errors and maximise reliability, the survey requires a structured questionnaire and an appropriate number of respondents (Malhotra, 2004). Descriptive studies are based on some previous understanding of the nature of the research problem (Zikmund, 2003). Thus, descriptive research was identified in describing the strategy formulation process and some of its dimensions and characteristics, as well as the variables or factors that are believed to have an influence on the successful implementation of the strategic plan. This part of the study mainly involves a theoretical description or discussion.

However, descriptive research does not attempt to manipulate variables, but only describes them and their relationships as they naturally occur (Malhotra, 2004). In addition, descriptive research does not determine cause and effect relationships (Zikmund, 2003) and, as a result, the explanatory method has to be included in the present study's survey for this purpose. The purpose of explanatory studies is to show the causality between variables (Babbie, 2004). The causal/explanatory method was applied to obtain evidence of an association between variables. In addition, causal/explanatory research was used to test the hypotheses that generate from descriptive research (Neuman, 2000). Explanatory research tends to built on both exploratory and descriptive research and search for an explanation. Explanatory research looks for the cause or the reason why a phenomenon occurs and, thus, goes further than description (Neuman, 2000). The main tasks in causal/explanatory research are to isolate cause(s) and to tell whether and to what extent they result in effect(s) (Babbie, 2004).

According to Churchill (1999), there are two types of descriptive studies, longitudinal study and cross-sectional study. Although longitudinal design can help to avoid difficulties from mortality changes, it requires long-term co-operation from both the researchers and the

participants, which is time- consuming and expensive (Churchill, 1999). In addition, since longitudinal studies require the long-term co-operation of the participants, there could be a selection bias and some people may decide to drop out, leaving highly selected individuals in the sample. On the other hand, as discussed by Neuman (2000), cross-sectional design has turned out to be a feasible way to analyse 'cause and effect' relationships in unrelated individuals or groups, due to its lower expenses and quick outcome. In a cross-sectional study, according to Churchill (1999), a single investigation of a sample of elements selected from the studied population is undertaken. A sample survey is made, where the sample of elements is selected to be representative of the investigated population and where the emphasis is on the generation of statistics. Due to all of the problems and difficulties associated with longitudinal design, a cross-sectional research design was applied in the present study.

6.3 **Research design**

The research design provides a conceptual framework for the study, while the methods are the tools that were used to evaluate each specific aim. It provides a framework that guides data collection and data analysis. Yin (2003a) defined research design as "the logic that links data to be collected and the conclusions to be drawn to the initial questions of the study." Yin further defines research design as a plan for assembling, organising and explaining information and it results in a specific outcome. In other words, research design is the plan or strategy of investigation developed to enable the researcher to address the research questions as validly and reliably as possible.

Yin (2003a) also highlighted that a research design is a blueprint of the research. Accordingly, it deals with at least four problems of carrying out successful research: what questions to study, what data are relevant, what data to collect and how to analyse the results

(Yin, 2003a). Generally, a research design covers strategic decisions concerning the choice of appropriate data collection methods and more strategic decisions regarding measurement and scaling procedures, questionnaires, samples and data analysis (Zikmund, 2003). Research methodology, on the other hand, according to Cooper and Schindler (2003), is the method and procedural framework within which the research is performed. It explains an approach to a problem that can be put into practice in a research process, which could be properly defined as an operational framework within which data are placed so that their meaning may be seen plainly.

Research can be conducted according to different research designs or strategies depending on the paradigm within which it is placed and the problem it attempts to examine. Larsen-Freeman and Long (1991) argued that although the choice of an *a priori* research paradigm or even of the methodology (quantitative or qualitative) is significant, also the motivation behind the research and how that justification can be harmonised with the research design are consequential. The research problem, and therefore the research objectives, have a strong effect on the selection of methodology and research design, on data collection and analysis and hence on research findings and conclusions (Fellows and Liu, 1997; Tourna-Germanou, 2007). Therefore, selecting an appropriate research design is vital task and a several issues must be considered. The researcher must have a good understanding of the context of research and avoid constraints with the choice of a specific design.

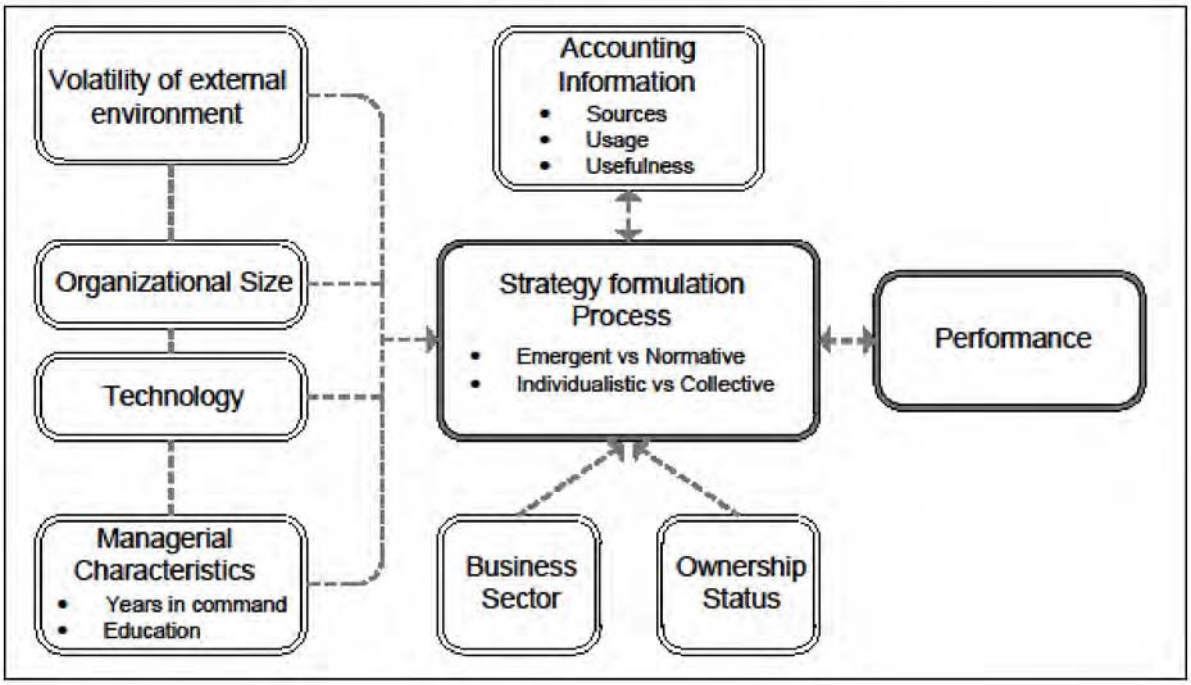
The main research questions that this study is trying to clarify are the dimensions of strategy formulation in SMEs in Greece and the factors that influence the strategy making process, with a focus on the role of accounting information in the process. The central aim of the research is to provide empirical evidence on why SMEs formulate their strategy in specific way and what kind of information they use, according to their approach. This

research has adopted a contingency-based theoretical framework, with diverse views to provide rigorous hypothesis testing.

6.3.1 Theoretical framework

The literature search has provided a strong basis for the development of a new theoretical model of strategy formulation, based on contingency theory, which includes the factors of organisational size, perceived environmental volatility, level of technology and specific characteristics of owner-managers as predictors of the SME strategy formulation approach.

Figure 6.1: Conceptual framework of the study



Based on the above theoretical model the following constructs/main variables will be examined in the next two stages of this study:

6.3.2 The variables of the study

- Normative/Descriptive dimension of strategy formulation
- Individual/Collective dimension of strategy formulation

- Perceived environmental volatility
- Level of technology and technical systems
- Organisational size (number of employees)
- Owner-manager's education
- Owner-manager's experience (years in command of SME)
- Information Sources Utilisation
- Level of accounting information intensity usage
- Perceived usefulness of accounting information
- Firm's financial performance

As this research intends to look into the causality effects, the fundamental research concern is with establishing the cause and effect relationship between the independent and dependent variables, rather than the mere relationships between them. The 'variable' is a key idea in research methodologies. Variables refer to the properties or attributes that can be unmistakably identified and measured in some form (Nachmias and Nachmias, 2000). This study uses variables in place of concepts for constructing and testing the hypotheses. The language of quantitative research is a language of variables and relationships among variables (Neuman, 1994). Researchers who examine causal relations usually start with an effect and then seek its causes. Variables are classified into three basic types depending on their location in a causal relationship: *Dependent, Independent and Confounding or Extraneous.* The independent variable is the cause variable, the one that identifies forces or conditions that act on something else; the dependent variable is the effect or result, the outcome of another variable, for instance, the independent variable; finally, there is a third type of variable that comes between the independent and dependent variables (Nachmias and Nachmias, 2000; Tourna-Germanou, 2007). Dependent variables represent 'effects' and independent variables

represent 'causes' (Bryman, 2004). The independent variables identified for this research are the contingency factors identified by the literature review and the findings of the pilot study. They include individual characteristics of the owner-manager, perceived environmental effects, organisational size and level of technology required and applied in an organisation. In addition, independent variables are: - the accounting information usage, scales of information source usage, accounting information data utilisation and the perceived usefulness of accounting information. The dependent variables are the dimensions of the strategy formulation process and the financial performance of the SME.

6.3.3 Stages of research

Specifically the research design of the study will consist of two main research stages. The first stage will be an exploratory study and consists of the analysis of interviews, followed by the pilot study, to prepare the questionnaire. The second stage is the explanatory study and consists of testing and analysing the study questionnaire.

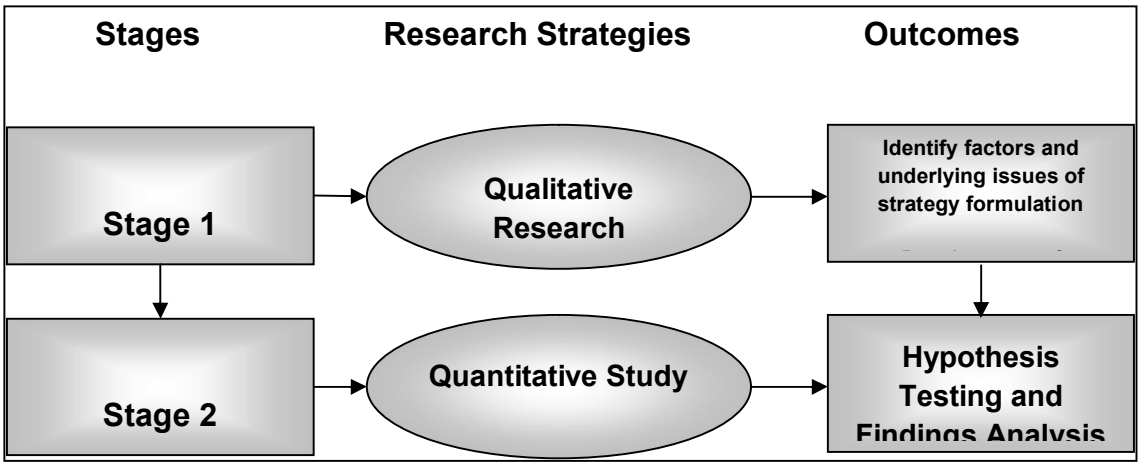


Figure 6.2: Research stages and outcomes

As shown in Figure 6.2, the study incorporates two research stages to accomplish its research objectives

6.3.3.1 **Research approach for the first stage**

The research approach that will be used in the first stage of this study can be characterised as qualitative. This is due to (1) the limited literature investigating strategic planning in SMEs in Greece with the use of accounting and financial information and (2) to the fact that some research objectives and questions stated above are on an exploratory basis.

Using the information and guidance obtained from the literature review the first stage of the research involves visits to a random sample of the Greek companies. The visits will be used firstly to comprehend the specific process of strategic planning in the SMEs and the different stages involved in this process and, secondly, to identify the accounting information that SMEs need during strategy formulation. Interviews will be carried out with the owners and managers at the organisations. Sekaran (2000) argued that a researcher who uses interviews could simplify doubts and make sure that the answers are properly understood by repeating or rephrasing the questions. She concluded that these methods might provide rich data. Furthermore, Johnston *et al*. (1999) argued that these methods present the opportunity to create a bond with the interviewees. They claimed that these methods are most appropriate in research that deals with groups and individuals within an organisation. They concluded that these methods aid in investigating and realising complex subjects.

There are three types of interview identified in the literature: structured, semi-structured and unstructured (Creswell, 2003). The present research will use a semi-structured type of interview. The semi-structured interview assumes that the researcher may ask diverse types of questions to get similar information from the interviewees (Denzin and Lincoln, 1998). It typically refers to a context in which the interviewer has a series of questions that are in the general form of an interview schedule, but is able to vary the sequence of questions. The questions are frequently somewhat more general in their frame of reference from those

typically found in a structured interview schedule (Bryman, 2001). In addition, the interviewer usually has some autonomy to ask further questions in response to what are seen as important replies (Bryman, 2001).

While the structured interview has the benefit of being direct and giving the researcher the chance to focus on specific objects, it was seen as unsuitable for the intention and objectives of this study. Given the nature of the subject researched, the researcher believes that one type of interview was enough. Semi-structured interviews were conducted with several SME owner-managers to uncover hidden aspects of strategy formulation and to generate new uncovered information. Using this form of interview is more fitting for evaluating contrasts between organisations and gathering more information simultaneously. It was essential that all facts and details be recorded.

Burgess (1984) identified some of the interview advantages: (a) an interview is a useful way to get large amounts of data quickly, (b) immediate follow-up and clarification are possible, (c) it allows the researcher to probe and pursue interesting issues that arise in the course of the interview, for example, such probing may well reveal new factors or new dimensions to the strategy formulation process, (d) interviews allow the researcher to understand the meanings behind people's daily actions, (e) an interview may permit a higher level of confidence in the responses than questionnaire replies, (f) it allows interviewees to expand upon their answers and justify them and (g) it allows respondents to make comments that were not considered by the researcher when designing the questions and allows for follow-up questions to be asked.

6.3.3.1.1 Interview design

To order to conduct the interviews, a topic guide and questions were prepared according to findings from the literature review. Several instruments were considered and partially employed (for example, Bhimani and Langfield-Smith, 2007) but with the necessary modifications and alterations to suit the needs of the study and the context of research. Since the interviewees fell into one broad category, SME owner-managers, there was only one basic interview schedule considered. Most of the questions in the interviews were designed to be open-ended in order to give the freedom to respondents to express their beliefs and opinions without restraints. The interviews succeeded in providing rich background information about the determinants (factors) of strategy formulation in Greek SMEs. They were also useful in providing deeply focussed information about accounting information usage and behaviour on behalf of the owner-manager. The findings of the exploratory study were essentially used to structure the questionnaire, which was used in the second stage of research in the study.

The semi structured questionnaire, (English version of the the interview guide is presented in the Appentices 6.1) was divided into three parts, as follows:

Part I was related to general background regarding the organisations and the owner-managers. The interviewees were asked about their education, training and experience, about the size of the organisations and the level of technological systems they employ and their daily programme in the company.

Part II was devoted to examining the independent variables of the study. It contained a series of questions regarding the extent to which information was used in the SMEs for strategy decisions and purposes. They were also asked to describe how strategy influences the performance of the firm. In addition, the respondents were asked, with open-ended questions,

to discuss different problems they face when seeking, gathering and using accounting information.

Part III concentrated on enquiring about the process of strategy formulation in the SMES. The interviews were asked to consider the factors that affect the process. In order to assist the interviewees, the interviewer divided the questions into internal and external to the organisations. Factors like the business environment, organisational characteristics, owner-manager characteristics, firm culture, level of technology and organisational sizes were considered. In addition, the reasons behind their strategy formulation were examined and analysed.

6.3.3.2 **Research approach for the second stage**

The research approach that will be used in the second stage of this study can be characterised as 'quantitative'. The quantitative approach is objective in nature and concentrates on measuring phenomena; it involves collecting numerical data and analysing them and using statistical tests (Maxim, 1999). It involves the collection of structured data, which is easier with an analytical process. Research of the quantitative mode employs deductive logic, moving from the general to the specific, that is, from theory to experience. Quantitative research usually starts with a specific hypothesis to be tested and usually ends with confirmation or disconfirmation of the hypotheses that were tested (Creswell, 1994). Quantitative research seeks causes and relationships demonstrated statistically, a theoretical perspective, positivism that is concerned with facts, prediction, and causation and not the subjective nature of groups or individuals of interest (Bryman and Cramer, 2001). In quantitative research, the researcher is usually concerned that his or her findings can be generalised beyond the confines of the particular context in which the research was conducted (Hussey and Hussey, 1997).

The specific design of this stage can be identified as cross-sectional. The cross-sectional design is often called a social survey design (Bryman, 2001, p.40). A cross-sectional study is a research study for which data are gathered just once (maybe stretching over a period of days, weeks, or months) to answer the research question and are analysed by examining the extent to which variation in the outcome variable is linked with group differences (Easterby-Smith *et al*., 1991). The survey is not synonymous with a particular technique of collecting information; questionnaires are widely used, but other techniques such as structured, semi-structured and in-depth interviews, observation, content analysis and so forth are also appropriate (Marsh, 1982; Vaus, 1996). Some of the important rationales behind using the survey design in this research were presented by Babbie (1998, pp. 40-44). He stated that survey research (a) can be used profitably in the examination of many social topics and can be especially effective when combined with other methods, (b) survey data facilitate the careful implementation of logical understanding, (c) the fact that the survey format permits a clear and rigorous elaboration of a logical model clarifies the deterministic system of reasons for, and sources of, observed events, characteristics, correlations and cause and effect, (d) a sample survey should not be conducted for the purposes of describing the particular sample under study, rather for the purposes of understanding the larger population from which the sample was originally selected and (e) because survey researchers have a larger number of variables at their disposal, they are in an excellent position to carefully examine the relative importance of each and obtain the greatest amount of understanding from the fewest number of variables.

Cross-sectional design also relies on comparing groups, where the groups are constructed based on existing differences in the sample. The sample is divided up into groups according to the firm's specific characteristics. In this study, the comparison groups would be

those firms of a specific ownership structure and strategy formulation approaches and those firms belonging to a specific business sector with different strategy formulation approaches. The critical point is that the cross-sectional design allows the researcher to rely on real existing differences and relationships between variables and allows the researcher to be independent from that being researched, as far as possible. This study is cross-sectional, with the data collected at one point in time. Data availability issues are less problematic in cross-sectional analysis of accounting and financial information and strategic formulation (Bryman and Bell, 2003). Two main limitations are associated with using cross-sectional designs: they do not explain why correlations exist and they have difficulty in eliminating all the external factors that could possibly have caused the observed correlation (Easterby-Smith *et al*., 1991).

The main research process of this thesis is deductive and confirmatory, in that it tests models containing predictions about the cause and effect relationship between the independent variables and dependent variables that were derived from theory and the qualitative pilot study.

6.3.3.2.1 Questionnaire as method of data collection

Data were collected by means of questionnaires. The rationale for selecting this method was that it could be used to generate quantitative data on a large number of owner-managers, who are known to be representative of a wider population, in order to test theories or hypotheses as viewed by the theoretical framework of the study. This method will be used particularly to elicit data from owner-managers regarding the exploitation of accounting information from their business for strategic purposes, the process of formulation of strategies to enhance the firms' performance, the influence and pressure of the external environment on the strategy formulation process, the importance of the level of technology in relation to strategy formulation, the distinctive characteristics of owner-managers available to control this process

and, finally, the significance of organisational size on the process of strategy formulation. Turney and Robb (1971) claimed that the use of a questionnaire is the appropriate means of obtaining information about attitudes, opinions and facts because of the sensitivity of questions and the idea that respondents may appreciate remaining anonymous when they answer questions asked in a questionnaire.

The specific method of data collection will be questionnaires that will be sent via mail or by personal contact with the SME owner-managers. The rationale for choosing this method of data collection is that it can be used to generate quantitative data on a large number of companies that are known to be representative of a wider population in order to test theories or hypotheses. The questionnaire is generally cheaper than a large sample of standardised interviews as it does not require a trained staff of interviewers and all it entails is the cost of time, planning, sampling, stamps, and providing self-addressed envelopes for the returns (Oppenheim, 1992).

6.3.3.2.2 Questionnaire design

Questionnaire design is important, because a poorly designed questionnaire will gather data that may not be relevant at the analysis stage. The questionnaire design was based on a review of literature and the results of the pilot qualitative research. A five-point Likert Scale questionnaire survey was the main instrument used to provide quantitative data and was designed around opinion statements as a means of exploring the respondents' perceptions of a wide range of cause and effect relationships. The choice of employing postal survey questionnaires and a hand-to-hand approach was made due to the following reasons:

A survey's prime advantage is its efficiency in terms of speed and cost in generating large amounts of data that can be subjected to statistical analysis (Snow and Thomas, 1994).

Surveys have inherent advantages, compared with other methods, since they allow respondents to answer questions at times that are convenient, to see the context of a series of questions, to take time in answering and to look up information (Pinsonneault and Kraemer, 1993).

Survey research is especially well suited for answering questions about "what is happening?" and "how and why is it happening?" (Pinsonneault and Kraemer, 1993).

The cover page explained the purpose of the study and provided directions for completing the instrument. The confidentiality of responses was pointed out in both verbal and written instructions. In order to ensure that a comprehensive list of items was included in the questionnaire, an extensive review of previous work was conducted. The questionnaire consisted of an explanatory covering letter from the researcher stating the aim of the project and soliciting the help of the participants, while simultaneously emphasising the voluntary nature of the study, as well as ensuring complete anonymity and confidentiality to all respondents. The general format of instrument used in this study is divided into a small introductory section and five sections, with the research questions as follows:

The Introductory section is aimed at collecting demographic information about owner-managers, which included age, gender, years in command of the company, educational level, relevance of their education to the firm's subject and relevance to business topics. In addition, it aimed to collect demographic information about the organisation, which included ownership status, legal form, years in operation, sector of financial activity, number of employees, form, profits, technological structures and accounting information users.

Part I of the questionnaire is aimed at identifying the normative/emergent dimension of strategy formulation. Owner-managers were asked to evaluate their strategy formulation

process by using the Likert Scale. A 5-point scale was used, from "Disagree Strongly" to "Agree Strongly", to show the degree to which they agree or disagree that their strategy is of normative or emergent nature. In this part, seven questions were included regarding the normative dimension and seven questions regarding the emergent dimension.

Part II of the questionnaire deals with the individual/collective approach to strategy formulation. Again using a 5-point Likert Scale, the instrument shows the level of agreement or disagreement with the cooperative approach of the owner-managers to strategy formulation. In this part, eight questions were used to measure this aspect of strategy formulation.

Part III of the questionnaire contains nine more items that assess owner-managers' perception of the external environmental volatility on a 5-point scale, from "Disagree Strongly" to "Agree Strongly". Furthermore, in this section owner-managers were given three items regarding the influence of technology and technological systems on the formulation of strategy on a 5-point Likert Scale. It also includes three items assessing the manager's perception about the level of technology employed and required by the SME.

Part IV consists of questions relating to the strategy formulation objectives in terms of organisational performance of the study, with 21 items evaluating the importance of strategy formulation for financial and non-financial objectives on a Likert scale.

Part V of the instrument is concerned with the accounting information usage for strategy formulation. Using a 5-point Likert Scale, 10 items were used to investigate the utilisation of sources of information. Furthermore, owner-managers were given 18 questions to state the level of intensity of usage of different types of accounting information. Finally, 13

items were used to measure the usefulness of accounting information usage for managerial purposes.

The Greek and English versions of the instrument are presented in Appendices 6.2 and 6.3 respectively. The questionnaire consists of both positive and negative questions in order to ensure that no underlying weakness exists and to prevent any forming of patterns on the part of owner-managers while completing the questionnaire. The items measuring a particular variable were put together, but in a random order within each part of the questionnaire (DeVelliis, 1991; Spector, 1992).

6.3.4 **Limitations of questionnaire surveys**

Surveys suffer from several potential weaknesses. One main limitation is their typically low response rate. Low response rates are problematic as they reduce confidence about the extent to which survey findings generalise the population from which the survey is drawn (Snow and Thomas, 1994). Oppenheim (1992) suggested that the main limitation with questionnaires is that of non-response, particularly when respondents have no special interest in the subject of the questionnaire. Response errors are another problem, because of ambiguous wording and the inherent lack of interactivity (Pinsonneault and Kraemer, 1993). Trochim (2001) stated that questionnaires are not the best vehicle for asking for detailed written responses. Researchers using a questionnaire have no control over the respondent's environment and cannot be sure that the appropriate person completes the questionnaire. This problem will be minimised in this research by directing the questionnaire to individuals who have an interest in the subject. Furthermore, using a hand delivered questionnaire may help to solve some of the postal questionnaire limitations.

6.4 Sampling design and sampling methods used in the study

The main purpose of sampling is to select a small number of cases (people, organisations etc.); the sample should be assembled in such a way as to be representative of the population from which it is taken (Malhotra, 2004). The view of Easterby-Smith, Thorpe, and Lowe (1991) agrees, claiming that the unit of analysis can be individual, dyads, group, organisation, machines, etc. In addition, the major focus in conducting the questionnaire is to determine which subjects should be surveyed to obtain the appropriate information for the research problem (Malhotra, 2004; Tourna-Germanou, 2007). 'Sample' means a subset of the population that is used to gain information about the entire population. The sample serves as a model of the population. Nevertheless, in order to broaden the research findings to the population, the model must be an accurate representation of the population.

An important question arose at this point in relation to who should be considered as a possible respondent company from the private sector. A target population is the population at whom the proposed project is directed. Mark (1996) defines population as the collection of all individuals, groups, organisations, communities and events that researchers are interested in finding out more about. This required a decision on organisation characteristics. In other words, the researcher had to decide which private sector companies should be included in the population from which a respondent would be chosen. In this study, the target population consists of SMEs from all market sectors in Greece. The unit of analysis principally includes retail, wholesale, service provision, manufacturing and construction SMEs. This sample was representative of companies that conform to the 1999 EU size criteria for a small company. More than 300 SMEs will be the subject of analysis as this permits the use of powerful statistical analysis. The study followed a random sampling method using the ICAP database

for SMEs, excluding foreign-owned firms, following the suggestions of Cameron and Massey (1999).

After several reviews of the questionnaire, hard copies of it, accompanied by a covering letter from the researcher stating the aims of the project and soliciting the help of the participants and a prepaid envelope, will be distributed to a whole sample of 1645 principal owners of SMEs. A postal questionnaire and a hand-to-hand delivery were used instead of sending e-mails, because some of the owner-managers were not familiar with the use of e-mails and in order to ensure a higher response rate. A follow-up telephone call was made a month after the initial distribution. From 1645 questionnaires mailed and delivered, 381 were returned, representing a 23.2 per cent response rate. Of these, 47 were found to have missing data and were deemed void. Therefore, data was collected from a total of 334 sets, representing a satisfactory response rate of approximately 20.3 per cent.

6.5 Statistical tests

As a hypothesis testing study, several quantitative analysis techniques were employed for the second stage of the research, which ranged from simple descriptive statistics to more complex techniques, such as factor analysis, correlation coefficients and multiple regression analysis and analysis of variance (ANOVA). Analyses were carried out using the Statistical Package for the Social Sciences (SPSS), which is configurable for the Windows operating system (Norusis, 2000).

6.5.1 Descriptive statistics

Descriptive statistics is the branch of statistics that deals with ways of organising and summarising possibly large collections of experimental measurements in order to obtain one or more meaningful values that summarise the major characteristics of the data (Nachmias

and Nachmias, 2000). Averages and percentages were used in this study for the purpose of reporting the characteristics of the respondents and simultaneously providing adequate statistical support for the findings. Figures were used to demonstrate the findings, as well as numerical summaries of specific aspects of the data for more complete descriptions.

6.5.1.1 **Coefficient alpha**

Coefficient Alpha is recommended as the primary test of internal consistency in assessing the reliability of a multiple-item variable (Nunnally, 1978). It assesses the homogeneity of a group of items used to define a variable. Coefficient Alpha can be viewed as the average of the correlations of all the items in a test with each other (Norusis, 2000). If the coefficient alpha is low and the pool of items is sufficiently large, this indicates that some items do not share equally in the common core and should be eliminated. The easiest method of finding and eliminating these items is to calculate the correlation of each item with the total score and to plot these correlations by decreasing orders of magnitude. Items with correlations near zero should be excluded. Items that produce a sudden drop in the item-to-total correlations should also be eliminated.

6.5.1.2 **Factor analysis**

Factor analysis is helpful for studying the correlations among a large number of interrelated quantitative variables and combining them into a few, more meaningful factors. Those few factors then become input variables and so become interpretable (Kline, 2000). The main aim for undertaking factor analysis is to replace the set of observed variables with a smaller set of derived variables and provide operational definitions for the underlying process by examining the variables that the factors comprise (Tabachnick and Fidell, 1996). This technique is used as a preliminary process for multivariate data analysis, such as multiple regression. Factor analysis can also contribute to minimisation of multicollinearity, which happens because of

strong relationships between variables within independent or dependent variable groups (Hair *et al.,* 1998). In this study, items relating to the dimensions of strategy formulation and the business objectives set during the formulation of strategy were tested by factor analysis.

There are two types of factor analysis – exploratory and confirmatory factor analysis (Pallant, 2001). As the purpose of the factor analysis in this study is to identify any inter-relationships among a set of variables, as a preliminary procedure for multivariate data analysis, exploratory factor analysis was adopted. The factor extraction method used throughout this research is principal component analysis. The factor extraction technique of principal component analysis estimates communalities in order to eliminate error and any unique variances from factors (Tabachnick and Fidell, 1996). Although determining the number of factors which best represent the underlying relationships among the variables is generally believed to be up to the researcher, there are frequently-used techniques such as latent root criterion, percentage of variance (Scree Test) and heterogeneity of the respondents (Hair *et al*., 1998). In the present study, latent root criterion (Eigenvalues) was used.

Factor loading refers to the correlation between each factor retained and each of the original variables. The factor loading will be high if a variable is closely related to a factor. With regard to determining the significance of factor loading, this research employed guidelines for identifying significant factor loadings based on sample size, suggested by Hair *et al.* (1998), shown in Table 6.2.

Factor loading	**Sample size needed for significance**
.30	350
.35	250
.40	200
.45	150

.50	120
.55	100
.60	85
.65	70
.70	60
.75	50

Table 6.2: Guidelines for identifying significant factor loadings based on sample size

Considering the sample size of this study, with 334 usable questionnaires for testing the theoretical model of strategy formulation, 0.35 was set as an acceptable factor loading and cut-off value for this study.

6.5.1.3 **Testing hypotheses by linear multiple regression analysis**

Multiple regression analysis aims to explain the variation of one dependent variable by estimating the influence of several independent variables on the dependent variable (Hair *et al.,* 1998; Tourna-Germanou, 2007). Although similar to correlation, multiple regression shows the degree to which one or more independent variables can explain and predict the dependent variable (Field, 2000). Pallant (2001) has suggested that multiple regression is ideal for the investigation of complex real-life research questions; however, she has supported the view that the research must have a sound theoretical framework for the analysis and, in particular, the order of variables entering the equation, as is the case in this study.

In the present research, multiple regression was employed to identify the statistical relationship between contingency factors and the two dimensions of strategy formulation. Organisational size, perceived environmental volatility, level of technology and owner-manager characteristics (education and experience) were treated as predictor (independent) variables and the normative/descriptive and individual/collective dimensions of strategy formulation were treated as criterion (dependent) variable.

The main objective of multiple regression analysis can be summarised as identifying the smallest number of uncorrelated and linearly related independent variables that will explain the largest proportion of variation in the dependent variable; the measure of this variation explained is the multiple Pearson Coefficient of Determination, or simply R squared, in SPSS outputs. The R square (R^2) statistic is the square of a measured correlation between the observed and the predicted value and indicates the proportion of the variance in the criterion variable that is accounted for by the model. Therefore, the larger the R square, the more the dependent variable is associated with the independent variables. However, although the R square provides an indication of the explanatory power of the model, it does not indicate the level of significance. The F-ratio provides a measure of this significance. The F-ratio is a test of the null hypothesis that there is no linear relationship between the dependent and independent variables, that is, R square equals zero. When the F-ratio is high and the level of significance is close to zero, then the null hypothesis can be rejected and the alternative hypothesis, that there is a linear relationship between dependent and independent variables, accepted (Norusis, 2000; Tourna-Germanou, 2007). The P-value needs to be less than 0.05 for the F-ratio to be regarded as significant (Pallant, 2001).

6.5.1.4 **Testing the hypotheses by Pearson's correlation coefficient**

Pearson's product moment correlation coefficient is used to explain the strength and direction of the linear relationship between two variables (Pallant, 2001). Pearson's Correlation Coefficients (r) have a range from -1 to +1. The sign in front of the number indicates whether there is a positive correlation or a negative correlation. The size of the absolute value provides information on the strength of the relationship. A perfect correlation of 1 indicates that the value of one variable can be determined exactly by knowing the value of the other variable, while a correlation of 0 indicates that there is no relationship among the variables.

In this study, the Pearson's Correlation Coefficient will be used to measure the effect of accounting information on the strategy formulation, the effect of strategy formulation dimensions on the business objectives set by the SME and the association between different approaches to strategy formulation and the firm's financial performance.

6.5.1.5 **Testing the hypotheses by analysis of variance (ANOVA)**

ANOVA is used to compare two, and more than two, different groups and conditions respectively. In the present study, ANOVA was employed to identify differences among the SMEs with different ownership structures and belonging to different business sectors, with regard to approach to strategy formulation.

To interpret the result of the ANOVA, the meaning of the F-ratio and P-value needs to be delineated. The F-ratio is the ratio between groups' estimate of variance (the differences between groups) and within groups' estimate of variance (general variability of respondents within the groups). This ratio is a measure of how much variance can be attributed to the different treatments (for example, different ownership structure, different business sector) versus the variance expected from random sampling. Because differences tend to inflate the between groups' estimate of variance, large values of the F statistic lead to rejection of the null hypothesis of no difference in means across groups. The P-value in ANOVA represents the probability of getting the F-ratio by chance alone. The P-value needs to be less than 0.05 for the F-ratio to be regarded as significant (Field, 2000; Tourna-Germanou, 2007).

6.6 **Measurement issues of research variables**

The quality of the measurement in quantitative research is another important aspect in the development of a new scale. Reliability and validity are key issues in all scientific measurement. Both are concerned with the solidity of the measures or the scales that are

developed for the constructs (Neuman, 1994; Tourna-Germanou, 2007). Whereas reliability means having consistent results from the same measures, validity refers to having results that accurately reflect the concept being measured (Babbie, 2004).

6.6.1 **Reliability**

Reliability is concerned with a scale's dependability. If one has a reliable scale or measure, it produces the exact outcomes each time the same issue is measured (Neuman, 1994). Reliability is an issue of whether a particular method, applied repeatedly to the same object, has the same result each time (Babbie, 2004). This idea often involves two separate aspects: external (stability) and internal reliability. External reliability is the more usual of the two terms and is concerned with the degree of consistency of a measure over time. Internal reliability is very important when the instrument involves multiple-item scales. It raises the question of whether each scale is measuring a single idea and hence whether the items that make up the scales are internally consistent (Bryman and Cramer, 2001). Researchers can improve the reliability of measures through the test-retest method (external reliability) and with split-half method and Cronbach's alpha coefficient (internal reliability). In the present study, Cronbach's alpha was computed for each set of items measuring a specific scale. A value of more than 0.7 is deemed to provide satisfactory reliability (Nunnally, 1978).

6.6.2 **Validity**

Validity is the ability of an instrument to measure what it set out to measure. Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Babbie, 2004). The question of validity draws attention to how far a measure really measures the concept that it purports to measure (Bryman and Cramer, 2001;

Tourna-Germanou, 2007). There are several types of validity: face, content, convergent and discriminant validity (Premkumar *et al*., 1997).

Face validity refers to how well the instrument looks; it ties in with an operational definition of the concept. A cursory review of items could be done by untrained judges – other owner-managers, friends, family. Face validity is concerned with the least scientific appraisal of validity and some researchers do not see it as validity at all.

Content validity refers to how much a measure covers of the range of meaning included within a concept (Churchill, 1979; Babbie, 2004; Tourna-Germanou, 2007). It is concerned with item generation and it is the first step for developing a new measure (Schriensheim *et al*., 1993). The key to content validity rests in the procedures that are used to develop the measurement instrument for a construct and on whether the instrument covers all the dimensions of a concept. This study started by defining the domain of the concepts under investigation. Examination of the literature was the first important step in defining the concepts. Content validity of the new measures was assured by systematically selecting items that contained a representative sample of the domain that the scale is intended to measure (Hinkin, 1995).

Construct validity, which lies at the very heart of the scientific process, is most directly related to the question of what the instrument is in fact measuring – what construct, trait or concept, a person's performance (Churchill, 1979). Pedhazur and Schmekin (1991) specify two empirical approaches for determining construct validity: firstly, internal structure analysis to examine the relationship between scales and items within the instrument and secondly, cross-structural analysis to examine the relationship between scales of the instrument and other measures of similar constructs (scale evaluation). Construct validity is based on the logical relationships between variables in the instrument and on the degree to

which a measure relates to other variables as expected within a system of theoretical relationships (Babbie, 2004).

Factor analysis and construct validity of a scale have long been associated with each other (Thompson and Daniel, 1996). Factor analysis is the most commonly used analytic technique for data reduction and refining scales (Ford *et al.*, 1986). Principal component factor analysis was used in this study to test the construct validity properties of the developed scales.

6.6.3 Testing the instrument for validity and reliability prior to distribution

Prior to distributing the questionnaire to the sample, a quantitative pilot study was conducted to discover any errors, ambiguities, inadequate answers or highlight any confusing questions. A quantitative pilot study is an important element to detect weaknesses in questionnaire design in terms of validity, reliability and practicality. A pilot study is a good way of uncovering any errors and problems beforehand, instead of discovering them during the real study (Black, 1999).

The first version of the questionnaire was sent to 10 pilot respondents (owner-managers of SMEs). They had been contacted in advance and asked to response to the questionnaire as logically as possible. They were asked to comment on the clarity of wording, ambiguity, validity and consistency of the questions, overall presentation, the difficulty in completing the questionnaire and the time required to complete it. They were also asked to review and give feedback on the questionnaire. Their comments were collected and the questionnaire was accordingly modified based on their opinions. The main changes to the questionnaire were regarding definitions and explanations of terms. All suggestions were carefully evaluated and

many were implemented. It should be noted that the responses resulting from the pilot study were not included in the main analysis.

6.6.4 Questionnaire translation

Another issue that was taken into account was the language barrier. Although English is an international business language, the sample, without doubt, would contain people who did not understand English or had limited ability in using it and would be fluent in only their mother tongue of Greek. This is particularly true for the owner-managers with minimal or no education and, hence, the researcher provided a Greek version of the questionnaire. Strategy terminology and other technical terms that have no equivalent in Greek were fully explained in the Greek version of the questionnaire.

6.7 Summary

This chapter is concerned with the theoretical perspective, the research design, the methodology and methods adopted by the study to address the hypotheses of the study. The research paradigm, ontological, epistemological, axiological and methodological assumptions and implications were discussed. This chapter also summarises the types of research considered and used in the study. The stages of research for the first and second stage have been exhibited, with the use of semi-structured interviews as the means to uncover hidden aspects of the research topic and the use of questionnaires as the means of conducting the main research. Furthermore, the chapter addresses the issue of reliability and validity of the research variables. Finally, the sampling design and sampling methods in the study are presented. Equipped with the structured research design developed in this chapter and the raised awareness of such issues as reliability and validity of the study and of the instruments used and the proper statistical analysis, the study is ready to proceed to the analysis phase..

Chapter 7 ANALYSIS OF THE QUALITATIVE DATA

7.1 Introduction

The purpose of this chapter is to present the results of the qualitative pilot study conducted prior to administering the main instrument of the study. The interviews took part at beginning of 2009. Semi-structured interviews were conducted with five SME owner-managers to gain a general understanding of the strategy formulation process in the Greek context, to identify the factors affecting the decision of adopting a specific strategy formulation approach and examining the use of accounting information as tools for strategic purposes. This chapter consists of six sections including the introduction (Section 7.1). Section 7.2 discusses the importance of interviews in research, while Section 7.3 presents the problems associated with the interview method. Section 7.4 explains how the interview was designed. Section 7.5 discusses the results from the interviews and relates them to this thesis topic. Finally, Section 7.6 summarises the chapter.

7.2 Using interviews as a method of research

The interview method, in qualitative research, is most suitable where exploratory work is required (King, 1994). Kvale (1983, p. 174) suggested that interviews have a “purpose to gather descriptions of the meaning of the described phenomena". The interview method has three specific characteristics that separate it from other research methods: it is a very flexible method, it can be applied in every context and it generates in-depth information (King, 1994). Brownell (1995) indicated that interviews offer the most essential data for the researcher. Sarantakos (1998) presented a long list of benefits of using interviews as a research method. He noted that (1) they are flexible in nature, allowing researchers to use them in diverse conditions, (2) they have a high-response rate, (3) they allow non-verbal behaviour to be observed, (4) they are interactive and personal in nature, (5) they allow the researcher to have control of the conditions under which questions are posed and answered, (6) they allow the researcher to solve any confusion by the respondents and to control the stream of questions, (7) they allow the researcher to have no doubt about the identity of the respondent, (8) they ensure the completeness of the interview and (9) they allow the researcher to use more in-depth questions. Similarly, Burgess (1984) has identified some of the interview’s advantages. Interviews are (1) a useful method to generate amounts of data, (2) immediate follow-up and clarification is possible and (3) they allow the interviewer to search and follow interesting issues that arise in the course of the interview

Despite the previously mentioned benefits, several shortcomings have been associated with the interview method. Sarantakos (1998) noted that interviews, as a research method, are costly and time-consuming and can be affected by the personal bias of the interviewer. However, interviews have a wide variety of forms and an array of uses.

Qualitative interview types are separated into structured, semi-structured and unstructured (Creswell, 2003). Structured interviews are usable when the researcher has a clear picture of what information is required and uses predetermined questions that will generate this information (Sekaran, 1992). Since the motivation behind the use of interviews was to observe hidden viewpoints concerning the strategy formulation process, identify the factors affecting the process and use this information to construct the main research instrument (questionnaire), this study adopted the semi-structured type of interview as the method of the pilot study research. The use of a semi-structured interview allows researcher to ask different types of questions to get comparable information from the interviewees (Denzin and Lincoln, 1998). The questions used in the semi-structured format are more general and unrestricted than those typically used in a structured interview schedule, which may influence the interviewees to be restrained and less forthcoming (Bryman, 2001). In addition, the semi-structured interview offer the interviewer higher levels of independence to ask more complex and in-depth questions and to observe important issues in the topic investigated (Bryman, 2001).

7.3 **Data quality problems**

Using a semi-structured interview method for collecting the primary data may be the most fitting method to generate important data required for the analysis of the strategy formulation process. However, choosing such a method may also result in several complications and biases that may emerge during the process of data collection. These data quality problems can result in a negative impact on the reliability and validity of the data collected.

The main issues concerning the reliability of the data collected through semi-structured interviews are interviewee and interviewer bias. According to Saunders *et al*. (2003), interviewer bias occurs when the researcher is using misleading questions to direct the

responses of the interviewees along a specific path, in order to extract the information he or she requires. The interviewer bias is a result of the desire of the researchers to collect only the information that applies to their study and ignores the respondents' answers (Schutz, 1967). Another interviewer bias can occur in interpretation of the results of the interviews due to their aspiration to relate the responses with the topic researched. Respondent bias, on the other hand, occurs through the interviewees' attitude towards the questions asked. A positive attitude might result in reliable answers, but a negative attitude might result in less reliable answers. The lack of homogeneity in using a semi-structured approach is an additional issue that the reliability of the data faces, as other researchers may find different results than ours due to the lack of standardisation (Saunders, *et al*., 2003).

According to Saunders *et al*. (2003), validity raises the question of whether the results are really what they appear to be. The main concern of validity is the difficulty in confirming whether or not there is an underlying relationship between variables.

7.3.1 **Dealing with problems of qualitative research**

The problems of data quality may differ, depending on the type of approach and strategy used when collecting and analysing data. To increase the reliability and validity of this research, using suggestions from the literature, different solutions are proposed in handling such data quality problems.

7.3.2 **Dealing with reliability**

To deal with the interviewer bias, certain methods have been applied to ensure the reliability of the data collected. The interview was separated into different themes in order to avoid the use of misleading questions, giving the interviewee the freedom to answer within the boundaries of a specific theme, and further questions were only used to clarify any confusion

or misunderstanding. To avoid any misinterpretation of the responses of the interviewees, the interview was tape-recorded and, after the interview, the respondents were asked to clarify answers that were unclear. The lack of a consistent instrument in the use of semi-structured interviews may also present some issues for the reliability of the data. However, the rationale of this stage of the research was to explore hidden dimensions of the strategy formulation process in Greek SMEs. An attempt to produce an instrument that could be replicated by other studies would only weaken the attempt of this method to explore the strategy formulation process and the contingent factors in-depth.

7.3.3 **Dealing with validity**

It is crucial in the investigation for a thorough understanding of a situation, and the examination of the underlying contingent factors influencing the approach to strategy formulation, to secure the validity of the data collected. To ensure the validity of this research, the data collected was processed and then sent back to the interviewees to study and verify that their responses were interpreted in an accurate way, reproducing their personal beliefs, intentions and opinions.

7.4 **Interview design**

Using the information and guidance obtained from the literature review and contingency theory, this stage of the research involves visits to a random sample of the Greek SMEs from different industries. To conduct the interviews, a topic guide and questions were prepared. Several instruments of other studies were considered and partial employed (for example, Bhimani and Langfield-Smith, 2007) but with the necessary modifications and alterations to suit the needs of the study and the research context. Considering the intention and the objectives of this research, it was important that only the owner-manager be interviewed in

each firm. SME owner-managers were considered the only individuals in SMEs to provide the study with factual information relating to the strategy formulation process and to highlight the process determinants (contingent factors). Since the interviewees fell into one broad category, SME owner-managers, there was only one basic interview schedule considered. Most of the questions in the interviews were designed to be open-ended in order to give the freedom to respondents to express, without restraint, their beliefs and opinions. When the first interview guide was designed, the draft interview questions were reviewed and discussed with my supervisor and then again with some other academics in Greece. Based on the results of these discussions, it became essential to redesign some of the interview questions, because the interviews would be conducted in the Greek language and several terms needed to be modified in order to have the same meaning in Greek as in English.

7.4.1 **Interview guide**

While a predetermined schedule of questions was produced, the interviews are designed to give freedom for the interviewer to pursue other issues and to introduce new material as deemed appropriate, depending on the firm's situation. Such questioning would allow the uncovering of new factors or for new dimensions of the strategy formulation process to surface.

The interview guide was used during the interview to enable it be managed in a systematic way. The interview guide was divided into three parts as follows:

Part I was comprised of demographic questions about the general background of the interviewee (that is, sex, age, educational level and years of experience) and the organisation (that is, sector, size, legal form and profits).

Part II was devoted to examining the strategy formulation process of the SMEs and the factors that determine the formulation process, using eleven questions. In total, six questions were asked about the strategy formulation process in the firm. The first question examined what the owner-manager considers as being a strategic decision. The second question asked the manager to describe the principal strategies of the firm and to give examples. The third question was concerned with the formality and sophistication of the strategy formulation. The fourth question was about the time horizon of the strategic plans. The fifth examined the individuals involved in the strategy formulation process and the sixth question checked the level of participation of the individuals involved in the strategy formulation process. Concerning the factors that influence the strategy formulation process, five questions were posed. The first question was about the competition. The second question examined the importance of technology for the firm. The third question was about general difficulties in the strategy formulation process. The fourth question examined things that facilitated the strategy formulation process and the fifth question was with regard to the stability of the industry in which the firm was operating. After answering all the questions in part two, the interviewees were encouraged to discuss other aspects of the strategy formulation process that, in their opinion, were not covered by the questions asked.

Part III concentrated on examining the role of accounting information for strategic purposes, using six questions. The first question was concerned with the sources that the SME uses to gather information and its extent. The second question was related to the importance and usefulness of accounting information in the management of the firm. The third question examined the type of accounting data utilised by the manager. The fourth question examined the role and importance of the accountant in the firm. The fifth question enquired about the use of management accounting techniques by the firm and the sixth question was concerned

with difficulties in seeking or using accounting information. Again, after answering the questions, the owner-managers were asked if they wanted to discuss the topic.

7.4.2 Conducting the interviews

The process employed in conducting the interviews is as follows. The owner-manager in each SME was informed about the topic and the interview questions. The time, place and duration of the interview were then agreed with each manager prior to the meeting. During the interview, the researcher introduced the questions and complete freedom was given to the interviewees to express their views about the subject. Each interview lasted for more than one hour on average. The interview questions focused on the interviewees' understanding of the strategy formulation process in their company and factors determining its formulation, as well as the role of accounting information in the process. While the interview procedure followed a similar pattern with all the owner-managers, flexibility was allowed to uncover hidden dimensions related to the topic under investigation. Two of the interviews, for example, lasted longer than two hours. The benefit of being flexible during the interview process is that some interviewees raised remarkable issues, which assisted in identifying uncovered aspects of strategy formulation and their determinants.

7.5 Interview results and findings

A summary of the interview results for each SME is presented below. The companies' names are not revealed for confidentiality reasons.

7.5.1 Company A

Company A is an importer of telecommunication products from a specific multinational company and sells them wholesale to several private and public organisations. It employs

seven employees and the owner-manager has a high-school education and 20 years' experience in the industry. Company A employs an outside accounting service for bookkeeping reasons and advice. The owner-manager of the firm defined the strategic activities of the firm in terms of customer satisfaction, expanding in new distribution channels and managing the long-term liabilities of the company. Company A is not using any written plans for strategic purposes and the strategy formulation has a horizon of 3 to 6 months. The decision-making in the firm was heavily centred on the owner-manager, as he revealed below:

> *"The employees have a secondary and supportive role in the company and they are only following my orders concerning important decisions... they don't have the knowledge or the experience to do some things that I need. So I am forced to be engaged with every problem or issue that comes up"*

Concerning the factors influencing the formulation of strategy, the owner-manager of Company A considers the competition as a very important determinant of the firm's strategy and he is heavily involved in studying the immediate competitors. The main problem, according to the manager, is the difficulty in finding sources of information about the competitors:

> *"I try to look at my competitors' performance because being able to compare the results of my company with other companies in our market could help to improve the overall performance of my firm in many ways... The problem is that there is not a reliable source of information about the performance of the competition. My only sources are my social networks."*

Company A considers the market they operate in as very dynamic and complex. They consider changes in regulations and taxation laws as a very important barrier in their decision-making and, in general, they have a very poor opinion about the role of the government:

> *"They treat us like criminals and on the other hand they try to put their hands as deep as they can in our pockets. This is how they make me feel. They do absolutely nothing to help. We have no support from them, funding for SMEs is almost zero and all they care about is how to aid large organisations to run us over."*

Company A has an indirect reliance on the level of technology. Since they are the importers of technological products from a specific company, they are deeply concerned with the quality and technological level of these products:

> *"Technology is important in our line of business in terms of staying well informed about the new products that come in the market and staying connected with our provider and our clients."*

The owner-manager of Company A considers the small size of his company as a strategy barrier and his experience as the only thing that facilitates the formulation of strategic plans:

> *"Experience helps you make important decisions about the future of the company and overcome some major problems that every company faces in their markets...being experienced means that you have a large social network and you know how the mechanisms work in the market..."*

In relation to the use of information sources, it was already implied that Company A relied heavily on financial and non-financial information coming from social networks. According the responses of the manager of Company A, non-financial information coming from business partners is vital for increasing sales:

> *"We never approach the client ourselves. We usually find the contractor who is doing the job for the client and we provide him with our products. So it is important for us to find which contractor is doing what job and we are trying to build a social network with various big contractors in order to be informed about new projects and be able to sell our products to them"*

Apart from the business partners and customers, the manager of Company A seeks information from newspapers and the internet concerning new regulations and laws and for new technological advancements in the industry. From the responses, it was obvious that the manager was very concerned with being well informed about the products and the markets in which he was involved:

> *"We receive a newsletter from our supplier and we attend various conferences they organise in order to be well informed about our market"*

The owner-manager admitted that he was not very proficient in using advanced management accounting techniques but he believed that accounting information was important for his line of business, for making decisions and taking risks. Company A were using profit and loss accounts, the balance sheet and cost reports to draw information and make decisions:

> *"In order to make long term plans you have to know how much money you earn and how much you spend...when making decisions I need to know how the profits and costs are compared to previous years".*

Company A had high praise for the accounting firm he was collaborating with, considering them as the only source of financial and accounting information. Although from the responses, the accountants had as primary objective of offering bookkeeping services the manager was satisfied with the fact that they were presenting the accounting information in a way that he was able to understand. From the responses it was also clear that, despite the attempts to offer business and investment advice, the owner-manager is reluctant to use them due to lack of resources:

> *"The accounting office prepares different reports for the tax agency and different reports for me. I don't have an economic background so I find very hard to look at the complicated financial reports that are needed from the government and draw information from that. So every month I get a simplified report from the accounting office with all the necessary information I need for my company*
>
> *...every month or every three months my accountants give us the results of our performance and some advice. Unfortunately most of these suggestions are not feasible because they require time and capital that are usually not available"*

Company A also made extensive use of budgets, which were used for every major project they were undertaking. No other management accounting technique was mentioned during the interview.

> *"We employ the use of budgets for each of the projects we have. And the biggest the project, the more detailed is the budget. The only problem is that these budgets keep changing until the end of the project."*

In summary, Company A is approaching strategy formulation in an emergent and individualistic way and considered the environment uncertain and dynamic. It has an indirect reliance on the level of technology and considers the government and the small size of the firm to be major obstacles in their business plans. On the other hand, the owner-manager's experience in the industry is the only facilitator for making decisions. The role of accounting information was important for the owner-manager interviewed, although the use of accountants was limited to bookkeeping purposes. The company applies budgets to control and monitor their big projects and mainly uses profit and loss accounts, the balance sheet and cost reports to draw information for management purposes. Finally, the owner-manager was gathering information from his social networks and was heavily concerned with government legislation changes.

7.5.2 **Company B**

Company B is a promotion and advertising company that specialises in consumer marketing. It has 32 employees on the payroll and the owner-manager has a Master's Degree in Business and Finance and 15 years' experience in the advertising industry. Company B has two internal accountants and is also in collaboration with an external consultancy agency. The owner-manager considers the strategic activities of his company in terms of managing the clientele, differentiating and improving the offered services, expanding to foreign markets and to different domestic market segments:

> *"We try not to rely on a single client for more than 20% or 25% percent something that is very hard. Also, to try and increase the number of services and products we offer to our clients. I believe that it is better to have a limited number of customers and providing them with a big number of services and products than having a lot of clients and just offer one or two products. I say that because if you offer more products then you get to know better the needs of your client and be more accurate with your suggestions about their campaign. I would also like the mixture of services we provide*

to our customers to be well designed in order to bring more profit to them and more profit to us as a consequence.

...Expanding our business to the Balkan area by opening new offices there and we are in the process of doing that. I believe that their market is still developing and there are a lot of opportunities there...

...When I say expand I mean to enter a new market of public relation services apart from consumer marketing. Some examples are to promote the political campaigns of some political parties and political figures or to enter the healthcare market by taking over the public relations of pharmaceutical company."

Company B has a detailed and formal strategy formulation process, which has a time horizon of 1 to 2 years. The make their decisions based on a systematic analysis of the environment and they use written plans for their strategic decisions. They also monitor the process and make adjustments when required:

"Every 2 months we have company meetings that we discuss how things are going and we do the necessary modifications. But it is a difficult process doing these changes because maybe in the first 6 months the results of your planning might not be satisfying and you must have faith on your decisions in order to keep the whole project on track. So the changes must have a corrective or improving character instead of cancelling the project."

The strategy formulation process is decentralised, with several individuals collaborating and participating during the design of the strategy formulation process:

"For decisions with a strategic character, I am the one who finally takes the decision but after consulting with the accountant and the other department managers of the company at the annual meeting and the monthly meetings we are conducting

...I am consulting with everyone before making a strategic decision. I want to hear their opinions and their reasoning. But the information and advice that I receive from the accountant and the department managers are more important. That is why I try to listen to everyone but then I conduct meetings with them in order to discuss these matters in more detail"

Answering the question on the difficulties the firm faces during the strategy formulation process, the owner-manager of Company B mentioned several problems. The first problem is

concerned with the nature and elasticity of the service they provide. The owner-manager made a very graphic comparison of products and services in an attempt to outline the problem:

> *"If you have a tangible product and you make a mistake, you increase the price or you decrease the quality, you will lose from sales (from 100 you will sell 80 or 70) but you will at least have the time and some resources to react. In our line of business you have no reaction time"*

Continuing with the difficulties of strategy formulation, the owner-manager noted that customer wants and needs are always shifting, which makes planning very hard. In addition, he outlined the shortages of the working capital skill employed and, finally, he believed that the firm's culture was counterproductive despite his attempts to improve it. Based on his experience from working in a multinational organisation he commented:

> *"In multinational companies without using objectives no one can work. You have to set targets and the employees must reach these targets, especially in the sales department. The constant training and the culture of the company was forcing you to work that way in order to improve your working skills and your income. But these terms have no meaning what so ever for the people working in public relation companies. It is like talking to them about space mechanics."*

Concerning the factors that affect the formulation of strategy, Company B is unable to identify the competition and considers the advertising market as very uncertain and very unstable. The owner-manager claimed that they are powerless to identify even the immediate competition since the market has no entry barriers and many individuals and organisations compete in the market:

> *"This market is huge and complicated. We offer 10 different products. When I say products I mean packages of different techniques of promotion and advertisement. Our immediate competitors also offer 10 different products. But there are also some other companies that offer 1 product or at most 2 and this make them also our competitors. So you can understand that we don't even know how big this market is. And I don't know if we can learn about them even if we try. You can go tomorrow from your house and start*

a promotion company. There are no entry barriers and the cost of entering is actually pretty low. If you have a computer and a printer you can go and start printing flyers. It is that simple"

Company B has no reliance on the level of technology since they do not employ any technical systems. The owner-manager has considered that modern communication technologies are useful for marketing reasons and the use of a simplistic management information system is valuable for paying wages and evaluating employee performance.

Moving to the information sources and the accounting information usage in Company B, it was evident that they were heavily involved in seeking and gathering information from different sources:

"The first and most reliable source of information comes from our accountants. I have an internal accountant and I also collaborate with an external consulting firm

...other sources of information are the competition and the market. New employees who come from other promotion companies are also a good source of information and finally the daily press and the specialised market press. I also get some information from my bank advisor but nothing really important. The bank advisor is useful only for the operational, the everyday decision making

...we want to see how well our potential clients are doing financially so we try to find all the relevant information about them. What is their profitability? How much money do they spend on promotion and advertising? And there are a few ways to do that. From the social networks, their banks, the internet and the press where they publish their financial reports every year"

The owner-manager of Company B, during the discussion about the sources of information that are available to his firm, also made negative comments about the role of the government and the banks:

"The role of the government support in the areas of finance, advice, general aid and information is really bad. If you find at least one other owner manager of an SME to tell you at most one good thing then there is a hope for redemption. But it is going to be very hard to find that person

> *...control the money flow and the access to capital, and nobody can do anything about it. They are the necessary evil. And they act in accordance with the government. Actually the government act in accordance with the banks"*

Company B considers financial information as very important and useful for long-term decisions and survivability purposes. The owner-manager stated that one of the reasons his company has survived is due to the good financial management of the firm, which can only be successful if there is access to reliable and up-to-date accounting information:

> *"Being able to utilise the accounting information I receive is crucial, you cannot have it any other way. It is a fact that the average life of a Greek SME in the advertising business is 2 to 3 years. Now I am in the business for 13 years and hopefully for more"*

Commenting on the role of the accountants in the firm, the owner-manager outlines their usefulness and importance for both operational and strategic management. The preparation of reports and the business advice they provide are considered invaluable for the firm and, in combination with the advice sought from the external consultancy firm, they are heavily involved in the decision-making process:

> *"They are providing me with valuable advice and suggestions. They even offer advice when they are not required to do, and this is something I really appreciate"*

The owner-manager of Company B indicated that there is extensive usage of accounting information for decision-making purposes:

> *"I read a lot of reports about the performance of the company, about the profitability, the liquidity and the cash flow in general which are very useful to me when I make decisions"*

From the responses of the owner-manager of Company B, it was noted that they were constantly using management accounting techniques for planning, implementation and monitoring purposes, to measure costs and customer satisfaction:

"We use very analytical budgets and detailed costing reports for every activity were involved in. All these reports are adjusted every month with the new financial data that are coming. It is a very good way to keep in track with how things are going

...we prepare reports and have monthly meetings with the customers to see if they are satisfied with our work"

Summarising Company B, it is evident that strategy formulation is a formal and structured process. The high levels of participation and collaboration during the design of strategic plans indicate a collective approach to strategy formulation. The owner-manager of Company B considers the market to be very unstable, uncertain and highly competitive due to the low entry barriers. The owner-manager of Company B was very critical towards the role of the government and the banks as information and advice sources. Company B is not affected by changes in the level of technology since, according to his view, the advertising market has no reliance on technical systems. Company B has a hyperactive seeking behaviour, gathering information from every possible source for operational and strategic reasons. The internal accountants' contribution in managing the firm and providing advice is highly valued and there is clear evidence that Company B applies several management accounting techniques for planning, implementation and control purposes.

7.5.3 **Company C**

Company C is a manufacturing unit, producing low cost, no-brand clothing that is supplied to various supermarkets across Greece. There are 16 employees on the payroll and the owner-manager has a high school education and has been in command of the company for 23 years. Company C employs an internal accountant and has no accounting or management information system installed. The owner-manager considers the strategic activities of his company to involve the expansion of the business through vertical integration and entering into new foreign markets. In addition, the owner-manager is concerned with establishing

long-term relationships with suppliers and customers and, finally, the improvement of the production line and the introduction of new products into the market:

> *"The plan I have is to expand my company and create a new manufacturing unit. A new factory will broaden my options. I could create my own clothing retail firm or start exporting to other countries*
>
> *...I want my business partners to be reliable and trustworthy. It is very important for my production line to receive the raw materials on time..."*

The strategic formulation process in Company C is of normative nature. No written plans are produced but their long planning horizons are narrow and there is a detailed plan of strategic activities. The decision-making process is centralised, since the owner-manager is the one making the decisions, with minimum contribution and participation from other employees. Only the accountant and the production manager were mentioned as having an advisory role:

> *"I am responsible for taking the important decisions, because I am the one responsible and accountable for the firm*
>
> *...I don't have any trust issues but you must know that you will never find a businessman who will let others decide for them. I am the one who risk his future so I am the one who will decide what will happen"*

Answering the question on difficulties during the strategy formulation process, the owner-manager mentioned the limited access to finance, the unstable business environment, the general economic conditions and the high cost of labour:

> *"Things at the moment are very unstable in the economy and you never know what will happen next. This insecurity is making everyone very restrained. Especially in our case that we depend on 2 big clients, things are very insecure*
>
> *...A big problem for all manufacturing companies in the market of clothing is the high cost of labour. They are very high compared to our neighbouring countries. We cannot compete with them in prices they offer. Unfortunately the government does nothing to protect us from that and many clothing companies have closed down the past few years"*

Concerning the competition, Company C considers it very hostile and intense. The owner-manager was aware of the immediate competitors but he was unable to find trustworthy and consistent information from formal sources:

> *"I don't have access to a lot of information for my competitors apart from the ones I receive from my social network. I try to find information about the production and their distribution channels. I want to know about their offers and their prices and who are their customers. But most of the time this information is very blurry and invalid."*

Company C has high reliance on the level of technology in the industry. Being a manufacturing business they are deeply affected by any changes or problems associated with the technical system they have installed:

> *"Technology is very important for every manufacturing firm in terms of production. It poses a lot of restrictions in the level of strategy formulation. Since our technical system is highly automated we have to consider the costs of upgrading or replacing it before making any decisions of expanding the business or diversifying our products"*

The owner-manager of Company C, commenting on the individual characteristics that an owner-manager must have in order to be successful in business, outlined the importance of experience and the unimportance of education:

> *"In order to run a business like mine you have to be experienced with the market and the product. You need connections with the networks. I believe that education plays a minor role for our kind of work. The distance from theory to practice is huge. And I have a good example. My son finished his master in business from an English university and works here for the past year. He has big problems adjusting to the 'real world'"*

Concerning the information seeking behaviour of the firm, it was apparent that the owner-manager was not interested of utilising many sources for drawing information. The accountant was mentioned as a source of financial information and the social networks and industry press for production related information. The owner-manager considered the involvement of the accountant as important but his duties were mainly associated with statutory work. The owner-manager was aware of the importance of financial information and considered tight

financial control as very important for competitive reasons. Cost reports, cash flows, profit and loss accounts and budgets were utilised. The manager was aware of the costs and profit margins of every product of his firm:

> *"My accountant and production manager prepare detailed reports with the progress and profitability of every different product we produce"*

In summary, Company C is approaching strategy formulation in a normative way, but due to several situations deriving from the external environment, strategies are revised and adjusted continuously. The owner-manager of Company C is the central figure in strategy formulation, with only the accountant and the production manager having a supportive role, indicating an individualistic approach to strategy formulation. The environment is considered as hostile, uncertain, with intense competition from foreign competitors and low levels of support from the government and the state. There is a high reliance on the level of technology and the owner-manager is concerned with technological innovations and advancements that might render the technical system of the company obsolete. The experience of the manager was outlined as very important in managing the firm, in comparison to education. Limited access to funding and high labour costs, were considered important barriers for effective strategy planning. Company C considered the accountant, the social networks and the industry press as important sources of information. The accountant was considered important for assisting in the financial management of the firm and for providing useful advice for decision-making. Finally, Company C considered costing reports, cash flow statements, profit and loss accounts and budgets as useful and important tools for management purposes.

7.5.4 **Company D**

Company D is in the business of managing products and services through promotion. They have 21 employees on the payroll and the owner-manager has a Bachelor Degree in

Psychology and has been in charge of the company for 6 years. Company D has an internal accountant and also employs an external consultancy office. The strategic activities of the company, according to the owner-manager, involve the effective management of current clients, attracting new clients, enhancing the skills and capabilities of the personnel and reversing the negative, in terms of productivity, culture of the firm.

Company D's strategic formulation can be considered of normative nature as they attempt to have detailed accounts for every project, they have a planning horizon of more than one year and they formulate their plans based on a systematic analysis of their market. The progress of the annual plans is constantly monitored and evaluated on a monthly basis and the necessary adjustments or changes are applied. The owner-manager mentioned that she attempted to develop a written manual with the strategic objectives and activities of the individuals involved, but this project was quickly abandoned:

> *"There is an annual meeting where we examine what has happened in the year that passed and we make the new plans for the year to come. But every month, we conduct follow up meetings to see if the targets we have set are being achieved and what modifications are needed. Sometimes there is no need to change anything, other times there is a need for small changes and some other times there is a need for a complete change our plans*
>
> *...I tried to develop a formal planning system when I started the company by writing a manual on how things should be organised and what is the role of everyone in the company, but I soon realised that I spent time for no reason. It is very hard to keep up with a written strategic plan because you have to make modifications all the time so after a while I gave up on that. I believe that the strategic planning process in a SME cannot be of such sophisticated and formal nature"*

The strategy formulation process is collective in nature, with several individuals collaborating and participating during the design of the strategy formulation process. From the responses, it is evident that the owner-manager understands the importance of the involvement of different individuals in the strategy formulation process:

"Everyone has a part in strategy formulation. There is autonomy on how the employees act because if you don't give them this autonomy then you risk losing their abilities. In this company you cannot make the employees act like a 'soldiers'

...I have the experience and the knowledge to understand that by being authoritative and controlling results in no benefits to my company

...For us the product is our employees and it is hard to confine them in rules and limits. Our business is about fresh ideas

...I am trying to listen to the opinions of the leaders of the various departments on different matters because I think that this is broadening my horizons"

Concerning the question on the problems that the firm experiences during the strategy formulation process, the manager of Company D mentioned several issues. The first problem is concerned with the firm's counterproductive culture and the lack of professionalism of some employees. The second problem was related to the nature of the service they provide. Finally, the third problem was related to the competition and the industry:

"I feel I am the hostage of my employees. If you try to incorporate the employees in the rules of the company, especially the ones who come from large advertising companies and have the know-how of the business, they resist and you feel threatened because at any time they can leave the company. So as a consequence you relax the pressure and start making compromises that never stop, resulting in bad decisions and bad economic results

...in the marketing business there is not a logical course of things and every case is a unique situation. People do not act the same way in advertising compared to other business activities. The simplest thing suddenly became very complicated

Continuing with the barriers to strategy formulation, the manager of Company D indicated that clients' 'wants' are very unstable, which makes planning very hard:

"...we are a small firm that does not have secure long term contracts with our customers and we have to fight every day to keep them with us by offering the best services. But they often reconsider their plans and when they want to minimise their costs they usually limit their advertising and promotion services which is easier than let's say, transforming their production procedures"

Company D consider themselves as incapable of studying the competition and, similarly to company B, they consider the advertising market as very unstable and much segmented:

> *"We don't look at the competition, because I don't think that we can spend so much time and so many resources for that. There are more than 2000 companies in our market and unfortunately it is very hard to look at their processes and results*
>
> *... In our market there are many competitors of all sizes. There are the multinational companies, the Greek smaller companies, like us and finally the freelancers. There are no entry barriers in this market. And it is very hard to examine how they act and perform"*

Company D does not apply any technical system for production purposes but the use of an information system is speeding up the processes of making decisions and managing the company:

> *"We have installed an information system and through it everyone can access client files and economic records at any time"*

Answering the question about the usage of information sources, Company D is actively involved in gathering information from a variety of sources. The owner-manager indicated that financial information is derived from the internal accountant, the external consultancy agency, EOMMEX (government agency for SMEs) and from banks. Non-financial information is obtained through social networks and other business partners. Company D believes that accounting information is crucial for the decision-making process:

> *"There were times in the past when I made decisions without considering the accounting and financial data I had and it was a catastrophe. When I started the company I was not paying much attention to numbers. Usually people who start a business in Greece are people coming from sales and not people who have an economic or accounting background. Most businesses start without a business plan. You start by believing that you can succeed based on your egoistical momentum*
>
> *...I was literally walking in the dark. That is what happens when you try to create a business without considering what your financial situation is. I thought that I was doing fine at start, until I started to look at the accounting and economical information. Then I*

realised that things were not going so well. But when I started using accounting reports and financial data I started to realise what the limits of my actions are and I had a clear picture of my company"

On the question about the role of the accountant in the firm, it was evident that he had an important contribution to its management. Preparing the reports and providing business advice was a continuous task for him:

"When you formulate a strategic plan what do you need? You need to fully understand where you want to go and how to go there. And the role of the accountant is in giving you direction and advice on the alternative ways there are to achieve your target. He must say 'we have this data and we have to do this and this'

...I don't need to receive raw economic data coming from my accountant. I need to have them deeply analysed and explained in a form that will allow me to make long term decisions based on the best possible information

...he is not just an accountant but an economic advisor. You can find many accountants, but usually they stick with the bookkeeping and that's it. Our accountant on the other hand gives me vital information in a form that it is easy to comprehend. For every company I think that the role of the accountant is not just to think in an accounting terms but be more business oriented"

The owner-manager of Company D indicated that there is extensive usage of accounting information for decision-making purposes. They use cash flow statements, profit and loss accounts, detailed budgets for every project, customer liability and bank liability reports and a variety of ratios (profitability and liquidity mostly). The use of advanced management accounting techniques was not identified from the responses of the manager, apart from the use of budgets. The manager stated that she would be very interested in applying a formal system for measuring customer satisfaction and evaluating employee performance, but was reluctant due to lack of time and resources and knowledge.

In summary, Company D noted that they adopt a normative approach to strategy formulation, using detailed plans and a systematic analysis of the market but, due to the intense competition and irregular behaviour from clients, there is a need for a constant control

of these plans and often many modifications are needed. Company D considered the employees as very important for the strategy formulation process and their participation and collaboration is required. This is an indication of a collective approach to strategy formulation. Although Company D did not employ any complex technical systems, they consider technology important in terms of speeding up the management processes and managing clients more efficiently, through the use of an information system and the internet. Counterproductive firm culture, power dynamics and market uncertainty are considered obstructions to a formal strategy plan. Concerning the information-seeking behaviour, Company D gathers information from different sources such as the accountant, external advisors, government agencies, banks and social networks. The accountant, apart from the bookkeeping responsibilities, was offering advisory services for strategic purposes. Company D utilised different types of accounting and financial data for decision-making purposes, but only a limited number of management accounting techniques were identified to have a contribution in the planning process.

7.5.5 **Company E**

Company manages academic publishing operations with a specialisation in Computer Science. They have five employees on the payroll and the owner-manager has a Bachelor Degree in Advanced Mathematics and has been in command of the firm for 9 years. Company E employs an external accountant and there is no technical system installed. The company prepares the publications and sends them to an external service to be printed. The strategic activities of the firm are defined in terms of attracting academics, to increase the number of publications, and managing the printing times with the external printing agency. The peculiarity of this firm is that the only client they have is the Greek government, which buys

the books at a predetermined price and a predetermined quantity and then distributes them free to students at the Greek public universities.

Company E approaches strategy formulation in a very emergent and individualistic manner. No written plans are produced, there is a short planning horizon and there are no detailed reports on how strategy should be formed and implemented. In addition, it was noted, through the responses, that the owner-manager makes all the decisions without the contribution of any other employees. According to the owner-manager:

> *"I make decisions as we move on. You can't do it in any other way. I have plan in my head but it changes so much that when you look back you find no similarities with what you intended to do and what you actually did"*
>
> *...the important decisions like what to publish and when, is a decision is I make myself"*

Concerning the problems the firm faces during formulating plans, the manager of company D replied that the firm is experiencing working capital shortages and lacks the ability to gather reliable information about future publications from inside the universities and from the Government. Finally, the complete reliance on the government and the public universities is a substantial factor influencing the planning process. The owner-manager stated that he is unable to react to most of these changes in the environment:

> *"There are many imponderable factors in our business. When the educational system faces problems, then our planning must change. For example one of the factors that we cannot influence is how many students are enrolled in the universities every year. If their number is reduced from the Ministry of Educations then immediately we have a huge drop of our profits. Our market is very unstable and there is nothing we can do to change that"*

Company E is engaged in studying the immediate competitors in terms of number of publications. The owner-manager noted that he is unable to find any performance reports for other publication firms because they are no available sources:

> *"We examine how many books they publish but we can't study what are their results because we do not have the sources to find out. The governmental organisation for small and medium business does not give out this kind of information and they are the only source that could do that"*

Company E does not consider technology directly important for the operation of the firm but they are indirectly affected by the level of technology of the printing agency with whom they collaborate.

Concerning the use of information sources, Company E is only interested in receiving information coming from the Government and the social networks, which is non-financial in nature. The owner-manager stated that he is not interested in accounting information and he has never considered the use of any management accounting technique. The accountant is only employed for statutory work at the end of the year and no advice is sought from him:

> *"Accounting information is not very important to tell you the truth. Things are running smoothly the past years so we never had to worry about it*
>
> *...Our company is too small to apply budgets or any other tools in order to make predictions and decisions. We have only five employees. Even if we did use budgets I believe they would be ineffective. We do have a steady income and it is all I care about. Our business is all about sales. And as I said before they are directly connected with the academic institutions and this is where I focus*
>
> *...We have an external accountant but he only visits us once every month. We are doing the bookkeeping internally, to keep down the costs. He does only what is hard for me to do. I am doing almost everything myself. I don't really need the accountant to do these things. Our accountant is really useful only at the end of the year when we close our books"*

In summary, Company E adopts an emergent and individualistic approach to strategy formulation. There is no formal or structured process in the firm apart from organising how a book will be published. The owner-manager, based on his responses, is involved in every aspect of the firm and everything goes through him. He only studies the environment for new opportunities and to compare the number of his firm's publications with the number of other

firms' publications. Technology is important to him indirectly and conceived changes in governmental policies about universities are the biggest threat to the firm's performance. Company E has a very limited usage of information sources and a very limited usage of accounting information. No management accounting tools are applied and the accountant is important only for bookkeeping purposes.

7.6 **Cross case analysis**

The purpose of the qualitative research was to explore and examine issues concerning the strategy formulation process of SMEs in Greece and use the findings to develop the study's quantitative instrument of research. The interviews have provided fruitful findings concerning the strategy formulation process of Greek SMEs and the use of accounting information in the process.A summary of the results is presented in Table 7.1:

	Company A	Company B	Company C	Company D	Company E
Size	Micro	Medium	Small	Small	Micro
Owner Manager Characteristics	Low Education High Experience	High Education High Experience	Low Education High Experience	Medium Education Low Experience	Medium Education Medium Experience
Strategy Formulation Approach	Emergent and Individualistic	Normative and Collective	Normative and Individualistic	Normative and Collective	Emergent and Individualistic
Factors Influencing Strategy	Uncertain External Environment Technology Small Size	Uncertain External Environment Intense Competition	Intense Competition Cost of Labour Technology	Firm Culture Power Dynamics Market Uncertainty	Small Size Technology
Information Sources	Social Networks Industry Press Internet	Accountant Social Networks Business Partners External Consultants Electronic information Services	Accountant Social networks Industry press	Accountant External advisors Government agencies Banks Social networks	Social Networks
Accounting Information Usage	Low	High	Medium	High	Low

Table 7.1: Summary of Interviews

Concerning the size of SMEs, the findings are in agreement with the suggestions of academic literature that, as they grow in size, firms move from emergent to more normative strategy formulation (Holmes and Nicholls, 1988; Miller *et al.*, 1998; Glaister and Falshaw, 1999; Stonehouse and Pemperton, 2002; O'Regan and Ghobadian, 2005) and from centralised

strategic processes to more decentralised ones (Moch and Morse, 1977; Katsikeas, 1994; Perren *et al*., 1999; Wan *et al*., 2000). Companies A and E are micro companies (less than 9 employees) and are approaching strategy in an emergent way, while companies B, C and D are small and medium companies and are approaching strategy in a normative way. Again, concerning the collaboration and participation in strategy formulation, companies B and D, which have more than 20 employees, have a collective approach to strategy, while companies A, C and E approach strategy in an individualistic way.

Concerning the owner-manager's education and experience in relation to the approach to strategy formulation, the results are mixed. According to academic research higher education is linked with a more normative approach to strategy (Dollinger, 1984; Goll and Rasheed, 2005; Veskaisri *et al*., 2007) and to a more collective approach to strategy (Papadakis and Barwise, 2002; Balta *et al*., 2009). These results were verified in the cases of companies A, B and D, but not in the case of companies C and E. Concerning the owner-manager's years of experience, the results in academic literature are mixed, with some researchers arguing that more experienced managers tend to approach strategy in a normative way (Wiersema and Bantel, 1992; Veskaisri *et al*., 2007), while others argued that experience is positively correlated with the descriptive approach to strategy formulation (Pansiri and Temtime, 2010). In addition, according to Bass (1991), highly experienced managers tend to follow a more individualistic approach to strategy in contrast with less experienced managers. The results of the interviews have also produced mixed results concerning the experience of owner-managers and the strategy formulation process approach.

With reference to other factors influencing the strategy formulation approach the findings from the interviews are in agreement with the majority of the academic literature reviewed. The volatility of the external environment on the strategy formulation process has

been outlined by the majority of the owner-managers as being a very important aspect of the strategy formulation process. This result is in concurrence with several academic and empirical studies (Buns and Stalker, 1961; Mintzberg, 1979; Kukalls, 1991; Priem *et al*., 1995; Proctor, 1997; Kleingeld, 1999; Andersen, 2001; Baines and Langfield-Smith, 2003; Rowe *et al*., 2008; Balta *et al*., 2009). Another important factor indentified during the interviews is the dependency of SMEs on the level of technology required in relation to the strategy formulation process. All companies, apart from the service provision firms, consider technology as an important factor in the strategy formulation process. This finding is in agreement with numerous strategy making studies, which examined the association of technology and strategy formulation (Zahra and Covin, 1993; Lucas and Olson 1994; Chan *et al*., 1997; Parker, 2000; Entrialgo *et al*., 2000; Burke and Jarratt 2004; O'Regan and Ghobadian, 2005; Aragón-Sánchez and Sánchez-Marín, 2005)

When examining the usage of information sources by SMEs, it is evident from the interviews that companies that adopt a prescriptive and collective approach to strategy, like companies B and D, have a more extensive and widespread information-seeking behaviour, gathering data from many different sources, while companies that adopt a descriptive and individualistic approach to strategy formulation, like companies A and E, use limited sources of information. These findings are in line with several studies that argue that the normative (Smeltzer *et al*., 1991; O'Regan and Ghobadian, 2002) and collective approach to strategy formulation (Burke and Jarratt, 2004; Berry *et al*., 2006) are positively correlated with the extensive use of different information sources. Another interesting finding from the interviews is that owner-managers who adopt a normative approach to strategy formulation (companies B, C and D) consider the accountant to be an important source of information for strategic purposes, in contrast with companies that adopt an emergent approach (companies A

and E). This finding is also confirmed with the usage of accounting information for strategic purposes. Companies B, C and D have higher accounting information usage for strategic purposes than companies A and E. In general, owner-managers who adopt a normative and collective approach to strategy have outlined the importance of accounting information in the process while, on the contrary, owner-managers adopting an emergent and individualistic approach to strategy employ the accountants only for bookkeeping purposes. In literature, there are several studies suggesting that extensive accounting information usage is connected with the normative approach to strategy (Fredrickson, 1984; Holmes *et al*., 1991; Smeltzer *et al*., 1991; O'Regan and Ghobadian, 2002; Burke and Jarratt, 2004; Aragon-Sanchez and Sanchez-Marin, 2005; Noordin *et al*., 2009) and the collective approach to strategy (Jenks and Kelly, 1986; Lybaert, 1998).

7.7 **Summary**

The interviews with five SMEs from different sectors and of different sizes succeeded in providing rich background information about the process of strategy and the determinants (factors) of strategy formulation in Greek SMEs and verifying some of the findings of the literature review. Environmental volatility, technological change and advancement, organisational size and owner-manager specific characteristics were found to be important determinants of the strategy formulation process. The interviews were also valuable in providing useful information about accounting information usage and explaining the information-seeking behaviour of the owner-manager. The findings of the exploratory study have been used, in addition to the findings of the literature review, to structure the questionnaire that was used in the second stage of research in this study. Specifically, the decision to use the four contingency factors and exclude others, like organisational culture or other owner manager characteristics was based on the answers given by the respondents.

Also, based on the findings, it was decided to examine the association of the two dimensions of strategy formulation (normative/emergent and individual/collective) with the extent of information source usage instead of specific information sources, since it was found that the broader and more widespread usage of information sources was linked with specific strategy formulation approaches. Finally, several terms and phrases used by the owner-managers during the interviews were applied during the translation of the questionnaire from English to Greek, to better explain several economical and business terms used in the research instrument and ensure that owner-managers participating in the second stage of the research would understand the expressions and terms used.

Chapter 8 PREPARATION OF RESEARCH DATA

8.1 Introduction

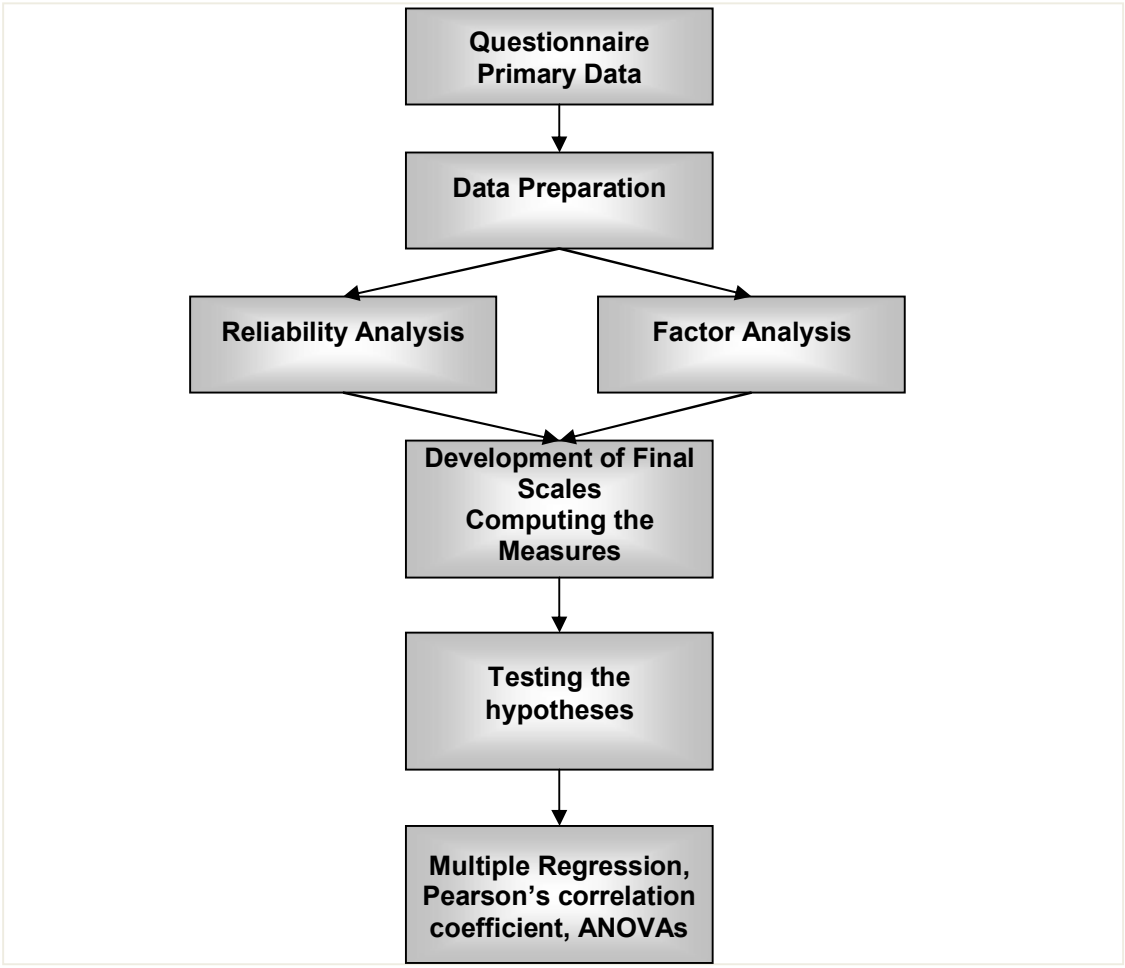
As outlined in Methodology (Chapter 6), a survey questionnaire with closed questions was distributed to 334 Greek businesses. The main purpose of this chapter is to prepare and analyse the data collected via questionnaires in order to compute the final measures of the study and to proceed with the main analysis and the testing of the hypotheses in the next chapters. The chapter is divided into seven principal sections. After the introduction in Section 8.1, the next section, 8.2, presents the model of quantitative data analysis and procedures. Section 8.3 illustrates the preparation of data and the creation of appropriate databases for statistical analysis. In the next section, 8.4, the testing of the reliability of the research scales used in the questionnaire is presented, with Cronbach's alpha used as the indicator of reliability. The coefficient alpha (also known as Cronbach's alpha and Cronbach's alpha coefficient) is suggested as the primary analysis of internal consistency in assessing the reliability of a multiple-item variable (Nunnally, 1978; Tourna-Germanou, 2007). Section 8.5 describes the testing of the validity of the new scales, using exploratory factor analysis (EFA). It helps to reduce the large set of items in the scales and to identify the

underlying dimensions and sub-dimensions of the scales. Ensuring reliability and validity is a prerequisite for research data, in order to circumvent possible shortcomings and pitfalls in any research outcomes (Pallant, 2001). Section 8.6 presents the final items that will be included in the measurement of dependent and independent variables and the computation of the final measures of the study, based on the results of reliability and validity tests. Section 8.7 provides a summary of the chapter.

8.2 Quantitative analysis procedures and techniques

The analysis procedures and techniques the researcher has used in the current study to identify and evaluate the constructs involving and affecting strategy formation in Greek SMEs, and to investigate the effect of accounting information on the identified constructs were based on a quantitative approach. Figure 8.1 presents the quantitative procedures and techniques that the researcher has used in the current work.

Figure 8.1: Model of quantitative data analysis procedures



8.3 Selection of data prior to analysis

Data preparation and formation of proper databases is a key part of any research survey as it has an important influence on the value of the results produced (Bryman and Cramer, 2001). In this study, the steps described in the next four sections were undertaken to select the appropriate data before moving on to the statistical analysis.

8.3.1 Questionnaire editing

Editing involves a systematic and critical assessment of a completed instrument for its compliance with the conditions for collecting important data and, in sequence, to deal with questionnaires not fully completed (Pallant, 2001). Consequently, its editing is a very central activity to guarantee the quality of the collected data (Bryman and Cramer, 2001). All questionnaires were edited and confirmed for completeness and precision. The following checks for certification were employed:

Firstly, all questionnaires were visually examined for obvious response bias (such as answering all questions with response 1 or 5). Secondly, questionnaires were scanned for completeness. The decision was made that all questionnaires with any missing values concerning important items were to be omitted. When a questionnaire has many answers missing, it is best to leave out this questionnaire from the sample since there may be problems, or it could be that the owner-manager was not focused when completing the questionnaire. After questionnaires with missing and incomplete data had been left out, a total of 334 questionnaires were selected. All questionnaires were classified and each had an identification number assigned.

8.3.2 Creating appropriate databases

The data collected via the questionnaires were recorded in a database. This database was named the “Small Business Full Database”, because its data came from managers of SMEs who had completed usable questionnaires. The number of cases in this database was 334, which is equal to the total number of respondents.

8.3.3 Coding and data entry

Coding refers to the procedure whereby codes are assigned to the answers of respondents (Bryman and Cramer, 2001). Coding and data entry is one of the steps in the surveying process where a swift development of methods can be observed (Norusis, 2000). Today, the most frequently used procedure for coding and data entry is based on computer programmes. This study's instrument consisted of recoded questions. A coding frame was designed, according to which every answer was coded to make the data capture simpler. The questionnaire variables were abbreviated and each item was assigned a code name that corresponded to its name, for example, the code "maneduc" stands for the educational qualifications of the owner-managers, and "normdesc" stands for all actions that managers' take that are associated with the normative/descriptive dimension of strategy formation. Furthermore, responses to questions asking the degree of importance of some point, or the level of extent, or to agreement questions, were coded using a 5-point Likert Scale.

Based on the coding frame, the data obtained were transferred to a computer file named "Small Business full database" in SPSS 17 (Statistical Package for the Social Sciences). The accuracy of the data entry was checked by examining the occurrence of out-of-range coded responses on all the instrument's questions and by comparing the coded responses of thirty randomly selected questionnaires against the original responses. This revealed a very low error frequency, ranging from 0-0.01%.

8.3.4 Reversal items and missing data

Once the data has been entered, it is always important to convert the unprocessed data into practical variables in the analysis. Therefore, as the questionnaire consisted of positive and negative items, in order that scores for all questions on the scales point in the same direction,

the scores for all negative items were reversed using the "recode into same variable" function of SPSS.

Another important issue in the preparation of data is dealing with 'missing data'. Missing data occur when participants "fail to reply to a question – either by accident or because they do not want to answer the question" (Bryman and Cramer, 2005, p. 220). A number of respondents were disqualified from the sample used in testing a specific hypothesis on a case-by-case basis. Specifically, owner-managers who did not give answers about the main constructs of the accounting information usage were excluded from samples that were used for testing the model of strategy formation with the use of accounting information.

8.4 Reliability assessment

In order for scientific conclusions to be valid, it is vital to determine the reliability of the scales used in the research. Neuman (1994) has noted that a reliable scale or measure gives the same results each time the same item is measured. In other words, reliability is an issue of whether a specific technique, applied repetitively to the same object, produces the same result each time (Babbie, 2004). The most common way of appraising the reliability of a scale is the internal consistency assessment. This method attempts to determine the proportion of variance that is systematic in a measurement scale (Peter, 1979; Tourna-Germanou, 2007). Researchers can improve the reliability of measures using Cronbach's alpha (internal reliability).

8.4.1 Internal reliability analysis

Internal reliability can be thought of as a measure, to the extent that different parts of a scale are measuring the same thing, and are mostly important in connection with multiple-item scales (Bryman and Cramer, 2001). Bryman and Cramer added that this test examines whether each scale is measuring a single idea and whether the items that formulate the scale

are internally consistent. Currently, the most widely used method to measure internal reliability is Cronbach's alpha (Field, 2000; Bryman and Cramer, 2001; Tourna-Germanou, 2007). Cronbach's alpha is a reliability coefficient that reflects how well the items in a scale are positively correlated to one another. It is computed in terms of the average inter-correlation among the items measuring the notion (Gill and Johnson, 2002). This recommended measure of internal consistency, the coefficient alpha, results from the assumptions of the domain-sampling model. The domain-sampling model holds that the principle of any particular measurement is to measure the score that would be obtained if all the items in the domain were used (Nunnally, 1967). Cronbach's alpha is filled with meaning, because the square root of the coefficient alpha is the estimated correlation of the k-item test with errorless true scores (Nunnally, 1967). Cronbach's coefficient alpha is a reasonable sign of the internal consistency of instruments that do not have right-wrong (binary) marking schemes; hence they can be used for both essay questions, as well as questionnaires, using scales such as ratings or Likert point scales (Oppenheim, 1992; Tourna-Germanou, 2007). It is considered the average of all possible split-half coefficients and consequently may provide a lower value than that for a specific split-half correlation coefficient, based upon matched pairs of items (Traub, 1994). Coefficient alpha considers both the number of questions and the average correlation among questions in a set (Nunnally and Bernstein, 1994). It offers a helpful and functional approach to assessing the reliability of measurement scales; alpha can be productively employed for scales containing a minimum of three items. Nunnally and Bernstein (1994) stated that the criteria for alteration or removal of items from the scales or sub-scales were based upon statistical criteria.

Statistical criteria included the employment of corrected item-total correlations and Cronbach's coefficient alpha. When a notion and its associated measure are deemed to

include underlying dimensions, it is normal to calculate reliability estimates for each of the constituent dimensions rather than for the measure as a whole (Bryman and Cramer, 2001). If the construct has more than one identifiable dimension or component, coefficient alpha would be calculated for each dimension. The item-to-total correlation used to delete items would also be based on the items in the component and the total score for that dimension. The total score for the construct would be secured by summing the total scores for the separate dimensions (Churchill, 1979). In the present study, the corrected item-total correlation was employed. In other words, this research examined the correlations of each item's score with the total scale score in order to investigate whether the items measured the same construct. This method usually subtracts each item score from the total score to eliminate a false part-whole correlation. Each item's score is then compared with the corrected total score. Although there is no universally agreed cut-off point, the most widely used cut-off point is 0.3 (Nunnally and Bernstein, 1994). Moreover, if an item has a negative "corrected item-total correlation coefficient", the item is eliminated from further consideration. The application of Cronbach's alpha provides a measure of internal consistency, which reflects how well each of the items correlates with the entire scale or sub-scale. Ideally, the Cronbach's alpha coefficient of a scale should be above 0.7 (Hair *et al*., 1998; Pallant, 2001; Tourna-Germanou, 2007). Cronbach's alpha values are, however, quite sensitive to the number of items in the scale (Pallant, 2001). With short scales (for example, scales with less than ten items), it is common to find quite low Cronbach's values (for example, 0.5). In order to test internal consistency and homogeneity, an inter-item reliability test (coefficient alpha) was conducted against the scales of the study, for the strategic formation with the use of accounting information.

8.4.1.1 Internal reliability analysis – Scales of the constructs of strategy formulation

The reliability analysis for the constructs of strategy formation contingency factors and strategy formation dimensions was based on the questionnaires that were collected. The two scales for the variables of the study, normative/descriptive strategy formulation dimension and individual/collective strategy formulation dimension, were evaluated using inter-item correlation and coefficient alpha. All the items used in the scales were measured on a 5-point Likert scale, where 1 represented "strongly disagreed" and 5, "strongly agreed". The analysis was done on each variable, as can be seen from Tables 8.1 to 8.6; all of the scales had very high alpha scores, ranging from 0.645 to 0.856, and were above the generally accepted lower limit of 0.6 (Pallant, 2001). Furthermore, item-total correlation values for most of the items were greater than 0.3, a very satisfactory outcome, as suggested by Briggs and Cheek (1986) and Nunnally and Bernstein (1994). Statisticians (for example, Sekaran, 2000, p. 287) recommend that the closer the coefficient alpha is to 1, the higher the internal consistency reliability. Items that had low inter-correlation in each group were deleted to reach a value of alpha as close to 1 as possible. Therefore, a few items with "item total correlation" less than 0.3 were excluded from further statistical analysis. From the findings below, it can be concluded that the constructs are deemed to have adequate reliability for the next stage of the validity analysis. Tables 8.1 to 8.2 show the results of the reliability tests for the scales of normative/descriptive strategy formulation dimension and individual/collective strategy formulation dimension.

Items	Item total correlation	Cronbach's alpha
Normative/Descriptive Dimension of Strategy Formulation		**.767**
NDD1--We have definite and precise strategic objectives	.543	
NDD 2--We have precise procedures for achieving strategic objectives	.566	
NDD 3--We have well defined planning procedures to search for solutions to strategic problems	.517	
NDD 4--Our strategy is made explicit in the form of precise plans	.587	
NDD 5--We make strategic decisions based on a systematic analysis of our business environment	.333	
NDD 6--There is an organised action plan for most of the firm's activities (more than 1 year)	.564	
NDD 7--My business plan in comprised by targets and objectives in a time horizon of more than a year	.555	
NDD 8--To keep in line with our business environment we make continual small-scale changes to strategy (item reversed)	.309	
NDD 9--Our strategies emerge gradually as we respond to the need to change (item reversed)	.407	
NDD 10--Our strategy develops through a process of ongoing adjustment (item reversed)	.339	
NDD 11--The strategy of our company is designed based on current problems and needs (item reversed)	.353	
NDD 12--Our strategy is continually adjusted as changes occur in the market place (item reversed)	.389	

Table 8.1: Alpha coefficient and item-total correlation for normative/descriptive strategy formulation scale

Items	Item total correlation	Cronbach's alpha
Individual/Collective Dimension of Strategy Formulation		**.703**
ICD 1--The strategy we follow is directed solely by the vision of the owner-manager	.388	
ICD 2--The owner-manager is responsible for determining our strategic direction	.345	
ICD 3--The manager tends to impose strategic decisions	.410	
ICD 4--Our strategy develops through a process of bargaining and negotiation between employees and the manager (item reversed)	.452	
ICD 5--Our strategy is a compromise that accommodates the conflicting interests of powerful groups and individuals within the firm (item reversed)	.310	
ICD 6--The employees of the firm are dynamically involved in the strategy formulation process (item reversed)	.385	
ICD 7--The firm's accountant is actively involved in the strategy formulation process (item reversed)	.389	
ICD 8--The firm's staff collaboration and participation is crucial for the strategy formulation process (item reversed)	.382	

Table 8.2: Alpha coefficient and item-total correlation for individual/collective strategy formulation scale

Items NDD 8 to 12 were reversed in order to obtain high values for the normative approach to strategy formulation and low scores for the descriptive approach to strategy formulation. Items ICD 4 to 8 were reversed in order to obtain high scores for the individualistic approach to strategy and low scores for the collective approach. The coefficient alphas for the scales of normative/descriptive dimension of strategy formulation and individual/collective dimension of strategy formulation, after the reversal of items, have been 0.767 and 0.703 respectively. According to Pallant (2001) the Cronbach's alpha should be above 0.7 but, in short scales (with less than ten items), it is common to find low Cronbach's

values (for example, 0.5). The Cronbach's alpha values found for the two scales of strategy formulation dimensions are above the suggested cut-off point.

8.4.1.2 **Internal reliability analysis – Scales of contingent factor variables**

The reliability analysis for the contingent factors of strategy formulation was based on the 334 questionnaires collected from Greek SMEs. The two new scales, perceived environmental volatility and level of technology employed, were evaluated using inter-item correlation and coefficient alpha. All the items used in the scales were measured on a 5-point Likert scale, where 1 represented "strongly disagreed" and 5 "strongly agreed". Items which had low inter-correlation in each group were deleted to reach a value of alpha as close to 1 as possible. From the findings below, it can be concluded that the constructs are deemed to have adequate reliability for the next stage of validity analysis. Tables 8.3 and 8.4 illustrate the result of reliability analysis for the scales of perceived environmental volatility and level of technology respectively.

Items	Item total correlation	Cronbach's alpha
Perceived environmental volatility		**0.711**
ENV1--Our strategy formulation is decisively affected by factors external to our firm (for example the government, the banks or other stakeholders)	.412	
ENV2--Our freedom of strategic choice is severely restricted by the unpredictability of our external business environment	.501	
ENV3—We constantly adjust our strategy formulation process according to other strategic approaches used in our business environment	.411	
ENV4--Barriers exist in our business environment, which significantly restrict the application of long-term strategies	.477	
ENV5--Many of our strategic decisions have been forced on us by those outside the organisation	.412	
ENV6--Intense competition from the business environment has strong effects on the strategic formulation of my company	.474	
ENV7--The external environment can be very hostile and unstable in terms of making decisions	.451	
ENV9--The strategies we follow are strongly affected by the way things are working in our business sector	.322	

Table 8.3: Alpha coefficient and item-total correlation for the contingency factor of perceived environmental volatility scale

Items	Item total correlation	Cronbach's alpha
Level of Technology factor		**.593**
TEC1--The sophistication of the technological systems we employ assists us to move in a strategic direction	.420	
TEC2--Technological changes in our market has given us the opportunity to organise the firm strategically	.473	
TEC3--The level of technology needed in our sector makes strategic formulation very difficult (item reversed)	.346	

Table 8.4: Alpha coefficient and item-total correlation for the contingent factor of level of technology scale

Item TEC 3 was reversed in order to obtain higher values for positive effects of technology on strategy formulation and lower values for negative effect of technology for strategy formulation. In addition, two items were excluded (item ENV8 and ENV10) from the scale of the perceived environmental volatility, according to the reliability test, in order to improve the coefficient alpha values. The new coefficient alphas were .711 for the perceived environmental volatility and .583 for the level of technology.

Internal reliability analysis – Scales of constructs of accounting information

The three scales for the variables of the study, usage of accounting sources during strategy formulation, usage accounting data and usefulness of accounting information, were also evaluated using inter-item correlation and coefficient alpha with all the items used in the scales measured on a 5-point Likert scale. The analysis was done on each variable, as can be seen from Tables 8.5 to 8.7, with all the scales having very high alpha scores, ranging from 0.767 to 0.871.

Items	Item total correlation	Cronbach's alpha
Usage of information sources		**.767**
IFS1--Customers/Suppliers	.403	
IFS2--Competitors	.202	
IFS3--Business associates	.509	
IFS4--Accountants	.386	
IFS5--Bank advisors	.456	
IFS6--Newspapers/journals/magazines	.619	
IFS7--Broadcast media (radio/TV)	.582	
IFS8--Government publications	.486	
IFS9--Industry, trade associations	.443	
IFS10--Electronic information services	.490	

Table 8.5: Alpha coefficient and item-total correlation for usage of information sources scale

Items	Item total correlation	Cronbach's alpha
Usage of accounting information		**.870**
UAD1--Balance Sheet	.435	
UAD2--Liabilities to banks	.436	
UAD3--Liabilities to suppliers	.372	
UAD4--Sales	.348	
UAD5--Operating Costs	.332	
UAD6--Customer debts	.483	
UAD7--Trading profit account	.575	
UAD8--Profit and Loss account	.576	
UAD9--Cash flow statement	.346	
UAD10--Cash flow forecast	.548	
UAD11--Ratio Analysis	.563	
UAD12--Inter-firm comparison	.494	
UAD13--Industry trends	.585	
UAD14--Break-even analysis	.547	
UAD15--Comparison of budgets with actual results	.632	
UAD16--Analysing costing reports	.455	
UAD17--Analysing costing of products/services	.565	
UAD18--Diverse taxing methods	.463	

Table 8.6: Alpha coefficient and item-total correlation of usage of accounting information scale

Items	Item total correlation	Cronbach's alpha
Usefulness of accounting information		**.871**
AIUI1--Short-term planning	.382	
AIUI2--Long-term planning	.426	
AIUI3--Deciding manager's pay/bonuses	.536	
AIUI4--Deciding employees' pay/bonuses	.562	
AIUI5--Marketing decisions	.656	
AIUI6--Pricing decisions	.445	
AIUI7--Borrowing decisions	.510	
AIUI8--Capital expenditure	.536	
AIUI9--Evaluating performance with targets	.663	
AIUI10--Comparing performance with other time periods	.575	
AIUI11--Comparing performance with competitors	.564	
AIUI12--Confirming management information	.612	
AIUI13--Reassuring customers	.566	
AIUI14--Reassuring suppliers	.565	

Table 8.7: Alpha coefficient and item-total correlation of usefulness of accounting information scale

All the scales had high alpha coefficients and, from the results of the item total correlation, no exclusions were needed. The scale of the usage of information sources had a value of 0.767; the intensity of usage of accounting data scale in SMEs had a value of 0.871 and the usefulness of accounting information scale had a value of 0.870.

8.4.1.3 **Internal reliability analysis – Scales of constructs of business objectives**

The scale of importance of objectives during strategy formulation was also evaluated using inter-item correlation and coefficient alpha with all the items used in the scale measured on a 5-point Likert scale. The analysis was done on each item, as can be seen in Table 8.8, with the scale having a very high alpha score of .860.

Items	Item total correlation	Cronbach's alpha
Importance of objectives during strategy formulation		**.860**
TRG1--Increasing profitability	.324	
TRG2--Increasing market share	.412	
TRG3--Monitoring and reducing costs	.384	
TRG4--Expanding the company	.403	
TRG5--Improving the technological systems	.536	
TRG6--Introducing innovative products	.539	
TRG7--Improving the products/services quality	.625	
TRG8--Improving production capabilities	.526	
TRG9--Increasing the customer base	.491	
TRG10--Increasing customer satisfaction	.540	
TRG11--Finding the suppliers who offer the best financial terms	.453	
TRG12--Creating strong professional relationships with suppliers	.416	
TRG13--Expanding into new distributing channels	.439	
TRG14--Entering new markets	.333	
TRG15--Training the personnel in new production methods and new technologies	.504	
TRG16--Hiring highly skilled employees	.520	
TRG17--Increasing employee dedication	.484	
TRG18--Increasing employee satisfaction	.426	
TRG19--Increasing employee job safety	.434	
TRG20--Training the manager in new technologies and techniques	.387	

Table 8.8: Alpha coefficient and item-total correlation importance of objectives during strategy formulation scale

8.5 Validity assessment

A Factor Analysis (FA) was employed to categorise hidden dimensions within the items included in the scales of the research instrument. FA is a statistical practice, which allows the

underlying dimensions of a questionnaire to be determined (Kline, 2000). Bryman and Cramer (2001) and Sekaran (2000) argued that an FA test could be applied to evaluate the factorial validity of the items that make up a scale (by exhibiting the extent to which they will be measuring the same concepts or variables). FA was used for three main purposes: (1) to assess the degree to which items were examining the same concept, (2) to determine the extent to which they could be reduced to a smaller more convenient set, (3) to try to fit the complexity of social behaviour by reducing it to a more limited number of factors. In terms of a statistical method, FA also contributes to the minimisation of multicollinearity, which can bring about statistical errors due to strong relationships between variables within independent or dependent variable groups (Hair *et al*., 1998).

There are two main methods in FA: exploratory and confirmatory. Exploratory factor analysis (EFA) is often used in the early stages of research to gather information about the inter-relationships among a set of variables. On the contrary, confirmatory analysis is a more sophisticated set of techniques used later in the research process to confirm specific hypotheses or theories concerning the structure underlying a set of variables (Pallant, 2001). An EFA, based on the principal component analysis (PCA) with Varimax rotation, was conducted using the SPSS package, version 17.0, to detect the factor structure in the scales of this study.

FA involves a number of actions in order to be eligible for application (Pallant, 2001). Firstly, based on the correlation matrix for all related variables, the appropriateness of the factor model is measured. Secondly, it is necessary to decide which factor model should be used, the number of factors that should be extracted and to assess how well the model fits the original data. Thirdly, the choice of the rotation method, to make factors more interpretable, needs to be made. Finally, the computed factor scores can be used in further statistical

analysis. Due to the study design, a factor analysis was undertaken for the importance of objectives during the strategy formulation scale, consisting of thirteen items.

8.5.1 Assessment of suitability of data for factor analysis (FA)

The first issue to consider, in order to determine whether a particular set of data is suitable for FA, is the sample size of the participants. There is a dispute among researchers relating to the sample size; however, they concur that the larger, the better (Stevens, 1996; Tabachnick and Fidell, 1996). Tabachnick and Fidell (1996) suggest that at least 300 cases are needed for FA. Nunnally (1978) recommends that it is not the overall sample size that is of concern and suggests that 10 cases are needed for each item to be factor analysed. As the sample size of this study is larger than suggested (more than 300 SMEs), the data are suitable for FA. In addition, the appropriateness of FA, with regard to the strength of the inter-correlations among the items, was tested using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity (Hair *et al*., 1998), which is acknowledged as one of the best measures for determining the suitability of a set of data for subsequent FA (Stewart, 1981). According to Pallant (2001), the Bartlett's Test of Sphericity should be significant ($p<0.05$) and the KMO index ranges from 0 to 1, with .06 suggested as the minimum value for a good FA.

8.5.2 Factor extraction

> *"Factor extraction involves determining the smallest number of factors that can be used to best represent the inter-relations among the set of variables" (Pallant, 2001, p. 153).*

The most common set of methods used are PCA and FA. PCA, which was applied in testing the construct validity of the scales in this study, is suggested in cases where examination of the structure of a set of variables is attempted (for example, Dunteman, 1994). In PCA, the

original variables are transformed into a smaller set of linear combinations, with all of the variance in the variables being used. PCA (Pearson, 1901; Hotelling, 1933) was chosen because, unlike common factor analysis (or FA), it decomposes the total observed variance in the correlation matrix (for example, Kim and Mueller, 1978; Dunteman, 1994). Factor analytic methods decompose only part of the observed variance and the final solution may not adequately reproduce the observed correlation matrix. Therefore, in FA, the fit of the factor solution with the data has to be tested. In PCA, there is no requirement for goodness of fit because the final factor matrix accounts for the total variance of each of the initial variables. Therefore, a factor solution can be rejected as not demonstrating goodness of fit even though this solution is justified based on theory, rationale and other indices (for example, conformance to the eigenvalues greater than one criterion). Tabachnick and Fidell (1996, pp. 662-663) recommend that "If you are interested in a theoretical solution uncontaminated by unique and error variability, FA is your choice. If on the other hand you want an empirical summary of the data set, PCA is the better choice." For that reason, in the current work, as the underlying dimension and sub-dimensions of the scales have already been determined by the theory and the qualitative research, PCA was preferred. Using PCA, it is up to the researcher to determine the number of factors he considers best to describe the underlying relationship among the variables. This involves balancing two contradictory needs: the need to find a simple solution with as few factors as possible and the need to explain as much of the variance of the original data set as possible.

In this study, in order to support the decision concerning the number of factors to retain, the Kaiser's Criterion (eigenvalues) was employed. The eigenvalue of a factor represents the amount of the total variance explained by that factor. The Kaiser or eigenvalues greater than one criterion for factor extraction was used (Guttman, 1954). This criterion has been

considered satisfactory, and more suitable than other criteria, despite the fact that it is mainly based on heuristic and practical grounds (Kaiser, 1974; Kim and Mueller, 1994).

8.5.3 Factor rotation

Once the numbers of factors that have an eigenvalue of 1 or more have been determined, PCA procedure with Varimax rotation was used in all cases to provide the "simplest structure" needed for interpretation.

The two most frequently used methods to rotate factors are orthogonal rotation, which constructs factors that are unrelated to or independent of one another, and oblique rotation, in which the factors are correlated (Bryman and Cramer, 2005). Researchers' recommendation is that the choice between orthogonal and oblique rotation should be made based on the theoretical background and expectations (for example, Kim and Mueller, 1978, 1994). The most commonly used orthogonal approach is the Varimax method, which attempts to minimise the number of items that have high loadings on each factor.

To determine the minimum loading necessary to include an item in its respective construct, Hair *et al*. (1998) suggested that variables with loadings of 0.40 or greater are considered practically significant. The following section presents the results of each FA of the study's scales in detail.

8.5.4 Factor analysis – selection of final items

8.5.4.1 Factor analysis: Strategy formulation objectives scale

FA was applied to the thirteen questioned items of the external environment effect on strategy formulation. The results (Table 8.9) revealed that KMO was 0.764 and Bartlett's Test of

Sphericity was significant (chi-square=1.131.875, df=78, p<0.00 respectively), which means the appropriateness of FA was confirmed.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**.764**
Bartlett's Test of Sphericity	Approx. Chi-Square	1131.875
	Df	78
	Sig.	.000

Table 8.9: KMO and Bartlett's Test for Strategy Formulation Objectives

All the strategy formulation objectives items had communality values over 0.4 and therefore were included in the FA.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.661	28.163	28.163	3.661	28.163	28.163
2	1.692	13.019	41.183	1.692	13.019	41.183
3	1.551	11.931	53.113	1.551	11.931	53.113
4	1.011	7.779	60.892	1.011	7.779	60.892
5	.897	6.898	67.790			
6	.749	5.762	73.551			
7	.723	5.563	79.114			
8	.621	4.779	83.893			
9	.599	4.609	88.502			
10	.440	3.384	91.886			
11	.433	3.335	95.221			
12	.356	2.735	97.956			
13	.266	2.044	100.000			

Extraction Method: Principal Component Analysis

Table 8.10: Total Variance Explained for Strategy Formulation Objectives

PCA revealed the existence of four components with eigenvalues exceeding 1. Varimax rotation was performed in order to understand these four components. The rotated solution revealed that the components were not showing strong loadings and the variables were loading on three components. The Varimax rotation test was performed again, but for three components. The solution showed that all three components had strong loadings and the variables were loading on all three components. The three-factor solution explained a total of 53.11% of the variance, with component 1 explaining 21.4% of the variance, component 2

explaining 17.9% and component 3 explaining 13.8%. The results of this analysis support the use of components 1, 2 and 3 as separate scales.

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.661	28.163	28.163	2.786	21.429	21.429
2	1.692	13.019	41.183	2.325	17.881	39.310
3	1.551	11.931	53.113	1.794	13.803	53.113
4	1.011	7.779	60.892			
5	.897	6.898	67.790			
6	.749	5.762	73.551			
7	.723	5.563	79.114			
8	.621	4.779	83.893			
9	.599	4.609	88.502			
10	.440	3.384	91.886			
11	.433	3.335	95.221			
12	.356	2.735	97.956			
13	.266	2.044	100.000			

Extraction Method: Principal Component Analysis

Table 8.11: Total Variance Explained for Strategy Formulation Objectives

Thirteen items of the strategy formulation objectives will be used for the computation of the effect of strategy formulation on business performance. These 13 items have been classified into three broad categories.

The interpretation of factors is as follows:

Factor 1 "*Non financial learning and growth objectives*" consists of six items: TRG6 "introducing innovative products", TRG5 "improving technological systems", TRG14 "expanding in new markets", TRG13 "expanding in new distribution channels", TRG20 "manager training in new technologies and management techniques" and TRG8 "improving production capabilities".

Factor 2 "Non-financial employee related objectives" consists of three items: TRG18 "Increasing employee satisfaction", TRG19 "Increasing employee job security" and TRG17 "Increasing employee loyalty".

Factor 3 "Financially orientated objectives" consists of four items: TRG1 "Increase profitability", TRG3 "Reducing costs", TRG9 "Increasing customer database" and TRG11 "Finding the suppliers who offer the best financial terms".

	Component		
	Component 1 **Technological Objectives**	**Component 2** **Human Resource Objectives**	**Component 3** **Financial Objectives**
TRG6	.721		
TRG5	.716		
TRG14	.709		
TRG13	.677		
TRG20	.577		
TRG8	.548		
TRG18		.862	
TRG19		.855	
TRG17		.787	
TRG1			.728
TRG3			.718
TRG9			.670
TRG11			.460

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

Table 8.12: Rotated Component Matrix

8.6 Manipulation of data for main analysis

In this research, there was a critical need to create new measures for the variables under investigation. The large number of items used – as a measurement of each variable – had to be aggregated to get one figure for each group of questions, which represented the measure of the variable (Edwards, 2001a; Bisbe *et al*., 2006). Based on the theoretical framework and the results of the reliability assessment and the FA, the next stage is to create the measures of the

constructs of a strategy formulation and the categorical variables needed in order to test the hypotheses of the study.

8.6.1 Creating the final measures of the study

Critical to this study are measures of the following variables: perceived environmental volatility, the level of technology, normative/descriptive dimension of strategy formulation, individual/collective dimension of strategy formulation, information source usage, accounting information utilisation and perceived usefulness of accounting information for SME managers and measures of SME financial performance. In order to test each of the hypotheses of the thesis, all of these measurements were needed. Perry (1995, p. 17) argued "that some academic authorities consider that PhD research should rarely use a previously developed instrument in a new application without extensive justification". Additionally, no known pre-existing validated measures were available for the majority of constructs under investigation. Therefore, it is vital that the development of new measures for the constructs in the present investigation is both valid and reliable. In this section, the final measures of the dependent and independent variables are presented:

The measure of **formalisation and sophistication of processes concerning the approach to strategy formulation** has been computed using the scale of normative (rational)/descriptive (emergent) dimension, which consists of twelve items.

The scale of normative/descriptive approach to strategy consists of twelve items in a 5-point Likert scale, ranging from 1= “completely disagree” to 5 = “completely agree”. The scale aims to assess the rational or emergent approach to strategy. The operationalisation of items was developed in accordance with the literature of strategy formulation (Ansoff, 1965; Andrews, 1971; Porter, 1980; Hart, 1992; Hart and Banbury, 1994; Quinn, 1978; Mintzberg

and Waters, 1985; Mintzberg *et al*., 1998; Gibbons and O'Connor, 2005). The choice of most of the items on the scale was based on research of strategic management and strategic planning (Berman *et al*., 1997; Lerner and Almor, 2002; Bhimani and Langfield-Smith, 2007) and on the results of the qualitative pilot study (interviews). On this scale, two items assess the time horizon of strategy formulation, two items measure the existence of formal processes to achieve strategic goals, two items measure the clarity and accuracy of strategic objectives, one item measures the systematic scanning of the business environment for strategic purposes, two items measure strategy formulation as a process of continuous adjustment, two items measure the need for constant changes in the strategic process of an SME and one item measures the need for strategy formulation as a countermeasure to current problems and needs.

All the items were summed and divided by twelve (the total number of items). The range of possible scores was 1 to 5, with higher scores indicating a stronger normative approach to strategy formulation and a higher formality of strategic processes and lower scores indicating a stronger descriptive approach to strategy formulation and lower formality of strategic processes.

Normative/Descriptive dimension of strategy formulation scale (AvNDD) =

NDD1+ NDD2+ NDD3+ NDD4+ NDD5+ NDD6+ NDD7+ NDD8+ NDD9+ NDD10+ NDD11+ NDD12/12

The measure of **centralisation of authority concerning the approach to strategy formulation** has been computed using the scale of individual/collective approach to strategy formulation. It consists of eight items.

The scale of individual/collective approach to strategy formulation consisted of eight items in a 5-point Likert scale, ranging from 1="completely disagree" to 5="completely agree". The scale aims to assess whether strategy formulation relies heavily on the owner-manager of the SME or on the participative and cooperative efforts of the owner-manager and employees. The development of the scale was based on academic literature and research (Chafee, 1985; Nonaka, 1988; Nutt, 1989; Bryson and Bromiley, 1993; Harrington, 2001; Eisenhardt, 1989; Papadakis *et al*., 1998; Simons *et al*., 1999; Barringer and Bluedorn, 1999; Dooley and Fryxell, 1999), the adaptive model of strategy making (Mintzberg, 1973) and the transactive and generative model of strategy making (Hart, 1992). One item assesses the power of the owner-manager in imposing strategic decisions, one item measures the authoritative approach to strategy formulation by the manager, one item measures how strategy is formulated based on the vision of the owner-manager, one item of the scale measures the level of collaboration between employees and the owner-manager when formulating a strategy, one item measures the level of agreement between the owner-manager and the employees on the strategy formulation process and three items measure the level of participation of employees in the process of strategy formultion.

The items were summed and divided by eight (the total number of items). The range of possible scores was 1 to 5, with higher scores indicating a stronger individualistic approach to strategy formulation and high centralisation of authority and lower scores indicating a stronger collective approach to strategy and a higher decentralisation of authority in strategy formulation.

Individual/Collective Dimension of Strategy Formulation (AvICD) =

ICD1+ ICD2+ICD3+ ICD4+ ICD5+ICD6+ ICD7+ ICD8/8

The measure of the **effect of the external environment on strategy** has been computed using the scale of perceived environmental volatility.

The scale of perceived environmental volatility consists of eight items in a 5-point Likert scale, ranging from 1="completely disagree" to 5="completely agree". The scale aims to assess the level of environmental turbulence and volatility that the SME faces in the business environment. The development of the scale was based on the qualitative pilot research conducted prior to the administration of the main instrument of the study and the academic literature of contingency theory and organisational structure (Burns and Stalker, 1961; Hage and Aiken, 1969; Pennings, 1992; Donaldson, 2001; Burns and Stalker, 1966; Mintzberg, 1976; Moreno-Luzon and Peris, 1998). Two items measure the level of external institutional pressure on strategy formulation, two items assess the forces of the external environment that act as obstacles to normative strategy formulation, two items measure the amount of environmental turbulence in the current market conditions, one item measures the level of antagonism in the business sector, one item evaluates the effect of external competition on strategy formulation and two items measure the environmental uncertainty in relation to strategy formulation.

The items were summed and divided by eight (the total number of items). The range of possible scores was 1 to 5, with higher scores indicating greater environmental volatility.

Perceived Environmental Volatility scale (AvENV) =

ENV1+ENV2+ ENV3 + ENV4+ ENV5+ENV6+ENV7+ENV9/8

The measure of **technology required for strategy formulation** has been computed using three items concerning the technological requirements for formulating a strategy.

The scale consists of three items in a 5-point Likert scale, ranging from 1="completely disagree" to 5="completely agree". The scale was developed according the literature of contingency theory (Woodward, 1965; Donaldson, 2001; Goehle, 2009) and from the pilot study interviews. One item measures the use of technology as a facilitator for strategy formulation, one item assesses the importance of technology applied by the SME in strategic terms and one item measures the level of technology needed for strategic purposes. In order to compute the score of the scale the three items are summed and divided by three. The range of possible scores is 1 to 5 and higher scores point to higher technological reliance.

Level of Technology scale (AvTEC)=

TEC1+TEC2+TEC3/3

The measure of **information source usage** has been computed using the scale of information source usage. It consists of ten items in a 5-point Likert scale, ranging from 1="never used" to 5="very often used". The development of the scale was based on academic research into information needs and information seeking patterns in SMEs (Jorosi, 2006; Chiware and Dick, 2008). The ten items of the scale (customers/suppliers, competitors, business associates, accountants, bank advisors, newspapers/journals/magazines, broadcast media, government publications, industry associations, electronic information services) were

summed and the range of possible scores is 10 to 50, with higher scores indicating a highly active information seeking behaviour.

Information Sources Usage scale (TIFS) =

IFS1+ IFS2+IFS3+IFS4+IFS5+IFS6+IFS7+IFS8+IFS9+IFS10

The measure of the level of accounting information utilisation has been computed using the scale of accounting information data usage. It consists of twenty items. The selection of the items used in both scales was drawn from academic literature on financial information and management of SMEs (Collis and Jarvis, 2002) and from the findings of the pilot study.

The scale of accounting information data usage consists of twelve items in a 5-point Likert scale, ranging from 1="never used" to 5="very often used". The items (break-even point analysis, industry trends analysis, ratio analysis, trading profit account analysis, inter-firm comparison, taxation options, customer long-term liabilities analysis, liabilities to banks, liabilities to suppliers, sales, operating costs and cash flow analysis) were summed and divided by twenty (the number of items used in the scale). The range of possible scores is 20 to 100, with high scores indicating high levels of usage of accounting information.

Accounting Information Data Usage scale (TUAD) =

UAD1 + UAD2 + UAD3 + UAD4 +UAD5+ UAD6+ UAD7 + UAD8 + UAD9 + UAD10 + UAD11 + UAD12 + UAD13 + UAD14 + UAD15 +UAD16+ UAD17+ UAD18 + UAD19 + UAD20

The measure of accounting information usefulness was computed using the scale of accounting information utility for management activities. It consists of fourteen items ranging from 1="not useful" to 5="very useful". The scale was developed from the academic research

into the strategic planning measurement model (Boyd and Reuning-Elliot, 1998) and the findings of the pilot study. The items of the scale (short-term planning, long-term planning, upper management reward system, employee reward system, marketing expenses, product pricing decisions, loaning decisions, capital expenditure, budgeted and actual performance comparison, actual performance and previous period performance comparison, performance comparison with immediate competitors, confirming management information, customer liability assessment, supplier liability assessment) were summed and the range of possible scores is 14 to 70, with higher scores indicating an increased value of accounting information for management activities.

Accounting Information Utility for Management Activities scale (TAIUI) =

AIUI1 + AIUI2 + AIUI3 + AIUI4 + AIUI5 + AIUI6 + AIUI7 + AIUI8 + AIUI9 + AIUI10 + AIUI11 + AIUI12 + AIUI13 + AIUI14

The measure of **importance of objectives during strategic formulation** has been computed using three scales: the scale of technological and innovation objectives, the scale of employee related objectives and the profits orientated objectives. It consists of thirteen items.

The scale of learning and growth objectives consists of six items in a 5-point Likert scale, ranging from 1="not important" to 5="extremely important". The development of the scale was based on the qualitative pilot research conducted prior to the distribution of the questionnaires. The items used in this scale (introduction of innovative products, improving technological systems, improving production capabilities, expanding in new markets, expanding in new distribution channels and improving the technological skills of the owner-manager) were summed and divided by six. The range of possible scores is 1 to 5, with higher

scores indicating a focus of strategy formulation on non-financial, technology and innovation related objectives.

The scale of employee related objectives consists of three items in a 5-point Likert scale ranging from 1="not important" to 5="extremely important". The scale was developed based on the responses of the owner-managers in the pilot study. The items used in this scale (employee security, employee satisfaction and employee loyalty) were summed and divided by three. The range of possible scores is 1 to 5, with high scores indicating a focus on employee related objectives in strategy formulation.

The scale of financially orientated objectives consists of four items in a 5-point Likert scale, ranging from 1="not important" to 5="extremely important". The findings of the qualitative study aided in the development of this scale. The items used in the scale (profitability, cost reduction, customer base increase and finding suppliers who offer better financial terms) were summed and divided by four. The range of possible scores is 1 to 5, with high scores indicating that importance of financial objectives is high during strategy formulation.

Learning and Growth Objectives scale (LGO)=

TRG5+TRG6+TRG8+TGR13+TRG14+TRG20/6

Employee Related Objectives scale (ERO) =

TRG17+ TRG18+ TRG19/3

Financially Orientated Objectives scale (FOO) =

TRG1 + TRG3+ TRG9 + TRG11/4

8.6.2 Creating new categorical variables

In order to test hypotheses and identify relationships between the contingent factors and the strategy formulation processes, data analysis is required to alter the form of the same variables from ordinal to categorical.

For example, in order to evaluate the theoretical model and to identify relationships in the model's constructs between the contingent factors of SMEs and strategy formulation, there was a need to change the data on these factors' variables from ordinal to nominal by using the "recode" order in SPSS. By using this order, the variables can be collapsed into categories to allow multiple regression test analyses.

8.6.2.1 Organisational Size

The first contingent factor needed to change the data variable was organisational size. Therefore, three new categorical variables for the organisational size – micro, small and medium – were created to enable the analysis to be conducted. Each company in the sample was reclassified by its number of employees into one of the three groups of organisational size. The first group (micro) consists of all companies with a number of employees from 0 to

9. The second group (small) consists of all companies with a number of employees from 10 to 49. The third group (medium) consists of all companies with a number of employees from 50 to 249. The re-classifications were made according to the EU classification directives for SMEs and there was no need to find the cut-off points to divide the sample.

8.6.2.2 **Owner-manager characteristics**

The second variable that was required to change from ordinal to categorical was the number of years in command of the SME by the manager. A new variable was created that had four possible values (1, 2, 3 and 4). Each manager in the sample was reclassified into one of these groups by the years in command. The first group consists of managers being in command of an SME from 0-5 years, the second group consists of managers being in command from 6-10 years, the third group consists of managers being in command from 11 to 15 years and the fourth group consists of managers being in command from 16 years and above.

The third variable that needed to be modified from ordinal to categorical was the educational level. The new variable that was generated had only three possible values and the owner-managers were reclassified into one the groups according to their educational level. Value 1 represented lower educational level (primary school and high school graduates), value 2 represented average educational level (technical institution and university graduates) and Value 3 represented higher educational level (Master's graduates and PhDs).

8.6.2.3 **SME characteristics**

In order to test hypotheses and to identify differences between the specific characteristics of SMEs and their strategy formulation, it was again required that the data analysis change the nature of some variables from ordinal variables to categorical variables. Using the "recode" order in SPSS these variables can be collapsed into categories to allow ANOVA test analysis.

The variable that was modified from ordinal to categorical was the ownership structure of SMEs. A new variable was created that had three possible values (1, 2 and 3). Each SME in the sample was classified into the new categories according to the participants' responses. Value 1 represented family owned SMEs, value 2 represented part family-owned SMEs and value 3 represented non-family owned SMEs.

8.7 Summary

This chapter has described the preparation of the data for the main analysis in order to test the hypotheses of the study. The 334 questionnaires collected were edited, coded and entered in SPSS version 17.

Corrected item-total correlations and Cronbach's alpha were employed to assess the reliability of the newly developed scales used in this study. The results of Cronbach's alpha demonstrate that the scales with the final items are reliable and have good content and construct reliability.

Factor analysis was employed to test the construct validity of specific scales, to reduce the items and to identify the underlying dimensions. Based on the results of the reliability tests and the FA, the final measures of the variables were computed and new categorical variables created.

Chapter 9 ANALYSIS OF QUANTITATIVE DATA

9.1 Introduction

This chapter aims to provide answers to some of the main research questions as to what the contingent factors are that affect the strategy formulation process and what the relationship is between accounting information use, strategy formulation and financial performance. It will examine the objectives set by SMEs when formulating strategies. Finally, it will examine the differences between dissimilar strategy formulation processes and the firms' performance. Firstly, multivariate analysis of standard regression undertaken is described in this chapter, to examine how well the set of contingency factors are able to predict different processes of strategy formulation. Next, the relationship between accounting information and strategy formulation will be explored. Furthermore, the relationship between strategy formulation and the importance of objectives will be examined. Finally, the relationship between strategy formulation approaches and financial performance will be examined. The exploration of all the relationships will be conducted using the Pearson product-moment correlation coefficient. Furthermore, in order to examine the differences amongst the characteristics of SMEs (sector and ownership), the analysis will continue with simple mean-difference tests for the different approaches to strategy formulation (ANOVA test). Overall, this chapter will show the extent

to which the theoretical model of strategy formulation with the integration of accounting information can be used to predict and explain the effect on the organisational performance of SMEs.

This chapter consists of eight main sections. After this brief introduction, Section 9.2 provides demographic information for the sample and Section 9.3 presents descriptive statistics for the main variables of the study. Section 9.4 describes the hypotheses tested in this part of the study. Section 9.5 presents an overview of the assumptions underlying the statistical analyses that have been undertaken. Regression analysis of the new theoretical model is presented in Section 9.6. The relationships between accounting information and strategy formulation, the relationships between strategy formulation and the importance of objectives and the relationships between strategy formulation and financial performance are discussed in Section 9.7. The similarities and differences between different characteristics of the SMEs in relation to different strategy formulation processes are discussed in Section 9.8. Finally, Section 9.9 presents the conclusion of the chapter.

9.2 Sample profile

Table 9.1 presents demographic information about the SMEs and the managers. Initially the manager demographics will be presented. According to the survey results of the study which took part in the end of 2009, the participants comprised 249 men (74.6%) and 85 women (25.4%). Most of the managers were between the ages of 42-51 years old (33.5%) and between the ages of 32-41 (27.2%). Of the participants, 162 were university graduates (48.5%), 105 did not receive a higher education (31.4%) and 67 had a Masters Degree and/or a PhD (20.1%). From the 334 managers, 147 had business/management related training (44%), 103 had training related to their business's activities (30.8%) and 87 had no training either in business related topics, or their business's activities (25.2%). Concerning the

ownership of the business, the majority of respondents were the owner-managers of their companies, numbering 250 (74.9%), and 84 (25.1%) were hired managers. In relation to the years in command of the company, 79 of the respondents (23.7%) had been in charge for 0-5 years, 72 (21.6%) for 6-10 years, 60 (18%) for 11-15 years, 52 (15.6%) for 16-20 years and 71 (21.3%) had been in control of the company for over 21 years.

Next, the descriptive statistics of the SMEs will be presented. Of the 334 SMEs, 79 (23.7) were sole proprietorships, 82 (24.6%) were general partnerships, 21 (6.3%) were limited partnerships, 42 (12.6%) were private limited companies and 110 (32.9%) were public limited companies (32.9%). Concerning the sector where these SMEs were placed, 110 (32.9%) were in the commercial sector, 33 (9.9%) were in the construction sector, 53 (15.9%) were in the manufacturing sector, 125 (37.4%) were in the service provider sector and 13 (3.9%) were in other sectors. In relation to the age of the companies, 41 (12.3%) had been in business for between 0-5 years, 50 (15%) for between 6-10 years, 38 (11.4%) for between 11-15 years, 79 (23.7%) for 16-20 and the majority, 126 (37.7%), had been in business for over 21 years. An interesting observation from examining the sample profile is that the majority of managers who completed the questionnaire own or are currently employed in SMEs which have been in business for more than 20 years (37.7%). This is potentially a limitation of the thesis as it constitutes a sampling bias. This limitation will be discussed in chapter 11.

Regarding the number of employees, 154 SMEs had up to 9 employees (46.1%), 99 had from 10 to 29 employees (29.6%), 35 had 30 to 49 employees (10.5%), 21 had 50 to 99 employees and finally, 25 SMEs had 100 to 249 employees (7.5%).

Sex		
Male	249	74.6
Female	85	25.4
Age		
18-30	60	18.0
32-41	91	27.2
42-51	112	33.5
52-61	55	16.5
Over 61	16	4.8
Highest educational qualification		
Primary School	7	2.1
Gymnasium	11	3.3
Lyceum	87	26.0
Higher Educational Degree (TEI)	50	15.0
Highest Educational Degree (AEI)	112	33.5
Postgraduate Degree	62	18.6
Doctoral Degree	5	1.5
Training and Specialisation		
Business/management subjects	147	44.0
Subjects related to company's activities	103	30.8
None of these	84	25.1
Ownership		
Yes	250	74.9
No	84	25.1
Years in company		
0-5	79	23.7
6-10	72	21.6

11-15	60	18.0
16-20	52	15.6
Over 20	71	21.3
Legal Form		
Sole Proprietorship	79	23.7
General Partnership	82	24.6
Limited Partnership	21	6.3
Private Limited Company	42	12.6
Public limited company	110	32.9
Sector		
Retail/Wholesale	110	32.9
Construction	33	9.9
Manufacturing	53	15.9
Service Provider	125	37.4
Other	13	3.9
Years in Business		
0-5	41	12.3
6-10	50	15.0
11-15	38	11.4
16-20	79	23.7
Over 21	126	37.7
Number of Employees		
0-9	154	46.1
10-29	99	29.6
30-49	35	10.5
50-99	21	6.3
100-249	25	7.5

Table 9.1: Sample Profile

9.3 Descriptive statistics

Table 9.2 provides descriptive information for the variable formality of the strategy formulation process. The SMEs scores are just above the mean point (3) for normative/descriptive dimension of strategy formulation.

	N	Minimum	Maximum	Mean	Std. Deviation
Normative/Descriptive Dimension	334	1.25	4.50	3.03	0.52

Table 9.2: Formality and Sophistication of Strategy Formulation

Table 9.3 exhibits the descriptive statistics for the variable of centralisation of strategy formulation process. The scores for the individual/collective approach are above the mean point (3).

	N	Minimum	Maximum	Mean	Std. Deviation
Individual/Collective Dimension	334	2.00	5.00	3.56	0.54

Table 9.3: Centralisation of Strategy Formulation

Table 9.4 shows the contingency factors of the perceived environmental volatility and level of technology. All of the scores for the environment variables are above the mean point (3) and the scores for technology are also above the mid-point.

	N	Minimum	Maximum	Mean	Std. Deviation
Environment	334	1.88	5.00	3.60	0.53
Technology	334	1.00	5.00	3.43	0.80

Table 9.4: Contingent Factors of Environment and Technology

Table 9.5 shows the importance of objectives during strategy formulation. All objectives are above the mid-point, but financial objectives exhibit the highest mean score

(4.32). Non-financial objectives (technological and innovative) and non-financial objectives (employee related) have 3.72 and 3.81 mean scores respectively.

	N	Minimum	Maximum	Mean	Std. Deviation
Non-financial (learning and growth) objectives	334	1.00	5.00	3.72	0.78
Non-financial (employee related) objectives	334	1.00	5.00	3.81	0.87
Financial oriented objectives	334	2.00	5.00	4.32	0.54

Table 9.5: Objective importance during Strategy Formulation

Table 9.6 shows the usage of information sources by SMEs. Interestingly, the mean score for accounting information usage is far above the mid-point (23)

	N	Minimum	Maximum	Mean	Std. Deviation
Information Sources	334	13.00	46.00	29.58	6.68

Table 9.6: Accounting information sources usage

Table 9.7 presents the descriptive statistics for the usage of accounting information. Interestingly, accounting information usage has a mean-score just above the mid-point (64).

	N	Minimum	Maximum	Mean	Std. Deviation
Accounting Information Data	334	26.00	90.00	64.69	11.36

Table 9.7: Usage of accounting information data

Table 9.8 presents the descriptive statistics for the variable of the perceived usefulness of accounting information. The mean score is far above the mid-point (35).

	N	Minimum	Maximum	Mean	Std. Deviation
Usefulness of accounting information	334	21.00	68.00	48.90	9.76

Table 9.8: Usefulness of accounting information

9.4 Testing the hypotheses

Statistical hypothesis testing is straightforward in principle (Zar, 1999), consisting of four steps:

- Formulate a null hypothesis or an alternative hypothesis
- Identify a test statistic
- Compute the test statistic value for the sample of interest
- Accept or reject the null hypothesis, based on the distribution of the test statistic, when the null hypothesis is true

All the above steps were taken into consideration while processing the analysis.

As mentioned above in Chapter 1, different hypotheses have been formulated, based on the theoretical framework, in order to test and evaluate the relationships and differences between the variables.

H1: The contingency factors are not significant predictors of the normative/descriptive dimension of strategy formulation

H1a: Organisational size is not a significant predictor of the normative/descriptive dimension of strategy formulation

H1b: The level of technology is not a significant predictor of the normative/descriptive dimension of strategy formulation

H1c: The external environmental volatility is not a significant predictor of the normative/descriptive dimension of strategy formulation

H1d: The manager's characteristics are not significant predictors of the normative/descriptive dimension of strategy formulation

H1d1: The manager's educational level is not a significant predictor of the normative/descriptive dimension of strategy formulation

H1d2: The manager's years in command of an SME is a not a significant predictor of the normative/descriptive dimension of strategy formulation

H2: The contingency factors are not significant predictors of the individual/collective dimension of strategy formulation

H2a: Organisational size is not a significant predictor of the individual/collective dimension of strategy formulation

H2b: The level of technology is not a significant predictor of the individual/collective dimension of strategy formulation

H2c: The external environmental volatility is not a significant predictor of the individual/collective dimension of strategy formulation

H2d: The manager's characteristics are not significant predictors of the individual/collective dimension of strategy formulation

H2d1: The manager's educational level is not a significant predictor of the individual/collective dimension of strategy formulation

H2d2: The manager's years in command of an SME is not a significant predictor of the individual/collective dimension of strategy formulation

H3: There is not a significant relationship between accounting information and the dimensions of strategy formulation

H3a: There is not a significant relationship between information sources and different dimensions of strategy formulation

H3a1: There is not a significant relationship between information sources and the normative/descriptive dimension of strategy formulation

H3a2: There is not a significant relationship between information sources and the individual/collective dimension of strategy formulation

H3b: There is not a significant relationship between accounting information data usage and different dimensions of strategy formulation

H3b1: There is not a significant relationship between accounting information data usage and the normative/descriptive dimension of strategy formulation

H3b2: There is not a significant relationship between accounting information data usage and the individual/collective dimension of strategy formulation

H3c: There is not a significant relationship between the usefulness of accounting information and different dimensions of strategy formulation

H3c1: There is not a significant relationship between the usefulness of accounting information and the normative/descriptive dimension of strategy formulation

H3c2: There is not a significant relationship between the usefulness of accounting information and the individual/collective dimension of strategy formulation

H4: There is not a significant relationship between strategy formulation approaches and importance of objectives

H4a: There is not a significant relationship between the normative/descriptive dimension and the importance of objectives

H4a1: There is not a significant relationship between the normative/descriptive dimension and the importance of learning and growth objectives

H4a2: There is not a significant relationship between the normative/descriptive dimension and the importance of employee related objectives

H4a3: There is not a significant relationship between the normative/descriptive dimension and the importance of financial objectives

H4b: There is not a significant relationship between the individual/collective dimension and the importance of objectives

H4b1: There is not a significant relationship between the individual/collective dimension and the importance of learning and growth objectives

H4b2: There is not a significant relationship between the individual/collective dimension and the importance of employee related objectives

H4b3: There is not a significant relationship between the individual/collective dimension and the importance of financial objectives

H5: There is not a significant relationship between strategy formulation and financial performance

H5a: There is not a significant relationship between the normative/descriptive dimension and financial performance

H5b: There is not a significant relationship between the individual/collective dimension and financial performance

H6: There is not a significant difference between SME characteristics and strategy formulation approaches

H6a: There is not a significant difference between SME characteristics and the normative/descriptive dimension of strategy formulation

H6a1: There is not a significant difference between SME sector and the normative/descriptive dimension of strategy formulation

H6a2: There is not a significant difference between SME ownership and the normative/descriptive dimension of strategy formulation

H6b: There is not a significant difference between SME characteristics and the individual/collective dimension of strategy formulation

H6b1: There is not a significant difference between SME sector and the individual/collective dimension of strategy formulation

H6b2: There is not a significant difference between SME ownership and the individual/collective dimension of strategy formulation

In order to statistically test the above hypotheses related to the evaluation of the contingency model, multiple regression analysis, Pearson correlation and ANOVA tests were employed. Multiple regression analysis was used as the most appropriate test to explore the combined effects of the contingent factor variables on strategy formulation (Hypotheses 1 and 2). The Pearson correlation coefficient was used to examine the relationship of accounting information integration to the strategy formulation process (Hypothesis 3), the association of different financial and non-financial business objectives and the dimensions of strategy formulation (Hypothesis 4) and the relationship between the different dimensions of strategy formulation and financial performance (Hypothesis 5). Finally, ANOVA was employed to compare different SME characteristics and their differences with the dimensions of strategy formulation (Hypothesis 6).

9.5 Analysis overview

There are a few assumptions common to multivariate statistical tests that must be met for the tests to be accurate (Pallant 2001). In order to proceed with the statistical analysis, the assumptions underlying the multivariate analysis, and in particular multiple regression, are presented and tested with respect to the present set of data. The conditions to be met are the following (see, for example, Draper and Smith, 1981; Berry and Feldman, 1985; Pedhazur,

1982; Cohen and Cohen, 1983; Schroeder *et al*., 1986; Sen and Srivastava, 1990; Chatterjee and Price, 1991; Tabachnick and Fidell, 1996*):*

1) The variables must be measured at least at the interval level and there must be no error involved in their measurement.

In relation to the first part of the above assumption, the measurement of scales of variables is classified according to their level of accuracy. There are four scales of measurement: nominal scales, ordinal scales, interval scales and ratio scales (Stevens, 1946). A nominal scale classifies objects into categories based on pre-defined characteristics. The ordinal scale also organises objects based on characteristics but also gives a rational order to the categorisation. Variables measured on an interval scale have all the properties of those measured on ordinal scales, but the differences between levels of categories reflect equivalent differences in the characteristic measured. Finally, ratio scales have one property in addition to the properties of the interval scale: the zero point that reflects a lack of the characteristic measured. Interval and ratio scales of measurements of variables are accepted to be the utmost level of variable measurement (Bryman and Cramer, 2001). In addition, Bryman and Cramer (2001) argued that variables obtained from multiplex-item scales are ordinal variables, not interval variables. They noted that it is not known whether the difference between a score of 4 and 5 is the same as the difference between 1 and 2. Therefore, most of the variables in this thesis are ordinal variables. One of the requirements for parametric tests, mainly for regression analysis, is that the scales are of at least interval type (Kim and Mueller, 1978). However, other authors consider that even variables that are produced by ordinal scales (that is, scales without a clearly established metric base) can be used without serious violation of the underlying assumptions (Kim and Mueller, 1978, 1994; Asher, 1983; De Vellis, 1991). The Pearson correlation coefficient (Pearson, 1900), on which the techniques are based, is

quite a robust statistic for ordinal distortions of measurement (Kim, 1975). In this research, the variables measured by multiplex-item scales (Likert scale) were treated as interval variables – although they are in fact ordinal variables – in order to get the benefit of using powerful statistical techniques.

The second part of the condition refers to the reliability and validity of the measures. Regarding reliability, in multivariate regression analysis lack of reliability in the criterion variable can lead to underestimation of the significance of the regression coefficients. Lack of reliability in the predictor variables can have unpredictable bias effects on the regression coefficients (see, for example, Greene, 1978; Pedhazur, 1982; Berry and Feldman, 1985). These are issues of concern in the current study because of the employment of the regression technique, where inclusion in the final model is decided based on the statistical significance of the slope coefficients. All of the scales employed in the present study have Cronbach's alphas above .60 (except for the contingency factor of technology scale, which has .58). Therefore, progress can be made with assurance that the reliability of the measures is not an issue of concern in the current study.

The issue of validity is present every time that operationalisation of constructs is involved (see, for example, Nunnally, 1978; Berry and Feldman, 1985; Rust and Golombok, 1989). This issue can be dealt with only in advance, with the use of valid instruments. The validity of the measures used in the present study has already been assessed in Chapter 6. Chatterjee and Price (1991) point out that the condition for no non-random error in the measurement of the variables is extremely unlikely to be satisfied.

2) There must be no strong correlation between any of the predictor variables (r=0.9 and above; see Berry, 1993) and independent variables should not be a combination of other independent variables (multicollinearity and singularity assumption).

There is no general consensus regarding the meaning of multicollinearity for analyses using data from the "social world" (see, for example, Pedhazur, 1982; Berry and Feldman, 1985). Following suggestions in the literature, in the current work, multicollinearity is defined as the presence of 'high' correlations among the predictor variables to be used in the regression analysis. However, the size of the correlation considered as 'high' is another issue of dispute. The most serious effects of multicollinearity are the tendency of the t-ratios to be non-significant. This index will be employed in the current study; therefore, multicollinearity is an issue of potential concern.

To deal with this concern, the first step in dealing with multicollinearity is to have a sufficiently large sample size. This precaution seems to be addressed in the present data set. Apart from precautions regarding the ratios of variables to cases, a variety of techniques to test for multicollinearity have been proposed (see, for example, Rockwell, 1975; Willan and Watts, 1978; Pedhazur, 1982; Berry and Feldman, 1985; Chatterjee and Price, 1991). Two of these techniques were used in the current study: visual inspection of the correlation coefficients and inspection of the collinearity statistics. Correlation coefficients and collinearity statistics are generated by SPPS. The inspection was limited to the main variables in the study that were used as predictor variables in the regression analyses. The presence of multicollinearity among the confounding variables and/or in the correlations between confounding and main variables, though not desirable, is not considered a great danger for the validity of the conclusions.

When visually inspecting for evidence of multicollinearity, the appropriate cut-off values of the correlations are still an issue to be defined (see, for example, Asher, 1983). Berry and Feldman (1985) suggest that for small samples, a sufficient cut-off point should be a correlation coefficient size of .70, and for large samples, it should be a coefficient size of .85. Tabachnick and Fidell (1989) agree, generally suggesting coefficient sizes at the .70 level. What constitutes a small sample and a large sample is also an area of dispute. The ratio of variables to cases is in the vicinity of 1 to 3 in the present study. In any case, it was decided to use the .70 cut-off point for all sub-samples. The above technique, however, is not flawless. It is likely that even severe multicollinearity is not reflected in the size of the correlation coefficients (see, for example, Lewis-Beck, 1980; Berry and Feldman, 1985; Chatterjee and Price, 1991). Therefore, collinearity diagnostics were used to test the multicollinearity assumption further. Collinearity statistics are calculated by the formula 1- R^2 for each variable. If the value is very low (near 0), then this indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity. Values of tolerance (collinearity statistics) of less than .70 exhibit no violation of this assumption.

3) The residuals must be normally distributed about the predicted dependent variable scores.

Draper and Smith (1981) have supported the view that this assumption is usually satisfied. In addition, authors note that this assumption becomes critical only for small samples (see, for example, Bohrnstedt and Carter, 1971; Hanushek and Jackson, 1977; Berry and Feldman, 1985). The easiest way to check whether the variables are normally distributed is by looking at histograms and using various descriptive tests (for example, skewness and kurtosis). The skewness value provides an indication of the symmetry of the distribution. Kurtosis, on the other hand, provides information about the ‘peakness’ of the distribution. If

the distribution is perfectly normal, the values of kurtosis and skewness will be close to 0. This gives a preliminary idea about whether a distribution is close enough to normality. It is important before starting the analysis of the data to identify the normality of the data, that is, to test whether the data is normally distributed or not. However, with reasonably large samples (as in the case of this research) skewness and kurtosis will not "make a substantive difference in the analysis" (Tabachnick and Fidell, 1996, p. 73). In this study, histograms and Detrended Normal Q-Q Plots were used to assess the normality of the distribution of scores. In the next sections, histograms and Detrended Normal Q-Q Plots are provided across the statistical tests used.

4) The relationship between the predictor variables and the criterion variable must be linear (linearity assumption).

The linearity assumption is fundamental to the use of the general linear model. Intuitively speaking, it refers to the assumption that the 'best' regression model that can describe the relationship is linear. The problem with the linearity assumption is that it is very difficult to test. Specification of a highly significant linear model does not provide certainty that the 'best' descriptive model is linear. Furthermore, comparison of the linear specification with non-linear ones (for example, including polynomial, quadratic, etc. terms) is a very difficult and laborious, if not impossible, procedure. In addition, the results of this procedure are questionable. A Residuals Scatterplot is a simple means for the inspection of linearity and is generated as part of the multiple regression procedure (Pallant, 2001). It gives an indication of whether the variables are related in a linear (straight-line) or curvilinear fashion. When the residuals are roughly rectangularly distributed, with most of the scores concentrated in the centre, there is not a violation of this assumption (Tabachnick and Fidell, 1996).

5) The variance of the error term (residuals) must be constant across sets of values for the independent variables (homoscedasticity assumption).

When this condition is not fulfilled, heteroscedasticity is present. Presence of heteroscedasticity can lead to bias in the estimations of the statistical significance of the regression coefficients. Heteroscedasticity is mostly a potential problem when cross-sectional types of data are analysed (Schroeder *et al.*, 1986). Therefore, it is clear that heteroscedasticity could be an issue in the current study.

A number of factors can cause heteroscedasticity (Tabachnick and Fidell, 2001). One factor can be measurement errors in the dependent variable. The issue of measurement error has already been addressed. Heteroscedasticity is also likely to be the result of the interaction between one or more of the predictor variables and one or more variables not included in the model (Berry and Feldman, 1985; Jaccard, Turrisi and Wan, 1990). This point relates to the specification of the type of the regression model, and the linearity assumption.

In any case, however, heteroscedasticity does not have any negative effects on the tests of statistical significance, unless it is severe (Bohrnstedt and Carter, 1971). It is difficult to determine what constitutes a 'severe' case of heteroscedasticity. As a means for investigating for the presence of heteroscedasticity, authors recommend visual inspection of the plots of the standardised regression residuals against the standardised predicted values of the criterion variables (Chatterjee and Price, 1991; Tabachnick and Fidell, 1996; Pallant, 2001). In the next sections, residuals scatterplots are provided across the statistical tests used.

6) Outliers are cases with extreme values occurring within discrete or continuous variables, either on a single variable (univariate outlier), or on a combination of scores on two or more variables (multivariate outlier) (Tilley, 1993).

Tabachnick and Fidell (2001) define outliers as cases that have a standardised residual (as displayed in the scatterplot) of more than 3.3 or less than -3.3. Outliers are an invasive problem in statistical analysis and potentially lead to both Type I and Type II errors (Tabachnick and Fidell, 1996). The cause of outliers could be related to incorrect data entry, failure to specify missing value codes, and the outlier not being a member of the intended population but with a more extreme value on the variable in comparison to the normal distribution for the population (Tabachnick and Fidell, 1996). As a rule of thumb, 95% of standardised residuals should lie within ± 3 (Hair *et al*., 1998).

9.6 **Regression analysis**

The data from this research is comprised of four main predictor variables: organisational size, external environment, technology and characteristics of the manager (2 sub-predictors, educational level and years in command). Any or all of these predictors and sub-predictors may influence the criterion variable, which is the selection of a strategy formulation approach. The relationship between these variables was investigated by standard multiple regression.

Multiple linear regression might be regarded as an extension of simple linear regression when more than one independent variable is included in the regression model, as in this study. Regression techniques can be applied to a data set in which the independent variables are correlated with one another and with the dependent variable to varying degrees (Hair *et al*., 1998). For each individual there is information on its values for the criterion variable y, and each independent variable k (x_1, x_2, x_3,..... x_k). Frequently, focus centres on determining whether a particular independent variable, x_1, has a significant effect on y after adjusting for the effects of the other independent variables. Moreover, it is also possible to measure the joint effect of these k independent variables on the y dependent variable by formulating an appropriate model, which can then be used to predict values of y for a particular combination

of independent variables (Hair *et al*., 1998). The general equation for the linear multiple regression analysis takes the following form:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + ... + b_kx_k + e$$

Where:

Y = predicted value of the dependent variable

a = value of the dependent variable when all of the independent variables are zero, that is, the Y intercept.

b_i = regression coefficients

x_i = independent variables

e = error term which points to the fact that a proportion of the variance in the dependent variable Y is unexplained by the regression equation. The error term is ignored since it is not used for making predictions.

The relative importance of the predictor variables in the regression equation was assessed by means of the size of the standardised regression coefficient beta (β). The use of the standardised regression coefficients as a means for discussing the relative importance of the predictors is universally accepted in the literature. Authors, however, call for caution when comparisons of β values are made (see, for example, Achen, 1982; Pedhazur, 1982). One of the reasons is that β values are affected by the variability of the relevant variables, whilst unstandardised regression coefficients are not. Nonetheless, it is considered inappropriate to use unstandardised regression coefficients in cases where the scales of

measurement (for example, contingency factors) are not uniform or do not have a direct empirical analogue of their meaning. Furthermore, the pattern of relationships, hence the relative, and not the absolute effect sizes, is the point of interest in this study. The adjusted values for the coefficient of multiple determination R^2 (Wonnacott and Wonnacott, 1979) will be reported. This is because, for relatively small sample sizes, R^2 values tend to be inflated. The adjusted R^2 takes into account the increase in the number of predictors in the equation (see, for example, Wonnacott and Wonnacott, 1979; Berry and Feldman, 1985; Schroeder *et al*., 1986). Therefore, the adjusted R^2 can provide a better estimation of the actual increase in the amount of variance accounted for when a new variable (or block of variables) enters the regression equation. Achen (1982) recommends use of the adjusted R^2 when we have sample sizes below 200. Furthermore, the adjusted R^2 is especially recommended when the stepwise procedure is used (see, for example, Cooley and Lohnes, 1971; Montgomery and Morrison, 1973; McIntyre *et al*., 1983). The main reason for performing the regression analysis is to examine which of the predictor variables makes the strongest unique contribution to explaining the dependent variable, when the variance explained by all other variables in the model is controlled for.

Generating a multiple regression analysis from SPSS includes an analysis of variance (ANOVA) table. This is used to assess whether at least one of the independent variables has a significant linear relationship with the dependent variable. The null hypothesis is that all the partial regression coefficients in the model are zero. The ANOVA table divides the total variance of the dependent variable, y, into two components: the relationship of y with all the x's, and the residual variance. These two variances are compared in the table by calculating their ratio, which follows the F-test in order that a p value can be determined. If $p<0.050$, it is unlikely that the null hypothesis is true (Field, 2000).

When the result of the F-test from the analysis of the variance table is significant (that is, sig<0.000, this really means p<0.005), indicating that at least one of the independent variables is separately associated with the effect variable, it is essential to establish which of the variables is a useful predictor of effect. Each of the regression coefficients in the model can be tested (the null hypothesis is that the true coefficient is zero in the population) using a test statistic which follows the t-distribution with n - d -1 degrees of freedom, where n is the sample size and d is the number of independent variables in the model. This test is the ratio of the estimated coefficient to its standard error (Field, 2000). The SPSS output of multiple regression analysis contains a table which typically shows the constant term and estimated partial regression coefficients with their standard errors, the test statistic for each coefficient and the resulting p value. From this information, the multiple regression equation can be formulated and a decision made as to which of the independent variables is significantly separately associated with the result.

9.6.1 **Testing the contingency fit of strategy formulation dimensions**

Standard multiple regression was employed in order to test the contingency model of the study. Standard multiple regression is the most commonly used multiple regression analysis. It assesses relationships among variables and answers the basic question of multiple correlations (model testing procedure) (Tabachnick and Fidell, 2001). In this type of regression all the independent (predictor) variables are entered into the equation simultaneously. Each independent variable is evaluated in terms of its predictive power, over and above that offered by all the other independent variables. This study, using standard regression, has regressed the dimensions of strategy formulation against the four main predictor variables, which are organisational size, technology, environment and owner-

manager characteristics, according to the contingency theory (Donaldson, 2001) and the analysis of the qualitative research.

After the model's strategy formulation dimensions have been tested as a whole with standard regression, there was a need to identify which specific contingent factor predicts better the selection of a specific dimension of strategy making. The general goal of regression is to identify the fewest independent variables to predict the criterion variable, where each independent variable predicts a substantial and independent segment of the variability in the criterion variable (Tabachnick and Fidel, 2001).

Prior to both regression analyses, the data were tested to see if they fulfilled the assumptions of multiple regression.

9.6.1.1 Standard regression analysis: Normative/Descriptive Dimension against the main predictors

A standard multiple regression was performed between the normative/descriptive dimension of strategy formulation as the dependent variable and the contingent factors of technology, environment, organisational size and owner-manager characteristics (educational level of the manager and manager's years in command of the SME) as independent variables. Analysis was performed using SPSS REGRESSION and SPSS EXPLORE for evaluation of assumptions.

9.6.1.1.1 Testing the assumptions (Practical Issues)

Multicollinearity

The multicollinearity assumption was tested with the correlation matrix and with 'Tolerance' and 'Variance Inflation Factor' (VIF). Those statistics were obtained through regression analysis; SPSS performs 'collinearity diagnostics' on the predictor and criterion variables as

part of the multiple regression programmes. The relationship between predictor and criterion variables must be above 0.3 at least (Pallant, 2001). The bivariate correlation between each of the predictor variables must be less than 0.7 (Tabachnick and Fidell, 1996). Table 9.9 shows that the correlation between independent variables is less than 0.20. Furthermore, the correlation between dependent and independent variables is between 0.302 and 0.412 above the cut-off point of 0.300 (Pallant, 2001).

Variables	Normative/ Descriptive Dimension	Technology	Environment	Organisational Size	Educational Level	Manager's Years in Command
Normative/ Descriptive Dimension	1.000					
Technology	0.367					
Environment	-0.309	-0.174				
Organisational Size	0.412	0.204	0.015			
Educational Level	0.342	0.113	0.003	0.059		
Manager's Years in Command	-0.302	-0.154	-0.107	-0.129	-0.189	

Note: All correlations are significant at $p<0.000$

Table 9.9: Intercorrelation matrix (standard regression)

Low tolerance means a high degree of multicollinearity among the corresponding variables. However, when the VIF is the inverse (reciprocal) of the tolerance, large values indicate a high degree of multicollinearity. A tolerance value of less than 0.10, or a VIF value of more than 10.0, is regarded as confirmation of statistically significant multicollinearity (Hair *et al.*, 1998). Table 9.10 shows that tolerance values are not less than the cut-off level of 0.10 and that the VIF values do not exceed 10.0.

Predictor Variables	Tolerance	VIF
Technology	.929	1.077
Environment	.969	1.032
Organisational Size	.958	1.044
Manager's Education	.861	1.162
Manager's Years in Command	.908	1.102

Criterion variable: Normative/Descriptive Dimension of Strategy Formulation

Table 9.10: Collinearity statistics (standard regression)

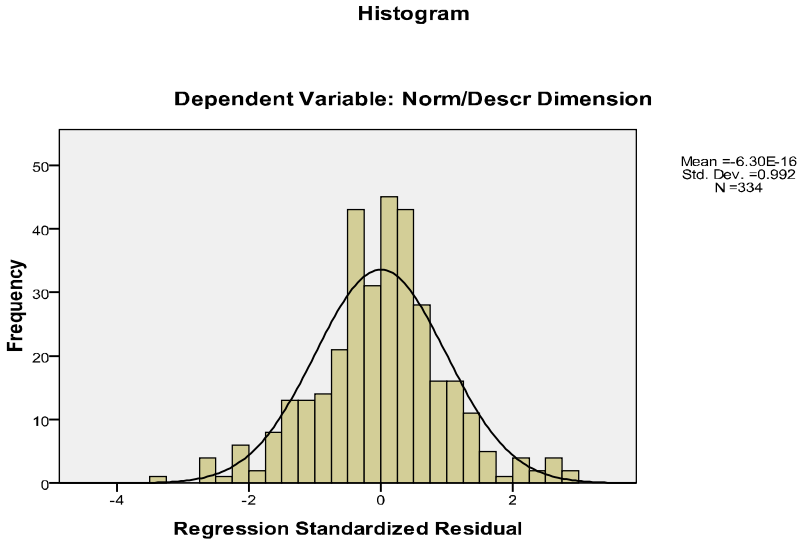
Examining the correlation matrix and the values of tolerance and VIF has confirmed that multicollinearity among the independent variables is not an issue of concern for the regression analysis at hand.

Normality, Linearity, Homoscedasticity

In order to examine the normality, linearity and homoscedasticity assumptions, a histogram, a plot of standardised residuals against predicted values of the dependent variable and a scatterplot are provided in Figures 9.1, 9.2 and 9.3. All these figures are provided by SPSS as part of the multiple regression analysis.

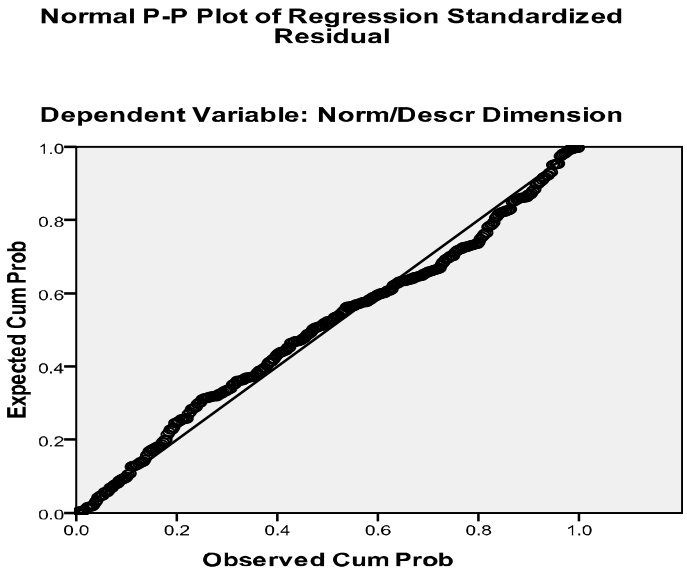
Figure 9.1 provides a clearer picture of the shape of the distribution. The bell-shaped histogram approximates to the normal distribution; it is approximately symmetrical and there is not much kurtosis. Normality was not assessed by obtaining skewness and kurtosis values, as Tabachnick and Fidell (1996) supported by saying that, with reasonably large samples (200+ cases), skewness and kurtosis will not "make a substantive difference in the analysis" and the risk is reduced.

Figure 9.1: Histogram of standard regression



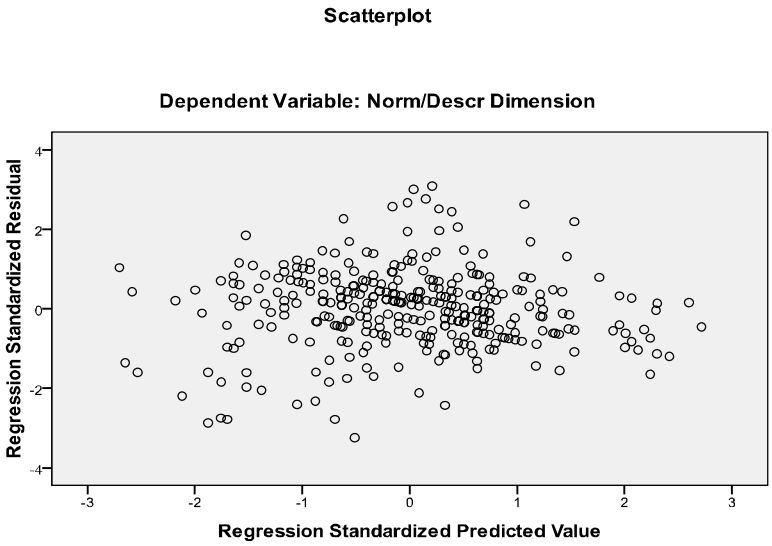
Moreover, points clustered around a straight line in a probability plot support the normality assumption of residuals, as shown in Figure 9.2. All the points in the normal P-P plots were in a reasonably straight diagonal line from bottom left to top right. These results confirm a normal distribution of errors in testing the model.

Figure 9.2: Normal P-P plot of standard regression standardised residual



The scatterplot of standardised residuals in Figure 9.3 exhibits that most of the scores are concentrated in the centre along the 0 point (Pallant, 2001). If the residuals are randomly and evenly dispersed throughout the scatterplot, assumptions of linearity are met (Hair *et al*., 1998). Therefore, the assumptions of normality, linearity and homoscedasticity have not been violated in this statistical analysis.

Figure 9.3: Scatterplot of standardised residual in standard regression



Outliers test

As shown in Table 9.11, the analysis of standardised residuals among independent variables and the normative/descriptive dimension variable revealed that only three cases (0.9% of the total sample) were outside of ±3. As Pallant (2001) suggested, when dealing with outliers there is no need to take any action when you have a large sample and only a few cases as outliers.

Case Number	Std. Residual	Normative/Descriptive Dimension	Predicted Value	Residual
261	-3.243	1.42	2.9029	-1.48623
263	3.005	4.42	3.0396	1.37707
269	3.092	4.50	3.0828	1.41715

Dependent Variable: Normative/Descriptive Dimension

Table 9.11: Casewise Diagnostics of standard regression

9.6.1.1.2 Evaluating the model

In table 9.12, we can observe the ability of the model's independent variables to predict the selection of a specific approach of the normative/descriptive dimension of strategy formulation. The R value is 0.624, which indicates that there is a large correlation between the predictor variables, all lumped together into one model. This model explains 38.9% of the variances in selecting a specific approach to strategy formulation (normative or emergent) in the present sample ($R^2 = .389$) and for 37.1% in the population (Adjusted $R^2 = .371$)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.624[a]	.389	.371	.45828

a. Predictors: Organisational size, Technology, External Environment, Manager Characteristics
b. Dependent Variable: Normative/Descriptive Dimension

Table 9.12: Model Summary of standard regression – Normative/Descriptive Dimension

The output obtained from the SPSS analysis also helped formulate a variance table (Table 9.13). The *F*-ratio obtained from this table equals 32.724, with 3 degrees of freedom in the numerator and 330 degrees of freedom in the denominator. The associated *p*-values, $p<0.001$, indicate that there is substantial evidence to reject the null hypothesis that all the partial regression coefficients are equal to zero.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.618	3	6.873	32.724	.000
	Residual	69.308	330	.210		
	Total	89.927	333			

a. Predictors: (Organisational size, Technology, External Environment, Manager Characteristics
b. Dependent Variable: Normative/Descriptive Dimension

Table 9.13: Analysis of variance (ANOVA) in standard regression

ANOVA revealed that the overall model, including all four main predictors – technology, environment, owner-manager characteristics and organisational size – is a significant predictor of the selection of a specific strategy formulation approach concerning the normative-descriptive dimension.

9.6.1.1.3 Evaluating each of the independent variables

It can be seen from Table 9.14 which of the contingent factor variables individually contributes to the prediction of strategy formulation approach concerning the normative-descriptive dimension, by looking at each of the individual *t*-tests. Thus, it can be seen that all independent variables are significant predictors. However, in order to evaluate the strength of each predictor variable in the model it is important to use the standardised coefficients (beta) (Pallant, 2001). 'Standardised' means that the values for each of the variables have been converted to the same scale so they are comparable (Field, 2000). The beta weight indicated that organisational size was the strongest predictor (β = .358, p<0.000), followed by technology (β = 272, p<0.000), next is the educational level of the manager (β = .262, p<0.05), after that is the environment (β = -.212, p<0.000) and, finally, the manager's years in command (β = -.209, p<0.05).

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		β	Std Error	Beta		*P*-values
1	(Constant)	2.654	.196		13.561	.000
	Technology	.177	.033	.272	5.420	.000
	Environment	-.175	.048	-.212	-3.634	.000
	Organisational Size	.240	.036	.358	6.596	.000
	Manager's Education	.231	.037	.262	3.496	.001
	Manager's Years in Command	-.203	.042	-.209	-3.255	.008

Dependent Variable: Normative/Descriptive Dimension

Table 9.14: Coefficients results of standard regression analysis

Based on the above results, table 9.15 summarises hypothesis 1 and each sub-hypothesis:

Hypotheses	Results
Hypothesis 1: The contingency factors are not significant predictors of the normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 1a: Organisational size is not a significant predictor of the normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 1b: Technology is not a significant predictor of the normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 1c: The external environment is not a significant predictor of the normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 1d: Manager's characteristics are not significant predictors of the normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 1d1: Manager's educational level is not a significant predictor of the normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 1d2: Manager's years in command of an SME is a not a significant predictor of the normative/descriptive dimension of strategy formulation	Rejected

Table 9.15: Summary of Hypothesis 1 and sub-hypotheses

9.6.1.2 **Standard regression analysis: Individual/Collective Dimension against the main predictors**

A standard multiple regression was conducted between the individual/collective dimension of strategy formulation, as the dependent variable, and the contingent factors of technology, environment, organisational size and owner-manager characteristics (educational level, years in command), as independent variables. Analysis was performed using SPSS REGRESSION and SPSS EXPLORE for evaluation of assumptions.

9.6.1.2.1 Testing the assumptions (Practical Issues)

Multicollinearity

The multicollinearity assumption was tested again with the correlation matrix and with "Tolerance" and "Variance Inflation Factor" (VIF). As it was mentioned in the previous section the relationship between predictor variables and criterion variables must be above 0.3 at least (Pallant, 2001). The bivariate correlation between each of the predictor variables must be less than 0.7 (Tabachnick and Fidell, 1996). In Table 9.16, it is shown that the correlation between independent variables is less than 0.17. Furthermore, the correlation between dependent and independent variables is between 0.311 and 0.488, which is above the cut-off point of 0.300 (Pallant, 2001).

Variables	Normative/ Descriptive Dimension	Technology	Environment	Organisational Size	Educational Level	Manager's Years in Command
Normative/ Descriptive Dimension	1.000					
Technology	-.323					
Environment	-.488	.169				
Organisational Size	-.340	.078	.104			
Educational Level	.311	-.166	-.027	-.130		
Manager's Years in Command	-.368	-.009	.015	.174	.048	

Note: All correlations are significant at $p<0.000$

Table 9.16: Intercorrelation matrix (standard regression)

Low tolerance means a high degree of multicollinearity among the corresponding variables. However, when the VIF is the inverse (reciprocal) of the tolerance, large values indicate a high degree of multicollinearity. A tolerance value of less than 0.10, or a VIF value of more than 10.0, is regarded as confirmation of statistically significant multicollinearity (Hair *et al*., 1998). Table 9.17 shows that the lowest tolerance value of any of the predictors is 0.861 and VIF values did not exceed 1.162 for any contingent factor variable.

Predictor Variables	Tolerance	VIF
Technology	.911	1.098
Environment	.964	1.037
Organisational Size	.889	1.125
Educational level	.861	1.162
Manager's Years in Command	.908	1.102

Criterion variable: Individual/Collective Dimension of Strategy Formulation

Table 9.17: Collinearity statistics (standard regression)

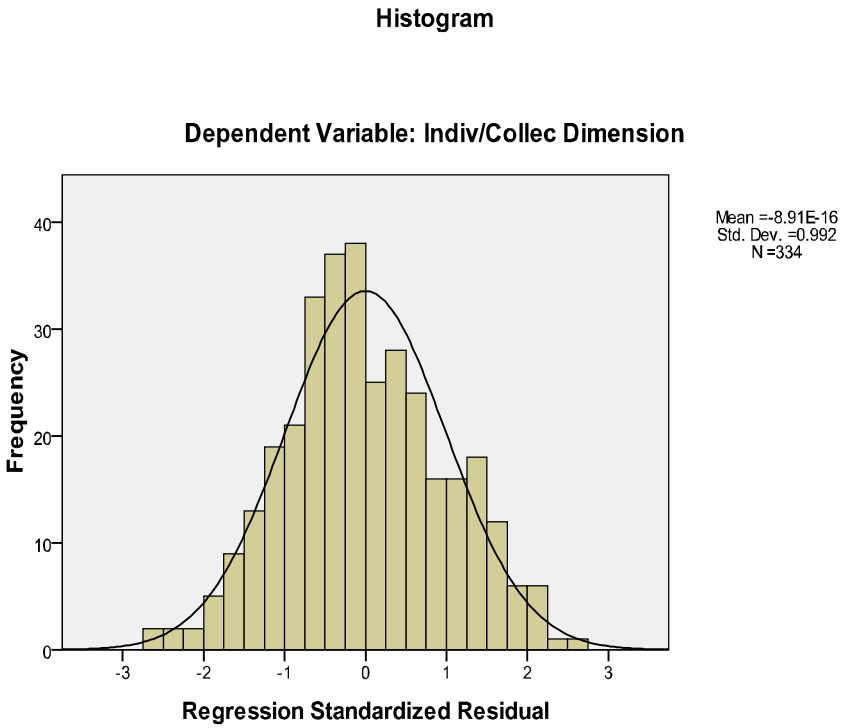
Examining the correlation matrix and the values of tolerance and VIF has confirmed that multicollinearity among the contingent factor variables (independent variables) is not a subject for concern for the regression analysis undertaken for this study.

Normality, Linearity, Homoscedasticity assumptions

The use of a histogram, a plot of standardised residuals against predicted variables of individual/collective dimension (dependent variable) and a scatterplot facilitated the examination of normality, linearity and homoscedasticity assumptions.

Figure 9.4 exhibits the shape of distribution. The bell-shaped histogram approximates to the normal distribution; it is quite symmetrical and there is not much kurtosis.

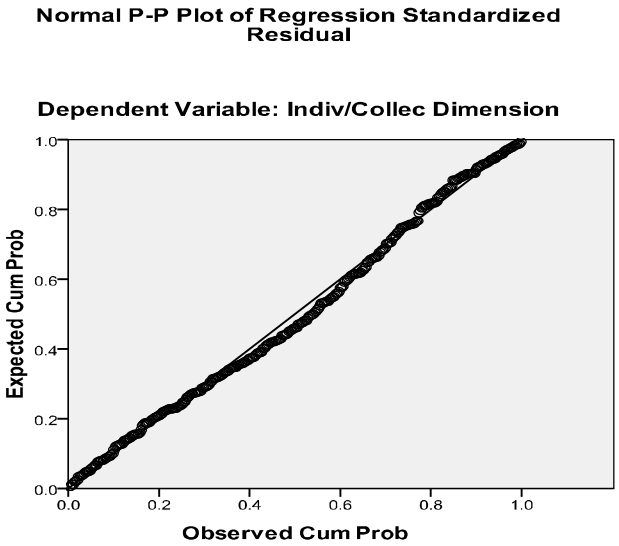
Figure 9.4: Histogram of standard regression



Furthermore, points clustered around a straight line in a probability plot support the normality assumption of residuals, as shown in Figure 9.5. All the points in the normal P-P plots were

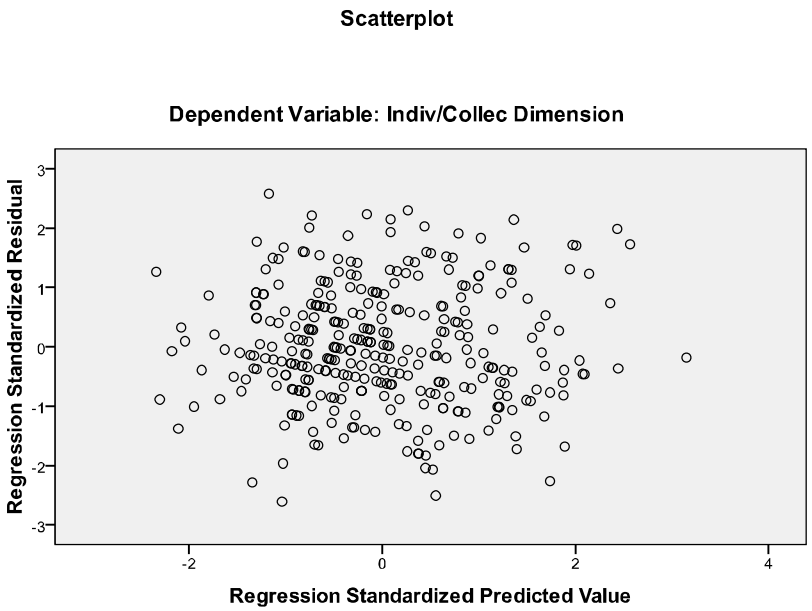
roughly in a straight diagonal line from bottom left to top right. These results verify a normal distribution of errors in testing the model.

Figure 9.5: Normal P-P plot of standard regression standardised residual



The scatterplot of standardised residuals in Figure 9.6 exhibits that most of the scores concentrated in the centre along the 0 point (Pallant, 2001). Consequently, from the analysis conducted in SPSS, the assumptions of normality, linearity and homoscedasticity have not been violated in this statistical analysis.

Figure 9.6: Scatter plot of standardised residual in standard regression



Outliers test

The analysis of standardised residuals among independent variables and the individual/collective dimension variable did not reveal any cases having a standardised residual of more than 3 or less than -3.

9.6.1.2.2 Evaluating the model

In table 9.18, we can examine the model's independent variables (contingent factors) predictive ability of the individual/collective dimension of strategy formulation. The R value is 0.612, which suggests that there is a large correlation between the contingent factors, all grouped simultaneously into one model. This model explain 37.5% of the variances in choosing a specific approach to strategy formulation (individual or collective) in the current sample ($R^2 = .375$) and for 35.9% in the population (Adjusted $R^2 = .359$)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612[a]	.375	.359	.51917

Predictors: Environment, Educational level, Technology, Years in Command, Organisational Size
Dependent Variable: Individual/Collective Dimension

Table 9.18: Model Summary of Standard Regression – Individual/Collective Dimension

The results from the SPSS analysis also facilitated in formulating a variance table (Table 9.19). The *F*-ratio obtained from this table equals 27.770, with 5 degrees of freedom in the numerator and 333 degrees of freedom in the denominator. The associated *p*-values, $p<0.001$, indicate that there is significant support to reject the null hypothesis that all the partial regression coefficients are equal to zero.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.471	5	5.094	27.770	.000[a]
	Residual	88.408	328	.270		
	Total	98.879	333			

Predictors: Environment, Educational level, Technology, Years in Command, Organisational Size
Dependent Variable: Individual/Collective Dimension

Table 9.19: Analysis of variance (ANOVA) in standard regression

ANOVA revealed that the overall model, including all four main predictors – technology, environment, organisational size and owner-manager characteristics – is a significant predictor of the selection of a specific strategy formulation approach concerning the individual/collective dimension.

9.6.1.2.3 Evaluating each of the independent variables

It can be seen from Table 9.20 which of the contingent factor variables individually contributes to the prediction of the strategy formulation approach concerning the

individual/collective dimension by looking at each of the individual *t*-tests. Thus, it can be seen that all the independent variables are significant predictors. The beta weight indicated that organisational size was the strongest predictor (β = -0.323, $p<0.000$), followed by technology (β = -0.292, $p<0.05$), the education of the manager (β = -0.288, $p<0.000$), the environment (β = -0.244, $p<0.000$) and the manager's years in command of the SME (β = -0.223, $p<0.000$).

Model		**Unstandardised Coefficients**		**Standardised Coefficients**	**t**	**Sig.**
		β	**Std Error**	**Beta**		***P*-values**
1	(Constant)	4.237	.246		17.238	.000
	Technology	-.210	.043	-.292	-3.702	.000
	Environment	-.175	.043	-.244	-3.370	.000
	Organisational Size	-.255	.037	-.323	-4.807	.000
	Manager's Education	-.230	.038	-.288	-3.226	.009
	Manager's Years in Command	.115	.055	.223	2.678	.000

Dependent Variable: Individual/Collective Dimension

Table 9.20: Coefficients results of standard regression analysis

Based on the above results table 9.21 summarises hypothesis 2 and each sub-hypotheses

Hypotheses	Results
Hypothesis 2: The contingency factors are not significant predictors of the individual/collective dimension of strategy formulation	Rejected
Hypothesis 2a: Organisational size is not a significant predictor of the individual/collective dimension of strategy formulation	Rejected
Hypothesis 2b: Technology is not a significant predictor of the individual/collective dimension of strategy formulation	Rejected
Hypothesis 2c: The external environment is not a significant predictor of the individual/collective dimension of strategy formulation	Rejected
Hypothesis 2d: Manager's characteristics are not significant predictors of the individual/collective dimension of strategy formulation	Rejected
Hypothesis 2d1: Manager's educational level is not a significant predictor of the individual/collective dimension of strategy formulation	Rejected
Hypothesis 2d2: Manager's years in command of an SME is not a significant predictor of the individual/collective dimension of strategy formulation	Rejected

Table 9.21: Summary of Hypothesis 2 and sub-hypotheses

9.7 Correlation Analysis

Correlation analysis is used to explain the strength and direction of the linear relationship between two variables (Pallant, 2001). The most common statistical test (available in SPSS) is the Pearson product-moment correlation coefficient, which is designed for continuous variables. Pearson correlation coefficients (r) acquire values from -1 to +1, with the negative sign indicating a negative correlation (one variable increases, the other variable decreases) and the positive sign indicating a positive correlation (one variable increases, so does the other). A perfect correlation of -1 or 1, points out that the value of a variable can be completely determined if we know the value of the other variable (Pallant, 2001). On the contrary, a correlation of 0 points out that there is no association between the two variables. There are a number of issues that must be considered when interpreting the results of the correlation. The first step is to determine the direction of the relationship between the two variables under study and the second step is to consider the value of the Pearson correlation

(r). Different researchers recommend different interpretations. In this study, we accept the guidelines set by Cohen (1988):

r= 0.00 to 0.09 or r= 0.00 to - 0.09	no correlation
r= 0.10 to 0.29 or r= - 0.10 to - 0.29	small correlation
r= 0.30 to 0.49 or r-= -0.30 to - 0.49	medium correlation
r = 0.50 to 1.0 or r = - 0.50 to - 1.0	large correlation

Another important aspect of the Pearson correlation coefficient, suggested by several authors, is to calculate the coefficient of determination in order to understand the level o variance of the variables under investigation. Finally, the last point that needs to be examined is the significance level (Sig.2 tailed). According to Pallant (2001), in large samples (N= 100+) very small correlations may be statistically significant.

9.7.1 **Examining the relationship of information and the strategic formulation process**

Several Pearson's correlation tests were conducted to examine the relationship between the usage of information (mainly accounting information) and the dimensions of strategy formulation.

9.7.1.1 **Information sources and dimensions of strategy formulation**

In this section, the study examined the relationship between information source usage and the dimensions of strategy formulation.

9.7.1.1.1 Pearson Correlation: Information sources and the Normative/Descriptive dimension of strategy formulation

		Normative/Descriptive Dimension
Information Source Usage	Pearson Correlation	0.312**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.22: Correlations of Information Sources and Normative/Descriptive Dimension

The relationship between information source usage and the normative/descriptive dimension was investigated using the Pearson product-moment correlation coefficient. From Table 9.22 we can see that there is a medium, positive correlation between the two variables (r=0.312, N=334, p<0.0005), with high levels of information source usage associated with a more normative approach to strategy formulation.

9.7.1.1.2 Pearson's Correlation: Information sources and the Individual/Collective dimension of strategy formulation

		Individual/Collective Dimension
Information Source Usage	Pearson Correlation	-0.431**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.23: Correlations of Information Sources and Individual/Collective Dimension

The association between information sources and the individual/collective dimension was examined with the Pearson correlation coefficient and, in Table 9.23, we can observe that a medium, negative correlation exists between the two variables () with high levels of information source usage linked with low levels of individual approach to strategy formulation.

9.7.1.2 **Accounting information data and dimensions of strategy formulation**

In this section, the study examines the relationship between accounting information data and the dimensions of strategy formulation.

9.7.1.2.1 Pearson's Correlation: Accounting information data and the Normative/Descriptive dimension of strategy formulation

		Normative/Descriptive Dimension
Accounting Information Data	Pearson Correlation	0.388**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.24: Correlations for Accounting Information Data and Normative/Descriptive Dimension

The association between accounting information data usage and the normative/descriptive dimension was tested using the Pearson correlation coefficient. In Table 9.24 we can see that between the two variables a medium, positive correlation exists (r= 0.388, N = 334, $p<0.0005$) which means that more intense usage of accounting information data is connected with a more normative approach to strategy formulation.

9.7.1.2.2 Pearson's Correlation: Accounting information data and the Individual/Collective dimension of strategy formulation

		Individual/Collective Dimension
Accounting Information Data	Pearson Correlation	-0.345**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.25: Correlations for Accounting Information Data and Individual/Collective Dimension

The relationship between accounting information data usage and the individual/collective dimension was calculated using the Pearson correlation coefficient. In Table 9.25 we can see that a medium, negative correlation was found between the two variables (r= -0.345, N = 334,

p<0.0005) meaning that more intense usage of accounting information data is linked with the collective approach to strategy formulation.

9.7.1.3 Usefulness of Accounting Information and dimensions of strategy formulation

In this section, the study examines the link between the usefulness of accounting information for managerial purposes and the dimensions of strategy formulation.

9.7.1.3.1 Pearson's Correlation: Usefulness of accounting information and the Normative/Descriptive dimension of strategy formulation

		Normative/Descriptive Dimension
Usefulness of Accounting Information	Pearson Correlation	0.352**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.26: Correlation of Usefulness of Accounting Information and Normative/Descrptive Dimension

The association between the usefulness of accounting information for managerial purposes and the normative/descriptive dimension was investigated using the Pearson correlation coefficient. In Table 9.26 we can see that a medium, positive correlation exists between the two variables (r= 0.352, N = 334, p<0.0005), which means that SMEs who approach strategy in a more normative way perceive accounting information as more useful for managerial purposes, in comparison with SME managers who have a more emergent approach to strategy formulation.

9.7.1.3.2 Pearson's Correlation: Usefulness of accounting information and the Individual/Descriptive dimension of strategy formulation

		Individual/Collective Dimension
Usefulness of Accounting Information	Pearson Correlation	-0.413**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.27: Correlation of Usefulness of Accounting Information and Individual/Collective Dimension

The relationship between the usefulness of accounting information for managerial purposes and the individual/collective dimension was investigated using the Pearson correlation coefficient and, from the results of the test, we can see in Table 9.27 that a medium, negative correlation was found between the two variables ($r= -0.413$, $N = 334$, $p<0.0005$), which means that SME managers who strategise in an individualistic way find accounting information less useful than managers who tend to involve other individuals or groups in the strategy formulation process.

Hypotheses	Results
Hypothesis 3: There is not a significant relationship between accounting information and the dimensions of strategy formulation	Rejected
Hypothesis 3a: There is not a significant relationship between information sources and different dimensions of strategy formulation	Rejected
Hypothesis 3a1: There is not a significant relationship between information sources and normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 3a2: There is not a significant relationship between information sources and individual/collective dimension of strategy formulation	Rejected
Hypothesis 3b: There is not a significant relationship between accounting information data usage and different dimensions of strategy formulation	Rejected
Hypothesis 3b1: There is not a significant relationship between accounting information data usage and normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 3b2: There is not a significant relationship between accounting information data usage and individual/collective dimension of strategy formulation	Rejected
Hypothesis 3c: There is not a significant relationship between the usefulness of accounting information and different dimensions of strategy formulation	Rejected
Hypothesis 3c1: There is not a significant relationship between the usefulness of accounting information and normative/descriptive dimension of strategy formulation	Rejected
Hypothesis 3c2 : There is not a significant relationship between the usefulness of accounting information and individual/collective dimension of strategy formulation	Rejected

Table 9.28: Summary of Hypothesis 3 and sub-hypotheses

9.7.2 Examining the relationship of strategic formulation processes and the importance of objectives during the formulation process

Several Pearson's correlation tests were conducted to examine the relationship between the dimensions of strategy formulation and the importance of objectives. The objectives were divided into three categories, according to the findings of the factor analysis.

9.7.2.1 Normative/Descriptive dimension and the importance of objectives during strategy formulation

In this section, the study examined the association of objectives and the normative/descriptive dimension of strategy formulation.

9.7.2.1.1 Pearson's Correlation: Normative/Descriptive dimension and the importance of learning and growth objectives during strategy formulation

		Normative/Descriptive Dimension
Learning and Growth Objectives	Pearson Correlation	0.312**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.29: Correlation of Learning and Growth Objectives and the Normative/Descriptive Dimension

The relationship between the importance of learning and growth objectives and the normative/descriptive dimension was investigated using the Pearson correlation coefficient and, from the results of the test, we can see in Table 9.29 that a medium, positive correlation was found between the two variables ($r= 0.312$, $N = 334$, $p<0.0005$), which means that SME managers who strategise in an normative way place higher importance on learning and growth objectives in comparison to managers who formulate their strategy in an emergent way.

9.7.2.1.2 Pearson's Correlation: Normative/Descriptive dimension of strategy formulation and employee related objectives during strategy formulation

		Normative/Descriptive Dimension
Employee Related Objectives	Pearson Correlation	0.302**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.30: Correlation of Employee Related Objectives and Normative/Descriptive Dimension

The association between the significance of employee related objectives during strategy formulation and the normative/descriptive dimension was explored using the Pearson correlation coefficient and, from the results of the analysis, we can observe in Table 9.30 that a small to medium, positive correlation was found between the two variables ($r= 0.302$, $N = 334$, $p<0.0005$), which means that SME managers who follow a normative approach to

strategy formulation focus more on employee related objectives, such as training, job security and job satisfaction.

9.7.2.1.3 Pearson's Correlation: Normative/Descriptive dimension of strategy formulation and financial objectives

		Normative/Descriptive Dimension
Financial Objectives	Pearson Correlation	0.027
	Sig. (2-tailed)	.625
	N	334

Table 9.31: Correlation of Financial Objectives and the Normative/Descriptive Dimension

The relationship between the importance of financial objectives and the normative/descriptive dimension was investigated using the Pearson correlation coefficient and, from the results of the test, we can see in Table 9.31 that no correlation was found between these two variables, meaning that neither the normative or descriptive approach to strategy is influenced by the financial objectives set by SMEs.

9.7.2.2 Individual/Collective Dimension of strategy formulation and the importance of objectives

In this section, the study examines the association of objectives and the individual/collective dimension of strategy formulation.

9.7.2.2.1 Pearson's Correlation: Individual/Collective dimension of strategy formulation and growth of objectives during strategy formulation

		Individual/Collective Dimension
Learning Growth Objectives	Pearson Correlation	-0.349**
	Sig. (2-tailed)	.000
	N	334

Correlation is significant at the 0.01 level (2-tailed)

Table 9.32: Correlation of Learning and Growth Objectives and Individual/Collective Dimension

The relationship between the importance of learning and growth objectives and the individual/collective dimension was investigated using the Pearson correlation coefficient and the results of the test are summarised in Table 9.32. It was found that a medium, negative correlation exists between the two variables ($r = -0.349$, $N = 334$, $p<0.0005$), which implies that SME managers who strategise in an individualistic way place lower importance on learning and growth objectives. In contrast, SMEs who pursue the collective approach to strategy formulation place higher value on learning and growth objectives.

9.7.2.2.2 Pearson's Correlation: Individual/Collective Dimension and employee related objectives during strategy formulation

		Individual/Collective Dimension
Employee Related Objectives	Pearson Correlation	-0.435**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.33: Correlation of Employee Related Objectives and the Individual/Collective Dimension

The association between the importance of employee related objectives and the individual/collective dimension was tested using the Pearson correlation coefficient and, from the results (Table 9.33), it was established that a medium, negative correlation exists between the two variables ($r = -0.435$, $N = 334$, $p<0.0005$), which means that SME managers following an individualistic approach to strategy place less value on the significance of employee related objectives in comparison to managers who follow a more collectivistic approach.

9.7.2.2.3 Pearson's Correlation: Individual/Collective dimension and financial objectives during strategy formulation

		Individual/Collective Dimension
Financial Objectives	Pearson Correlation	-0.041
	Sig. (2-tailed)	.451
	N	334

Table 9.34: Correlation of Financial Objectives and Individual/Collective Dimension

The relationship between the importance of financial objectives and the individual/collective dimension was examined with the Pearson correlation coefficient test and, from the results, it was found that no correlation exists between the two variables. This result implies that the individual/collective dimension has no link with the importance of financial objectives.

Table 9.35 summarises Hypothesis 4 and each sub hypotheses.

Hypotheses	Results
Hypothesis 4: There is not a significant relationship between strategy formulation approaches and importance of setting organisational objectives	Partially Rejected
Hypothesis 4a: There is not a significant relationship between the normative/descriptive dimension and importance of setting organisational objectives	Partially Rejected
Hypothesis 4a1: There is not a significant relationship between the normative/descriptive dimension and importance of learning and growth objectives	Rejected
Hypothesis 4a2: There is not a significant relationship between the normative/descriptive dimension and the importance of employee related objectives	Rejected
Hypothesis H4a3: There is not a significant relationship between the normative/descriptive dimension and the importance of financial objectives	Accepted
Hypothesis 4a: There is not a significant relationship between the individual/collective dimension and importance of setting organisational objectives	Partially Rejected
Hypothesis 4a1: There is not a significant relationship between the individual/collective dimension and importance of learning and growth objectives	Rejected
Hypothesis 4a2: There is not a significant relationship between the individual/collective dimension and the importance of employee related objectives	Rejected
Hypothesis H4a3: There is not a significant relationship between the individual/collective dimension and the importance of financial objectives	Accepted

Table 9.35: Summary of Hypothesis 4 and sub-hypotheses

9.7.3 **Examining the relationship of strategic formulation processes and financial performance**

The relationship between the strategy formulation process and financial performance was tested using the Pearson correlation coefficient.

9.7.3.1 **Normative/Descriptive dimension of strategy formulation and financial performance**

		Normative/Descriptive Dimension
Financial Performance	Pearson Correlation	-0.362**
	Sig. (2-tailed)	.000
	N	334

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9.36: Correlations of performance and the Normative/Descriptive Dimension

The relationship between financial performance and the normative/descriptive dimension was examined using the Pearson correlation coefficient. In Table 9.36 we can see that a medium, negative correlation exists between the two variables ($r= -0.362$, $N = 334$, $p<0.0005$), which means that SMEs who approach strategy in a more normative way have lower levels of financial performance, in comparison with SMEs who formulate their strategy in an emergent fashion.

9.7.3.2 **Individual/Collective dimension of strategy formulation and financial performance**

		Individual/Collective Dimension
Financial Performance	Pearson Correlation	0.294*
	Sig. (2-tailed)	.019
	N	334

*. Correlation is significant at the 0.05 level (2-tailed)

Table 9.37: Correlations of performance and the Individual/Collective Dimension

The association between financial performance and the individual/collective dimension was examined using the Pearson correlation coefficient. In Table 9.37 we can see that a small, positive correlation exists between the two variables ($r= 0.294$, $N = 334$, $p<0.05$), which means that SME managers who are solely responsible for the formulation of strategy are more

likely to be financially successful than those who formulate their strategy in cooperation and collaboration with other individuals or groups inside the company.

Table 9.38 summarises Hypothesis 5 and each sub-hypotheses.

Hypotheses	Results
Hypothesis 5: There is not a significant relationship between strategy formulation and financial performance	Marginally Rejected
Hypothesis 5a: There is not a significant relationship between the normative/descriptive dimension and financial performance	Rejected
Hypothesis 5b: There is not a significant relationship between the individual/collective dimension and financial performance	Marginally rejected

Table 9.38: Summary of Hypothesis 5 and each sub-hypothesis

9.8 ANOVA: Differences in strategy formulation between business sectors and firm's ownership

In this section, the study examines the differences and similarities concerning the strategy formulation dimensions among different business sectors and among different ownership statuses. The scores of 334 SMEs were measured with regard to the business sector and ownership status, in order to test hypothesis 6. The scores of ownership status were regrouped into three categories: family owned, partially family owned and non-family owned.

Table 9.39 shows that 32.9% of the SMEs in the sample fitted into the commercial/wholesale trade sector, 9.9% into the construction/engineering sector, 15.9% into the manufacturing sector, 37.4% into the service provision sector and, finally, 3.9% into other business sectors. In table 9.40, the different ownership descriptive statistics are presented. 63.8% of SMEs are family owned, 13.5% are only partially family owned and 22.8% are non-family owned.

Groups	Groups	Frequency	Percent	Valid Percent	Cumulative Percent
Commercial/Wholesale Trade	1.00	110	32.9	32.9	32.9
Construction	2.00	33	9.9	9.9	42.8
Manufacturing	3.00	53	15.9	15.9	58.7
Service Provision	4.00	125	37.4	37.4	96.1
Other	5.00	13	3.9	3.9	100.0
Total	Total	334	100.0	100.0	

Table 9.39 Groups of different business sectors

Groups	Groups	Frequency	Percent	Valid Percent	Cumulative Percent
Family-owned	1.00	213	63.8	63.8	63.8
Partially Family-owned	2.00	45	13.5	13.5	77.2
Non-Family Owned	3.00	76	22.8	22.8	100.0
Total	Total	334	100.0	100.0	

Table 9.40: Groups of different firm ownership

The similarities and differences concerning the strategy formulation dimensions were examined by one-way between-group analysis of variance (ANOVA). One-way analysis of variance compares the differences between the different groups with the variability within each group. An F ratio is computed, which corresponds to the variance between the groups divided by the variance within the groups. A large F ratio specifies that there is more variability between the groups than there is within each group. A significant F test indicates that the null hypothesis, which states that the population means are equal, can be rejected. However, with large samples, even very small differences between groups can become statistically significant, as is the case in this study. Pallant (2001) proposes to determine the "effect size" to measure the significance of differences among groups. The effect size (eta squared) is a standardised measure of group differences used in the calculation of statistical power. Calculated as the difference in group means, divided by the standard deviation, it is

then comparable across research studies as a generalised measure of differences in group means (Hair *et al*., 1998).

To gain a detailed understanding of the differences between the variables, *post hoc* comparisons for each independent variable were undertaken. In order to control Type I error (finding a significant result when in reality it is not), Pallant (2001) suggests setting a higher alpha level to reduce the chance of a Type I error. She recommends applying the Bonferroni Adjustment, which is based on dividing the original level of 0.05 by the number of comparisons that are intended to be made. In this analysis, the alpha level is considered to be 0.025. There are a number of different *post hoc* tests and these vary in terms of their nature and strictness. The assumptions underlying the post hoc tests also differ. The most commonly used *post hoc* test is Tukey's Honestly Significant Difference test (HSD), which is applied in the present study.

9.8.1 **Exploring the differences: Different SME ownership status**

The research data collected from the 334 questionnaires of SMEs were used to identify the similarities and differences on the scores of strategy formulation dimensions among family owned and non-family owned SMEs. Before starting the main analysis, SPSS produced Levene's test for homogeneity of variances, which tests whether the variance in scores is the same for each of the three groups. Table 9.41 shows a summary table of Levene's test of equality of variances for each of the dependent variables. Levene's test should be non-significant for all dependent variables if the assumption of homogeneity of variance has been met (Field, 2000). The results for these data show that the assumption has been met.

Dependent Variables	Levene Statistic	df1	df2	Sig.
Normative/Descriptive Dimension	0.509	2	331	0.602
Individual/Collective Dimension	2.145	2	331	0.119

Table 9.41: Test of Homogeneity of Variances of Strategy Formulation Dimensions

9.8.1.1 Tests of strategy formulation dimensions between SME ownership

The nature of differences was determined by the test of between-subjects effects. Table 9.42 contains an ANOVA summary for each of the dependent variables and values are given for the sums of squares for the normative/descriptive dimension and the individual/collective dimension of strategy formulation. The values of *p* indicate that there were statistically significant differences at the $p<0.00$ level in the scores of dimensions of strategy formulation among SMEs groups of ownership status.

Constructs		Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Normative/Descriptive Dimension	Between Groups	2.511	2	1.255	4.753	.009	0.03
	Within Groups	87.416	331	.264			
	Total	89.927	333				
Individual Collective Dimension	Between Groups	3.242	2	1.621	5.610	.004	0.04
	Within Groups	95.637	331	.289			
	Total	98.879	333				

Table 9.42: ANOVA – SME ownership

The above results should lead one to conclude that there are significant differences among SMEs with different ownership status in terms of their normative/descriptive and individual/collective dimensions. However, despite reaching statistical significance, the actual difference in mean scores was quite small. The effect size, calculated using eta squared, was

0.03 for the normative/descriptive dimension and 0.04 for the individual/collective dimension (Cohen, 1988).

When an ANOVA test showed a significant variance between groups, *post hoc* multiple comparison tests (Tukey's), as suggested by Cohen (1988) and Pallant (2001), were applied to discover the specific group or groups of SME ownership with the significant variance. The result of the test showed significant differences among the surveyed SMEs that were family owned and SMEs that were non-family owned concerning all dimensions of strategy, with p=0.001. Partially family owned SMEs did not differ significantly from either family owned SMEs or non-family owned SMEs.

Post hoc tests also provide a plot as an easy way to compare the mean scores for the different groups (Norusis, 2000). Profile plots are useful for comparing marginal means in the model. Profile plots are created for each dependent variable. A profile plot is a line plot in which each point indicates the estimated marginal mean of the dependent variable (adjusted for covariates) at one level of the groups.

In Appendix 9.1 the mean plots of the dimensions of strategy formulation for the different ownership statuses are exhibited. It is clear that the mean plot values of the normative/descriptive dimension increase steadily in the three groups of SME ownership. In contrast, the values of the individual/collective dimension decrease in the three groups of SME ownership.

9.8.2 **Exploring the differences: Different business sectors**

The research data collected from the 334 questionnaires from the SMEs were also used to identify the similarities and differences in the scores of strategy formulation dimensions among the different business sectors of which the SMEs were part. Prior to the main analysis,

Levene's test for homogeneity of variances was produced from SPSS, which examines whether the variance in scores is the same for each of the three groups. Table 9.43 shows a synopsis table of Levene's test of equality of variances for each of the dependent variables. As was mentioned previously, Levene's test should be non-significant for all dependent variables if the assumption of homogeneity of variance has been met (Field, 2000). The results for these data show that the assumption has been met.

Dependent Variables	Levene Statistic	df1	df2	Sig.
Normative/Descriptive Dimension	1.092	4	329	0.360
Individual/Collective Dimension	0.680	4	329	0.607

Table 9.43: Test of Homogeneity of Variances

9.8.2.1 Tests of strategy formulation dimensions between business sectors

The nature of differences was determined by the test of between-subjects effects. In Table 9.44, an ANOVA summary was generated for each of the dependent variables and values are given for the sums of squares for the normative/descriptive dimension and the individual/collective dimension of strategy formulation. The values of p indicate that only the normative/descriptive dimension was statistically significantly different at the $p<0.00$ level among SMEs business sectors. On the other hand, the individual/collective dimension was not statistically significant at the $p<0.00$ level among the different business sectors and, due to this fact, further analysis will not be conducted for this dimension in comparison with the business sectors.

Constructs		Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Normative/Descriptive Dimension	Between Groups	4.456	4	1.114	4.288	.002	0.05
	Within Groups	85.470	329	.260			
	Total	89.927	333				
Individual/Collective Dimension	Between Groups	1.518	4	.380	1.282	.277	
	Within Groups	97.361	329	.296			
	Total	98.879	333				

Table 9.44: ANOVA – Business Sectors

The above results exhibit that there are only significant differences among SMEs varying business sectors in terms of their normative/descriptive dimension. Again, however, despite reaching statistical significance, the actual difference in mean scores was small to medium. The effect size, calculated using eta squared, was 0.05 for the normative/descriptive dimension (Cohen, 1988).

Post hoc multiple comparison tests (Tukey's) were applied, since the ANOVA test showed a significant variance between groups, to discover the specific business sector or business sectors with the significant variance in the normative/descriptive dimension. The result of the Tukey's test showed significant differences among the surveyed SMEs that belonged to the retail/wholesale trade sector and those that belonged to the construction sector and the service provision sector, with p=0.001. The manufacturing sector was not found to be significantly different from any other sector.

A *Post hoc* means plot was generated in order to compare the mean scores for the different groups (Norusis, 2000). In Appendix 9.2 the mean plots of the normative/descriptive dimension of strategy formulation are exhibited for the different business sectors. It is clear

that the mean plot values of the normative/descriptive dimension increase from the commercial/wholesale sector to the construction and service provision sectors.

The results of the ANOVA tests and post hoc analyses of the data presented above allow us to conclude that there are significant differences among the SME ownership statuses concerning the dimensions of strategy formulation. In contrast, the differences among different business sectors are only significant concerning the dimension of normative/descriptive strategy formulation and are insignificant for the individual/collective dimension. The effect sizes, considering the results of eta squared, demonstrate that Hypothesis 6 was partially rejected.

Table 9.45 summarises Hypothesis 6 and each sub-hypotheses:

Hypotheses	Results
Hypothesis 6: There is not a significant difference between SME characteristics and the normative/descriptive dimension of strategy formulation	Partially Rejected
Hypothesis 6a: There is not a significant difference between SME characteristics and the normative/descriptive dimension of strategy formulation	Marginally rejected
Hypothesis 6a1: There is not a significant difference between SME business sector and the normative/descriptive dimension of strategy formulation	Marginally rejected
Hypothesis 6a2: There is not a significant difference between SME ownership status and the normative/descriptive dimension of strategy formulation	Marginally rejected
Hypothesis 6b: There is not a significant difference between SME characteristics and the individual/collective dimension of strategy formulation.	Partially rejected
Hypothesis 6b1: There is not a significant difference between SME sector and the individual/collective dimension of strategy formulation.	Accepted
Hypothesis 6b2: There is not a significant difference between SME ownership and the individual/collective dimension of strategy formulation.	Rejected

Table 9.45: Summary of Hypothesis 6 and each sub-hypothesis

9.9 Summary

In this chapter all the research questions were explored and answered. The relationships between the variables of the study were statistically tested and the results presented. First of

all the predictive ability of the contingent factors was confirmed in relation to the dimensions of strategy formulation. Furthermore the association between the accounting information usage and strategy formulation was investigated and the results connect the extensive use of accounting information to specific approaches to strategy formulation. Also the link between strategy formulation dimensions and performance was established by exhibiting that the descriptive and individualistc approaches of strategy are positively correlated to financial performance. Additionally the importance of objectives during strategy formulation was examined and it was found that Greek SMEs that adopt a normative and collective approach to strategy formulation place greater value on the learning and growth objectives and the employee related objectives compared to SMEs that adopt a descriptive and individualistic approach to strategy formulation. Finally significant differences between SMEs from different business sectors and with different ownership structures were found in relation to different strategy formulation approaches. In general, this chapter exhibited the extent to which the theoretical model of strategy formulation with the integration of accounting information can be used to predict and explain the effect on SMEs financial performance.

Chapter 10 DISCUSSION OF FINDINGS

10.1 Introduction

Chapter 9 has statistically analysed the effect of the contingent factors on the strategy formulation process and the research data related to accounting information integration in the different dimensions of strategy making. This chapter provides a broad discussion of the study's findings in relation to prior literature and in accordance with hypotheses and expected results. This chapter is divided into six sections. The next section, Section 10.2, evaluates the theoretical framework to predict the effect of the four contingent factors on strategy formulation and the individual contribution of each factor to the theoretical model. Section 10.3 presents the associations between accounting information and the different approaches to strategy formulation. Section 10.4 discusses the importance of objective setting during strategy formulation, in relation to specific approaches to strategy. Section 10.5 presents the association between different dimensions of strategy formulation and financial performance. Section 10.6 explains the differences in selecting different strategy approaches concerning the ownership structure of the SMEs and the business sector in which they operate. The final section, Section 10.7, outlines the main conclusions drawn from this chapter.

10.2 **Contingency model of strategy formulation**

As argued earlier, in Chapter 5, contingency theory posits that organisational systems and structures are directly influenced by firm-specific factors (Chenhall, 2003; Gerdin, 2005; Gerdin and Greve, 2004). The central idea of contingency theory is that firms' performance depends on the fit between organisational context and structure. This is a complex scheme because it assumes an unconfirmed relationship between two or more independent variables and one dependent variable (Cadez and Guilding, 2008; Drazin and Van de Ven, 1985). The proposed theoretical model has identified technology, organisational and external environment and owner-manager characteristics (educational level and years in command of the SME) as the factors that affect the strategy formulation process.

The first aim of this thesis was to develop and evaluate a new integrated theoretical model linking all the main constructs of the contingency model in order to predict the strategy formulation approach. In this research, the use of combined theories provides a comprehensive theoretical framework to analyse the strategy formulation approach of an organisation. A conceptual strength of the present study is that it has highlighted the need to understand more a holistically strategic formulation approach and the different constructs involved. The study's integrated theoretical framework accommodates the dynamic and interactional nature of strategy formulation and allows for a meaningful grouping of what has been a disparate body of research.

The proposed theoretical model has identified organisational size (number of employees), technology (technical systems and technology reliance), external environment (perceived environmental uncertainty) and manager characteristics (manager's education and years in command of the firm) as the contingent factors that affect strategy formulation (Donaldson, 2001).

Methodologies and measures will always vary in their design. There is a diverse range of research methodologies and measures used in the investigation of strategy formulation. A methodological strength of this thesis is that new validated measures have been developed through the literature and a qualitative study and used for the constructs of the contingent factors of strategy formulation, the dimensions of strategy formulation and the accounting information that is integrated into the strategy formulation process. The new measures have been supported both theoretically and methodologically.

10.2.1 **Evaluating the contingency model of strategy formulation**

Contingency theory has been used in this study as a theoretical framework to explain the development of strategy formulation as part of a management process used by SMEs to improve their financial performance. Contingency theory offers the theoretical rationalisation of the relationships between contingency factors and strategy formulation and the integration of accounting information in the process. According to Steiner (1971), a universal strategy formulation structure that can be applied to all companies does not exist. Hitt and Ireland (1985) argue that research should focus on including the factors affecting the organisational structure of SMEs that lead to better financial performance. McCarthy and Leavy (2000) have noted that the combination of the dimensions of strategy formulation depends upon the interplay of several factors such as industry context, the manager's characteristics and the specific characteristics of each firm.

Based on the survey's 334 questionnaires, the results of two standard regression models (R=.624, R^2=.389 at significant level p=0.000 for the normative/descriptive dimension and R=612, R^2=375 at significant level p=0.000) for the individual/collective dimension, indicated that all the contingent and sub-factors used in the study are highly correlated with the prediction of the two dimensions of strategy formulation. Therefore, the discussion below is

based on the findings of multiple regression analyses and presents the contribution of each different construct and sub-construct of the contingency framework in the prediction of the approach of SMEs to strategy formulation dimensions.

10.2.2 Organisational size and strategy formulation dimensions

From the qualitative research, the survey and previous contingency theory research, it has been identified that organisational size plays an important role in the strategy making process. Smith *et al*. (1989) suggested, in the organisational literature, that organisational size is an important variable. The contingency factor of the firm's size, measured by the number of people employed, is appropriately operationalised in experimental research (Pugh *et al*., 1968). Kettinger *et al*. (1994) argued that size is an important determinant of sustainability and performance. In his study, Wincent (2005) found that the firm's size could be an important factor for the firm's performance, while Hendricks and Singhal (2001) found that the degree of the firm's performance is significantly related to the firm's size. Concerning the examination of the variables at hand, Hofer (1975) suggested that the firm's size is an important contingency variable to think about for the selection of an effective strategy formulation. Likewise, in literature it is confirmed that, as size increases, it leads to changes in the organisational processes such as formalisation and decentralisation (Blau and Schoenherr, 1971; Mintzberg, 1979).

Hypothesis 1a examined the association of organisational size with the normative/descriptive dimension of strategy formulation. Specifically, Hypothesis 1a suggested that the normative/descriptive approach would be strongly predicted by the organisational size. The study's findings (b=.358, t=6.596, p<000) confirm that organisational size is a significant positive predictor of the normative approach to strategy formulation, as

hypothesised. In other words, as the number of employees increases it will be highly likely to have a positive effect on the deliberate approach to strategy formulation.

The results of this thesis support previous academic and empirical research, stating that firm size is a significant predictor of the normative/descriptive dimension of strategy formulation. According to research conducted by Stonehouse and Pemperton (2002) on 746 companies from the service and manufacturing sector, organisational size is linked to the selection of a specific approach to strategy, with larger companies having an inclination to pursue a more prescriptive approach in contrast to smaller companies, which adopt an emergent approach to strategy formulation. Similarly, Glaister and Falshaw's study (1999) also suggested that organisational size is an important factor in influencing an organisation's approach to strategy. They argued that, as size increases, organisations have a predisposition to highly structured and formal strategy formulation. Miller *et al*. (1998) found a positive relationship between the firm's size and the extent of strategy planning. According to research by O'Regan and Ghobadian (2005), as firms grow in size, they move from the descriptive approach to strategy to a more normative one. Holmes and Nicholls (1988) provided evidence that organisational size is significantly associated with the use of budgets and formal decision-making. A study by Lindsay and Rue (1980) found evidence that the normality of strategy formulation is directly related to large firms, but inversely related to SMEs.

Hypothesis 2a studied the relationship of organisational size with the individual/collective dimension of strategy formulation. Specifically, Hypothesis 2a suggested that the decision of the owner-manager to formulate the firm's strategy individually, or by including others in the process, would be strongly predicted by the organisation's size. The study's findings (b=-.323, t=-3.807, p<000) confirm that organisational size is a significant negative predictor of the individualistic approach to strategy formulation, as hypothesised.

More specifically, as the number of employees increases it will be less likely that the manager will formulate the strategy of the firm without any help or advice from others.

These results are in line with other academic research, stating that organisational size can significantly forecast the individual/collective dimension of strategy formulation. Katsikeas (1994) discovered a significant relationship between the firm's size and participation of employees and experts in strategy formulation; while Wan *et al*. (2000) exhibited in their study that a strong positive relationship exists between decentralised (collective approach) strategy making and the firm's size. According to Moch and Morse (1977), size has a direct effect on the decentralisation of processes in organisations. Merchant (1981) found that there is a strong association between firm size and the choice of organisational strategies, with larger firms being more decentralised and normative in their strategy formulation and implementation. A case study by Perren *et al*. (1999) provided evidence that the growing procedures of SMEs drives them from an informal and centralised strategy approach to a more formal and delegated process.

10.2.3 **Technology and strategy formulation**

In contingency theory, technology has been confirmed as an important factor for the decision of adaptation of an organic structure or process (Perrrow, 1967; Thomson, 1967; Woodward, 1965; Mitzberg, 1979). Parker (2000) provides evidence that the fit between strategy making and technology is a significant predictor of improved financial performance. Drennan and Kennedy (1999) have identified technology as an active catalyst of organisational success. Similarly, Zahra and Covin (1993) examined the association between specific strategy dimensions, technology and performance and, from their results, it is suggested that technology affects the strength of the relationship between a firm's performance and strategy.

The findings of Chan *et al*. (1997) agree, showing that a more normative approach to strategy, combined with advanced technology, is correlated with improved performance.

Hypothesis 1b examined the association of technological advancement with the normative/descriptive dimension of strategy formulation. More distinctively, Hypothesis 1b implies that the normative/descriptive approach will be robustly explained by the level of technology applied in an organisation. The findings (b=.272, t=5.420, p<000) confirm that technology is a significant positive predictor of the normative approach to strategy formulation, as hypothesised. This result means that as the technological systems of an organisation become more advanced and more complex then there is a tendency for SMEs to move to a more normative approach to strategy

These results are supported by previous research, stating that when an organisation is bound by their technological system complexity then they approach strategy formulation in a more formal and deliberate fashion (Entrialgo *et al*., 2000). In the same mode, Tracey *et al*. (1999) noted that there is a significant and positive relationship between strategy formulation and technology. O'Regan and Ghobadian (2005), in their study of 194 UK SMEs, found that technological change is positively correlated to the descriptive approach to strategy formulation. Lefebvre and Lefebvre (1992) noted that high technological requirements are negatively correlated to a descriptive approach to strategy. They argued that small firms, who do not rely on advanced technological systems, can introduce manufacturing technologies quicker than large organisations with the use of information technology and adjust their strategies quickly to respond to environmental needs. According to Lucas and Olson (1994), high reliance on complex technological systems is highly correlated to a deliberate approach to strategy. They conclude that, since technology ages so quickly, SMEs who are not bound

by their technological systems can maintain their flexibility in the decision-making and strategy-making processes.

Aragón-Sánchez and Sánchez-Marín (2005) reviewed a study from Spain and indicated that a high reliance on technological systems is significantly connected to the conscious (normative) approach to strategy formulation. Similarly, according to Drtina (1994), technical supremacy is highly correlated to the normative strategy formulation.

Hypothesis 2b examined the connection of the technological level of an organisation with the individual/collective dimension of strategy formulation. Specifically, Hypothesis 2b proposes that the individual/collective approach to strategy will be explained by the intensity of technology applied in an organisation. The findings (b=-.292, t=-3702, p<000) verify that technology is a significant negative predictor of the individual approach to strategy formulation, as hypothesised. This result means that managers tend to include other individuals in the strategy formulation process as the technological systems of an organisation become more sophisticated.

In academic literature, this result is in harmony with other academic and empirical findings. For example, Horvath and Fulk (1994) noted that efficient usage and flexibility of the technological structures of an organisation could support decentralisation and less hierarchical organisational configurations. This view is consistent with the research of Burke and Jarratt (2004), which showed that managers considered technology as an important factor of their strategy formulation and the need to keep up with new technological developments was pushing them to seek for more information and technical training on a regular basis. This pattern of action was found in their research to be positively connected with the strategy of proactive and decentralised firms (collective approach).

10.2.4 **External environment and strategy formulation**

According to contingency theory, the relationship of the external environment with strategy formulation is very important (Mintzberg, 1979). The outcome of a dynamic environment in SME strategy formulation is the use of emergent plans and high cooperation and collaboration in the decision-making process (Buns and Stalker, 1961).

Hypothesis 1c investigated the association of the external environment with the normative/descriptive dimension of strategy formulation. Hypothesis 1c implies that the normative/descriptive approach will be explained by the owner-manager's perception of the volatility of the environment. The findings (b=-.212, t=-3.634, p<000) validate the external environment as a significant predictor of the normative approach to strategy formulation, as hypothesised. This result means that, as the environment becomes more dynamic, the SME that operates in that environment will adopt a more emergent approach to strategy formulation.

The results found in literature, concerning the effect of environmental volatility on this dimension of strategy formulation, appear to be mixed. The reason behind these differences is probably the variables and measures used to examine this relationship. The results of this thesis are in line with the findings of several prior studies. Pansiri and Temtime (2010) noted that external environmental factors significantly influence a firm's strategy and that small firms must constantly change their strategic plans according to the nature of the environment that they face, or expect to face. In a dynamic environment, the value of a normative approach to strategy formulation is of little benefit due to the need for flexibility and responsiveness for survival (Mintzberg *et al*., 1995). Priem *et al*. (1995) argued that the level of environmental uncertainty is negatively associated with normative approach to strategy. Miller (1987) outlined the need for more flexibility in organisational processes in times of high

environmental uncertainty, while Richardson (1995) argued that, in rapidly changing environments, the effectiveness of the normative approach to strategy formulation is limited. In agreement with these views is the work of Proctor (1997), who noted that there is a necessity for strategy-making to continuously change in order to uphold a 'fit' with the external environment. Henderson (1989) concurs with the view by stating that, in complex environments, the managers' plans are in a process of constant change. Kukalls (1991) argued that firms in complex environmental conditions maximise their performance by following an emergent approach to strategy, which allows them to adjust their strategic plans to keep up with environmental alterations. Schoemaker and Amit (1994) noted that the normative strategy formulation process is positively correlated with a predictable and determinate environment.

The findings of other researchers who have examined the relationship between these two variables are in disagreement with the results of this thesis. According to Miller and Friesen (1983), environmental dynamism is associated positively with normative strategy formulation, while Kukalls (1991) stated that the greater the environmental complexity, the greater the need for formal and normative strategy formulation processes. Similarly, McKiernan and Morris (1994) suggested that formal strategy making could improve the survival of firms in turbulent environments. According to the research of Peel and Bridge (1998) into 150 UK SMEs, it was found that normative strategy formulation is associated with a significantly higher perceived level of environmental instability. The findings of Bracker and Pearson (1986) are in agreement, having found a positive relation between high formality of strategy planning and high environmental unsteadiness. Ansoff and McDonnell (1990) argued that, as environmental changes are becoming more complex and unpredictable, reactive responses and designs of strategy making are becoming inadequate.

Hypothesis 2c examined the connection of the external environment of an organisation with the individual/collective dimension of strategy formulation. Specifically, Hypothesis 2c suggests that the individual/collective approach to strategy will be explained by the perceived environmental volatility. The findings (b=--.244, t=-3.370, p<000) verify that perceived environmental volatility is a significant negative predictor of the individual approach to strategy formulation, as hypothesised. This finding means that, in dynamic and unstable environments, Greek managers seek the participation of other members inside or outside the firm in their strategy formulation process.

This result is in concurrence with most of the academic and empirical research conducted to examine this relationship. For example, research conducted by Balta *et al*. (2009) revealed the existence of a significant moderating effect of environmental dynamism and complexity on the collective strategy formulation approach. In addition, in competitive and uncertain environments, the cooperation and collaboration of staff can improve the speed of an organisation's reaction to environmental developments (Baines and Langfield-Smith, 2003; Rowe *et al*., 2008). The work of Andersen (2001) agrees, arguing that the collective strategy approach is more efficient in dynamic environments, because cooperation and collaboration in the decision-making process is more significant when changes in market conditions are frequent and unexpected. The views of Mintzberg (1983) are similar, noting that there is a need for participation in the strategy-making process to effectively deal with complex environmental conditions. Andersen (2001) summarises the empirical findings of his research by stating that performance is enhanced when information usage is combined with the collective approach to strategy formulation in dynamic and complex business environments. De Haas and Kleingeld (1999) noted that a conditional association presumes that increased participation assists effective managerial decisions in turbulent environments,

which in turn enhances the firm's performance. The work of Childs (1972) is contrary to these views, arguing that, in hostile environments, managers adopt a more individualistic approach to strategy and a restrained flow of information.

10.2.5 **Managerial characteristics and strategy formulation**

Several studies that have examined the strategy formulation of SMEs have included the individual characteristics of the managers as predictors of a specific dimension of strategy. The significance of the manager for the success of an SME is commonly accepted (Frank, 1988; Van Hootegem, 1985). Generally, verification of the association between the manager's characteristics and strategy definition has been confirmed in several empirical and theoretical studies (Kets de Vries and Miller, 1986; Noel, 1989; Kets de Vries, 1993; Bamberger, 1994; McCarthy and Leavy, 2000). According to Analoui and Karami (2003), in the context of SMEs, the owner-manager is the firm's main strategist and decision-maker, in contrast with larger organisations, which employ top management teams to formulate and implement strategies. The role of the manager is critical for the formulation of strategy (Kraus, 2007). Equally, the manager's personal traits and characteristics will have an important impact on the SME's strategy (McKenna, 1996). Hitt and Tyler (1991) found that managers' demographic characteristics have an impact on the strategy-making processes. The findings by Bhutta *et al*. (2008) exhibited that a strong relationship exists between the owner-manager's characteristics and the firm's performance and Wijewardena *et al*. (2008) agreed by noting that the manager's traits have a strong positive link with the health of SMEs. Miller and Shamsie (2001) noted that, in academic literature, there is an agreement on the importance of the manager's characteristics for the strategic direction and the overall performance of an organisation.

Begley and Boyd (1986) argued that the role of the owner-manager is crucial for the small firm since he/she has all the power regarding decisions and strategy. The findings of Westphal and Frederickson (2001) agree, noting that managers have a significant impact on strategic direction and change. Spanos *et al*. (2001) argued that, in Greek SMEs, the owner-manager has a predominant role and SMEs value employee skills less when compared to larger organisations. According to Rivera-Camino (2001), the role of the owner-manager is one of the critical elements associated with the strategy-making procedure. Finkelstein and Hambrick (1996) noted that one of the most important measures of the strategy formulation approach in the strategic management literature is the specific characteristics of the managers. In addition, Weitzel and Jonsson (1989) discovered that various features of failed companies are directly related to the manager's educational shortages and managerial deficiencies. Most of these studies have identified the educational level and the manager's experience as the most important characteristics to examine in relation to the strategy-making process. Hypotheses 1d and 2d confirm that these two traits are significant predictors of the selection of a specific approach to strategy formulation. The results of the sub-hypotheses are discussed below.

10.2.5.1 **Educational level**

The results of the study reject the null sub-hypothesis 1d1 that the educational level of the manager does not have a statistically significant association with the normative/descriptive dimension of strategy formulation (b=.262, t=3.496, $p<0.05$). This indicates that the educational level of the manager is a positive predictor of the normative approach to strategy formulation. This finding is in line with a study conducted in Thai SMEs by Veskaisri *et al*. (2007), which suggested that education is positively correlated with the prescriptive approach to strategy. The findings of Dollinger (1984) are similar, showing that a higher educational

level is linked with the inclination towards higher formality and complexity in the strategy formulation process. Cohen and Levinthal, (1990) argued that higher education is connected with a higher ability to process information and that it should be positively associated with prescriptive strategy formulation. Research by Goll and Rasheed (2005) revealed a significant and positive association between educational level and the normative approach to strategy. The results of a study conducted by Holmes and Nicholls (1988) are similar, concluding that managers' education was positively correlated with the normative approach to strategy formulation. Higher educated managers were more orientated towards formal strategy formulation with the use of budgets for each of their firm's activities. In disagreement with the results of this study are the findings of Wiersema and Bantel (1992), which associated managers' educational levels with the tendency to diverge from implementing strategic plans and found a positive relationship.

Sub-hypothesis 2d1 examined the connection of the educational level of the owner-manager with the individual/collective dimension of strategy formulation. The findings (b=-.288, t=3.226, p<05) verify that the educational level is a significant negative predictor of the individual approach to strategy formulation. This finding means that managers with higher education select a participative approach to strategy formulation.

This finding is in agreement with the work of Papadakis and Barwise (2002) who found that the educational level of the manager is positively associated with decentralisation of the strategy formulation process. They noted that higher education enables the managers to appreciate the benefits of cooperation and collaboration by other individuals in the strategy-making process. A study by Balta *et al*. (2009) exhibited that the higher educational level of a manager leads to more analytical techniques in the strategic decision-making process when compared with 'self-made' executives, which leads to higher staff participation in the process.

10.2.5.2 **Years in command of the SME**

The results of the study reject the null sub-hypothesis 1d1 that the experience of a manager does not have a statistically significant association with the normative/descriptive dimension of strategy formulation (b=-.209, t=-3.255, p<0.05). This indicates that a manager's years in command of an SME is a negative predictor of the normative approach to strategy formulation. This implies that more experienced managers do not plan in advance and prefer to formulate their strategies according to specific circumstances and probably based on their experience.

This result is in agreement with several other studies. Veskaisri *et al*. (2007) argued that the number of years in command of a business is a significant factor in predicting the tendency of an owner-manager towards normative strategy decisions. A study by Pansiri and Temtime (2010) revealed that managerial experience (n years in command) is significantly associated with the emergent approach to strategy formulation. On the other hand, the research of Wiersema and Bantel (1992) produced different results. They found that younger and less experienced managers were more likely to react to strategic change and suggested that they should be positively associated with the emergent approach to strategy.

Sub-hypothesis 2d2 examined the link between the experience level of the owner-manager and the individual/collective dimension of strategy formulation. The findings (b=.223, t=2.678, p<000) verify that years in command of an SME is a significant positive predictor of the individual approach to strategy formulation. This finding means that as managers stay in charge of a firm for many years they tend to make all the strategic decisions individually, without seeking the help of others.

This finding is in agreement with the research of Bass (1991), who exhibited that more experienced managers tend to avoid complexity in their strategy formulation process by

designing it without the involvement and participation of staff or other advisors and decreasing their information gathering and usage.

10.2.6 **Accounting information integration in strategy formulation**

According to Ma and Tayles (2009), the integration of accounting information practices depends on their relevance and usefulness in the firm's strategic agenda. They also argue that management accounting techniques are applied in organisations according to the challenges of new organisational forms. Scott and Tiessen (1999) identified the accountants with a strategic orientation as an integral part of the strategy formulation process by being sources of useful information for strategic purposes (Scott and Tiessen, 1999). A study conducted in Bulgarian SMEs (Papazov and Mihaylova, 2010) discovered that SMEs, apart from for statutory reasons, utilise accounting information for making important strategic decisions.

The most significant contribution of an information system is that it supports decision-making and control (Abernethy and Bouwens, 2005). Baines and Langfield-Smith (2003) suggest that, in uncertain conditions, the integration of useful information in strategy-making results in better financial performance. Better decisions and increased performance can be achieved when an organisation's needs for strategic information are met by its capability of providing them (Gupta, 1987). An association presumes that efficient strategy formulation can be achieved with the use of better information, which will lead to improved financial performance (Chenhall, 2003).

Hypothesis 3 suggests that there is not a significant relationship between the integration of accounting information and the dimensions of strategy formulation. From the literature, several elements of accounting information have been identified to correlate with the strategy formulation process. These elements have been classified as the sources that SMEs draw on

for the information data, the accounting information data usage and the usefulness of accounting information for the management processes in SMEs. The sub-hypotheses 3a, 3b and 3c discuss the associations of these elements with the dimensions of strategy formulation. The results are discussed below.

10.2.7 **Information sources and strategy formulation dimensions**

There are several studies examining the information sources that facilitate the strategy formulation process in SMEs. Bennett and Robson (1999) identified the accountants as the primary source of information that managers of SMEs use, not only for statutory work, but also for strategic purposes.

Sub-hypothesis 3a assumes that there is not a significant relationship between the information sources that SMEs use to receive information and the strategic formulation dimensions. Sub-hypotheses 3a1 and 3a2 facilitate to reject Hypothesis 3a. According to the results of the analysis ($r=0.312$, $N=334$, $p<0.0005$ for the normative/descriptive dimension and $r= -0.431$, $N = 334$, $p<0.0005$ for the individual/collective dimension) it is confirmed that this null hypothesis is rejected. Specifically, this discovery suggests that SMEs who search for information from more sources are positively correlated with the normative and collective approaches of strategy formulation. Managers who formulate their strategic plans in advance actively seek information from different sources to improve and strengthen their plans and seek the participation and acceptance of the employees on the process of strategy formulation.

This result is in line with previous academic research. Concerning the normative/descriptive dimension of strategy formulation, O'Regan and Ghobadian (2002) found a significant association between the availability and accessibility of relevant information and the prescribed (normative) strategy formulation, while Smeltzer *et al*. (1991),

in a study of 111 SMEs, found that SMEs that approached strategy in a normative way had a higher frequency of usage of information sources compared with firms that employed a descriptive approach to strategy. Concerning the individual/collective dimension of strategy formulation, Burke and Jarratt (2004) noted that the majority of SMEs approach strategy formulation in an individualistic manner and seek information from limited sources such as other family members, customers and personal networks. In addition, according to Lybaert (1998), the cooperation of the personnel in the process of strategy formulation determines the sensitivity of information gathering. The results of the research conducted by Berry *et al*. (2006) agree, concluding that SMEs that usually follow an individualistic approach to strategy have limited use of the information sources available to them.

10.2.8 **Accounting information data and strategy formulation**

According to Noordin *et al*. (2009), the use of management accounting information facilitates firms in adapting to their environment through continuously evaluating the progress of their strategy. According to Fredrickson (1984), higher integration of financial, accounting and marketing information in the strategy formulation process is associated with higher performance.

Sub-hypothesis 3b suggests that there is not a significant relationship between the usage of accounting information by the SME and the strategic formulation dimensions. Sub-hypotheses 3a1 and 3a2 assist to reject Hypothesis 3b. According to the results of the analysis ($r= 0.388$, $N = 334$, $p<0.0005$ for the normative/descriptive dimension and $r= -0.345$, $N = 334$, $p<0.0005$ for the individual/collective dimension) it is established that Hypothesis 3b is rejected. In particular, this finding suggests that in SMEs the intensity of usage of different accounting information is positively correlated with the normative approach to strategy and negatively correlated with the collective approach to strategy formulation. SMEs who

formulate their strategies in a deliberate fashion use accounting information to a higher intensity compared with companies who approach strategy formulation in an emergent manner. Furthermore, managers follow a more collective approach to strategy formulation in order to deal with the increased usage of accounting information.

These results are in agreement with the majority of studies concerning the association between these variables. In relation to the normative/descriptive dimension, Holmes *et al*. (1991) found that larger firms with formal strategic planning procedures are prone to higher accounting information usage than smaller firms who view strategy formulation as an emergent procedure in order to face current problems. According to O'Regan and Ghobadian (2002), a normative approach to strategy is likely to increase the use of analytical techniques and accounting information utilisation by SMEs. Aragon-Sanchez and Sanchez-Marin (2005) are in agreement, finding, in their research into 1351 Spanish SMEs, that reduced information usage leads to reactive responses to strategy formulation (descriptive approach). Burke and Jarratt (2004), in a qualitative study of Australian SMEs, found that the majority of SMEs were approaching strategy formulation in a descriptive fashion and, despite the vast array of available information, their usage levels were rather low compared to larger organisations with more formal planning systems. They concluded that increased usage of information moves the organisations from an implicit to an explicit strategy formulation approach. The findings of Smeltzer *et a*l. (1991) are similar, noting that companies that increase their usage of accounting information tend to move to a more normative approach to strategy formulation.

With reference to the individual/collective dimension of strategy formulation, Jenks and Kelly (1986) provided evidence that delegation of power and collaboration during the planning process allows managers to spend more time gathering and processing accounting

information. In addition, according to Lybaert (1998), the cooperation of the personnel in the decision-making process increases the accounting information usage in an organisation.

10.2.9 **Usefulness of accounting information and strategy formulation**

The study examined the usefulness of accounting information for a variety of managerial processes and purposes in relation to the strategy formulation process. Bennett and Robinson (1999) argued that successful SMEs consider the impact of information as very important for their growth process. Specifically they noted that the impact of accountants' advice during organisational planning of SMEs improved their growth rate.

Sub-hypothesis 3c implies that there is not a significant relationship between the usefulness of accounting information for the SME and the strategic formulation dimensions. Sub-hypotheses 3c1 and 3c2 confirm that Hypothesis 3c is rejected. According to the results of the analysis ($r= 0.352$, $N = 334$, $p<0.0005$ for the normative/descriptive dimension and $r= -0.413$, $N = 334$, $p<0.0005$ for the individual/collective dimension) it is established that the 3c hypothesis is rejected. In general, these findings suggest that SMEs who approach strategy in a normative way perceive accounting information as important and useful. In addition, when different people are involved in the strategy formulation process and not only the manager, then the perceived usefulness of accounting information is increased.

Studies in the academic literature have produced similar results. Corresponding to the normative/descriptive dimension, Burke and Jarratt (2004) argued that, for firms that approached strategy in an emergent way, the useful information data were only the ones that were simple and helped the day-to-day operations. They noted that accountants, banks and government agencies were not providing useful information required by this type of SME for strategy purposes. The research by Collis and Jarvis (2002) concluded that the emergent

nature of strategic planning of SMEs has lead them to perceive as important, and rely heavily on, only the short-term accounting reports (monthly management accounts, cash flows and bank statements) for their planning process and control.

Concerning the individual/collective dimension, Andersen (2001) noted that the organisations that comprehend the usefulness of information were linked with decentralised strategic decision structures in highly active industry sectors.

10.2.10 **Importance of setting objectives during strategy formulation**

The study also examined the importance that owner-managers place on the objectives that SMEs plan to achieve through the strategy formulation process, in relation to the dimensions of the strategy formulation process. In literature, there are several studies that aim to identify the significance of objectives for strategic purposes. Research by Stonehouse and Pemperton (2002) has shown that most SMEs focus on financial objectives during their strategy formulation, rather than longer-term goals. They argue that firms with a normative and collective approach to strategy usually set long-term objectives in combination with short-term financial objectives, compared with firms that approach strategy in an emergent and individualistic way, which usually focus on the latter. Finally, Peel and Bridge (1998) noted that there is a strong positive correlation between the normative approach to strategy formulation and non-financial objectives. These findings are in line with the results of the thesis as Hypothesis 4, which states that there is not a significant relationship between strategy formulation approaches and importance of setting organisational objectives, is partially rejected. The study identified associations between strategy formulation approaches and long-term objectives, such as learning and growth objectives and employee development

objectives, but failed to identify any association between strategy formulation dimensions and financial objectives.

Concerning the normative/descriptive dimension of strategy formulation and the setting of organisational objectives, it was found that a medium positive correlation exists ($r= 0.312$, $N = 334$, $p<0.0005$) between normative strategy formulation and learning and growth objectives, a medium positive correlation exists ($r= 0.302$, $N = 334$, $p<0.0005$) between normative strategy formulation and employee related objectives and no significant association was found to exist between the normative/descriptive dimension and financial objectives. These result imply that SMEs with a normative strategy approach are more orientated towards long-range objectives (such as expanding the company, improving the technological systems and the products or services they offer, increasing the level of innovation in their firms, training their employees and improving working conditions to increase their level of satisfaction and security) compared to SMEs that view strategy formulation as an emergent process.

Regarding the relationship between the individual/collective dimension of strategy formulation and organisational objectives, it was discovered that a medium negative association exists ($r= - 0.349$, $N = 334$, $p<0.0005$) between the individualistic strategy formulation and the learning and growth objectives, a medium negative association exists ($r= - 0.435$, $N = 334$, $p<0.0005$) between the individualistic approach to strategy formulation and the employee-related objectives and, finally, no significant correlation was found between the individual/collective dimension of strategy formulation and financial objectives. These findings suggest that companies that have higher levels of participation and collaboration in the strategy formulation process are focusing on setting long-term objectives in their strategic plans, in contrast with the SMEs that use a more authoritative approach in the strategy

formulation. The study did not discover any link between financial objectives and the individual/collective dimension.

10.3 **Firms' financial performance and strategy formulation**

This study's main purpose was to examine the relationship between the different dimensions of strategic formulation processes and financial performance in SMEs. In contingency-based research it is suggested that organisational performance should be examined as the dependant variable (Chenhall and Langfield-Smith, 1998b; Chenhall, 2003). Hart and Banbury (1994) suggested that the strategy-making approach that an organisation uses leads to a profound impact on a firm's financial performance.

Empirical studies have produced mixed results concerning the effect of the normative approach to strategy formulation and profit performance in small businesses. Some have produced positive relationships (Bracker and Pearson, 1986; Schwenk and Shrader, 1993), while others found no relationship (Gable and Topol, 1987; Sexton and Van Auken, 1985).

Hypothesis 5 suggests that there is not a significant relationship between strategy formulation dimensions and financial performance. This hypothesis is marginally rejected since the findings of this study have revealed a medium negative relationship ($r= -0.362$, $N = 334$, $p<0.0005$) between the normative strategy formulation process and financial performance of an SME and a weak positive relationship ($r= 0.294$, $N = 334$, $p<0.05$) between the individualistic approach and financial performance. These results imply that SMEs who have a descriptive and individualistic approach to strategy tend to be more profitable than firms that follow a normative and collective strategy formulation.

These results regarding the normative/descriptive dimension are in concurrence with some academic and empirical studies and in conflict with others. Although the general

agreement in academic literature is that processes that are more normative in nature will be positively linked with firm performance (Verreynne, 2006), it is obvious that many studies have discovered different results. More specifically, Barney (1991) suggests that an emergent strategy approach is an extraordinary and hard to imitate process that leads to increased performance. Hart (1991) concurs with this suggestion in his study, by finding that the emergent strategy making is more highly associated with financial performance than the normative approach. The research of Andrews *et al*. (2009) on the Welsh public sector revealed that the normative approach to strategy was not significantly correlated to performance while, in a recent study on SMEs by Miller and Le Breton-Miller (2005), the normative approach to strategy formulation was not included in the acknowledged reasons behind long-term financial success. Several researchers (Steiner, 1967; Still, 1974; Robinson and Pierce, 1983) have noted that short time horizons, informality and lower sophistication lead to a successful SME strategy formulation. Similarly, in a study of small banks, Robinson and Pierce (1983) noted that a normative approach to strategy did not lead to superior financial performance. The findings of Lindsay and Rue (1980) are in agreement, having the same conclusions regarding the normative approach to strategy and financial performance. Frederickson and Mitchell (1984) found no relationship between formal planners and financial performance, and McKiernan and Morris (1994) noted that the normative approach to strategy fails to provide managers with a holistic view of the firm. Robinson *et al*. (1986), in their research into small businesses in the retail sector, found that firms approaching strategy formulation in a normative way did not outperform firms with a descriptive approach to strategy. Finally, a study conducted by French *et al*. (2004) found a positive relationship between growth in net profit and the emergent dimension of strategy formulation. They also

concluded that there is only a weak link between financial performance and long term planning.

Contrary to these results are several studies that examined the relationship between normative strategy formation and performance. In particular, Van Gelderen *et al*. (2000) suggested that formal strategy formulation will lead to improved performance and that emergent strategy formulation leads to poor performance. Miller and Toulouse (1986), in a study of 97 SMEs in Canada, found that financially thriving SMEs have clear strategies, long planning horizons and more detailed strategy formulation analysis. Weinzimmer *et al*. (1998) noted that long-term strategic orientation and planning are likely to have a positive effect on SME performance. Peel and Bridge (1998) found that high planners are significantly more profitable than low planners are. Based on the findings of a survey of 100 hotels, Phillips (2000) noted that a normative approach to strategy formulation is positively correlated to higher levels of business performance, while Bracker *et al*. (1988) reported that firms employing normative strategy formulation outperformed firms employing an emergent and unstructured strategy formulation.

In terms of the individual/collective approach to strategy and its association with a firm's performance, the results of various researches are mixed. Concerning this dimension of strategy formulation, the results of this thesis are in line with most of the studies in the academic literature. Specifically, Robinson and Pierce (1983) argued that centralised strategy formulation is positively correlated to increased financial performance. Verreynne (2006), in a study of 477 SMEs in New Zealand, found that the emergent and individualist approach to strategy had a significant positive relationship with the firms' performance. These results are agreement with the findings of Lumpkin and Dess (1995), who suggested that an emergent and individualistic approach to strategy is particularly suitable for SMEs.

Contrary to these views is the work of Parnell and Crandall (2001), who argued that a collective approach to strategy might develop the quality of decisions and raise the firm's performance. Frese *et al*. (1999) agree by stating that collaboration and cooperation in the process of strategy formulation is the most highly related to a firm's performance. Finally, the research findings of Wooldridge and Floyd (1990) also concur with the previous studies, by claiming that participation in strategy making is positively related to enhancement of a firm's performance.

10.4 Explaining differences in selecting a specific approach to strategy according to a firm's characteristics

Although firms' characteristics, based on the pilot study, were not included as contingent factors, the design of the thesis allows us to examine the differences between different SME characteristics and strategy formulation processes. According to the literature, in addition to the importance of the owner-manager characteristics on the selection of a specific approach to strategy, the characteristics of the firm must also be considered (Hambrick and Finkelstein, 1987). Hypothesis 6 suggested that there are no differences between these characteristics and the selection of a specific approach to strategy formulation. From the analysis, this hypothesis was partially rejected. The discussion on the specific characteristics of an SME and the association with strategy formulation are discussed below.

10.4.1 Differences in business sectors

Hypotheses 6a, 6a1 and 6a2 examined the existing differences concerning the dimensions of strategy formulation in relation to the business sector to which an SME belongs. The results identified significant differences between the retail/wholesale sector and the construction and service provision sectors for the normative/descriptive dimension of strategy formulation. The

mean scores for the three groups were 2.88 for the retail/wholesale sector, 3.49 for the construction sector and 3.50 for the service provision sector (on a 1-to-5 point scale). These differences were significant at the 0.05 level. The ANOVA analysis did not find any significant differences for the individual/collective dimension. Other studies have attempted to examine relationships and differences between business sectors in relation to the strategy formulation process. The findings of the thesis are in line with previous studies. According to Andersen (2001), in industries with high levels of dynamism and complexity such as the construction, manufacturing and service provision sectors there is a positive association between strategic decision-making and financial performance. The findings of an empirical study conducted by Glaster and Falshaw (1999) on 113 large companies in the UK showed that there was not any significant difference between the manufacturing and service sectors concerning their approach to strategy formulation. According to Holmes and Nicholls (1988), firms in the manufacturing, construction and service sectors are more orientated to a deliberate approach to strategy compared with firms in the retail sector. Aragon-Sanchez and Sanchez-Marin (2005) concluded that manufacturing and service sector companies generally have a normative strategic orientation compared to the retail sector, which exhibits a more erratic behaviour.

10.4.2 **Differences in firm's ownership status**

Hall *et al*. (2006) argued that family ownership and management influence the strategy formulation process. There are inconclusive findings in research concerning the extent to which family firms engage in formal strategy-making (Blumentritt, 2006). This view is in agreement with a preceding research conducted by Merton (1968), who suggested that strategy formulation can play a clear (normative) and a hidden (descriptive) role for strategic development in family businesses. According to Miller and Le Breton-Miller (2005), family

firms strategise with longer horizons because they have the next generation in mind while non-family owned firms are not bound by this distinctiveness. Contrary to that view, the findings of Nordqvist and Melin (2010) did not identify any links between family-owned firms and longer planning horizons. Kets de Vries (1993) noted that strategy formulation in family-owned businesses reflects the belief system of the family and overrules business logic, when it comes to formulating strategy.

Hypotheses 6b, 6b1 and 6b2 examined the existing differences concerning the dimensions of strategy formulation with the ownership structure of SMEs. The results identified significant differences between family and non-family owned SMEs for both dimensions of strategy formulation. Regarding differences in the dimension of the normative/descriptive approach to strategy formulation and family ownership, the results are in line with previous academic studies. The mean scores of the two groups were 2.97 for family-owned SMEs and 3.18 for non-family owned SMEs (on a 1-to-5 point scale). This difference was statistically significant at the 0.01 level. According to Ward (1988), family businesses mainly focus on day-to-day operations and avoid engagement in systematic and analytical strategy making when compared to non-family owned businesses. There are a number of studies that identified a positive relationship between ownership structure and strategic direction (O'Regan and Ghobadian, 2002). Variyam and Kraybill (1993) noted that a descriptive strategy formulation approach is more likely to exist in family businesses compared to non-family owned ones.

Regarding differences in the dimension of the individual/collective approach to strategy formulation and family ownership, the results are in agreement with previous academic research. The mean scores of the two groups were 3.61 for family-owned SMEs and 3.41 for non-family owned SMEs (on a 1-to-5 point scale). This difference was statistically significant

at the 0.05 level. This finding is in line with previous empirical studies. According to Burke and Jarratt (2004), managers of family-owned companies, viewed the strategy formulation process as a personal deal. Makridakis *et al*. (1997), in his research into Greek SMEs, found that small family-owned firms are using a more centralised and authoritative approach to management and strategy formulation compared to non-family owned SMEs. In their research, Coskun and Altunisk (2002) found that managers of family-owned firms avoid delegation of decision-making and the use of professionals in their strategy formulation process due to the fear of losing control of the management.

10.5 **Summary**

The purpose of this chapter was to discuss and link the main results to previous research concerning strategy formulation dimensions, the contingent factors affecting the dimensions, accounting information integration in the process of strategy formulation and the financial performance of SMEs.

This thesis has developed and empirically tested a new theoretical model of strategy formulation based on contingency theory. Through several statistical analyses, the study has identified the dominant constructs (dimensions) that define the strategy formulation process. Moreover, this study also highlighted empirical evidence of the impact of accounting information on the dimensions of strategy formulation. Based on the previous discussions, the research findings have confirmed the findings of existing strategy formulation literature. However, the research findings concerning a number of issues do not agree with the findings of other studies.

Furthermore, the predictive ability of the factors drawn from contingency theory have been tested and changes in the organisational size, external environment, technology and manager characteristics lead to a different selection of strategy formulation approach.

In the next chapter, a summary of the research approach, the main research findings, the main limitations of the research, its contribution to knowledge and directions for future research will be discussed.

Chapter 11 CONCLUSION

11.1 Introduction

The purpose of this chapter is to summarise the main findings of the study, discuss potential contributions to existing research and give details of the potential limitations of the study. This chapter also outlines the recommendations reached in this study. It consists of six sections including the introduction. The following section, 11.2, presents a brief summary of the thesis. Section 11.3 gives an overview of the main findings of the study by emphasising the strategy formulation dimensions and the effects on them of the contingent factors and accounting information usage, respectively. Section 11.4 discusses the potential contribution of the study to existing knowledge. Section 11.5 identifies the limitations of the thesis and, finally, Section 11.6 makes recommendations for future research.

11.2 Summary of the study

This thesis contributes to the strategy formulation literature by investigating the effects of several internal and external organisational factors on Greek SMEs' strategy formulation processes in relation to the firms' financial performance. Contrary to the notion that strategy formulation is exclusively a large firm trend, this study suggests that SMEs are a significant

arena for strategy related research. The intention of the study was to examine the strategic formulation behaviour of SMEs and understand why different strategic formulation approaches are selected. Drawing on the principles of contingency theory and the pilot qualitative research, four contingent factors were identified as potentially exhibiting a contingency relationship with the strategy formulation process. Apart from the investigation of fit between contingency factors and strategy formulation, the thesis attempts to examine the link between accounting information and strategy formulation and examine differences between different firms' characteristics and their strategy formulation approach. As mentioned before, this study argues that Greek SMEs, depending on the contingent factors of organisational size, perceived environmental volatility, level of technology employed and specific owner-manager characteristics (experience and education), have a different and diverse approach to selecting a specific strategy formulation process. The study employs a multi-stage research approach, with diverse research methods, to investigate the factors that can predict and explain the selection of a specific approach to strategy formulation in Greek SMEs and to explain how these different approaches to strategy formulation relate to financial performance. Furthermore, the influence of accounting information on the strategy formulation dimensions has been investigated in terms of usefulness, usage and gathering behaviour. Finally, the study has examined the association of financial and non-financial objectives with the strategy formulation dimensions and has identified differences between different firms' characteristics and strategy formulation processes. The contingency theory of organisations has been used to develop the theoretical framework of the study. The theoretical design of the study provides explanations for the differences between the outcomes of this study and previous theoretical and empirical research.

The descriptive, causal and explanatory nature of the study provided support for the decision to use a triangulation of methodologies (Denzin, 1978; Golafshani, 2003; Koukouletsos *et al*., 2008). Examining a topic from both the qualitative and quantitative perspective increased the reliability and validity of the constructs of the thesis. The research methodology and the specific research approaches used in the thesis have enabled the researcher to provide an explanation of the constitutive pieces of the overall research topic and the differences between the results obtained by previous empirical studies. Among the different approaches used to perform research, this study employed the use of semi-structured interviews as a means to explore and identify hidden perceptions and opinions of owner-managers concerning the topic, in the first phase of the research (pilot study), and a cross-sectional study to empirically test the new proposed framework of strategy formulation (main study).

A satisfying number of 334 usable questionnaires were collected from SME managers and were used to test empirically the proposed theoretical framework of the study to examine the strategy formulation processes of SMEs. Organisational size of SMEs, perceived environmental volatility, level of technology employed and owner-manager characteristics were found to contribute significantly to the selection of a specific approach to strategy formulation by SMEs. Furthermore, the selection of a specific approach to strategy formulation was found to affect the profitability of SMEs. Correlation tests made it possible to verify the association between accounting information usage and specific strategy formulation approaches, with the study's results implying that SMEs that exhibited a more active behaviour of accounting information seeking, gathering and using were positively correlated to the normative and collective approach to strategy formulation. Furthermore, no association was found between short-term financial objectives and the strategy formulation

approaches but, in relation to long-term non-financial objectives, a positive correlation was found with the normative and collective approach to strategy formulation. Finally, the thesis identified small but significant differences between family-owned and non-family owned firms, and between different business sectors, in relation to the strategy formulation processes.

11.3 **Overview of main findings**

This thesis, using a contingency based framework, primarily attempted to investigate the fit between the contingent factors of organisational size, perceived external environment volatility, level of technology applied and specific owner-manager characteristics (experience and education) and the dimensions of the strategy formulation process, in order to examine the association of strategy formulation approaches with the financial performance of the SME. Another principal aim of this study was to examine the relationships between the dimensions of strategy formulation and accounting information sources, usage and importance. The relationship of organisational objectives (financial and non-financial) with the dimensions of strategy formulation was also examined. Finally, the different characteristics of the SMEs were compared with different approaches to strategy formulation.

11.3.1 **Contingency factors and strategy formulation dimensions**

The main findings of testing the hypotheses proposed in this thesis indicate that all the contingency factors that were included in the study are important predictors for both dimensions of strategy formulation. These factors were also identified in previous academic research (Burns and Stalker, 1961; Pennings, 1992; Donaldson, 2001; Balta *et al*., 2009). More specifically:

- Concerning the normative/descriptive dimension of strategy formulation, organisational size is the stronger predictor, followed by the level of technology

applied, the education of the owner-manager, the perceived environmental volatility and the experience of the owner-manager.

- According to the findings, organisational size, level of technology and manager's education are positively associated with the normative approach to strategy formulation while, on the other hand, perceived environmental volatility and manager's experience is positively correlated to the descriptive approach to strategy formulation.
- Concerning the individual/collective dimension of strategy formulation, the results are similar to the normative/descriptive dimension, with organisational size being the stronger predictor, followed by the level of technology applied, the education of the manager, the perceived environmental volatility and the experience of the manager
- Organisational size, level of technology, perceived environmental volatility and manager's education are positively correlated to the collective approach to strategy formulation, while manager's years in command (experience) is positively associated with the individualistic approach to strategy formulation.

11.3.2 **Effect of accounting information on strategy formulation process**

The thesis also examined the accounting information role in the strategy formulation process. The findings of the thesis suggest that an extensive utilisation of information sources and accounting information data was significantly associated to strategy formulation approaches. A significant relationship was also identified between the perceived usefulness of accounting information and strategy formulation dimensions.

- Extensive utilisation of information sources was significantly correlated with the normative and collective dimension of strategy formulation.

- Accounting information data usage was significantly correlated with the normative and collective dimension of strategy formulation.
- Perceived usefulness of accounting information was significantly associated with the normative and collective dimension of strategy formulation.

11.3.3 Setting objectives during strategy formulation

This thesis investigated the association of financial and non-financial objectives that SMEs set in relation to the strategy formulation process.

- There was a significant positive relationship between the learning and growth objectives and the employee related objectives with the normative and collective dimension of strategy formulation
- No significant relationship was identified between the financial objectives and the dimensions of strategy formulation

11.3.4 Effect of strategy formulation on financial performance

- A medium positive correlation was found between the descriptive approach to strategy formulation and financial performance
- A small positive correlation was found between the individualistic approach to strategy formulation and financial performance

11.3.5 Differences between strategy formulation and a firm's characteristics

- A statistically significant difference concerning the normative/descriptive approach to strategy was found between the sectors of construction and service providers and the retail/wholesale sector.

- No significant difference was found concerning the individual/collective dimension approach to strategy formulation between different business sectors.
- A statistically significant difference concerning the normative/descriptive approach to strategy formulation was found between family-owned and non-family owned SMEs
- A statistically significant difference concerning the individual/collective approach to strategy formulation was found between family-owned and non-family owned SMEs

11.4 **Potential contributions**

This thesis offers a number of practical implications for business practice. The study's findings suggest that SME owner-managers concerned with the development of strategic plans should avoid the employment of highly rational and formal processes, such as those taught in most business schools. Instead, they should give more attention to the advantages that all the small sized companies have, by developing the ability to adapt quickly to the changes in the business environment and increasing their flexibility in decision-making. According to the findings of the study, SMEs that engage in these practices are more likely to see their firm's financial performance improve.

Furthermore, since most academics accept that all firms naturally employ some form of strategy formulation processes, then academics and practitioners should concentrate on exploring these practices to create tools and techniques that will suit SMEs exclusively, so that they can be of more value and greater importance to the owner-managers. Universities and governmental organisations would be well advised to introduce strategic management training courses solely designed for SME managers to assist them in utilising these tools and techniques in order to improve their firms' performance.

This study has shown that the increased usage of accounting information is connected to the normative and collective approaches of strategy formulation, which are not connected with improved financial performance. This result has many implications concerning the Greek owner-managers who use accounting information for strategy formulation. It implies that they should not focus on the quantity of accounting information they receive, which consumes time and resources, but rather on the quality of this information. This finding also outlines the responsibility of governmental agencies and organisations in providing specific training to SME managers on how to access and efficiently use accounting information and the duty of accountants to improve the quality of accounting information services they provide to SMEs and to develop the capabilities of the owner-managers in more proficient exploitation of the accounting information they receive.

In recent years there have been significant research attempts to examine and explain the strategy-making process in organisations and its effect on financial and non-financial performance. In addition, many accounting researchers have examined the use of different accounting tools and accounting systems in order to enhance the strategy formulation and implementation process. This study has attempted to improve the understanding of the strategy formulation approach in SMEs and its benefits on firms' profitability from a contingency theory perspective. Several factors have been identified and their influence on the process of strategy formulation has been measured. This thesis makes several contributions to the scientific literature in this regard.

Firstly, this thesis presents a theoretical model for understanding the constructs and sub-constructs of the strategy formulation process. Based on the established contingency theory, the study has developed a theoretical framework for the investigation of several strategy formulation approaches and their effects on a firm's financial performance. In the framework,

accounting information was also examined in comparison with the adoption of an explicit approach to strategy formulation. The model has been tested empirically in the investigation of strategy formulation processes. The contingency model of strategy formulation, which includes the contingent factors of organisational size, perceived environmental volatility, level of technology employed and specific owner-manager characteristics, explained 38.9% and 37.5% of the variance of SMEs selection of a specific approach to strategy formulation, for the normative/descriptive dimension and the individual/collective dimension respectively. This is quite a decent result in comparison with results reported by previous research on strategy-making processes.

Secondly, at present there are no other empirical studies regarding the strategy formulation of Greek SMEs. Most of the previous studies on strategy formulation have been conducted in the USA, Canada, the UK, Thailand, China, Australia and New Zealand.

Thirdly, most of the previous studies have investigated strategy formulation of large organisations, neglecting the importance of SMEs for modern economies. Only in the last decade has academic research started investigating SMEs and their management processes but, in many cases, using models and frameworks that were developed to examine large organisations. This thesis has developed a theoretical framework that directly addresses strategy formulation processes in the SME context with the use of diverse methods of research. The significance of the effect of the factors of organisational size, perceived environmental volatility, level of technology employed, and specific owner-manager characteristics, using a contingency theory approach, was established in both the qualitative and quantitative stages of research. The study has proved empirically that all the above factors of the theory are significant predictors of the SMEs adoption of a specific strategy formulation approach. The thesis further analysed the role of accounting information in

comparison to the different dimensions of strategy formulation and the statistical analysis revealed that they are positively associated with specific strategy formulation approaches.

Fourthly, the study has discovered that the financial performance of Greek SMEs is related to the descriptive and individualistic approach to strategy formulation, a finding that is in disagreement with several other academic studies, which have primarily focused on larger organisations. This result has important implications for the strategic orientation of owner-managers and for the importance of strategy formulation in general.

Finally, the study has verified that SMEs with different strategy formulation processes differ in the setting of long-term non-financial objectives but not in the setting of short-term financial objectives. This result is in line with the academic literature.

11.5 **Limitations of the thesis**

As with any study of this type, this thesis is limited in certain respects. These limitations should be considered when interpreting the research results. In this section, the key limitations of this study are as listed.

The first limitation of this study may be related to the issue of self-reported questionnaires. The new measures of strategy formulation dimensions (normative/descriptive and individual/collective), the perceived environmental volatility, the level of technology employed, the accounting information usage and importance, the importance of business objectives for managerial purposes and the financial performance were all self-reported and may suffer from different types of bias, for example, mono operation bias and social desirability bias. Therefore, an issue of concern for the construct validity of the study is the method variance, which can augment the observed relationships (see, for example, Campell and Fiske, 1959; Spector and Brannick, 1995). However, the application of self-report

questionnaires is considered the most valid method of data collection when subjective perceptions regarding an issue are to be addressed (Schmitt, 1994). It is suggested that testing the reliability of the scales used in a study increases the safety against method variance (Spencer, 1994). All the scales that are included in the current study have demonstrated high reliability coefficients and, although no affirmation can be given that the study is immune to various types of bias, it can be suggested that there is no real reason to consider that there is a serious risk to the validity of the findings.

The second potential limitation is the lack of industry standardisation. Since this study examines different business sectors it could be argued that there is no control over the variance of uncertainty found in specific industries. Although single industry studies are less 'problematic' than studies that include multiple business sectors, the decision was made in order to have a greater generalisability of the findings. The issue of lack of business sector control is addressed in two ways: 1) the use of the perceived environmental volatility scale and 2) the use of level of technology employed. Regardless of whether or not others perceive specific business sectors as stable or dynamic, it is the SME owner-manager who is responsible for coping with the uncertainty of the specific sector. Furthermore, it is likely that, even in a single sector, there is a variance with regard to environmental uncertainty. In addition, by measuring the level of technology employed by SMEs, a proxy for strategy formulation is derived, since this scale has the potential to cut across different business sectors.

A third possible limitation is that the generalisability of the findings to other settings is questionable. This study has focused on investigating the SME strategy formulation in a single country. While using a homogenous sample allows the research to control for unrelated factors that may otherwise confound the analysis, the researcher is not capable of explaining

whether these findings would apply in different settings. Further research in other settings or countries is suggested to confirm the results of the study.

The cross-sectional design may be the fourth potential limitation of the thesis (Bowen and Wiersema, 1999; Schwartz and Teach, 2000) and a longitudinal study may provide some additional advantages (Verreynne, 2006). Since the research was conducted over a limited period, it would be useful to conduct similar studies on a longitudinal basis to identify the effects of time gaps and dissimilar economic cycles on the model or the results. In addition, the quantitative nature of the study has some disadvantages as it requires large samples, it is inflexible and, if misused, it can lead to statistical errors. The researcher has taken all the necessary precautions to deal with this limitation. However, a more in-depth approach would have been beneficial to augment the quantitative data with qualitative in-depth case studies or an ethnographic approach.

The fifth limitation of the thesis is concerned with the selection of the contingent factors. While the proposed model is relatively complex in terms of the number of contingency factors under consideration, it is nevertheless imperfect as there are other significant factors that have not been captured in the model tested. Other factors include organisational culture (Anderson and Lanen, 1999), market orientation and industry stability (Cadez and Guilding, 2008). The decision not to include these factors was made after examining the findings of the pilot study, where the importance of these factors was not highlighted by the respondents.

The sixth limitation of the thesis is concerned with a potential sampling bias presented in the sample profile. Despite the fact that the researcher distributed 1645 questionnaires in order to examine SMEs with different characteristics, out of the 334 owner-managers who

completed the questionnaire 37.7% were in charge of SMEs which have been in business for more than 20 years. This is an interesting observation since, according to academic and professional studies, only 50% of SMEs survive after the 3rd year of their operations (GMAP, 2007), less than 45% survive the 4th year of their operations(Headd, 2003; Knaup,2005) and less than 30% survive of after 10 years in business (Shane, 2008). Good and Hardin (2006) state that *"with careful and prolonged planning, we may reduce or eliminate many potential sources of bias, but seldom will we be able to eliminate all of them. Accept bias as inevitable and then endeavour to recognize and report all exceptions that do slip thought the cracks."* The researcher has done everything in his power to eliminate any sampling biases during the data collection period by distributing a vast number of questionnaires. An explanation to the sampling bias that this research has encountered could be that owner managers of SMEs which have survived for a long period are more interested in topics of strategy compared to owner managers of SMEs which have been in business for a short period. Another explanation could be that SME owner-managers of long-survived SMEs are more aware of their business strategic orientation and feel more comfortable to discuss and take part in surveys concerning their companies in contrast to owner-managers of newly founded SMEs who still struggle to survive and establish their position in their business environment.

11.6 **Future research**

The aim of this section is to provide some suggestions for future research that might be considered in order to improve further our understanding of the strategy formulation process.

The results of the thesis direct to a range of options for future research. One option is to gain more qualitative insights into how a particular organisation determines what is seen to be strategic and the manner in which it develops processes in order to deal with decisions regarded as strategic. Engaging in such research requires more extensive organisational-based

longitudinal studies, which seek to assess wider organisational structures and their impact on strategy formulation.

Of equal interest would be an investigation into the extent to which accounting information practices influence strategy formulation within particular organisational settings. It is possible that different firms operationalise accounting information in dissimilar ways and with differing impacts on strategic processes (Chenhall, 2005; Mouritsen, 1999; Bhimani and Langfield-Smith, 2007).

Further research that develops and tests hypotheses concerning the factors relating to the strategic formulation approach is to be encouraged, as we are little beyond a preliminary stage in the process of developing a strong theory of the perspective and impact of strategy formulation.

Replication of this study in other countries would be an important contribution. Cross-national studies of the formulation of strategy with the use of accounting information would be useful in identifying and understanding the existence of country-specific predilections (Bhimani and Langfield-Smith, 2007). Comparative studies are required to examine the constructs of strategy formulation among different SMEs in different countries.

Finally, future research is advised in the context of Greece to examine the effects of the current economic crisis. Data collection for this study occurred in the summer of 2009, in the middle of the world banking financial crisis. Yet, in Greece, the effects of this crisis were not evident in the markets until the beginning of 2010, when the Greek government decided to impose severe austerity measures to deal with the National Debt and conform to the demands of the IMF and the European Union for a rescue plan. The repercussions of these measures were severe for the average Greek SME. There was a dramatic drop in the demand for goods

and services and SMEs' access to loans and other means of finance was cut off. Another cross-sectional research now would be very useful in order to observe and discover changes in the strategy formulation processes under the distress of the economic uncertainty and turbulence.

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APPENTICES

Appendix 6.1 Interview guide

Introduction

Thank you for meeting me today. *Check*: are you happy to be involved with the research?

Points to discuss with participant prior to the interview:

- I will record our interview, are you alright with this? (*Show participant device*). The purpose behind the use of the recorder is to help me remember more accurately our discussion and avoid making loads of notes while we are talking. I guarantee that I will be the only one listening to these recordings and I won't be playing them for anyone else.
- Our discussion is confidential. I will not be sharing any details with anyone else. Your company will not be mentioned by name in the thesis. It will be assigned a letter from the alphabet to protect your identity.
- I will not ask you any 'sensitive' personal information. This interview is part of a research examining the strategy formulation of SMEs in Greece and their connection to the accounting science. If however we do stray onto a subject that you don't want to discuss, then please don't hesitate to tell me and we can talk about something else.
- This interview can stop whenever you like. If you want to take a break, feel upset or unwell; please just let me know and we can stop the session.
- Does this all sound okay? Would you like to ask me to explain anything, or do you have any questions?

What we have agreed to today will apply to the entire research process. It is very important that you are satisfied with the research and feel informed. If as the research proceeds, you have any questions or want something clarifying or need feedback on the

results, you have my contact details on the information card I gave you today. Please call me whenever you feel like it.

Begin interview

List of questions

- Q^1: What does your company do?
- Q^2: What is your educational background? How many years have you been in command of the firm?
- Q^3: How many employees work in your company?
- Q^4: What are the importance decisions you have to take as a manager? Can you separate them between operational and strategic ones?
- Q^5: What are the difficulties you face when trying to make decisions? Please try to put them in categories according to the nature of the decision.
- Q^6: What does the company consider strategic decisions to be? Please describe your company's principal strategies. Can you give me some examples?
- Q^7: Are you responsible for both operational and strategic planning in your company? Is anyone else involved in the process in a direct or indirect way?
- Q^8: How well structured and formal are the activities of strategic formulation? Q: What is the time horizon of your strategic plans?
- Q^9: What are your main information sources you use in order to make decisions for strategic purposes?
- Q^{10}: Who is giving you information and advice inside and outside the company for strategy formulation?
- Q^{11}: How important are the accounting and economical information for the strategy formulation? Can you expand on that?

- Q^{12}: What kind of accounting and economical information do you use for strategy formulation?
- Q^{13}: What is the role of the accountant? Does your accountant prepare the accounting information in an easy and convenient way for you to read and use for strategy formulation?
- Q^{14}: Apart from the economical information, do you look at other non-financial information?
- Q^{15}: How far are your strategic activities based on qualitative/quantitative and financial/non-financial information?
- Q^{16}: Is the external environment affecting your strategic decisions and how? Please give me some examples
- Q^{17}: Do you study the competition? Can you identify your main competitors?
- Q^{18}: Is technology important for you? How dependant is your firm from technology and technical systems? Is this affecting your strategy?
- Q^{19}: What other factor do you consider to be either assisting or limiting your strategic decisions? Please give examples

Post Interview – debrief

- Are you feeling okay about what we have talked about?
- *Outline what happens next*: 1) Now I am going to go away and type up what I have recorded today. 2) Is it okay for me to contact you on the telephone if I need any further clarifications? 3) Are you interested of having a copy of our interview after I finish typing it up?

- You can contact me at any time to discuss what we have shared today or if you have any questions about the research.

Appendix 6.2 Greek Questionnaire

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

Η χρήση των οικονομικών πληροφοριών στην σχεδίαση της στρατηγικής των μικρομεσαίων επιχειρήσεων στην Ελλάδα

Ευχαριστούμε για την συμμετοχή σας στην έρευνα. Το ερωτηματολόγιο που ακολουθεί είναι μέρος έρευνας πάνω στην σχεδίαση της στρατηγικής. Ο σκοπός του είναι να αναλύσει. την παρούσα κατάσταση στις μικρομεσαίες επιχειρήσεις στην Ελλάδα και να την συνδέσει με την χρήση των οικονομικών πληροφοριών.

Η συνεργασία και συμμετοχή σας είναι απαραίτητη για την επιτυχία της έρευνας. Παρακαλώ απαντήστε στις παρακάτω ερωτήσεις όσο πιο ειλικρινά γίνεται, έχοντας υπόψη ότι **δεν υπάρχουν σωστές ή λάθος απαντήσεις**. Τα στοιχεία που θα συγκεντρωθούν θα είναι συλλογικά, θα χρησιμοποιηθούν αποκλειστικά για την έρευνα αυτή και δεν πρόκειται να δοθούν ή να χρησιμοποιηθούν οπουδήποτε αλλού. Ο ερευνητής εγγυάται την διαφύλαξη της ανωνυμίας των συμμετεχόντων.

Παρακαλώ να απαντήσετε στα παρακάτω ερωτήματα

Προσωπικά Στοιχεία

1. Φύλο

- Ανδρας
- Γυναίκα

2. Ηλικιακή ομάδα στην οποία ανήκετε

- 18-31
- 32-41
- 42-51
- 52-61
- 61-και πάνω

3. Μορφωτικό Επίπεδο

- Απόφοιτος Δημοτικού
- Απόφοιτος Γυμνασίου
- Απόφοιτος Λυκείου
- Πτυχιούχος ΤΕΙ
- Πτυχιούχος ΑΕΙ
- Κάτοχος Μεταπτυχιακού διπλώματος ειδίκευσης (Master)
- Κάτοχος Διδακτορικού διπλώματος

4. Έχετε σπουδάσει ή εκπαιδευτεί σε θέματα διοίκησης επιχείρησης/οικονομικά θέματα ή σε θέματα σχετικά με το αντικείμενο της επιχείρησης σας?

- Διοίκησης Επιχειρήσεων ή Οικονομικά θέματα
- Θέματα σχετικά με το αντικείμενο της επιχείρησης
- Κανένα από τα δύο

5. Είστε ο ιδιοκτήτης/διευθυντής της επιχείρησης ή μισθωτός διευθυντής της επιχείρησης?

- Ιδιοκτήτης/διευθυντής
- Μισθωτός διευθυντής

6. Χρόνια που εργάζεστε στην επιχείρηση?

- 0-5
- 6-10
- 11-15
- 16-20
- 21- πάνω

Στοιχεία Επιχείρησης

1. Νομική Μορφή της εταιρείας σας

- Προσωπική Επιχείρηση
- ΟΕ
- ΕΕ
- ΕΠΕ
- ΑΕ

2. Κατηγορία οικονομικής δραστηριότητας της εταιρείας σας

- Λιανικού και χονδρικού εμπορίου
- Κατασκευών
- Μεταποιητικών βιομηχανών και βιοτεχνιών
- Παροχή υπηρεσιών
- Αλλο (παρακαλώ ονομάστε)

3. Χρόνια που δραστηριοποιείται η επιχείρησή σας

- 0-5
- 6-10
- 11-15
- 16-20
- 21- πάνω

4. Θα περιγράφατε την εταιρεία ως μια οικογενειακή επιχείρηση;

- Οικογενειακής ιδιοκτησίας (πρώτη γενιά)

- Οικογενειακής ιδιοκτησίας (μετέπειτα γενιά)
- Εν μέρει οικογενειακή
- Οι ιδιοκτήτες δεν έχουν οικογενειακή σχέση

5. Προσωπικό που απασχολεί η επιχείρησης σας

- 0-9
- 10-29
- 30-49
- 50-99
- 100-249

6. Ακαθάριστα έσοδα (τζίρος) της επιχείρησής σας για το προηγούμενο οικονομικό έτος
   - Κάτω από 500.000 ευρώ
   - 500.000 – 1.000.000
   - 1.000.000– 1.500.000
   - 1.500.000 – 2.000.000
   - 2.000.000 – 2.500.000
   - 2.500.000 – 3.000.000
   - 3.000.000 – 3.500.000
   - 3.500.000 – και πάνω
7. Η κερδοφορία της επιχείρησης τα τελευταία 5 χρόνια έχει:
   - Αυξηθεί σημαντικά
   - Αυξηθεί ελάχιστα
   - Παραμείνει στα ίδια επίπεδα
   - Μειωθεί ελάχιστα
   - Μειωθεί σημαντικά
8. Πόσο ικανοποιημένοι είστε από την κερδοφορία της επιχείρησης σας σε σχέση με τους ανταγωνιστές σας
   - Πολύ
   - Αρκετα
   - Μέτρια
   - Λίγο
   - Καθόλου
9. Ποια κατηγορία λογιστικών βιβλίων τηρείται υποχρεωτικά από τον ΚΒΣ
   - Α’ Βιβλίο Αγορών
   - Β΄Βιβλίων Στοιχείων
   - Γ’ Πλήρη λογιστικά βιβλία - Διπλογραφική μέθοδος
10. Τι είδους λογιστικό σύστημα έχετε;
    - Χειρόγραφο λογιστικό σύστημα
    - Μηχανογραφημένο σύστημα λογιστικής
    - Συνδιασμός μηχανογραφημένου και χειρόγραφου λογιστικού συστήματος
    - Άλλα (να αναφερθεί)

11. Ποιος τηρεί τα λογιστικά βιβλία της εταιρείας σας.
    - Λογιστής ο οποίος είναι διευθυντής της εταιρείας
    - Λογιστής ο οποίος είναι μισθωτός υπάλληλος της εταιρείας

- Εξωτερικός λογιστής / ελεγκτής από μικρομεσαίο λογιστικό γραφείο
- Εξωτερικός λογιστής / ελεγκτής από πολυεθνική επιχείρηση συμβούλων και λογιστών

12. Εκτός από την εφορία, ποιος άλλος ενημερώνεται για την οικονομική κατάσταση και τα οικονομικά αποτελέσματα της επιχείρησης; (σημειώστε όσα ισχύουν)

- Διαχειριστής [ ]
- Οικονομικός διευθυντής [ ]
- Τράπεζα / άλλες πηγές χρηματοδότησης [ ]
- Σημαντικοί προμηθευτές / πιστωτές [ ]
- Σημαντικές πελάτες [ ]
- Εργαζόμενοι [ ]
- Άλλοι (να δηλωθούν)

13. Ο χρονικός ορίζοντας των επαγγελματικών μου πλάνων είναι

Εβδομαδιαίος	Μηνιαίος	Τρίμηνος	Ετήσιος	Από 1 ώς 3 έτη
☐	☐	☐	☐	☐

<u>Στρατηγική</u> *Είναι ο **μακροχρόνιος προγραμματισμός** ο οποίος εξασφαλίζει ανταγωνιστικό πλεονέκτημα για την επιχείρηση μέσω της οργάνωσης των πόρων της στο πλαίσιο ενός μεταβαλλόμενου περιβάλλοντος, με στόχο να ανταποκριθεί στις ανάγκες των αγορών και να ικανοποιήσει τις προσδοκίες των ενδιαφερόμενων ομάδων*

1. Παρακάτω παρατίθονται ορισμένες απόψεις και πιθανές δράσεις για την διαμόρφωση και εφαρμογή της στρατηγικής της επιχείρησης σας. Να αναφέρετε, κυκλώνοντας τον αντίστοιχο αριθμό, τον βαθμό της συμφωνίας με τις παρακάτω απόψεις.

Κυκλώστε το 1 εφόσον συμφωνείτε **ΚΑΘΟΛΟΥ** με την δήλωση
Κυκλώστε το 2 εφόσον συμφωνείτε **ΛΙΓΟ** με την δήλωση
Κυκλώστε το 3 εφόσον συμφωνείτε **ΜΕΤΡΙΑ** με την δήλωση
Κυκλώστε το 4 εφόσον συμφωνείτε **ΠΟΛΥ** με την δήλωση
Κυκλώστε το 5 εφόσον συμφωνείτε **ΑΠΟΛΥΤΑ** με την δήλωση

	Καθόλου				
Έχουμε σαφείς και επακριβείς στρατηγικούς στόχους	1	2	3	4	5
Για να διατηρήσουμε την ανταγωνιστικότητά μας κάνουμε συνεχείς αλλαγές μικρής κλίμακας στη στρατηγική που ακολουθούμε	1	2	3	4	5
Η στρατηγική μας βασίζεται στην εμπειρία του παρελθόντος	1	2	3	4	5
Η στρατηγική που ακολουθούμε καθορίζεται από το όραμα του επιχειρηματία	1	2	3	4	5
Η στρατηγική που ακολουθούμε επηρεάζεται από εξωτερικούς παράγοντες (για παράδειγμα την κυβέρνηση, τις τράπεζες ή άλλα ενδιαφερόμενα μέρη)	1	2	3	4	5
Η στρατηγική μας επηρεάζεται από το εξωτερικό περιβάλλον της επιχείρησης	1	2	3	4	5
Ακολουθούμε συγκεκριμένες διαδικασίες για την επίτευξη των στρατηγικών στόχων	1	2	3	4	5
Η στρατηγική μας αναπτύσεται σταδιακά ανάλογα με τις ανάγκες που αντιμετωπίζουμε	1	2	3	4	5
Η στρατηγική μας αναπτύσσεται μέσω συζητήσεων μεταξύ των εργαζομένων και του επιχειρηματία	1	2	3	4	5
Ο επιχειρηματίας καθορίζει τη στρατηγική διεύθυνση της επιχείρησης	1	2	3	4	5
Έχουμε σαφώς καθορισμένες διαδικασίες σχεδιασμού για την αναζήτηση λύσεων στα στρατηγικά προβλήματα	1	2	3	4	5
Έχουμε την τάση να προσαρμόζουμε την στρατηγική μας σύμφωνα με άλλες στρατηγικές προσεγγίσεις που χρησιμοποιούνται στον κλάδο μας	1	2	3	4	5
Η στρατηγική που ακολουθούμε επηρεάζεται από την κουλτούρα της επιχείρησής μας	1	2	3	4	5

Η στρατηγική μας αποτελεί προϊόν συμβιβασμού ώστε να ικανοποιούνται τα συγκρουόμενα συμφέροντα του επιχειρηματία και εργαζομένων στην επιχείρηση	1	2	3	4	5
Τα εμπόδια που υπάρχουν στο ανταγωνιστικό περιβάλλον περιορίζουν σημαντικά τη στρατηγική που μπορούμε να ακολουθήσουμε	1	2	3	4	5
Η στρατηγική μας γίνεται σαφής με τη μορφή συγκεκριμένων σχεδίων	1	2	3	4	5
Η στρατηγική μας αναπτύσσεται μέσω μιας διαδικασίας συνεχούς προσαρμογής στο περιβάλλον	1	2	3	4	5
Οι στρατηγική που αναπτύσουμε επηρεάζεται από τον τρόπο που δραστηριοποιούμαστε στην αγορά	1	2	3	4	5
Ο επιχειρηματίας έχει την τάση να επιβάλλει στρατηγικές αποφάσεις	1	2	3	4	5
Πολλές από τις στρατηγικές επιλογές της επιχείρησης έχουν επιβληθεί από εξωτερικούς παράγοντες	1	2	3	4	5
Η στρατηγική μας προσαρμόζεται συνεχώς στις αλλαγές και σε απρόβλεπτα γεγονότα της αγοράς	1	2	3	4	5
Οι στρατηγικές αποφάσεις μας βασίζονται σε συστηματική ανάλυση του επιχειρηματικού περιβάλλοντός μας (ανταγωνιστές, πελάτες, τράπεζες, προμηθευτές)	1	2	3	4	5
Η χρήση της τεχνολογίας που χρησιμοποιούμε βοηθά την χάραξη των στρατηγικών επιλογών της επιχείρησης	1	2	3	4	5
Η στρατηγική της εταιρείας μας σχεδιάζεται κυρίως με βάση τα τρέχοντα προβλήματα και τις υπάρχουσες ανάγκες	1	2	3	4	5
Υπάρχει οργανωμένο σχέδιο δράσης για το μεγαλύτερο μέρος των δραστηριοτήτων της επιχείρησης με συγκεκριμένο χρονικό ορίζοντα μεγαλύτερο του ενός έτους	1	2	3	4	5
Το στρατηγικό σχέδιο αποτελείται από στόχους οι οποίοι θα υλοποιηθούν σε συγκεκριμένο χρονικό διάστημα	1	2	3	4	5
Ο ανταγωνισμός στον κλάδος έχει καταστήσει προτεραιότητα την χάραξη στρατηγικής στην επιχείρηση	1	2	3	4	5
Η γενική οικονομική συγκυρία διευκολύνει τον στρατηγικό σχεδιασμό της επιχείρησης	1	2	3	4	5
Η χρήση του Διαδικτύου βοηθάει τον στρατηγικό σχεδιασμό της επιχείρησής μας	1	2	3	4	5
Η τεχνολογία που απαιτείται στον κλάδο μας καθιστά δύσκολη την διαφοροποίηση των επιλογών μας για στρατηγική	1	2	3	4	5
Το εξωτερικό περιβάλλον της επιχείρησης είναι σύνθετο και εχθρικό	1	2	3	4	5

2. Πόσο σημαντικούς θεωρείτε τους παρακάτω παράγοντες στη διαμόρφωση της στρατηγικής της επιχείρησης;

	Καθόλου				Απόλυτα
Πελάτες	1	2	3	4	5
Οικογενειακό Περιβάλλον	1	2	3	4	5
Τραπεζικοί Σύμβουλοι	1	2	3	4	5
Κυβερνητικοί Οργανισμοί (ΕΟΜΜΕΧ)	1	2	3	4	5
Εργαζόμενοι επιχείρησης	1	2	3	4	5
Λογιστής	1	2	3	4	5
Άλλοι Σύμβουλοι	1	2	3	4	5
Τεχνολογία	1	2	3	4	5

3. Δηλώστε τον βαθμό σημαντικότητας των παρακάτω στόχων κατά την υλοποίηση των επιχειρηματικών σας σχεδίων (*1*= ΚΑΘΟΛΟΥ σημαντικός, *2*= ΛΙΓΟΤΕΡΟ σημαντικός, *3*= ΑΡΚΕΤΑ σημαντικός, *4*= ΠΟΛΥ σημαντικός, *5*= ΑΠΟΛΥΤΑ σημαντικός)

	Καθόλου				Απόλυτα
Αύξηση κερδοφορίας	1	2	3	4	5
Αύξηση μεριδίου αγοράς	1	2	3	4	5
Έλεγχος και περιορισμός του κόστους	1	2	3	4	5
Διεύρυνση του μεγέθους της επιχείρησης	1	2	3	4	5
Βελτίωση των τεχνολογικών συστημάτων	1	2	3	4	5
Εισαγωγή καινοτόμων προϊόντων στην αγορά	1	2	3	4	5
Βελτίωση της ποιότητας των προϊόντων	1	2	3	4	5
Βελτίωση των διαδικασιών παραγωγής	1	2	3	4	5
Αύξηση της πελατειακής βάσης	1	2	3	4	5
Αύξηση της ικανοποίησης των πελατών	1	2	3	4	5
Εύρεση προμηθευτών που προσφέρουν καλύτερους όρους	1	2	3	4	5
Δημιουργία σχέσεων εμπιστοσύνης με τους προμηθευτές	1	2	3	4	5
Επέκταση σε νέα κανάλια διανομής προϊόντων	1	2	3	4	5
Επέκταση σε νέες αγορές	1	2	3	4	5
Εκπαίδευση προσωπικού στις νέες τεχνικές παραγωγής και στις νέες τεχνολογίες	1	2	3	4	5
Πρόσληψη νέου εξειδικευμένου προσωπικού	1	2	3	4	5
Άυξηση της αφοσίωσης των εργαζομένων στην επιχείρηση	1	2	3	4	5
Άυξηση της ικανοποίησης των εργαζομένων από την εργασία τους	1	2	3	4	5
Άυξηση του αισθήματος της ασφάλειας των εργαζομένων για το εργασιακό τους μέλλον	1	2	3	4	5
Εκπαίδευση επιχειρηματία σε νέες τεχνικες και τεχνολογίες	1	2	3	4	5

Πληροφορίες

1. Δηλώστε τον βαθμό συμφωνίας σας με τις παρακάτω απόψεις (*1= Διαφωνώ απόλυτα, 2= Διαφωνώ μερικώς, 3= Ούτε διαφωνώ, ούτε συμφωνώ, 4= Συμφωνώ μερικώς, 5= Συμφωνώ απόλυτα*)

	Διαφωνώ Απόλυτα				
Η χρήση λογιστικών πληροφοριών είναι απαραίτητο εργαλείο για την επίτευξη των στρατηγικών μας στόχων	1	2	3	4	5
Ο λογιστής είναι ο καλύτερος σύμβουλός στη λήψη αποφάσεων	1	2	3	4	5
Θεωρώ ότι τα πληροφορίες από τα λογιστικά βιβλία είναι οι πιό αξιόπιστες για την λήψη μακροχρονίων αποφάσεων	1	2	3	4	5
Χρησιμοποιώ τις λογιστικές πληροφορίες για να λαμβάνω αποφάσεις για το μέλλον της επιχείρησής	1	2	3	4	5

2. Έχετε χρησιμοποιήσει κάποιες από τις παραπάνω οικονομικές καταστάσεις για να λάβετε αποφάσεις; (Σημειώστε όσα ισχύουν)

- Μεγάλων ανταγωνιστών [ ]
- Σημαντικών πελατών [ ]
- Μεγαλύτερων προμηθευτών / πιστωτών [ ]
- Αλλων (παρακαλώ να αναφερθούν)

3. Ο λογιστής εκτός από την τήρηση των λογιστικών σας βιβλίων, σας παρέχει πρόσθετες πληροφορίες για την διοίκηση της επιχείρησης; (Σημειώστε όσα ισχύουν)

- Δεν παρέχει καμία πληροφορία [ ]
- Παρέχει πρόσθετες πληροφορίες με απλή προφορική εξήγηση [ ]
- Παρέχει πρόσθετες πληροφορίες τις οποίες διατυπώνει εγγράφως [ ]
- Παρέχει πρόσθετη ανάλυση του λογαριασμού εσόδων εξόδων [ ]
- Παρέχει πρόσθετες πληροφορίες για τα στοιχεία του ισολογισμού [ ]
- Παρέχει πληροφορίες για την κατάσταση των ταμειακών ροών [ ]
- Άλλες πληροφορίες (να δηλωθούν)

4. Παρακάτω παρατίθενται δέκα (10) πηγές πληροφοριών που η διοίκηση χρησιμοποιεί στην λήψη αποφάσεων. Χρησιμοποιώντας την παρακάτω κλίμακα, παρακαλούμε κυκλώστε τον αριθμό που ταιριάζει καλύτερα στην επιχείρηση σας: *1 = Ποτέ, 2 = Λίγες φορές (μία φορά ή δύο φορές το χρόνο), 3 = Μερικές φορές (μία φορά σε ένα μήνα), 4 = Συχνά (τρεις έως τέσσερις φορές ένα μήνα), 5 = Πολύ συχνά (μία φορά ή δύο φορές την εβδομάδα).*

	Ποτέ				**Πολύ Συχνά**
Πελάτες/Προμηθευτές	1	2	3	4	5
Ανταγωνιστές	1	2	3	4	5
Επαγγελματικοί Συνεργάτες	1	2	3	4	5
Λογιστές	1	2	3	4	5
Τράπεζες/Τραπεζικοί Σύμβουλοι	1	2	3	4	5
Εφημερίδες/Περιοδικά	1	2	3	4	5
Τηλεόραση/Ραδιόφωνο	1	2	3	4	5
Κυβερνητικά ενημερωτικά δελτία ή έντυπα	1	2	3	4	5
Βιομηχανικές, επαγγελματικές ενώσεις	1	2	3	4	5
Ηλεκτρονικές υπηρεσίες πληροφόρησης	1	2	3	4	5

5. Ποιοι από τους ακόλουθους λόγους: εξηγούν σε μεγάλο βαθμό την επιλογή σας για την χρήση των παραπάνω πηγών πληροφοριών; (Σημειώστε όσα ισχύουν)

- Δυνατότητα πρόσβασης (εύκολα να αποκτήσουν) [ ]
- Αξιοπιστία (αξιόπιστος / αξιόπιστο) [ ]
- Ευκολία στη χρήση (εύκολη στη χρήση) [ ]
- Συνάφεια (χρήσιμο για την εταιρεία σας) [ ]
- Άλλοι λόγοι (διευκρινίστε)

6. Παρακάτω παρατίθενται έξι (6) τύποι επιχειρηματικών πληροφοριών, τις οποίες μια επιχείρηση μπορεί να βρει χρήσιμες. Χρησιμοποιώντας την παρακάτω κλίμακα, παρακαλούμε κυκλώστε τον αριθμό που ταιριάζει καλύτερα με την άποψή σας: *1= Καθόλου χρήσιμες, 2= Λίγο Χρήσιμες, 3= Ούτε χρήσιμες ούτε άχρηστες, 4= Αρκετά χρήσιμες και 5= Πολύ χρήσιμες*

	Καθόλου Χρήσιμες				**Πολύ Χρήσιμες**
Πληροφορίες Ανταγωνισμού	1	2	3	4	5
Πληροφορίες Πελατών	1	2	3	4	5
Τεχνολογικές Πληροφορίες	1	2	3	4	5
Πληροφορίες Νομοθετικών Διατάξεων	1	2	3	4	5
Οικονομικές Πληροφορίες	1	2	3	4	5
Κοινωνικο-πολιτισμικές πληροφορίες	1	2	3	4	5

7. Για κάθε έναν από τους έξι (6) τύπους πληροφοριών που αναφέρονται παρακάτω, παρακαλούμε κυκλώστε τον αριθμό που ανταποκρίνεται με βάση την δυνατότητα χρήσης και

ευκολία πρόσβασης. *1= Πολύ δύσκολη, 2= Δύσκολη, 3= Ούτε δύσκολη ούτε εύκολη, 4= Εύκολη, 5 = Πολύ εύκολη*

	Πολύ Δύσκολη				**Πολύ Εύκολη**
Πληροφορίες Ανταγωνισμού	1	2	3	4	5
Πληροφορίες Πελατών	1	2	3	4	5
Τεχνολογικές Πληροφορίες	1	2	3	4	5
Πληροφορίες Νομοθετικών Διατάξεων	1	2	3	4	5
Οικονομικές Πληροφορίες	1	2	3	4	5
Κοινωνικο-πολιτισμικές πληροφορίες	1	2	3	4	5

8. Πόσο σημαντικές είναι οι λογιστικές πληροφορίες που λαμβάνει η επιχείρηση για τα παρακάτω: Χρησιμοποιώντας την παρακάτω κλίμακα, παρακαλούμε κύκλώστε τον αριθμό που ταιριάζει καλύτερα στην επιχείρησης σας: *1 = Δεν είναι σημαντικές, 2 = λιγότερο σημαντικές, 3 = Ουτε σημαντικές, ούτε ασήμαντες, 4 = Σημαντικές, 5 = Πολύ σημαντικές*

	Καθόλου Σημαντικές				**Πολύ Σημαντικές**
Για να μάθετε για το επιχειρηματικό περιβάλλον	1	2	3	4	5
Για τη χάραξη στρατηγικής	1	2	3	4	5
Για τη μελέτη του ανταγωνισμού	1	2	3	4	5
Για την καθημερινή λειτουργία της επιχείρησης	1	2	3	4	5
Άλλο (εξηγήστε)					

9. Δηλώστε ποια από τα παρακάτω οικονομικά στοιχεία χρησιμοποιείτε. Χρησιμοποιώντας την παρακάτω κλίμακα, παρακαλούμε κυκλώστε τον αριθμό που ταιριάζει καλύτερα στην περίπτωσή σας: *1 = Ποτέ 2 = Σπάνια, 3 = Μερικές φορές, 4 = Συχνά, 5 = Πολύ συχνά*

	Ποτέ				**Πολύ Συχνά**
Ισολογισμός	1	2	3	4	5
Υποχρεώσεις σε τράπεζες	1	2	3	4	5
Υποχρεώσεις σε προμηθευτές	1	2	3	4	5
Ύψος πωλήσεων της επιχείρησης	1	2	3	4	5
Λειτουργικά έξοδα	1	2	3	4	5
Εισπρακτέες μεταχρονολογημένες επιταγές (πελατών)	1	2	3	4	5
Λογαριασμός αποτελεσμάτων χρήσεως	1	2	3	4	5
Προϋπολογισμός εσόδων εξόδων	1	2	3	4	5
Ταμειακές ροές(ταμείο)	1	2	3	4	5
Πρόβλεψη ταμειακών ροών (πρόβλεψη ταμείου)	1	2	3	4	5
Ανάλυση αριθμοδεικτών	1	2	3	4	5
Οικονομικές συγκρίσεις μεταξύ άλλων επιχειρήσεων του κλάδου	1	2	3	4	5
Αναλύσεις τάσεων της αγοράς	1	2	3	4	5
Ανάλυση νεκρού σημείου	1	2	3	4	5
Σύγκριση των προϋπολογισμών με τα πραγματικά αποτελέσματα	1	2	3	4	5
Ανάλυση κόστους λειτουργίας της επιχείρησης	1	2	3	4	5
Ανάλυση κόστους προϊόντων ή υπηρεσιών που παρέχετε	1	2	3	4	5
Διαφορετικούς τρόπους φορολόγησης	1	2	3	4	5
Άλλα (να αναφερθούν)					

10. Δηλώστε το βαθμό χρησιμότητας των λογιστικών πληροφοριών για τις παρακάτω ενέργειες. Χρησιμοποιώντας την παρακάτω κλίμακα, παρακαλούμε κυκλώστε τον αριθμό που ταιριάζει καλύτερα με την επιλογή σας: *1 = Δεν είναι χρήσιμοι, 2 = Λιγότερο χρήσιμοι, 3 = Ουτε χρήσιμοι ή άχρηστοι, 4 = Χρήσιμοι, 5 = Πολύ χρήσιμοι*.

	Καθόλου Χρήσιμο				**Πολύ Χρήσιμο**
Βραχυπρόθεσμο σχεδιασμό	1	2	3	4	5
Μακροπρόθεσμο σχεδιασμό	1	2	3	4	5
Καθορισμό μισθών και μπόνους του διευθυντή	1	2	3	4	5
Καθορισμό μισθών και μπόνους των υπαλλήλων	1	2	3	4	5
Δαπάνες μάρκετινγκ	1	2	3	4	5
Τιμολόγηση προιόντων	1	2	3	4	5
Αποφάσεις δανεισμού	1	2	3	4	5
Αγορά παγίων στοιχείων	1	2	3	4	5
Σύγκριση των επιδόσεων με τους στόχους	1	2	3	4	5
Σύγκριση των επιδόσεων με εκείνες προηγούμενων περιόδων	1	2	3	4	5
Σύγκριση των επιδόσεών σας με άλλες εταιρείες του κλάδου	1	2	3	4	5
Έλεγχο των αποτελεσμάτων της διοίκησης	1	2	3	4	5
Άσκηση πολιτικής εισπράξεων από πελάτες	1	2	3	4	5
Άσκηση πολιτικής πληρωμής προμηθευτών	1	2	3	4	5
Για άλλο σκοπό (να αναφερθεί)					

Appendix 6.3 English Questionnaire

Questionnaire

The use of accounting information in strategy formulation of small and medium enterprises in Greece

I would like to thank you for your cooperation in this study. This questionnaire is part of a research on strategy. Its aim is to analyse the current strategy formulation procedures in SMEs in Greece and to discover if there is there is any connection with the use of accounting information.

Your cooperation is vital for the success of this study. Please answer all the questions as fully and honestly as possible. Please note there are not 'right' or 'wrong' answers to any of the questions and it is your initial impression and response, which we are looking for.
Please state the level of agreement with the following statements, concerning strategy formulation in your company and your individual characteristics.

Please answer the following questions

Personal Information

1. What is your gender?

Male Female

2. In which of the following age groups are you?

- 18-31
- 32-41
- 42-51
- 52-61
- 61-over

3. What is your highest educational qualification or nearest equivalent?

- Primary School
- High School

- Higher Educational Institute Degree (TEI)
- Highest Educational Institute Degree (AEI)
- Postgraduate Degree
- Doctoral Degree

4. Have you studied or received training in business or management subjects, or subjects related to the company's activities?

- Business/management subjects
- Subjects related to company's activities
- None of these

5. Are you owner/manager [ ] or manager [ ] of this business? (please tick one box)

- Owner/Manager
- Salaried Manager

6. How long have you been the manager or owner/manager of this firm?

- 0-5
- 6-10
- 11-15
- 16-20
- 21 and over

Information about the Firm

7. What is the legal form of your firm?

- Sole proprietorship
- General partnership
- Limited partnership
- Private limited company (Ltd.)
- Public limited company

8. In which business sector does your firm belong to?

- Retail
- Wholesale

- Construction
- Manufacturing
- Service Providing
- Other (Please give description)

9. How many years is your firm in business?

- 0-5
- 6-10
- 11-15
- 16-20
- 21 and over

10. What is the ownership status of your firm?

- Family owned (first generation)
- Family-owned (second generation)
- Partially family owned
- Non-family owned

11. How many employees do you currently employ in the business?

- 0-9
- 10-29
- 30-49
- 50-99
- 100-249

12. What was company's turnover for the last financial year? (Tick one box only)

- Under €500.000
- €500.000-€1m

- €1m - €1.49m
- €1.5m - €1.99m
- €2m - €2.49m
- €2.5m - €2.99m
- €3m - €3.49m
- €3.5m and above

13. The profitability of your company in the last five years has:

- Increased substantially
- Increased marginally
- Remained the same
- Decreased marginally
- Decreased substantially

14. How satisfied are you from the profitability of your firm in comparison to your immediate competitors?

- Much satisfied
- Little Satisfied
- Not Satisfied or Dissatisfied
- Little Dissatisfied
- Much Dissatisfied

15. What category of accounting books does your company keep?

- Category A
- Category B
- Category C

16. What kind of accounting system you employ?

- Informal hand written accounting system
- Computerised accounting system
- A combination of computerised and hand written accounting system
- Other (please explain)

17. Who is responsible for bookkeeping in your company?

- An accountant who is also the manager of the company
- An accountant who is a salaried employee of the company

- An accountant from a small external accounting firm
- An accountant from a multinational company of consultants and accountants

18. Apart from the tax office, who normally receives a copy of the annual accounts?

- The owner/manager
- The financial manager
- Banks/other sources of funding
- Important customers/creditors
- Important clients
- The employees
- Others (please state)

19. The time horizon of your business plans are:

1 Week	1 Month	1 Quarter	1 Year	From 1 to 3 years
☐	☐	☐	☐	☐

Strategy Formulation

1. The following statements reveal beliefs and probable actions for the formulation and implementation of strategy. Please circle the level of agreement that represents your company. (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, 5 = Strongly Agree)

	Strongly Disagree				Strongly Agree
We have definite and precise strategic objectives	1	2	3	4	5
To keep in line with our business environment we make continual small-scale changes to strategy	1	2	3	4	5
Our strategy is based on past experience	1	2	3	4	5
The strategy we follow is directed by a vision of the owner-manager	1	2	3	4	5
We have strategy imposed on us by those external to this organisation (for example the government, the banks or other stakeholders)	1	2	3	4	5
Our freedom of strategic choice is severely restricted by our external business environment	1	2	3	4	5
We have precise procedures for achieving strategic objectives	1	2	3	4	5
Our strategies emerge gradually as we respond to the need to change	1	2	3	4	5
Our strategy develops through a process of bargaining and negotiation between employees and the manager	1	2	3	4	5
The owner manager determines our strategic direction	1	2	3	4	5
We have well defined planning procedures to search for solutions to strategic problems	1	2	3	4	5
We tend to develop strategy by experimenting and trying new approaches in the market place	1	2	3	4	5
The strategy we follow is dictated by our culture	1	2	3	4	5
Our strategy is a compromise which accommodates the conflicting interests of powerful groups and individuals	1	2	3	4	5
Barriers exist in our business environment, which significantly restrict the strategies we can follow	1	2	3	4	5
Our strategy is made explicit in the form of precise plans	1	2	3	4	5
Our strategy develops through a process of ongoing adjustment	1	2	3	4	5

The strategies we follow develop from the way we do things around here	1	2	3	4	5
The manager tends to impose strategic decisions	1	2	3	4	5
Many of the strategic changes which have taken place have been forced on us by those outside the organisation	1	2	3	4	5
We make strategic decisions based on a systematic analysis of our business environment	1	2	3	4	5
Our strategy is continually adjusted as changes occur in the market place	1	2	3	4	5
The technology that we employ assists us to move in a strategic direction	1	2	3	4	5
The strategy of our company is designed based on current problems and needs	1	2	3	4	5
There is an organized action plan for most of the firm's activities (more than 1 year)	1	2	3	4	5
My business plan in comprised by targets and objectives in a specific time horizon	1	2	3	4	5
Intense competition in the market has rendered strategic formulation a priority for me	1	2	3	4	5
General economic conditions are facilitating strategic planning	1	2	3	4	5
The need for of technological systems has given me the opportunity to think and act strategically	1	2	3	4	5
The technology required in our business sector is limiting our choices to design an effective strategy formulation process	1	2	3	4	5
The external environment is highly unstable and hostile	1	2	3	4	5

2. The following factors contribute on the strategy formulation of my company

	Not at all				Very Much
Customers	1	2	3	4	5
Family	1	2	3	4	5
Bank advisors	1	2	3	4	5
Government Agencies	1	2	3	4	5
Employees	1	2	3	4	5
Accountants	1	2	3	4	5
Other consultants	1	2	3	4	5
Technology Employed	1	2	3	4	5

3. Please circle the level of importance of the following objectives during the design of your strategy formulation process (1 = Not Important, 2 = Less Important, 3 = Neither Important or Unimportant, 4 = More Important, 5 = Very Important)

	Not Important				Very Important
Increasing profitability	1	2	3	4	5
Increasing market share	1	2	3	4	5
Monitoring and reducing costs	1	2	3	4	5
Expanding the company	1	2	3	4	5
Improving the technological systems	1	2	3	4	5
Introducing innovative products	1	2	3	4	5
Improving the products/services quality	1	2	3	4	5
Improving production capabilities	1	2	3	4	5
Increases the customer base	1	2	3	4	5
Increasing customer satisfaction	1	2	3	4	5
Finding the suppliers who offer the best financial terms	1	2	3	4	5
Creating strong professional relationships with suppliers	1	2	3	4	5
Expanding into new distributing channels	1	2	3	4	5
Entering new markets	1	2	3	4	5
Training the personnel in new production methods and new technologies	1	2	3	4	5
Hiring highly skilled employees	1	2	3	4	5
Increasing employee dedication	1	2	3	4	5
Increasing employee satisfaction	1	2	3	4	5
Increasing employee job safety	1	2	3	4	5
Training the manager in new technologies and techniques	1	2	3	4	5

Information

1. Please state the level of agreement with the following statements (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, 5 = Strongly Disagree)

The use of accounting information is a necessary tool for achieving our strategy objectives	1	2	3	4	5
The accountant is the most important consultant in decision making	1	2	3	4	5
I believe that information deriving from accounting are the most credible for long term decision making	1	2	3	4	5
I use the accounting information for making long term decisions	1	2	3	4	5

2. Do you ever read the statutory annual accounts of other businesses? *(Tick as many boxes as apply)*

- Yes, major competitors [ ]
- Yes, major customers [ ]
- Yes, major suppliers/creditors [ ]
- Yes, other *(please state)*

3. Apart from the statutory annual accounts, is any additional information made available by the accountant to management at that time?

- No additional information [ ]
- Verbal explanation/analysis of the accounts [ ]
- Written explanation/analysis of the accounts [ ]
- Management advice/recommendations [ ]
- Advice/recommendations on record keeping [ ]
- Additional detailed profit and loss account [ ]
- Additional detailed balance sheet [ ]
- Cash flow statement[ ]
- Other *(please state)*

4. Below are listed some Ten (10) sources of information that managers may use. Using the scale below, please circle the number that most closely matches your usage: (1 = Never, 2 = Not frequently (Once or twice a year), 3 = Sometimes (Once in a month), 4 = Often (Three to four times a month), 5 = Very Often (Once or twice a week)).

	Never				Very Often
Customers	1	2	3	4	5
Competitors	1	2	3	4	5
Business /professional associates	1	2	3	4	5
Government officials	1	2	3	4	5
Libraries	1	2	3	4	5
Newspapers /periodicals /magazines	1	2	3	4	5
Broadcast media (radio/TV)	1	2	3	4	5
Government publications	1	2	3	4	5
Industry, trade associations	1	2	3	4	5
Electronic information services	1	2	3	4	5

5. Which of the following reason(s) largely explain(s) your selection of the sources that you frequently use? (Check all that apply)

- Accessibility (easy to obtain) [ ]
- Reliability (dependable/ trustworthy}[ ]
- Ease of use (easy to use) [ ]
- Relevance (useful to your firm) [ ]
- Other reasons (please specify)

6. Below are listed six (6) types of business information, which a firm may find useful. Using the scale below, please circle the number that most closely matches your view: (1= Not Useful, 2= Less Useful, 3= Neither Useful or not Useful, 4= Useful, 5= Very Useful)

	Not Useful				Very Useful
Competition information	1	2	3	4	5
Customer information	1	2	3	4	5
Technological information	1	2	3	4	5
Regulatory information	1	2	3	4	5
Economic information	1	2	3	4	5
Socio-cultural information	1	2	3	4	5

7. For each of the six (6) types of information listed below, please circle the number that most closely matches your access capability. (1= Very Hard, 2= Hard, 3= Moderately Hard, 4= Easy, 5= Very Easy)

	Very Hard				Very Easy
Competition information	1	2	3	4	5
Customer information	1	2	3	4	5
Technological information	1	2	3	4	5
Regulatory information	1	2	3	4	5
Economic information	1	2	3	4	5
Socio-cultural information	1	2	3	4	5

8. How important is the business information you acquire for the following: Using the scale below, please circle the number that most closely matches your usage: (1 = Not Important, 2 = Less Important, 3 = Neither Important or Unimportant, 4 = Important, 5 = Very Important)

72. To learn about the business environment	1	2	3	4	5
73. To study my competition	1	2	3	4	5
74. For strategy formulation	1	2	3	4	5
75. For day-to-day business operation	1	2	3	4	5
76. Other (please explain)					

9. Do you use any of the following specific sources of information for the strategy formulation of the company? If so, please indicate approximately how frequently you use them. Using the scale below, please circle the number that most closely matches your usage: (1 = Never, 2 = Not frequently, 3 = Sometimes, 4 = Often, 5 = Very Often)

	Never				Very Often
Balance Sheet	1	2	3	4	5
Liabilities to banks	1	2	3	4	5
Liabilities to suppliers	1	2	3	4	5
Sales	1	2	3	4	5
Operating Costs	1	2	3	4	5
Customer debts	1	2	3	4	5
Trading profit account	1	2	3	4	5
Profit and Loss account	1	2	3	4	5
Cash flow statement	1	2	3	4	5
Cash flow forecast	1	2	3	4	5
Ratio Analysis	1	2	3	4	5
Inter-firm comparison	1	2	3	4	5
Industry trends	1	2	3	4	5
Break-even analysis	1	2	3	4	5
Comparison of budgets with actual results	1	2	3	4	5
Analysing costing reports	1	2	3	4	5
Analysing costing of products/services	1	2	3	4	5
Diverse taxing methods	1	2	3	4	5
Other (please state					

10. Do you use your company's annual accounts for any of the following purposes? If so, please indicate how useful you find them. Using the scale below, please circle the number that most closely matches your choice: (1 = Not Useful, 2 = Less Useful, 3 = Neither Useful or Useless, 4 = Useful, 5 = Very Useful)

	Not Useful				Very Useful
Short-term planning	1	2	3	4	5
Long-term planning	1	2	3	4	5
Deciding manager's pay/bonuses/dividends	1	2	3	4	5
Deciding employees' pay/bonuses/dividends	1	2	3	4	5
Marketing/pricing decisions	1	2	3	4	5
Borrowing decisions	1	2	3	4	5
Capital expenditure	1	2	3	4	5
Comparing performance with targets	1	2	3	4	5
Comparing performance with previous periods	1	2	3	4	5
Comparing performance with other companies	1	2	3	4	5
Confirming management information	1	2	3	4	5
In connection with loans/finance	1	2	3	4	5
Reassuring customers and suppliers	1	2	3	4	5
Reassuring suppliers	1	2	3	4	5
Other *(please state)*					

Appendix 9.1 Differences in strategy formulation between firm's ownership

Table 1 Descriptive statistics- Firm Ownership - Strategy dimensions

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Indiv/Collec Dimension	1.00	213	3.6098	.54696	.03748	3.5359	3.6837	2.11	5.00
	2.00	45	3.3975	.43000	.06410	3.2683	3.5267	2.56	4.44
	3.00	76	3.4094	.56662	.06500	3.2799	3.5388	2.00	4.67
	Total	334	3.5356	.54492	.02982	3.4769	3.5942	2.00	5.00
Norm/Descr Dimension	1.00	213	2.9687	.51960	.03560	2.8985	3.0389	1.33	4.50
	2.00	45	3.0778	.53015	.07903	2.9185	3.2371	1.67	4.42
	3.00	76	3.1754	.48735	.05590	3.0641	3.2868	1.25	4.50
	Total	334	3.0304	.51966	.02843	2.9745	3.0864	1.25	4.50

Table 2 Test of homogeneity of variances

	Levene Statistic	df1	df2	Sig.
Indiv/Collec Dimension	2.145	2	331	.119
Norm/Descr Dimension	.509	2	331	.602

Table 3 Anova constructs of strategy formulation dimensions and firm ownership

		Sum of Squares	df	Mean Square	F	Sig.
Indiv/Collec Dimension	Between Groups	3.242	2	1.621	5.610	.004
	Within Groups	95.637	331	.289		
	Total	98.879	333			
Norm/Descr Dimension	Between Groups	2.511	2	1.255	4.753	.009
	Within Groups	87.416	331	.264		
	Total	89.927	333			

Table 4 Multiple comparisons among different groups of firm ownership concerning the strategy formulation dimensions

Dependent Variable		(I) family	(J) family	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Indiv/Collec Dimension	Tukey HSD	1.00	2.00	.21228*	.08819	.044	.0047	.4199
			3.00	.20045*	.07182	.015	.0314	.3695
		2.00	1.00	-.21228*	.08819	.044	-.4199	-.0047
			3.00	-.01183	.10111	.992	-.2499	.2262
		3.00	1.00	-.20045*	.07182	.015	-.3695	-.0314
			2.00	.01183	.10111	.992	-.2262	.2499
	Scheffe	1.00	2.00	.21228	.08819	.057	-.0046	.4291
			3.00	.20045*	.07182	.021	.0239	.3770
		2.00	1.00	-.21228	.08819	.057	-.4291	.0046
			3.00	-.01183	.10111	.993	-.2604	.2368
		3.00	1.00	-.20045*	.07182	.021	-.3770	-.0239
			2.00	.01183	.10111	.993	-.2368	.2604
	Bonferroni	1.00	2.00	.21228*	.08819	.050	.0001	.4245
			3.00	.20045*	.07182	.017	.0276	.3733
		2.00	1.00	-.21228*	.08819	.050	-.4245	.0000
			3.00	-.01183	.10111	1.000	-.2551	.2315
		3.00	1.00	-.20045*	.07182	.017	-.3733	-.0276
			2.00	.01183	.10111	1.000	-.2315	.2551
Norm/Descr Dimension	Tukey HSD	1.00	2.00	-.10908	.08431	.400	-.3076	.0894
			3.00	-.20674*	.06866	.008	-.3684	-.0451
		2.00	1.00	.10908	.08431	.400	-.0894	.3076
			3.00	-.09766	.09666	.571	-.3252	.1299
		3.00	1.00	.20674*	.06866	.008	.0451	.3684
			2.00	.09766	.09666	.571	-.1299	.3252
	Scheffe	1.00	2.00	-.10908	.08431	.434	-.3164	.0982
			3.00	-.20674*	.06866	.011	-.3756	-.0379
		2.00	1.00	.10908	.08431	.434	-.0982	.3164

			3.00	-.09766	.09666	.601	-.3353	.1400
		3.00	1.00	.20674*	.06866	.011	.0379	.3756
			2.00	.09766	.09666	.601	-.1400	.3353
	Bonferroni	1.00	2.00	-.10908	.08431	.590	-.3120	.0938
			3.00	-.20674*	.06866	.008	-.3720	-.0415
		2.00	1.00	.10908	.08431	.590	-.0938	.3120
			3.00	-.09766	.09666	.939	-.3303	.1349
		3.00	1.00	.20674*	.06866	.008	.0415	.3720
			2.00	.09766	.09666	.939	-.1349	.3303

*. The mean difference is significant at the 0.05 level.

Figure 9.1 Mean plots-Differences among different firm ownerships concerning the individual/collective dimension

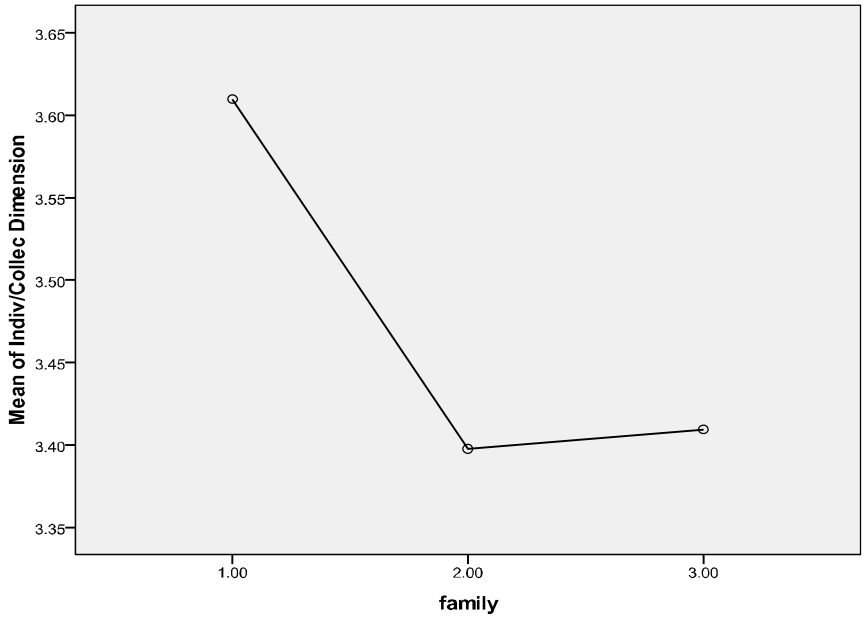
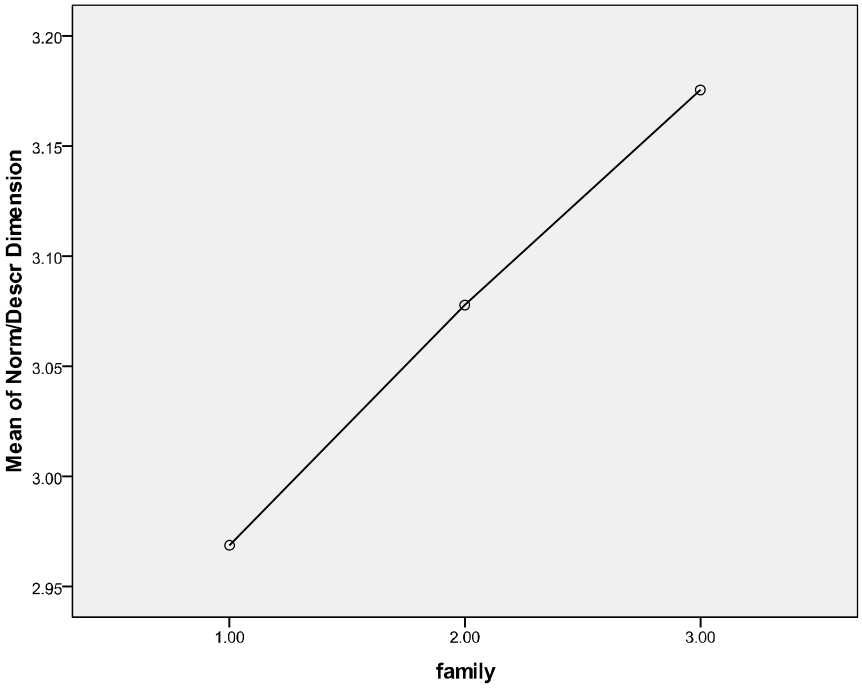


Figure 9.2 Mean Plots-Differences among diferent firm ownerships concerning the normative/descriptive dimension



Appendix 9.2 Differences in strategy formulation between business sectors

Table 1 Descriptive Statistics- Business Sectors- Strategy Dimensions

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Indiv/Collec Dimension	1.00	110	3.5212	.53863	.05136	3.4194	3.6230	2.11	4.89
	2.00	33	3.4882	.52037	.09059	3.3037	3.6727	2.56	4.67
	3.00	53	3.6876	.57943	.07959	3.5279	3.8473	2.67	5.00
	4.00	125	3.4960	.52488	.04695	3.4031	3.5889	2.00	4.78
	5.00	13	3.5385	.67410	.18696	3.1311	3.9458	2.89	4.89
	Total	334	3.5356	.54492	.02982	3.4769	3.5942	2.00	5.00
Norm/Descr Dimension	1.00	110	2.8750	.51491	.04909	2.7777	2.9723	1.33	4.17
	2.00	33	3.1641	.43125	.07507	3.0112	3.3171	2.50	4.25
	3.00	53	3.0362	.63412	.08710	2.8614	3.2109	1.50	4.50
	4.00	125	3.1287	.46717	.04178	3.0460	3.2114	1.25	4.50
	5.00	13	3.0385	.46970	.13027	2.7546	3.3223	2.25	3.58
	Total	334	3.0304	.51966	.02843	2.9745	3.0864	1.25	4.50

Table 2 Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Indiv/Collec Dimension	.680	4	329	.607
Norm/Descr Dimension	1.092	4	329	.360

Table 3 Anova constructs of strategy formulation dimensions and business sectors

		Sum of Squares	df	Mean Square	F	Sig.
Indiv/Collec Dimension	Between Groups	1.518	4	.380	1.282	.277
	Within Groups	97.361	329	.296		
	Total	98.879	333			
Norm/Descr Dimension	Between Groups	4.456	4	1.114	4.288	.002
	Within Groups	85.470	329	.260		
	Total	89.927	333			

Table 4 Multiple Comparisons among different business sectors concerning the strategy formulation dimensions

Dependent Variable		(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Indiv/Collec Dimension	Tukey HSD	1.00	2.00	.03300	.10797	.998	-.2632	.3292
			3.00	-.16642	.09096	.358	-.4159	.0831
			4.00	.02521	.07112	.997	-.1699	.2203
			5.00	-.01725	.15954	1.000	-.4549	.4204
		2.00	1.00	-.03300	.10797	.998	-.3292	.2632
			3.00	-.19942	.12063	.465	-.5303	.1315
			4.00	-.00778	.10647	1.000	-.2998	.2842
			5.00	-.05025	.17813	.999	-.5389	.4384
		3.00	1.00	.16642	.09096	.358	-.0831	.4159
			2.00	.19942	.12063	.465	-.1315	.5303
			4.00	.19163	.08917	.202	-.0530	.4362
			5.00	.14917	.16837	.902	-.3127	.6110
		4.00	1.00	-.02521	.07112	.997	-.2203	.1699
			2.00	.00778	.10647	1.000	-.2842	.2998
			3.00	-.19163	.08917	.202	-.4362	.0530

			5.00	-.04246	.15853	.999	-.4773	.3924
		5.00	1.00	.01725	.15954	1.000	-.4204	.4549
			2.00	.05025	.17813	.999	-.4384	.5389
			3.00	-.14917	.16837	.902	-.6110	.3127
			4.00	.04246	.15853	.999	-.3924	.4773
	Scheffe	1.00	2.00	.03300	.10797	.999	-.3015	.3675
			3.00	-.16642	.09096	.503	-.4482	.1154
			4.00	.02521	.07112	.998	-.1951	.2455
			5.00	-.01725	.15954	1.000	-.5115	.4770
		2.00	1.00	-.03300	.10797	.999	-.3675	.3015
			3.00	-.19942	.12063	.604	-.5731	.1743
			4.00	-.00778	.10647	1.000	-.3376	.3220
			5.00	-.05025	.17813	.999	-.6021	.5016
		3.00	1.00	.16642	.09096	.503	-.1154	.4482
			2.00	.19942	.12063	.604	-.1743	.5731
			4.00	.19163	.08917	.331	-.0846	.4679
			5.00	.14917	.16837	.940	-.3724	.6707
		4.00	1.00	-.02521	.07112	.998	-.2455	.1951
			2.00	.00778	.10647	1.000	-.3220	.3376
			3.00	-.19163	.08917	.331	-.4679	.0846
			5.00	-.04246	.15853	.999	-.5336	.4486
		5.00	1.00	.01725	.15954	1.000	-.4770	.5115
			2.00	.05025	.17813	.999	-.5016	.6021
			3.00	-.14917	.16837	.940	-.6707	.3724
			4.00	.04246	.15853	.999	-.4486	.5336
	Bonferroni	1.00	2.00	.03300	.10797	1.000	-.2721	.3381
			3.00	-.16642	.09096	.682	-.4235	.0906
			4.00	.02521	.07112	1.000	-.1758	.2262
			5.00	-.01725	.15954	1.000	-.4681	.4336
		2.00	1.00	-.03300	.10797	1.000	-.3381	.2721
			3.00	-.19942	.12063	.993	-.5403	.1415
			4.00	-.00778	.10647	1.000	-.3087	.2931
			5.00	-.05025	.17813	1.000	-.5537	.4532

		3.00	1.00	.16642	.09096	.682	-.0906	.4235
			2.00	.19942	.12063	.993	-.1415	.5403
			4.00	.19163	.08917	.324	-.0604	.4436
			5.00	.14917	.16837	1.000	-.3267	.6250
		4.00	1.00	-.02521	.07112	1.000	-.2262	.1758
			2.00	.00778	.10647	1.000	-.2931	.3087
			3.00	-.19163	.08917	.324	-.4436	.0604
			5.00	-.04246	.15853	1.000	-.4905	.4056
		5.00	1.00	.01725	.15954	1.000	-.4336	.4681
			2.00	.05025	.17813	1.000	-.4532	.5537
			3.00	-.14917	.16837	1.000	-.6250	.3267
			4.00	.04246	.15853	1.000	-.4056	.4905
Norm/Descr Dimension	Tukey HSD	1.00	2.00	-.28914*	.10116	.036	-.5666	-.0117
			3.00	-.16116	.08523	.324	-.3949	.0726
			4.00	-.25367*	.06663	.002	-.4364	-.0709
			5.00	-.16346	.14948	.810	-.5735	.2466
		2.00	1.00	.28914*	.10116	.036	.0117	.5666
			3.00	.12798	.11302	.789	-.1820	.4380
			4.00	.03547	.09975	.997	-.2381	.3091
			5.00	.12568	.16690	.944	-.3321	.5835
		3.00	1.00	.16116	.08523	.324	-.0726	.3949
			2.00	-.12798	.11302	.789	-.4380	.1820
			4.00	-.09250	.08355	.803	-.3217	.1367
			5.00	-.00230	.15775	1.000	-.4350	.4304
		4.00	1.00	.25367*	.06663	.002	.0709	.4364
			2.00	-.03547	.09975	.997	-.3091	.2381
			3.00	.09250	.08355	.803	-.1367	.3217
			5.00	.09021	.14853	.974	-.3172	.4976
		5.00	1.00	.16346	.14948	.810	-.2466	.5735
			2.00	-.12568	.16690	.944	-.5835	.3321
			3.00	.00230	.15775	1.000	-.4304	.4350
			4.00	-.09021	.14853	.974	-.4976	.3172
	Scheffe	1.00	2.00	-.28914	.10116	.088	-.6025	.0242

			3.00	-.16116	.08523	.468	-.4252	.1028
			4.00	-.25367*	.06663	.007	-.4601	-.0472
			5.00	-.16346	.14948	.879	-.6265	.2996
		2.00	1.00	.28914	.10116	.088	-.0242	.6025
			3.00	.12798	.11302	.864	-.2221	.4781
			4.00	.03547	.09975	.998	-.2735	.3445
			5.00	.12568	.16690	.967	-.3913	.6427
		3.00	1.00	.16116	.08523	.468	-.1028	.4252
			2.00	-.12798	.11302	.864	-.4781	.2221
			4.00	-.09250	.08355	.874	-.3513	.1663
			5.00	-.00230	.15775	1.000	-.4910	.4864
		4.00	1.00	.25367*	.06663	.007	.0472	.4601
			2.00	-.03547	.09975	.998	-.3445	.2735
			3.00	.09250	.08355	.874	-.1663	.3513
			5.00	.09021	.14853	.985	-.3699	.5503
		5.00	1.00	.16346	.14948	.879	-.2996	.6265
			2.00	-.12568	.16690	.967	-.6427	.3913
			3.00	.00230	.15775	1.000	-.4864	.4910
			4.00	-.09021	.14853	.985	-.5503	.3699
	Bonferroni	1.00	2.00	-.28914*	.10116	.045	-.5750	-.0032
			3.00	-.16116	.08523	.595	-.4020	.0797
			4.00	-.25367*	.06663	.002	-.4420	-.0654
			5.00	-.16346	.14948	1.000	-.5859	.2590
		2.00	1.00	.28914*	.10116	.045	.0032	.5750
			3.00	.12798	.11302	1.000	-.1914	.4474
			4.00	.03547	.09975	1.000	-.2464	.3174
			5.00	.12568	.16690	1.000	-.3460	.5974
		3.00	1.00	.16116	.08523	.595	-.0797	.4020
			2.00	-.12798	.11302	1.000	-.4474	.1914
			4.00	-.09250	.08355	1.000	-.3286	.1436
			5.00	-.00230	.15775	1.000	-.4481	.4435
		4.00	1.00	.25367*	.06663	.002	.0654	.4420
			2.00	-.03547	.09975	1.000	-.3174	.2464

			3.00	.09250	.08355	1.000	-.1436	.3286
			5.00	.09021	.14853	1.000	-.3296	.5100
		5.00	1.00	.16346	.14948	1.000	-.2590	.5859
			2.00	-.12568	.16690	1.000	-.5974	.3460
			3.00	.00230	.15775	1.000	-.4435	.4481
			4.00	-.09021	.14853	1.000	-.5100	.3296
*. The mean difference is significant at the 0.05 level.								

Figure 9.3 Mean Plots-Differences among business sectors concerning the individual/collective dimension

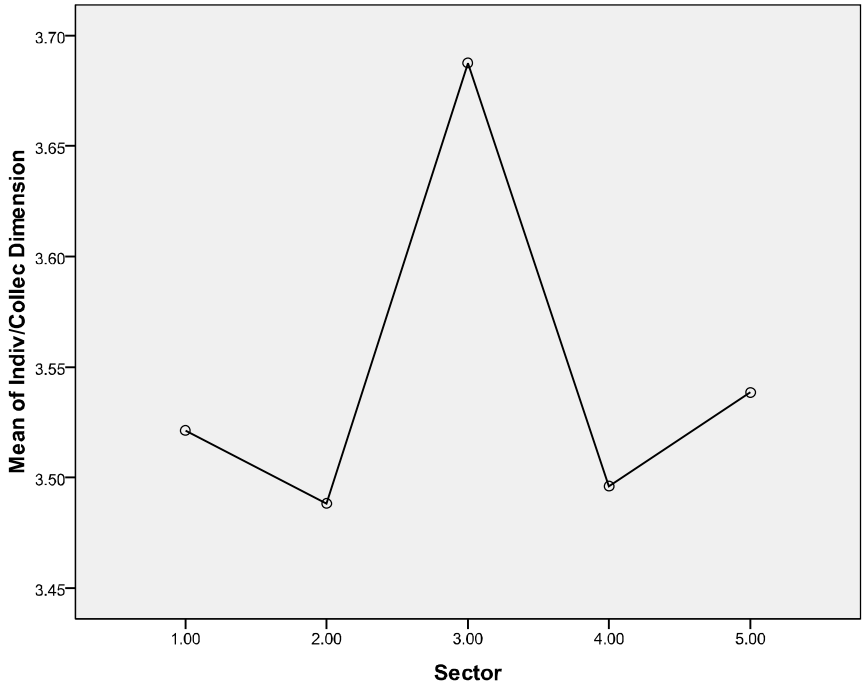


Figure 9.4 Mean Plots-Differences among business sectors concerning the normative/descriptive dimension