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# Management Accounting and Entrepreneurship

The relationship between management accounting  
and  
entrepreneurial orientation

**Bachelor Thesis**  
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## **Abstract**

Interest in entrepreneurship and research within the field of entrepreneurship has increased, although the aim and direction of the research has changed. In today's studies there is more focus on the entrepreneurial process on firm level within organisations, than on entrepreneurship by individuals. It is also stressed in scientific and academic research that renewal of the economic system is important for a healthy economic development. It is essential that old ideas are replaced by new ones and that old products, services and processes are substituted by those which are better and more effective. For several firms, entrepreneurship and the development of new products have become a central dimension in the strategies. It is not only important for a firm to support the process of new product development, but also to utilize old ideas. This can be done by well structured management accounting systems, which combine new and old ideas and creates a balance that bring out the best of both.

Little research has been pursued within management accounting and entrepreneurship which gives the conclusion that no precise knowledge about how management accounting systems are designed and used in entrepreneurial organisations exists. However, there has been research done in fields close at hand and these studies may be useful for understanding the context of entrepreneurship.

The objective of this study is to illustrate current practice of management accounting in firms with different level of entrepreneurial orientation. We will use a measurement instrument developed by Brown, Davidson and Wiklund (2001) to characterise the level of entrepreneurial orientation within the researched firms. The purpose is to chart and compare how management accounting systems are designed and used in organisations with different levels of entrepreneurial orientation. The focus lies on different selected parts of the management accounting system with basis in the formal, less formalized, and organisational instruments of control, respectively incentives programs. With these bases an overall understanding can be obtained of how firms with different levels of entrepreneurial orientation work with and use their management accounting.



The findings indicate that there exist some differences in the design and use of management accounting in different levels of entrepreneurial orientation. These lie in three main categories: formal or informal control, internal or external orientation and financial or non-financial grounds for decision-making. A lower entrepreneurial profile coincides with a heavier reliance on formal control whereas a higher such profile implies an equally heavier reliance on informal control. Firms with a lower score tend to support a larger proportion of their decisions with financial information, while firms with higher entrepreneurial orientation consider more non-financial information in their decision-making processes although financial information is also considered. It is also indicated that firms with a higher entrepreneurial orientation tend to be more externally oriented, while firms with lower entrepreneurial orientation are more internally oriented.



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# 1 INTRODUCTION

*The thesis begins with an explanation of the background of the studied subject. This explanation leads up to a discussion about the problem and the purpose of the thesis, together with the study's contribution and limitations. By concluding the introduction with a thesis outline, the reader will have a better understanding of the study.*

## 1.1 Background

Entrepreneurship has attracted interest in recent years from politicians, business people etc. It appears as if entrepreneurship has an important role to play in today's society as globalisation as well as environmental changes is increasing. (Landström, 1999; Löfstål, 2001) Organisations confronted with fierce global competition tend to regard entrepreneurship as a way of staying competitive and alert (Löfstål, 2001).

The interest in entrepreneurship has also been reflected in the academic debate (Löfstål, 2001) and as interest and research within the entrepreneurial field have increased, the aim and direction of the research has changed. In today's studies there is more focus on the entrepreneurial process within organisations than on entrepreneurship by individuals (Stevenson & Jarillo, 1990; Landström, 1999; Löfstål, 2001;). The focus on the entrepreneurial process put the main point in: "*the examination of how, by whom, with what effects opportunities to create future goods and services are discovered, evaluated, and exploited*" (Ventkataraman, 1997; Shane & Venkataraman, 2000; p. 218).

The characteristics of entrepreneurship are not easy to distinguish because research and literature within the entrepreneurial field do not give a homogeneous definition. This has been the largest obstacle of creating a conceptual framework for the field of entrepreneurship. As mentioned above, most researchers have defined the field in terms of *who* the entrepreneur is and what he/she does. This term does not include the presence of lucrative opportunities and the presence of enterprising individuals. (Ventkataraman 1997; Shane & Venkataraman, 2000) Schumpeter (1934) isolated entrepreneurially driven innovation in products and





processes as the crucial engine driving the change process. Therefore, the absence of entrepreneurship from our collective theories of markets, firms, organisations, and change makes our understanding of the business landscape incomplete. (Venkatamaran 1997; Shane & Venkatamaran, 2000) One can argue that the lack of such a framework inhibits a thorough investigation of the importance of accounting systems in organisations with different strategic directions e.g. entrepreneurial organisations.

Wiklund (1998) states, that renewal of the economic system is important for a healthy economic development. He considers further that it is essential that old ideas are replaced by new ones and that old products, services and processes are substituted by those which are better and more effective. This implies that entrepreneurship is a key to economic development (Wiklund, 1998; Stevenson & Gumpert, 2001). For several firms entrepreneurship and the development of new products has become a central dimension in the strategies. The process and increased pressure of new product development, which includes greater emphasis on first mover advantages, fast product introduction, more demanding product functionality, and shortening life cycles, increases the importance of controlling and coordinating this process. This matter has been stressed by academics and practitioners. (Davila, 2000) Not only is it important for a firm to support the process of new product development, but also to utilize old ideas. This can be done by well structured management accounting systems, which combine new and old ideas and create a balance that bring out the best in both.

Although, discussed in a number of different settings, there are contexts in which the issue of entrepreneurship has not been addressed. One of these contexts is the field of accounting. As a matter of fact, it seems to exist an avoidance of entrepreneurship in the accounting literature while, at the same time, accounting seems to be avoided in the entrepreneurship literature (Olson et al., 2000; Löfstål, 2001). Even if some entrepreneurship researchers have discussed the issue, few have tried to observe how management accounting actually works within an organisation with different levels of strategic orientation (Langfield-Smith, 1997; Abernethy et. al., 1999; Löfstål, 2001). However, there are adjacent fields that have been more thoroughly explored. One of these, that should have considerable bearing on entrepreneurship, is the field focusing on strategic orientation. e.g. Miller & Friesen (1982)



The interest in research of the relationship between strategy and management control has increased significantly in recent years (Langfield-Smith, 1997). Although, there is an absence of a common point of reference for classifying business strategy. Since different schemes of classification have been used and since previous studies have only considered one or several strategic variable, it is difficult to form an opinion on how strategy has influenced the design and use of management accounting systems. In other words, when using different schemes of classification, studying only one or few strategic variables, inconsistent finding have occurred. Earlier, little attempt have been made to integrate the different variables, whereupon each scheme is based, with a deeper analysis. It is also a fact that this has created a need to relate different classification schemes in order to interpret earlier findings within strategy and management accounting. (Simon, 1987; Langfield-Smith, 1997; Wiklund, 1998)

Since firm level entrepreneurship research lacks a solid testable theory, the lack of a valid instrument, that taps sufficient important aspects of firm-level entrepreneurship, has been the largest impediment to create such an instrument. Some useful work has been done in the area, e.g. Miller (1983) has created a scale that empirically measures several dimensions of entrepreneurship. This measurement has been further developed by several researchers, e.g. Covin & Slevin (1986; 1988; 1989). However, as researchers have had trouble to determine what type of construct the scale really measures and the proper label of the scale, Brown et al. (2001) developed a measurement instrument to empirically gauge opportunity based entrepreneurship firm behaviour. This scale is primarily based on Stevenson (1983) conceptualization of entrepreneurship, which places it within a broader management framework and is coherent with classical as well as contemporary definitions of entrepreneurship. As his definition of entrepreneurship puts focus on entrepreneurship as the pursuit of opportunity irrespectively of organisational context, this scale measures entrepreneurial orientation.

Scapens & Bromwich (2001) state, that the traditional boundaries of the business are being challenged, both internally with new organisational structures and externally with new organisational forms. These changes have potentially important implications for the nature and role of management accounting. Scapens & Bromwich (2001) therefore suggest more research on management accounting within and beyond new organisational forms. Researches advocate that entrepreneurship is not linked to a particular type of organisational context



(Stevenson and Jarillo, 1990; Per Davidsson, 2001) and that management accounting systems are used in different ways depending on the strategy of the firm. (Miller & Friesen 1978; Miles & Snow, 1978; Porter, 1980) It has also been confirmed in later research (Simons, 1987; Langfield-Smith, 1997). This fact highlights the opportunity of studying management accounting in contexts, which have different entrepreneurial orientation.

## ***1.2 Research issue and objectives of the study***

As mentioned above there is a need for more research about management control within new organisational forms (e.g. Scapens et al., 2001; Lövstål, 2001). Little research has been pursued within management accounting and entrepreneurship which gives the conclusion that no precise knowledge about how management accounting systems are designed and used in entrepreneurial organisations exists (Olson, 2003).

Several researchers believe that it is becoming more common for lower level employees to be actively involved in activities that are of strategic significance. This emphasises the importance of informal control as an important aspect of management accounting and the effectiveness of formal controls may be dependent on the nature of the informal control. (Langfield-Smith, 1997; Chenhall, 2003) It is also a fact that interest has increased in studying management accounting in different organisational contexts with different strategic orientation (Langfield-Smith, 1997). With this in mind, and as a majority of prior studies within strategy and management accounting have focused on formal attributes of control, (Simon, 1987; Langfield-Smith, 1997) one can argue that in order to understand management accounting in different strategic orientations, it is important to include and capture more informal and modern attributes of control.

Keeping the previous discussion in mind, the objective of this study is to illustrate current practice of management accounting in companies with different level of entrepreneurial orientation. We will use a measurement instrument developed by Brown et al. (2001) to characterise the level of entrepreneurial orientation within the sample population. The purpose with the thesis is to chart and compare how management accounting systems are designed and used in organisations with different levels of entrepreneurial orientation. We will focus on



different selected parts of the management accounting system with basis in the formal, less formalized, and organisational instruments of control, respectively incentives programs. With these bases we hope to get an overall understanding of how firms with different levels of entrepreneurial orientation work with and use their management accounting.

The purpose of the study can be concretized with the following statements:

- *To explore the parts of the management accounting system that is used in general in organisations with different levels of entrepreneurial orientation.*
- *To explore if there is a connection between firms' level of entrepreneurial orientation and its management accounting.*

### **1.3 Potential contributions of the study**

This study is the first study that uses the instrument developed by Brown et al. (2001), which is based on Stevenson's (1983) study, where entrepreneurial management is defined as a set of opportunity-based management practices. Further, we connect this with management accounting used by the selected population. Our findings will contribute and give an indication of how entrepreneurship can be measured. When entrepreneurship can be measured consistently by researchers, the findings from different researches can be connected and compared correctly, as opposed to the situation of today. This may further contribute to larger conclusions to be made when studying the connection between level of entrepreneurship and management accounting systems used by firms with different characters.

Moreover, the findings may be used as input for further research, e.g. using the measurement instrument and looking closer and deeper on specific parts of management accounting for a better statistically secured population.



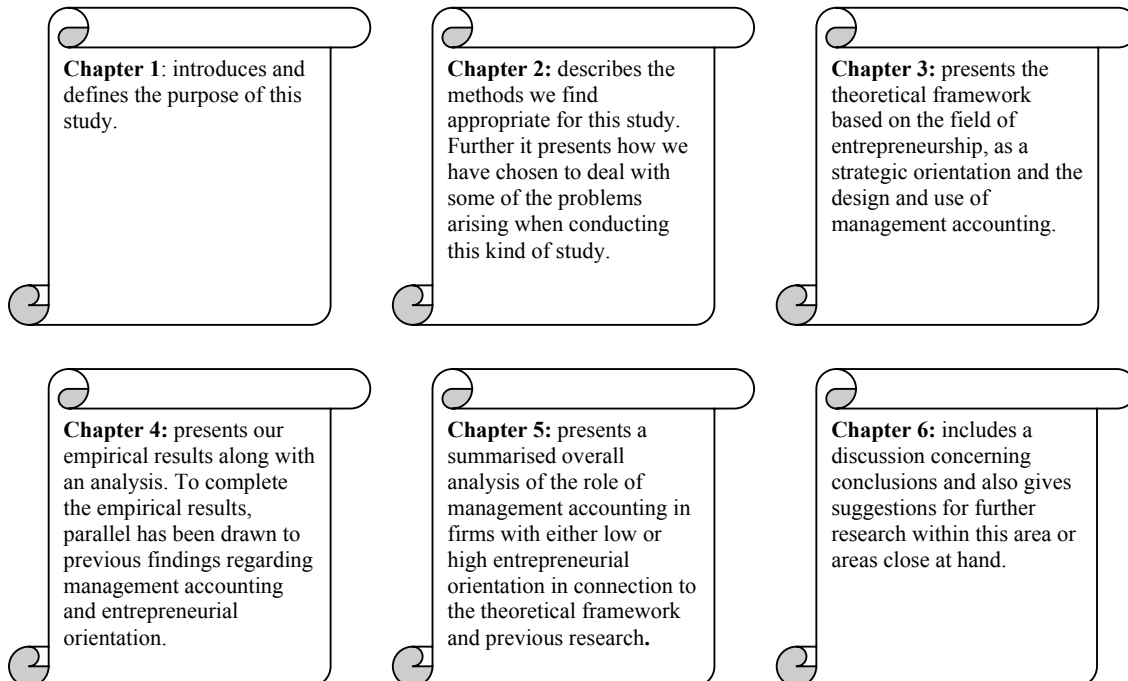
## ***1.4 Scope and limitations***

The thesis is limited to some selected instruments of management accounting and the design and use of these selected instruments. This limitation is due to restricted proportions and time limitations of the study as well as the following methodological considerations, e.g. when using telephone interviews the questionnaire has to be limited due to time considerations.

The research is further limited to a single industry – the engineering industry. This is done in order to get a homogeneous selection of population and time limitations. It is important to work with a population with similar industrial characteristics, a fact which has been stressed by several academics (Miles & Snow, 1978; Ask & Ax, 1997). This industry has been used in a great deal of researches within management accounting (Ask & Ax, 1997; Greve, 1999).

Furthermore, our selection of population consists of firms, which all are characterised as medium sized firms. This is largely reflected in the literature where the actions of small firms is studied by entrepreneurship researchers, largely focusing on the entrepreneur, whereas the action of larger firms is studied by strategy researchers, mainly focusing on the organisation. Since we want to study a homogenous population with a relatively well developed accounting system, which usually is not found in smaller firms, we have limited our selection of population to consist of medium sized firms. Additionally, the head office of the population is found within Västra Götaland, due to the fact that we want a homogenous population.

## 1.5 Thesis outline



## 1.6 Definition of key concepts

- **management accounting** is in this thesis defined as the planning and monitoring in an organisation, both financially and non-financially quantified. The system used by management to control the activities of an organisation is commonly referred to as the management accounting system. One can look at both the design and use of management accounting.



- **entrepreneurial orientation (abbreviated EO)** is an empirical term, which is operationalised and measured. In this study the term refers to the “Managing directors’ strategic orientation reflecting the willingness of a firm to engage in entrepreneurial behaviour”. Entrepreneurial orientation is best described as the strategic orientation or outlook of the firm. (Wiklund, 1998)



## 2 FRAME OF REFERENCE

*This chapter is composed of a theoretical frame of reference where we describe the concept of entrepreneurship, different interpretations of entrepreneurship made by researchers and finding within the field connected to management accounting. Further we give details about the ideas of management control, the different instruments of control and new ideas in the subject. We will also explain varying attitudes companies have concerning how to use management control.*

### 2.1 Entrepreneurship

Research within the field of entrepreneurship has a very long history with its roots in economics, but has developed into a multidisciplinary field. This has resulted in that entrepreneurship has been viewed from many different perspectives. (Stevenson & Jarillo, 1990) Despite this fact, no common definition of entrepreneurship has been stated, but much knowledge within the field can be found (Landström 2000; Löfstål. 2001; Dergård, 2004). Entrepreneurship can be seen as an individual, social and economical phenomenon, which has been used in describing various other important phenomena such as innovation, creativity, establishment and management of firms (Dergård, 2004). This study will focus on the latter phenomenon and its relationship with entrepreneurship.

#### 2.1.1 Definition

The researcher Venkataraman (1997) emphasizes that entrepreneurship involves the nexus of two phenomena; the presence of lucrative opportunities and the presence of enterprising individuals. He means that “*entrepreneurship is about how, by whom, and with what consequences opportunities to bring future goods and services into existence and are discovered, created and exploited*”. (Shane, 2000; Shane & Ventkaraman, 2000; Landström, 2000; Davidsson, 2001) Taking advantage of the opportunity is a fact that Wiklund (1998) stresses as well in defining entrepreneurship. He means that this should be done by novel combination of resources in ways which have impact on the market. Drucker (1985) further strengthens this argument by saying that “*entrepreneurship is an act of innovation that*





*involves endowing existing resources with new wealth-producing capacity*” (Landström, 2005).

Another definition made by the researchers Stevenson & Jarillo, (1990, p. 23) states that *“Entrepreneurship is a process by which individuals – either on their own or inside organizations - pursue opportunities without regard to the resources they currently control”*. By this, Stevenson & Jarillo mean, that the essence of entrepreneurship is the willingness to pursue opportunities, even though opportunities may be perceived differently among individuals with different characters and prerequisites. *“Opportunity”* is defined as a *“future situation which is deemed desirable and feasible”*. (Stevenson & Jarillo, 1990, p. 23)

Stevenson & Jarillo’s definition puts the focus on entrepreneurship as the pursuit of opportunity irrespectively of organisational context (Landström, 2005). It is important for the entrepreneur to find opportunities (Stevenson & Gumpert, 1985). In this study entrepreneurship is defined as opportunity-based looking at various dimensions, developed by Brown, Davidsson and Wiklund (2001).

### **2.1.2 Firm level**

Generally, the entrepreneur as an actor has had focus in prior research (Wiklund, 2000). This study shifts that emphasis towards looking at the entrepreneurial activity of the firm. The growth and complexity of organisations acquire a continuous need for organisational renewal, innovation, constructive risk-taking, and conceptualization and pursuit of new opportunities. In some firms, organisational renewal is performed by a traditional entrepreneur. In other firms, it is the province of a head office planning or ventures department. It can also be performed at lower levels of the hierarchy in R&D, engineering, marketing or even production departments. What is important is not the critical actor, but the process of entrepreneurship itself, and the organisational factors which foster and impede it. (Miller, 1983; Stevenson & Jarillo, 1990; Zahra, 1999; Löfstål, 2001)

### **2.1.3 Operationalising entrepreneurship**

Brown et al., (2001) have developed an instrument that evaluates entrepreneurship in existing firms. The instrument is based on Stevenson’s (1983) study, where entrepreneurial



management is defined as a set of opportunity-based management practices. Stevenson (1983) contrasts entrepreneurial behaviour with administrative behaviour. Along the spectrum of behaviours between these extremes, promoter firms are placed at the entrepreneurial end and trustees at the administrative end. The promoter's sole intent is perusing and exploiting opportunities regardless of resources controlled, while the trustee strives to make the most efficient use of its resources pool. In order to operationalise Stevenson's theoretical reasoning, six sub-dimensions were identified by Brown et al., (2001), which have high validity and reliability. These dimensions were labelled; *strategic orientation, resource orientation, management structure, reward philosophy, growth orientation and entrepreneurial culture.*

#### **2.1.4 The various dimensions**

The *strategic orientation* deals with the question of how to handle an opportunity. The promoter is driven by the perception of opportunity, while the trustee is driven by controlled resources. The dimension of *resource orientation* brings out the question whether a resource should be owned or not and how to use it. Episodic use or rent of required resource is characteristic for entrepreneurial behaviour, while administrative behaviour is characterized by ownership or employment of resources. When it comes to *management structure* and the characteristics for this dimension, a hierarchical management structure is put in contrast to a flat management structure with multiple informal networks. The former describes administrative focus within a firm and the latter describes entrepreneurial focus. The next dimension identified by Brown et al., (2001) is *reward philosophy*, where the view of criteria, whereupon rewards are based differ between promoters and trustees. A promoter bases the rewards on value creation, while a trustee bases the rewards on responsibility and seniority. *Growth orientation* for the two extremes are explained in a way where an entrepreneurial organisation seek rapid growth as a primary priority and risk taking is accepted in order to achieve growth. An administrative organisation on the other hand focuses on safe, slow and steady growth. And the final dimension in the measure instrument is *entrepreneurial culture*, a dimension where promoters are defined by the behaviour of promoting a broad search for opportunities. Trustees are restricted by the resources controlled in the search of opportunities. The instrument consists of 20 items from which a global index with satisfactory reliability is computed by Brown et al (2001).

### 2.1.5 The relationship between entrepreneurship and management accounting

Entrepreneurship is historically one of the oldest activities (Landström, 2005). This paper will concentrate on the relationship between the level of entrepreneurship within an organisation and choice of management control system, since little research within this field has been made and more is needed. (Simons, 1987; Kald et al, 2000; Scapens & Bromwich, 2001) Entrepreneurship is an important variable and a cause that affects the management control system within a firm, although the evidence to support this claim is weak (Simons, 1987). Other possible variables that also affect management control systems are e.g. line of business, turnover, geographical location and size of the firm (Holme & Solvang, 1986; Simons, 1987). It is important to have in mind, that out of the previous mentioned influences of management accounting systems, the usage and design are important influences. The demarcation of this study is to focus on the affect entrepreneurship has on management accounting. The reverse relationship is excluded. The design and use of different methods of management accounting will also be taken into consideration and related to the level of entrepreneurial orientation.

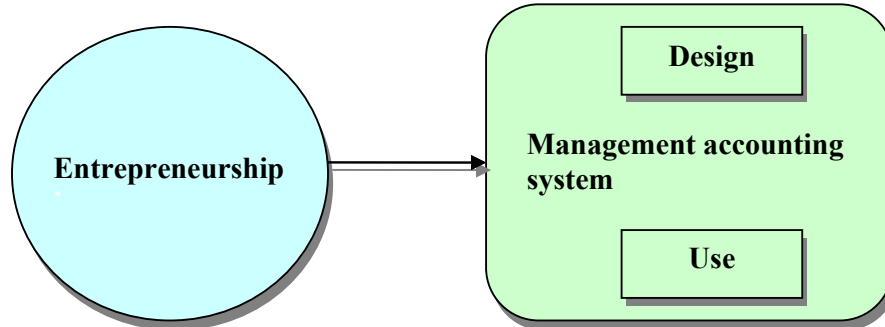


FIGURE 2.1

(HOLME & SOLVANG, 1986; SIMONS, 1987)

### 2.1.6 Previous research

The research pursued within the fields of management accounting and entrepreneurship gives no explicit knowledge of how management accounting is used and designed in entrepreneurial organisations. (Olson et al., 2003) Even if some entrepreneurship researchers have discussed the issue, few have tried to observe how management accounting actually works within an organisation with different levels of entrepreneurial orientation (Langfield-Smith, 1997;



Abernethy et. al., 1999; Löfstål, 2001). When reviewing the empirical studies published in the above mentioned fields, it may be concluded that very few focus on the relationship between management accounting and entrepreneurship. (Young, 1987; Gibson, 1992; Löfstål, 2001; Mattila, 2001; Barkstedt et al., 2002; Dergård, 2004) However, there has been research done in fields close at hand and these studies may be useful for understanding the context of entrepreneurship. Research considered to be relevant in relation to entrepreneurial orientation and the design and use of management accounting is e.g. research that is focused on strategic orientation.

Strategy has been operationalised in many different ways in management accounting research. The basic concepts and frameworks developed in the strategy literature have not always been widely adopted in these studies and the multidimensional nature of strategy is seldom recognized. These problems can lead to misspecification of the research design and may also affect the research findings differently. (Langfield-Smith, 1997; Kald et al, 2000) Below the various dimensions of strategy studied by different researcher is presented, followed by their findings related to management accounting.

Mintzberg (1978) have described strategy as a pattern of decisions about the organisation's future. According to Miles and Snow (1978), this takes on meaning when it is implemented through the organisation's structure and process. (Langfield-Smith, 1997)

Miles and Snow (1978) have described three different organisational types – defenders, prospectors, and analysers. The characteristic for each type derive from the rate of change in products or markets. Defenders are characterized by narrow product range and undertake little product or market development. There are some functions which limit organisational success for defender. These functions are finance, production and engineering with little emphasis on marketing research and R&D. The functional organisational structure for defenders reflects the specialisation of products, markets and technology. Prospectors, on the other hand, are described as creators of change, continually searching for market opportunities. Functions, such as marketing and R&D, dominate finance and production, with the consequent of less importance of efficiency and profit of performance, and rather large importance on maintaining industry leadership in product innovation. Analysers combine the strongest



characteristics of defenders and prospectors.<sup>1</sup> (Langfield-Smith, 1997) According to Langfield-Smith (1997), this way of observing strategies focuses on typology.

Miller and Friesen (1982) use the extent of product innovation within a firm, when categorising them as either conservative or entrepreneurial. The differences between the two types of firms, according to Miller and Friesen, are discovered when looking at the degree of environmental hostility, organizational differentiation, environmental heterogeneity and technocratisation. Entrepreneurs pursue innovation aggressively, whereas conservative firms reluctantly engage in innovations. (Langfield-Smith, 1997)

Miller (1983) says that *“an entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with ‘proactive’ innovations, beating competitors to the punch”* (p. 771). Miller created a measurement instrument to measure the level of entrepreneurial strategy within an organisation, which was a contribution to the study by Miller and Friesen (1982), where they argue that entrepreneurial organisations try to obtain a competitive advantage by routinely making dramatic innovations and taking challenging risks. Management accounting systems were used to warn against excessive innovation. On the other hand, conservative firms engage in innovation with reluctance. The measurement developed by Miller (1983) linked the essential elements of environmental and strategic variables with a firm’s entrepreneurial activities. These elements were the organisation’s actions regarding to innovation, risk taking and proactiveness. Focusing on these factors emphasises the process of entrepreneurship rather than the actors (managers) behind it (Miller, 1983). Miller’s conceptualisation has been used often, when examining firm-level entrepreneurship (Zahra et al., 1999). However, Wiklund (1998) means that Miller’s measurement instrument measures accomplished activities and present attitudes rather than actual behaviour. This being so, strategic orientation and the concept of entrepreneurial orientation seem to be measured, rather than entrepreneurial strategy (Wiklund, 1998). Miller’s (1983) definition of the characteristics of entrepreneurial strategy puts the focus on the process of entrepreneurship rather than the individual behind it, the entrepreneur (Wiklund, 1998).

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<sup>1</sup> Miles & Snow (1978) have also classified a fourth strategic typology: reactors. Although, this typology has been excluded from this thesis, since the reactor has no real strategy according to Kald et al., (2000)



Gupta & Govindarajan (1984) have classified firms as build, hold or harvest based on the variation in strategic missions. The trade-off between market share growth and maximization of short-term earnings is shown depending on chosen strategic mission by the firm. Build strategy aim to improve market share and competitive position, which might decrease short-term earnings. The reverse attitude is characteristic for firms with harvest strategy. Hold strategy is used by firms that aim to protect market share and competitive position, striving to obtain a reasonable return on investment. (Gupta & Govindarajan, 1984; Langfield-Smith, 1997)

Porter (1980, 1985) has expressed a classification of strategy in terms of cost leadership, differentiation and focus, each of which will sustain a competitive advantage within an industry, but in different ways. Cost leadership implies that the firm aims to become the lowest-cost producer in its industry, by taking advantage of e.g. economies of scale. Firms with a differentiation strategy put weight on providing products with attributes highly valued by its customers, e.g. high quality. A firm that focus on a segment of the market with special needs has a focused strategy. (Langfield-Smith, 1997)

Strategies characterised by a conservative orientation, trustees, defenders, harvest and cost leadership, evidently shown by researcher, use specialised and formalised work, centralised control systems, simple co-ordination mechanisms and attention directing to problem areas. Strategies characterised by an entrepreneurial orientation, promoters, prospectors, build and product differentiation are linked to a lack of standardised procedures, decentralised and result oriented evaluation, flexible structures and processes, complex coordination of overlapping teams, and attention directing to curb excess innovation, according to researchers of the field. (Langfield-Smith, 1997)

### **2.1.7 Findings from earlier research**

Given the quantitative approach of the studies on strategy and management accounting, various measuring instruments have been used in operationalising the variables in the studies. This fact is probably one of the principal reasons for the conflicting findings in this area of research. (Langfield-Smith, 1997; Brown et al., 2001)



Studies based on strategy-classification schemes of Miles and Snow (1978), Porter (1980) and Gupta and Govindarajan (1984) present the relationship between strategy and management control. A limited selection of earlier studies will be brought up in this section. The findings though, are inconsistent and suggest a number of contradictory conclusions. (Langfield-Smith, 1997; Brown et al., 2001)

As early as 1972, Khandawalla published a study on the relationship between the design and use of formal management accounting systems and the intensity of competition. The study shows, that with increased competition there was more extensive reliance on formal systems of control. He also argued that intense product competition may require complex organisational forms. Langfield-Smith (1997) argues that organisations facing intense product competition are likely to be those that follow strategies of a more entrepreneurial oriented kind e.g. prospector, differentiator (Miles & Snow, 1978; Porter, 1980). These findings also were corroborated by Kamm (1980), who concluded that formal control was greatest within firms that were oriented towards product-innovation and market-innovation, that is to say entrepreneurial oriented firms.

There is some agreement among researchers that control and specific operating goals and budgets are found more important in firms characterised as being less entrepreneurial oriented than in firms characterised as being more entrepreneurial oriented. (Langfield-Smith, 1997) When it comes to incentives programs and performance evaluation, Simon (1978a), Porter (1980), Gupta (1987) and Govindarajan (1988) found that awarded bonuses for the achievement of budget targets is more common for firms, which strategy characteristic is less entrepreneurial. Subjective performance evaluation was more appropriate for firms following a more entrepreneurial orientation.

Miles and Snow (1982) describe more entrepreneurial oriented firms as having difficulty implementing comprehensive planning systems. The control system focuses more on problem finding than problem solving. Flexible structures and processes may assist the organisation to respond rapidly to innovation and creativity. (Langfield-Smith, 1997) The use of broadly defined jobs and the lack of standard operating procedures may encourage innovation. Therefore, control may be decentralised and result oriented within firms that are more entrepreneurial oriented. Porter (1980) saw more entrepreneurial oriented firms as relying on



control, to encourage creativity and innovation as well. Miller and Friesen (1982) state that it has been argued that firms, which follow a more entrepreneurially oriented strategy, require a control system that signals when productivity and efficiency have fallen and to signal when innovation needs to be curbed.

The studies made by Govindarajan (1988) and by Bruggeman and Van der Stede (1993) show findings, which are largely consistent. Both studies show, among other things, that business units, of a less entrepreneurial kind, resort more to tighter control with strict budget targets than do units with a more entrepreneurially oriented strategy. In comparison with the studies by Govindarajan (1988) and by Bruggeman and Van der Stede (1993) the findings are similar. They show that looser, more subjective performance monitoring followed from strategies associated with more entrepreneurially oriented firms. In other words, both Govindarajan (1988) and Bruggeman and Van der Stede (1993) concluded that firms that are more entrepreneurially oriented deemphasise budget targets. Furthermore, the budget was more often revised, and the reverse is applicable to firms that are less entrepreneurial.

Simons (1987) and Collins et al. (1997), however, unlike other studies, show that strategies linked with a less entrepreneurial orientation lead to loose control, while tight control was found in firms that are more entrepreneurially oriented. In other words, more entrepreneurial firms, in contrast to less entrepreneurial firms, use budgeting within the firm to a much greater extent (Collins et al., 1997). Simon also states that firms with higher entrepreneurial orientation emphasise forecasts more and frequent reporting and careful monitoring of revenues, while paying little attention to cost control.

Simon (1987), Abernethy and Guthrie (1994) and Chong and Chong (1997) also put focus on firms with higher EO finding they are more externally oriented and that firms pursuing a more innovative and entrepreneurial strategy use more non-financial, qualitative and broader-based performance measurements. Firms with lower EO on the other hand, are more internally oriented and tend to use more financial information when monitoring performance, as cost minimisation (Govindarajan, 1988; Simon, 1987; Abernethy and Guthrie, 1994) along with distribution efficiencies are found to be more important in these types of settings (Govindarajan, 1988; Abernethy and Guthrie, 1994). However, several researchers put focus on financial aspects in more entrepreneurially oriented firms. (Simon, 1987; Young, 1987;





Lövstål, 2001) Other researchers advocate that firms that are more entrepreneurially oriented put focus on revenues (Miles & Snow, 1978; Snow, 1987; Lövstål, 2001). Abernethy and Guthrie (1994) further state that firms with higher EO more likely need information that is external-based and future oriented, while firms with lower EO more likely use current or historical information. Furthermore, firms that are more entrepreneurially oriented tend to use budgets interactively, focusing on dialogue, communication and learning (Abernethy and Brownell, 1999).

According to Dent (1990), the looser control found that less entrepreneurially oriented firms were probably explained by the fact that cost control was provided by the production technology itself. The tight control in firms that are more entrepreneurially oriented was likely due to a desire to harmonise the pro-innovative culture with a more conservative view of the units' opportunities for expansion. (Dent, 1990)



## **2.2 Management accounting**

### **2.2.1 Definition**

The term management accounting is defined in different ways in the literature with different scopes. The traditional way of defining management accounting includes all planning and monitoring in an organisation, which can be financially quantified. The focus is on economic goals with financial character and concepts like income, expense and profitability are important (Simons, 1991; Ax et. al., 2003) Management accounting is used to formulate achievements for planning, implementation, follow-up, evaluation and adaptation in the company. Unlike external accounting, there are no laws or rules to regulate the management accounting systems. Therefore, firms can adjust their management accounting system to their own needs (Ax et al., 2002).

Today, the definition of management accounting includes a wider scope, e.g. more non-monetary measures, such as customer satisfaction and learning, and in a broader way, planning, monitoring, evaluation and adaption of an organisations striving for financial goals (Ax et al, 2002; Collier, 2005). The field of management accounting has, in other words, changed from the traditional designation including budgeting, product calculation and internal auditing to a more modern definition. This definition puts more focus on aspects concerning customers, market, productivity, quality, personnel and competitors. There has been an increased interest for management accounting related to the human behaviour, such as firm culture, motivation, and competence development (Bjørnenak & Olson, 1999; Samuelson, 2001; Ax et al, 2002). The introduction of new ideas within the field of management accounting has resulted in new approaches and models within the field, e.g. the Balanced Scorecard, intellectual capital etc. (Shields & Young, 1992; Langfield-Smith, 1998; Kald et al., 2000; Chenhall, 2002)

### **2.2.2 The design and use of management accounting systems**

The system used by management to control the activities of an organisation is commonly referred to as the management accounting system (e.g., Langfield-Smith, 1997; Simons, 1991; Anthony et al., 2001). As mentioned earlier, when looking at the management accounting system one can have different starting points. In this study we put focus on the design and use



of management accounting system. According to Simon (1991), the use can be divided into either diagnostic control or interactive control. In next section these classifications will be described in more detail.

When looking at the design of management accounting system researchers have in prior studies used different design characteristics in different dimensions (Chenhall & Morris, 1986; Johansson & Östman 1992; Bjørnenak & Olson, 1999). For example Bjørnevik and Olson (1999) have examined how systems can be seen as a set of design characteristics defining the scope and lifetime of the system. This study focuses on four different dimensions; financial & non-financial information, internal & external oriented objects, tight & loose control, and time (ex-ante & ex-post). The dimension of tight versus loose control is the one which have been discussed the most. According to Kald et al., (2000) tight control may be explained as “*if management monitors the activities of the business unit frequently*” (p. 201). Additionally, they state that more limited monitoring of the business units’ activities may be termed loose control. To sum up, the differences between tight and loose control are related to the degree of which the activities of the business units are monitored by the management. (Kald et al., 2000).

Researchers state that conventional textbooks in management accounting do not seem to take into account that different design characteristics may result in different management accounting systems. A strategic oriented system may have different characteristics from a coordinating or operational oriented system. It is the design characteristics that form the system, not the label of the model (Chong (1996); Bjørnenak & Olson (1999); Dergård, 2004).

A second way of looking at the design of management accounting system is to have the different instruments of control as starting point. These can be explained as different tools to achieve the targets. In next section these will be described more detailed. (Ax et al., 2002)

### **2.2.3 Instruments of control**

To successfully guide the company towards economical targets, aid is needed, for example instruments of control. There are many types of different instruments of control. Some can be



characterised as “soft”, such as corporate culture and type of leadership, whereas others can be characterised as “hard”, such as budgeting and calculating (Ax et al., 2002). These instruments of control can be classified into four main categories; formal instruments of control, less formalized instruments of control (Langfield-Smith, 1997), organisational structure, (Kald et al., 2000; Anthony & Govindarajan, 2001; Collier, 2005) and incentives programs (Samuelson, 2004).

### **2.2.3.1 Formal instruments of control**

The formal instruments of control have been the essence of management accounting for a long time. The different instruments have been called the technicians of the management accounting system (Ax et al., 2002). According to Langfield-Smith (1997), formal control includes rules, standard operating procedures and budgeting systems, which are of a feedback nature and often financially oriented. These can be seen as more visible objective components of the control system, and are therefore the easiest to research (Langfield-Smith, 1997). Typical instruments that belong to this category are e.g budgeting, calculation, transfer pricing, performance measurement, benchmarking etc (Ax et al., 2002).

#### **2.2.3.1.1 Budgeting**

All organisations need to plan their business ahead to have some idea about what the future will bring. Through budgeting organisations get some stability and can survey the situation to know how to act in the immediate future. (Ax et al., 2001) Therefore budgeting aims at specifying the economic commitment for the organisation and works like a system for authorization for the managers to act in a certain way and it is a channel of communication. (Ax et al., 2002)

Some researchers consider that budgeting is mainly an instrument for planning, dimensioning, and resource allocation. Other emphasise the fact that a budget gives an estimation about the future and that the budgeting process simplify communication between the different business units. During the 1970th an increased scepticism towards budgeting as an instrument in management accounting occurred (Ax et al., 2001). The uncertainty in the world had increased as a consequence of shorter time perspective for product life cycles, increased



global competition, technological innovation (Lindvall, 1997) and that has resulted in a notion that long-time planning was not possible to establish (Ax et al., 2001).

One of the leading critics was the former CEO and chairman of the board for the Swedish Handelsbanken, Jan Wallander. His opinion was that a budget inspires people with a false feeling of knowledge about the future. This feeling of security can delay and obstruct the adaptation to the world change, which is necessary for a company (Wennberg, 1995). Other opinions about the budget were that it constrains responsiveness, flexibility and impulsive behaviour, is laborious and time consuming, and that the business is divided into financial years when it in reality do not have this classification (Ax et al., 2001).

As a consequence to the increased criticism to a traditional budget, some new methods have been introduced e.g. revised budget, rolling budget, floating budget, and flexible budget. These approaches are more responsive to changing circumstances because they solve the problems associated with traditional budgeting and hence result in more accurate forecasts. They are designed to overcome the problems associated with budgeting to a fixed point in time – i.e. the end of the year and the often dubious practise that a cut-off encourages.

Perpetual and flexible budgets are suited to different volumes of production. The firm will not get tied up with a certain production quantity and can therefore act more impulsive (Ax et al., 2001).

Kald et al. (2000) has in their study, the dimension of tight versus loose control together with the use of budgeting. They state that, when considering a budget as binding and when the deviations from the budget is generally not considered acceptable, it can be classified as tight control. Further they state that when control is loose, the budget is regarded more as a tool of planning and communication than as a binding commitment.



### ***2.2.3.1.2 Calculation***

A calculation is a comparison of revenues and costs made to discover the financial consequences of an action. There are different kinds of calculations, either ex-ante or ex-post decision making of the business. Product costing is used to see and estimate the consequences of a company's business decisions. Calculations are set up for many different objects, e.g. products, customers, and markets. There are different methods for calculation. The principally used methods are prime cost, where all the costs are included, and calculation of contribution, where only the separable costs, variable costs or direct costs are included (Ax et al., 2002).

### ***2.2.3.1.3 Performance measurement***

Performance management concerns the process of measuring and rewarding performances in order to ensure predictable goal achievements (Thorén, 2004). According to several researches, financial performance measurements are the most important and commonly used measurements in firms (Johnson & Kaplan, 1987; Ax et al., 2002). During the last years, the interest in non-financial performance measurements has increased (Samuelson, 2004). Traditional financial measures have therefore become less useful for measuring corporate performance.

### ***2.2.3.1.4 Benchmarking***

Benchmarking is about to compare the own firm with others of purpose to get inspiration and develop the own business. Benchmarking can be internal, where the focus is on the work within the organisation. The two external directions are competitive direction and operating direction. The first one put focus on competitors whereas the other also includes other successful firms. Benchmarking can be divided, depending on which objects it has. Common objects are for example products, services, financial aspects and marketing (Ax et al., 2002).

### ***2.2.3.1.5 Transfer pricing***

Transfer prices are the prices of internal performances, both products and services, traded between different divisions of an organisation. By using the system of transfer pricing, separate results for each division can be calculated. This also form the basis for both central



and local decision-making, as well as motivates the employees to become more business oriented and costs conscious. (Samuelson, 2004)

### **2.2.3.2 Incentives programs**

Incentives programs are used in many firms and they have different purposes working with these. The most common purpose is to motivate the employees to do their work better than expected. Another purpose is to make the employees to stay longer within the firm. Researchers (e.g. Rappaport, 1978; Chakravarthy & Zajac, 1984) have stated that firms benefit from using incentive programs the most when the characteristics of the incentive programs match the firm's strategic orientation (Rajagopalan, 1996). Rajagopalan (1996) has divided the characteristics of incentive programs into three parts; the form of incentive (cash vs. stock), evaluation period (short-term vs. long-term), and performance criteria (accounting vs. market-based and quantitative vs. qualitative).

### **2.2.3.3 Organisational structure**

The second category of management accounting instruments is organisational structure. This category includes many different aspects; for example the design of an organisation, the distribution of responsibility, and the process of making decisions. (Ax et al., 2002)

The design of an organisation signifies mainly overall operating structures, e.g. functional structure, division structure, matrix structure etc. It also includes the matter whether firm works towards a horizontal or vertical integration in the company. (Samuelson, 2004) Researchers (e.g. Mintzberg, 1983; Williamson, 1985) have stated that when firms move from a functional organisation in which the business is planned and evaluated as a whole to a divisionalised structure, management must be used more broadly (Kald et al., 2000).

The distribution of responsibility is a crucial instrument of control, where different divisions within the firm have economical responsibility for their performances. Two important principles when using "distribution of responsibility" as an instrument of control are, the divisions have influence in what they are responsible for and they have legitimacy to exercise influence. (Ax et al., 2002)



The process of making decisions is in one way defined from the design of the organisation. A further distribution is, whether the decisions principally are made individually or in groups. The difference between these two ways of decision making has effect on the rapidity and the risks for conflicts in connection with decision making within the firm. (Samuelson, 2004)

#### ***2.2.3.4 Less formalized instruments of control***

The fourth category of management control is the less formalized instruments of control, which have had a stronger impact on management accounting during the last years. Even if the “hard” instruments of control are still very important to achieve economical targets, the “soft” instruments have recently become very important in this effort (Ax et al., 2002). Langfield-Smith (1997) states, that the less formalized controls include the unwritten policies of the organisation and are often affected by the organisational culture. He further states that the nature of the less formalized controls may have influence on the effectiveness of the formal controls (Langfield-Smith, 1997). Less formalized instruments of control can for example be firm culture, competence development, empowerment etc.

##### ***2.2.3.4.1 Firm culture***

Olsson and Skärvad (1995) define a firm’s culture as the organisation’s inner life, e.g. the way to live, think, act and be. The firm culture consequently has influence on many aspects, e.g. the communication in the firm, the way decisions are being made, and what is perceived as desirable for the company. (Ax et al., 2002)

There has been an increased concentration on employees in firms instead of concentrating on systems. The basic outlook is that development is not procured because of systems, but by individual employees. According to Samuelson (2004) the systems should support the development and be a complement to the employee. An increasing number of firms advocate that decisions by the organisation should be taken as close to the business as possible. Therefore, it is more common that firms work towards a more decentralized business today. (Samuleson, 2004)





#### ***2.2.3.4.2 Competence and Development***

Competence development can be defined in many different ways. One definition is the perception of how a task can be better executed. That can imply that the quality of the task is better or that it is executed in a shorter time period. For a firm to succeed with competence development, some conditions can make it easier. For example it is advantageous if the firm has a culture where innovation and risk taking are encouraged. (Ax et al., 2002)

#### ***2.2.3.4.3 Empowerment***

Empowerment concerns how to make the working life more democratic. According to spokesmen for empowerment, an organisation cannot be described as democratic if the only criterion is that the employees have influence on their own work. The advocates mean that in a democratic organisation, the employees should also have influence on the design of the office, investments, and appointment of managers. (Ax et al., 2002) According to Simons (1995), the emphasis on senior management that has dominated management accounting system research has become less relevant with an increasing interest in employee empowerment. Many researchers believe that it is becoming more common for lower level employees to be actively involved, not only in the day-to-day processes, but also in activities that are of strategic significance. (Langfield-Smith, 1997)

### **2.2.4 New conceptions and methods within the management accounting**

During the past 15 to 20 years the number of new ideas within management accounting has been very large comparatively to in earlier years. Because of increased international competition and rapid technical development, there is an increased demand for a well thought-out management accounting system (Ax et al., 2002). Researchers (e.g. Drucker, 1985) argue that firms require control instruments, which are better coordinated with entrepreneurial behaviour (Löfstål, 2001). The conception management accounting is today seen as a value creative process, which aim is to support decision makers, motivate acting, and create and lean the organisations cultural value (Atkinson et al., 2001). Johnson et al. (1987), state that an excellent management accounting system will not by itself guarantee success, however an ineffective management accounting system can undermine even the best efforts for making the business successful. As discussed earlier, there is a decreasing interest



in formal instruments of control in favour of informal instruments of control (Samuelson, 2004).

Performance measurement is a field of the management control, where several new ideas and methods are found. Some of them are “The Balanced Score Card”, intellectual capital, and value-based management accounting (Ax et al., 2002).

#### **2.2.4.1 Balanced Scorecard**

The new method which has received the most interest is the Balanced Scorecard. It can briefly be described as a framework to interconnect a firm’s strategy with its short-term operating business (Ax et al., 2002). The method was developed because the former way to measure performances principally bases on financial measures. The advocates of the Balanced Scorecard mean that with increased focus on customer relationship, process management, and quality there is a need for non-financial measurements of performance to complete the financial measurements. (Samuelson, 2004) With foundation in the firm’s strategy a system of measurement is constructed with targets and measures with basis in different perspectives of the business; *the financial perspective*, the customer perspective, *the internal business perspective*, and *the innovation and learning perspective* (Ax et al., 2002).

#### **2.2.4.2 Intellectual capital**

Another discussed gathering of new ideas is called intellectual capital. This idea has several similarities with the Balanced Scorecard in the question of how to design the model with basis in different perspectives (Ax et al., 2002). This way of working with management accounting puts focus not only on the tangible assets, but also on the intangible assets, often called a firm’s “soft” values. The foundation is the difference between a firm’s market value and its book value. This difference is called intellectual capital (Samuelson, 2004). The main argument for focusing on intellectual capital in management accounting is, according to Edvinsson and Skandia, that this constitutes the basis for a firm’s future value and ability to create profitable financial results (Ax et al., 2002).



### **2.2.4.3 Economic Value Added (EVA) and Market Value Added (MVA)**

The growing interest in value-based management accounting has its cause in the increased share market orientation. This development involves an increased demand for measurement of performances related to the share market. It has become more important for firms to take into consideration the share market's requirement in the business. Two of the measures that have been introduced are *Economic Value Added (EVA)* and *Market Value Added (MVA)* (Ax et al., 2002)

### **2.2.4.4 New methods within the field of budgeting**

Budgeting is another field of management accounting, where new ideas and methods have been introduced. It has become more common for firms to give up a budget and replace it with forecasts (Ax et al., 2001). According to Ax et al. (2001) different researches show, however, that firms still use a budget, but new ideas and innovations in the budgeting process has taken place. The budget process has been simplified and follow up has been more effective (Ax et al., 2001). Lindvall (1997) states, that rolling forecasts has replaced traditional budget, by some firms.

When considering the scepticism towards budgeting and with reference to section 2.2.3.1 one can argue that budgeting has lost its importance and usefulness. One should also have in mind, when discussing whether budgets should be used in firms or not, budgeting is still the method used the most for managing a firm. Several researches show that almost every firm sets up a budget, however it is also shown that only about 50 per cent of small and medium sized firms use budgets (Ax et al., 2002).

### **2.2.5 Interactive and diagnostic use of management accounting systems**

In previous parts of this chapter we have viewed management accounting systems as tools to achieve intended economical targets and implement strategies. Our main focus has been on the design of the accounting systems with basis on the different instruments. This section will concentrate on the use of management accounting. It is important to have in mind that management accounting systems in some cases can have the same design but different usage, likewise reversed; management accounting systems can be designed differently but used in the same way. Simon (1991) has developed a classification of the management accounting



systems, which focus on the way in which top managers *use* control systems. He has investigated why top managers choose to monitor certain issues personally and keep others controlled by diagnostic mechanisms (Thorén, 2004). Simons (1991) has named the classifications *diagnostic* respectively *interactive* use of accounting systems.

### **2.2.5.1 Diagnostic use of management accounting systems**

In most of prior research, accounting systems have been seen as instruments to serve, what Simons (1990) refers to as a *diagnostic* role. Burchel et al. (1980) has described the role earlier as an “answer machine” (Abernethy, Brownell, 1999).

In this description of the management accounting process, strategies are approved by top managers and plans are communicated downward through the organisation (Simons, 1991). Diagnostic control systems are designed to give signals to the top managers when something is wrong, e.g. when actions are not in accordance with plans (Simons, 1991). Otherwise, managers only involve themselves personally to a very limited extent (Thorén, 2004). Simons (1995a) states that diagnostic control means that formal systems are used to inform top managers for ex-post evaluation and correction (Thorén, 2004; Simons, 1991). A more formal definition could be that a diagnostic control system routinely collects variance feedback from a process and utilises the information for corrections of the process (Thorén, 2004). According to Simon (1991) a system can be classified as diagnostic if the top manager reports little personal involvement, delegates the operation of the system to staff groups or lower-level managers, and rely on others to inform him when attention to the system is required. To succeed with diagnostic use of control systems, some conditions need to be fulfilled. The systems require i) the ability to measure the process, ii) the existence of predetermined standards (e.g. targets) to which performances can be compared, and iii) the ability to correct deviations from these standards. Consequently, diagnostic use of control systems can be inappropriate in some situations. An overall requirement for diagnostic use of control systems is an acceptable level of observables. (Thorén, 2004)

### **2.2.5.2 Interactive use of management accounting systems**

Where diagnostic use of management accounting systems is unsuitable, other forms of control might be desired. Sometimes, observability and controllability may be low, like in highly



innovative firms or in very dynamic environments (Thorén, 2004). In reverse to above, management accounting systems can be used much more actively on a day-to-day basis to intervene in organisational decisions-making (Simons, 1991). The systems are in this case used as dialogue, learning and idea creation machines (Abernethy, Brownell, 1999). Simons (e.g., 1990, 1991) calls this classification *interactive*.

As mentioned above, a defining feature of interactive use of accounting systems is the continual exchange between top management and lower levels of management, as well as interactions within various levels of management across functions (Abernethy, Brownell, 1999). Top managers use the system to personally and regularly involve themselves in the decisions of subordinates (Simons, 1991). This can particularly be seen in the budgeting system process, where an ongoing dialogue between organisational members, concerning why budget variances occur and whether any action should be taken in response to these variances, creates a “database” which facilitates organisational learning (Abernethy, Brownell, 1999). According to Simons (1990, p. 136) interactive use occurs when top management “*uses the planning and accounting procedures to actively monitor and intervene in ongoing decision activities of subordinates. Since this intervention provides an opportunity for top management to debate and challenge underlying data, assumptions and action plans, interactive management accounting controls demand regular attention from operating subordinates at all levels of the company*” (Abernethy, Brownell, 1999). Since participants in the organisation respond to the interactive management accounting, managers can guide organisational learning by using an accounting system interactively, and thereby influence the process of strategy-making throughout the company (Simons, 1991). Simons (1991 p. 61) states that interactive use of accounting systems is “*a powerful tool in guiding and energizing the competitive evolution of the firm*”.

### **2.2.5.3 Interactive versus diagnostic**

An important difference between interactive and diagnostic use of accounting systems concerns the types of information they generate and the way information is handled. Interactive controls enable learning because they transfer *rich* information, as opposed to the one-way transfer of *lean* information provided by diagnostic controls. Information richness is according to Thorén (2004 p. 38) defined as “*the ability of information to change understanding within a time interval*”. Consequently, it concerns the learning capacity of an



information channel and its ability to increase clarity and make the consensus better. Face-to-face discussions, like group-meetings and integration are considered the richest form of communication and therefore it is suitable for interactive control, whereas rules and numeric information are considered the leanest, or least rich, form of communication (Thorén, 2004).

Former research has shown that the choice of systems to use interactively is based on strategic uncertainties. That could be contingencies which could provide threats or opportunities as circumstances change. Therefore, top managers focus their attention on strategic uncertainties, which could ruin their vision for the future and use selected systems interactively to signal where organisational attention and learning should be focused. Recent studies have suggested that top managers should choose a very limited number of accounting systems to use interactively and thereby limit top-level involvement (Simons, 1991).

	<b>Diagnostic control</b>	<b>Interactive control</b>
<b>Purpose</b>	Provide motivation and direction for achieving goals	Stimulate dialogue and organisational learning
<b>Goal</b>	Prevent surprises	Creative search
<b>Time frame</b>	Past and present	Present and future
<b>Targets</b>	Fixed	Constantly reestimated
<b>Information type</b>	Lean	Rich
<b>Adjustment to</b>	Input or processes	Strategy

TABLE 2.1: Comparison of diagnostic and interactive use of control.

Thorén, 2004, p. 39



## 3 METHODOLOGY

*The process of creating knowledge is supported by the method. The method works as a tool used by researcher for solving problems and developing new knowledge (Holme & Solvang, 1991). The methodological considerations related to the thesis are dealt with in this chapter. The chapter includes the research approach, collection of data, literature review and research evaluation.*

### **3.1 Research approach**

There is a distinction between a research fundamental technical design and the aim and direction of the research. The aim and direction is dependent on desired conclusions and the outcome of the research; explorative, descriptive, explanatory or predictable conclusions. The choice of research approach is a question of how to act technically in order to be able to draw such conclusions.

#### **3.1.1 Aim and direction of the research**

This research consists of a descriptive and an explanatory study, both related to the research objectives presented in the introduction of this thesis. A descriptive research approach is an approach that collects data for a well specified formulation of a question. It does not try to explain causality; the purpose is rather to explain the existing circumstances (Lekvall & Wahlbin, 2001). The objectives with the descriptive research in this thesis is to describe the different levels of entrepreneurial spirit in the selected organisations and to describe selected parts of the management accounting system with basis in the formal, informal, incentives program and the organisational instrument of control.

The explanatory approach aims to explain why things appear in a certain way. In an explanatory approach the researcher wants to find causality within the defined problem area and identify possible differences and factors that influence the same field. (Lekvall & Wahlbin, 2001) The explanatory part of the thesis intends to investigate the relationship of design and use of management accounting between the selected organisations with different levels of entrepreneurial orientation.



### **3.1.2 The technical design of the research**

According to Lekvall & Wahlbin (2001) the aim with the case study approach is to study individual investigation units in depth and to explore and analyse underlying valuations and motives. This should be done without trying to compare with other units or to generalize to larger groups. A cross study approach, on the other hand, aims at comparing the width of different relationships, in other words, doing the same study on various objects.

Our thesis can be said to have neither a cross section approach nor a case study approach, but it has traits of both approaches. We have chosen a cross section approach that entails a non-experimental survey approach. A non-experimental survey is an explorative and descriptive *dito* which means that all the investigation units are as alike as possible. The likeness is achieved through the use of the selection criteria in section 3.2.7 The importance of likeness between the investigation units is due to the need to compare the organisations and to draw conclusions for larger groups or complete market segments. By departing from this technical approach one has the possibility to study the design and use of formal, informal, organisational structure and incentive system in the investigated units. This is done in an effort to identify a possible relationship and connection between their management accounting and their entrepreneurial orientation. The aim of the case study approach is to make a survey of individual firms design and use of selected parts of the management accounting system with basis in the formal, informal, reward system the organisational instrument of control and the opportunity to investigate and map their individual entrepreneurial orientation.

## **3.2 Collection of data**

This section contains a description of the complete procedure of the data collection utilised in the study.

### **3.2.1 Literature review**

The study started with the collection of secondary data. Secondary data is information that is produced from external sources. To obtain a fundamental understanding of the characteristics of the subjects and to get a better understanding of the research issue, we have chosen to





thoroughly study various scientific articles and reports collected from academic journals through database searches (Business source premier and JSTOR) and from other literature e.g. licentiate theses, doctoral theses etc., through searches in LIBRIS and GUNDA as well as internet publications at Gothenburg University.

When formulating the entrepreneurial framework we used scientific articles for the most part, while the entrepreneurial definition is fragmented and continuously developed by researchers in different areas. Therefore, we used current scientific articles, which were considered more appropriate and up to date. These were, as all secondary data, thoroughly examined since most gathered material address different problems and phenomenon in the field of management accounting and entrepreneurship. However, as there are nearby fields that have been more thoroughly explored e.g. the relationship between management accounting and strategic orientation. One can argue that these studies should have considerable bearing on entrepreneurship. Therefore, they were also used when explaining the theoretical framework, in order to draw a conclusion whether there is a connection between management accounting and entrepreneurship as a strategy.

When formulating the questionnaire, basic secondary data about management control and entrepreneurship was mainly obtained from books and up to date articles. For further understanding and data collection (See section 3.2.4; below)

The main search strings used were the following:

- Accounting
- Entrepreneurship
- Entrepreneurial orientation/behaviour
- Entrepreneurship and management accounting.
- Management
- Management accounting
- Management accounting system
- Informal, formal and organisational structure
- Interactive, diagnostic
- Strategic management accounting



- Strategic orientation
- Strategy

### **3.2.2 Choice of data collection method**

Most primary data is obtained by individual people or groups of people by using either the observation method or the interrogative method. When using the observation method you observe what you are interested in. The interrogative method is collecting data by asking questions. In some cases several methods can be chosen to reach the objectives of the study, while there in other cases only exist one method that is suited for that kind of a study. (Lekvall & Wahlbin, 2001)

The method chosen when collecting and analysing data is affected by the aim of the study. (Yin, 1994). Yin (1989) suggested that choice of research method is best based on the research question posed. Each method has its own advantages and disadvantages and the suitability of each method can only be judged in every individual case and in the light of the existing conditions. (Ask & Ax, 1997 ) Therefore, it is important to evaluate these advantages and disadvantages with regard to the objectives and research issue of the study, the time frame, the cost of data, reliability of the data source, etc. Important is also to mention that the choice of method can in the individual case mean an adjustment between reluctant desires that has to be determined by the arrangement and purpose of the research. (Lekvall & Wahlbin, 2001)

We chose the interrogative method as the point of departure in this thesis, as we considered this method to be the most appropriate method, since the observation method was not possible due to cost of data, time frame etc.

Mail questionnaires, telephone interviews, web questionnaires or personal interviews are possible methods used in survey studies. (Lekvall & Wahlbin, 2001) The different methods differ from important considerations, and a choice that is made without considering the special circumstances in each individual case risks rendering a low investigation quality.



For this study, surveys such as postal questionnaires and telephone interviews were evaluated as the best suitable methodological option. This is based with regard to the objectives of this study and the different limitations such as lack of time, the cost and the availability of data.

The characteristic features of the survey approach are that you have a population consisting of firms, certain individuals or households etc. Commonly, due to reasons mentioned above, one usually chooses to investigate only a few of them. In most cases, all units in the sample selection are not successfully reached. That raises the question as to which extent the results of the investigated units are valid for the total population. This implies some doubt as to the possibilities to draw conclusions about the entire population. If the selected sample is representative for the total population as a whole, then the conclusion should be correct. If the sample units are representative of the extreme or just a limited part of the population, the conclusions can be more or less false. It is hard to determine how representative the actual units are in a survey investigation. However, one could affect the risk of a non-representative sample in advance by the way the survey is conducted. (Lekvall & Wahlbin, 2001)

As mentioned earlier, the aim of this study is not to reach an acceptable level of statistical inference, but rather to address the research problem. Therefore, we have concentrated on reaching a high level of quality on the empirical data with the limited resources at hand and thus we have chosen another path to achieve valid results. First and foremost the selected firms had to fulfil a wide number of criteria to qualify for the study as entrepreneurial organizations. (See section 3.2.7)

The choice of information supplier in the firm is important, because various informers can portray different images of the firm. It is also important to distinguish between an investigation unit and an information supplier. If the firm, as in our case, is the investigation unit it can be preferable to use several different sources of information. (Lekvall & Wahlbin, 2001) Due to the complexity of the questionnaire and the necessary criteria that the respondent needs to fulfil, sufficient knowledge in the field of management accounting and overall understanding of the firm, it can be very hard to find more than one respondent within each company. In some cases it might even be impossible. With the above in mind we have selected only one respondent in each firm. These were mainly managing directors, financial



managers or controllers, who fulfil the criteria to qualify answering the questionnaire. (See section 3.2.7)

It is a common knowledge that the loss of respondents is high for postal questionnaires, and in some cases there still exist a risk for an even higher loss of respondents, as some of the respondents may not understand the meaning of all the questions. Therefore, postal questionnaires were considered inappropriate. To reach a high level of quality on the empirical data it was of great importance that the respondents understood the question and potential explanations are best given in a discussion situation.

We are fully aware that there are sizeable advantages with face-to-face interviews, as one can perform in depth interviews which lead to an overall understanding about the organisational context and more extensive answers. The disadvantage with a face-to-face interview is that it can lead to a higher cost per interview and lack of time if the interview is conducted in different geographical locations, something that can be avoided in a written/postal questionnaire. As the aim was to conduct fifteen interviews within a relatively constrained geographical proximity, a site visit was not considered appropriate as it would not pass the time cost/benefit criteria. Therefore, the visit approach was rejected in favour of the telephone survey method, since this method gives a higher frequency of answers.

The main advantage of the telephone survey method was that it provides an opportunity to explain complex issues to the respondent. There was also an opportunity to follow up the respondent's answers making sure that we also understood what they meant. So in order to minimise the loss of respondents and to achieve a discussion-like situation, to ensure that the respondents understood both the instructions and the design of the questionnaire, each respondent was contacted twice by telephone. When contacted, any necessary clarification was provided and at the same time the questionnaire was also sent by e-mail. The interviews provided us with the necessary data to assess the level of entrepreneurship and to obtain data about the design of management accounting used within that organisational context.

### **3.2.3 Choice of population**

The survey population consisted of Swedish manufacturing firms in the engineering industry according to Statistics Sweden (SCB) and SNI2002, the Swedish standard industry



classification. This industry has been used in a great deal of studies within management accounting. Generally, these studies have been conducted in several sub-industries of the engineering industry (Ask & Ax, 1997; Greve, 1999). Despite limiting these firms within a constrained geographical proximity in Västra Götalands län and the fact that it is of great importance to work with a population of firms that have similar industry characteristics (Miles et al., 1978; Samuelson, 1990; Ask & Ax, 1997) and were working under similar organisational conditions. It is then possible to generalise the results to the manufacturing industry by studying several sub-industries within that industry (Greve, 1999).

In small firms the entrepreneur has a direct and crucial influence on the actions of the firm, whereas in a larger firm more people are involved in the decision making process. This is largely reflected in the literature where the actions of small firms is studied by entrepreneurship researchers, largely focusing on the entrepreneur, whereas the action of large firms is studied by strategy researchers, mainly focusing on the organisation. There is, most likely, a gradually diminishing influence from the individual as firms become larger. The influence of the individual is, to some extent, an inverse function of firm size. There is of course no size that is optimal. Stanworth and Grey (1991) stated that as the firm becomes larger more people inside the firm are likely to get involved in its management. In other words, as the firm is established and starts growing, the smaller the influence from a single individual gets the more professional management becomes. (Wiklund, 1998)

Since we focus on organisations with different levels of entrepreneurial orientation (not the individual entrepreneur) the investigation unit and how its management control system is designed and used within the organisational context, we find it to be of great importance that the choice of population has a well developed accounting control system. With the above in mind and to create a smaller target population, we also limited our choice to only focus on medium sized firms within a constrained geographical proximity. This decision is due to the fact that we wanted a homogenous population with a relatively well developed accounting system. One could argue that a group of small sized firms would be equally homogenous, but a firm of that size is not likely to have a developed accounting system and it is thus outside the scope of this study.



### **3.2.3.1 Definition of a medium sized firm**

There is no simple and generally accepted definition of a medium sized firm. A medium sized firm differs between most researchers, however the size of a firm is often measured by either number of employees or turnover. Kimberly (1976) has identified four conceptual fundamental expressions for defining the size of a firm:

- the physical capacity of the firm
- the personnel resources of the firm
- the firm's in- and outflow
- the firm's resources at hand (Ask & Ax, 1997)

None of these conceptions are problem-free to use as a criterion for a size of a firm. When using the criterion of personnel resources it has to be considered whether or not seasonal employees and part-time employees should be included. When using the in- and outflow as a criterion inflation may be an additional factor to consider. (Bergström et al., 1993)

Kimberly (1976) is of the opinion that the various measurements are dependent on the level of analysis to be made. By focusing on internal conditions in this research, in other words, the design and use of management accounting in firms with different entrepreneurial orientation levels, the number of employees is a more relevant size measurement (Bergström & Lumsden, 1993). Further Ask and Ax (1997 p. 216-217) also stated that a majority of scientific researches in business economics have defined the size based on the number of employees.

According to Bergström and Lumsden, there is no homogeneous definition of a firm based on number of employees. Different countries have their own definitions on what is considered a small, medium and large firm. One reason for this is the fact that different cultures exist within firms of different nationality. (Bergström and Lumsden, 1993) In trying to create a uniform definition EU has designed a definition of SME<sup>2</sup> that combines the number of employees, turnover and balance-sheet total. A definition of SME firms adjusted to Swedish circumstances is presented in Prop/1977/78:40. (Bergström and Lumsden, 1993)

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<sup>2</sup> SME stands for Small to Medium Enterprise



*“In most consistencies, accepted gradation of size implies that small firms are firms with less than 200 employees. Within this group, smaller firms (less than 50 employees) and medium sized firms (50-200 employees) are found.”*

Based on the discussion held above and the fact that we will examine firms acting on Swedish conditions, we have chosen to emanate from the definition stated in Prop/1977/78:40.

### **3.2.4 Choice of survey questions and the design of the questionnaire**

When formulating the questionnaire, basic secondary data about management control and entrepreneurship was mainly obtained from books like: ”Den nya ekonomistyrningen” (Ax et al., 2002), ”Produktkalkylering i litteratur och praktik” (Ask & Ax, 1997), licentiate thesis (Dergård, 2004) as well as previous thesis that address the same issue. Articles used for obtaining data for the questionnaire are among others *“Strategic orientation and top management attention to control systems”* (Simons, 1991) and *“The role of budgets in organizations...”* (Abernethy et al., 1999). From these sources we chose the management accounting system relevant for the study. These questions are concentrated on diverse aspects of a firm’s management accounting including budgeting, calculation, transfer pricing, organisational structure, incentives etc.

As the knowledge of management accounting among the respondents was expected to be of varying degrees, it was considered appropriate to develop a well structured interview guide with a number of questions with fixed answers. They received an interview guide which partly comprised questions with fixed answers. However, the interview guide also consisted of a number of open questions, which were aimed at encouraging discussion. These questions focused on two areas, the design and use of management control. The structure of the interview guide and several of the questions were to some extent taken and transformed from earlier studies in management accounting. (Mattila, 2001; Barkstedt et al., 2002; Dergård, 2004)

A ten point likert-type scale, where the extremities form the terminal points, were selected to collect data concerning informal management accounting and to determine whether the selected firms used their accounting instrument diagnostically or interactively. (An abbreviated version of the questionnaire is presented in the appendix 1. This scale was



constructed to better facilitate a smooth interview and data processing. According to Lekvall and Wahlbin (2001), the scales where each point represent a meaning entails that the respondents have difficulties discerning a difference between nearby points. Therefore, this type of scale is considered to be a better scale than those where each point represents a signification. When determining the formal and informal orientation of management accounting and the diagnostic and interactive use of these instruments, an average value was calculated for each firm. These average values have been plotted in a chart to illustrate the firm's orientation.

The secondary data about entrepreneurship was obtained from the article "An operationalization of Stevenson's conceptualization of entrepreneurship as opportunity-based firm behaviour" (Brown et al., 2001). Brown et al., (2001) has developed a measurement instrument to empirically gauge Stevenson's conceptualisation of entrepreneurship as opportunity-based firm behaviour. The measurement instrument consists of eight dimensions which all together consisted of 20 questions. (See appendix 1). These questions were also based on a ten point likert-type scale. This measurement instrument helps to characterise the level of entrepreneurial orientation within the investigated firms. The average values were also calculated for each firm and plotted in a chart to illustrate the firm's entrepreneurial orientation.

The survey consists of eleven sections, where the various questions and assertions about entrepreneurship and management accounting is connected to theoretical frame of reference about entrepreneurship, Stevenson's conceptualization of entrepreneurship, management accounting and diagnostic and interactive control. The facts that most of the questions have been validated in earlier studies provide a more solid base for the interviews and the overall study.

### **3.2.5 Test of survey questions**

Before the actual interviews were conducted, the survey questions were tested on three firms within the survey population. During the test interview, the relevance of the questions was tested along with the disposition of the interview guide, the questionnaire as well as the formulations and the answers from the respondent. This test led to a number of changes in the interview guide regarding the choice and formulation of questions. An experienced researcher





at the school of Economics and Commercial law at Gothenburg University also examined and commented on the questionnaire.

The aim of this empirical study was to interview fifteen medium-sized active Swedish manufacturing firms within the engineering industry. The selected sample was collected from the Swedish database “Affärsdata” and the population consisted of firms that have at least been active for four years, (see section 3.2.7).

In order to draw conclusions about medium sized firms in general, one can either involve the whole population or use a representative sample of medium sized firms and unit results from the sample to the population (Ask & Ax, 1997). Wiklund (1998) states that the most important feature, when selecting a sample, is that it is representative of the phenomenon studied. Small samples face the risk of being confounded with characteristics of the individual cases.(Ask et al., 1997; Lekvall & Wahlbin, 2001) This means that the larger the selected sample is, the less the risk that its value diverge from an equivalent value of the population. (Lekvall & Wahlbin, 2001). However, it should be noted that this study is not a statistical study and the aim was not to reach an acceptable level of statistical inference. The purpose is to address the research problem and reach a high level of quality on the empirical data with the limited resources at hand.

We conducted the research in several sub-industries of the engineering industry using the Swedish Industrial Standard Classification Codes (SNI). We divided the sample population into seven groups based on these different classification codes (SNI). These sub-industries are: SNI 28 metal; SNI 29 machinery; SNI 30 office and computing machinery; SNI 31 electrical machinery; SNI 32 radio, television and communication equipment; SNI 33 medical and optical instruments; SNI 34 transport equipment;.(See appendix 2) Similar branch selections have been made in earlier research in the area of management accounting (Ask et al., 1997) and entrepreneurship (Matilla & Åhlqvist, 2001; Barkstedt & Ronnesjö, 2002). (See appendix 2)

The sample was selected by looking at each sub-industry, where the firm had to fulfil a number of criteria to be selected (see section 3.2.7). The total population consisted of 142 firms. We contacted 35 firms over the telephone and a number of questions were asked to



determine whether the firm corresponded to additional selection criterion, information that was not available in the database, e.g. the respondent's position within the firm, general knowledge of the firm's accounting system etc. A great number of firms either did not correspond to these criteria or were unable to do an interview due to lack of time. As a result, 20 firms were booked for interviews. Out of these 15 were conducted, whereas the remaining five were cancelled due to extensive delays which would have prevented this research to be handed in on time. 13 of these fifteen firms were included in the analysis. The other two firms were excluded, since these firms were too close to the total average value, when the entrepreneurial orientation of each firm in the survey was plotted in a chart. Including these firms would enable us to identify two sets of clusters at each end of the entrepreneurial scale.



For the distribution of interviews see Table 3.1 below.

Branch	No. of active limited firms	Total no. of interviews
28	48	3
29	49	5
30	1	1
31	12	2
32	0	0
33	7	1
34	25	3
Total	142	15

TABLE 3.1 DISTRIBUTION AND NUMBER OF CONDUCTED INTERVIEWS

As seen in Table 3.1 no interviews were conducted with firms in SNI 32, the manufacture of radio, television and communication equipment. 35 firms were selected and contacted from the database “Affärsdata”. Three firms did not pass the initial selection criteria and five interviews were excluded due to delays. The remaining twelve firms did not respond at the initial telephone contact.

### 3.2.7 The selection criterion

Renewal of management accounting system is important in every organisation for a healthy economical development (Wiklund, 1998). As renewal is an important assumption for survival, it is essential that old ideas are replaced by new ones. And as we focus on organisations with different levels of entrepreneurial orientation and the design and use of management control system within the organisational context of firms, we find it to be of great importance that the choice of population has a well developed management accounting system. With this in mind, one selection criteria was that each firm should have published its annual account for the past four years.

In literature, studies mainly focus on the individual entrepreneur, when studying the action of small firms, whereas the action of larger firms is studied by strategic researchers, mainly focusing on the organisation. (Wiklund, 1998) Therefore, since we focus on the organisation as the investigation unit, ‘medium sized firms’ were one of the criteria when selecting the



sample. It is also stated in Brown et al., (2001) that the specific manifestation of opportunity seeking may vary for firms in industries of different maturity, technology and market structure. It is therefore difficult to study the causes and effect of entrepreneurship in mixed samples of firms. Therefore, one selection criteria are that the firm can be classified as being medium sized. (Brown et al., 2001)

The questions in the survey deal with entrepreneurial orientation and the management accounting in the firm – areas within which the managing director, financial manager or controller ought to have the best knowledge. It is also often the managing director, financial manager or controller who is involved in developing and implementing new strategies and management accounting instruments. Therefore, it is of interest for us that the respondent has an exalted position in the organisation. And as the questions about the entrepreneurial orientation are related to the respondent's knowledge and conception of the firm's strategy, it is a major selection criterion that the respondent considers himself/herself as having the knowledge to answer the questions about the firm's entrepreneurial orientation and management accounting during the last three years (2002-2005). This was ensured for each firm at the initial telephone contact.

### **3.2.8 Choice of respondents**

It is of great importance to select the right respondents. A number of demands were set up to identify the suitable respondents for the research.

The interviews were conducted with senior general managers, usually the chief operating officer or the controller of the strategic business unit in fifteen randomly selected firms in the engineering industry within 'Västra Götalands län'. In our empirical study it is important that the respondent has good knowledge about the design and use of the performance measurement systems in their firm and has good knowledge of the firm's overall operations. Prior empirical and case studies on management accounting have focused on senior management – divisional heads, profit center managers and business unit managers. This may therefore be an appropriate focus, since these managers usually formulate and often implement business strategy. (Langfield-Smith, 1997)



The purpose of the interview was to assess the level of entrepreneurship and to obtain data to the analyses of differences in the design and use of management accounting across different levels of entrepreneurship. The questions in the survey deals with entrepreneurial orientation and management accounting with basis in the formal, informal, organizational structure and incentive system instrument of control, areas in which the managing director, financial manager or controller of the firm ought to have good knowledge. Moreover, the ten point likert-type scales, which determine the firm's entrepreneurial orientation, is related to the respondent's perception of the firm's strategy. As mentioned above, the managing director, financial manager or controller is usually involved in developing and implement business strategic questions within the firm, hence, is the most suitable respondent of the questionnaire.

To ensure that the respondent fulfils these criterion, we initially asked about the respondent's job description and how long he/she has been active in the firm. It was also important ensure that he/she had the general knowledge that was needed. (see section 3.2.7)

The questionnaires were in all cases fully answered from the Managing Director, Financial Manager or Controller, who claimed he/she had the necessary knowledge.

Position	No.
Managerial Director	4
Financial Director	10
Controller	1

TABLE 3.2 THE RESPONDENTS POSITION

### 3.2.9 Conduct of the telephone interview and questionnaire

At the initial telephone contact with the firm we ensured that the respondent had fulfilled the necessary criteria to be able to participate in the survey. This was done in order to be able to proceed with the interview. At the same time a second interview was booked and all necessary clarification was provided to make sure that the respondent understood both the instructions and the design of the questionnaire. The respondent also was offered the option of either receiving the questionnaire with the adherent accompanying letter by e-mail or by mail. This provided the respondents with an opportunity to prepare themselves for the interview. In all cases the survey was sent by e-mail.



Some of the respondents postponed the scheduled interview when the second contact was made. As mentioned earlier, several of these interviews were excluded due to extensive delays which would prevent this research to be handed in on time.

Each interview took between 30 and 45 minutes and was immediately summed up. Possible misunderstandings and obscurities that stemmed from the interview were followed up by asking necessary questions via e-mail or telephone.

### **3.3 Research evaluation**

A study can be affected by different unintentional mistakes and deliberate acting, which have influence on the quality of the study in terms of validity and reliability. It is important to demonstrate these effects to enhance the credibility of the study. (Holme & Solvang, 1996)

#### **3.3.1 Validity**

Validity is an expression of how well the instrument of measurement used in the research measures what is supposed to be studied. It is important to notice even though the level of validity is always a judgement on subjective basis, it is impossible to determine an objective level of validity for a research. (Lekvall & Wahlbin, 2001)

If a number of knowledgeable people read through the questions and give their point of view before the interviews, the validity will increase (Lekvall & Wahlbin, 2001). In this study a pilot study was conducted with three firms within the survey population, all these firms were familiar with the field of management accounting. A researcher at the School of Business Economics and Law at the Gothenburg University also examined the questions before the interviews were carried out.

The instrument used to measure the entrepreneurial orientation within our survey population was developed by three well experienced researchers; Terrence e. Brown, Per Davidson and Johan Wiklund. These researchers developed this instrument to empirically gauge entrepreneurship as a opportunity-based firm behaviour as there was a lack of validated measures of firm level entrepreneurship that is comprehensive enough. The instrument is



based on prior research and Stevenson's conceptualization of entrepreneurship as opportunity-based firm behaviour, which provides the theoretical domain. This indicates high validity.

When designing the questions concerning management accounting, we used former studies as inspiration. Several of the questions in our questionnaire have been used and validated in earlier studies (Simons, 1987; Abernethy et al., 1999; Ask et al., 2001; Löfstål, 2001; Mattila, 2001; Barkstedt et al., 2002; Johan Dergård, 2004). The questions were also based on theoretical literature and up to date theoretical articles, which further validates the questionnaire.

A well structured interview guide was developed for the entire survey, which partly consisted of a number of open questions, which were aimed at encouraging discussion. The questions in section 3-10 consist mainly of fixed answers. The fact that the surveys were conducted by telephone with the Managing Director, Financial Manager or Controller, indicates high validity for the answers given by the respondents.

The structure of the interview guide was also, to some extent, drawn and transformed from earlier studies in management accounting. This indicates that there is a high validity, which is an expression for external validity (Ask & Ax, 1997).

Internal validity is the logical relationship between a research and the available theory in the studied field (Ask & Ax, 1997). To ensure this relationship, and make it clear we made an extensive review of the literature in the area and outlined the theoretical framework. With basis on our theoretical framework we designed the questionnaire, as well as the result and analyse.

### **3.3.2 Reliability**

The reliability for a research depends on how the measuring and arrangement of the information has been made. To achieve high reliability the instruments of measurement should be capable to withstand random effects. In other words, an instrument of measurement has high reliability if it generates the same or similar results on multiple occasions. (Lekvall & Wahlbin, 2001; Holme & Solvang, 1996).



Occasions for low reliability can for example be if the interviewer has an influence on the respondent's answers or obscurities in the instruments of measurement (Lekvall & Wahlbin, 2001). To obstruct these effects we have tried to formulate the questions clearly and explicitly. The fact that these questions have been validated in earlier studies provides a solid base for the interviews and the overall study.

The reliability can deteriorate as the interviews have been made by three different interviewers. Therefore, it is of great importance that the respondent understood and interpreted the questions in a same way. To further reduce the effects with interviews and not receive biased answers, we tried not to give details about the purpose of the study.

Furthermore, since some of the questions used from earlier studies were translated into Swedish, it was of great importance to adjust the language to Swedish standard. The use of clearly defined questions in the questionnaire which were thoroughly explained in the telephone interview increased the probability of replicating this study.

Another cause of low reliability occurs when the answers can be influenced by changeable characteristics by the responder, e.g. tiredness and stress (Lekvall & Wahlbin, 2001). To reduce this risk for influence we tried to be open-minded and flexible. We contacted the firms twice and by the first contact we let the responder decide a possible point of time for the interview. If we noted that the responder did not have time to do the interview at the appointed time, we were open to decide a new time for the interview. Therefore, the conduct of telephone interviews was found advantageous. It enables a chance to reduce the risk for the research to be influenced and affected by the respondent's state of mind.

The questions in the survey dealt with entrepreneurial orientation and management accounting-areas in which the managing director, financial manager or controller of the firm ought to have good knowledge. These persons are usually involved in developing and implementing business strategic questions within the firm and have a good perception of the firm's strategy, hence, considered to be the most suitable respondent to secure the quality of the answers in the survey.



## 4 EMPIRICAL RESULTS AND ANALYSIS

### 4.1 Entrepreneurial orientation

#### 4.1.1 Result entrepreneurial orientation

In Figure 4.1 the entrepreneurial orientation (EO) of the investigated population, which consists of a total number of 15 firms, is shown. Each firm is represented with a dot on a scale from 1 to 10 and the population is divided into two groups characterized by lower or higher EO. This has been done by calculating an average value of the total population, 5,41. The group of firms with lower EO has a score from 3,15 to 5,15 and the group of firms with higher EO has a score from 5,75 to 6,70. As can be seen in the figure, the firms are clustered between 3,15 and 6,70. In order to separate the firms and get a distinct division into two groups to be analysed, two firms have been excluded from the analysis. These firms are marked with a cross in the figure and their EO score are 5,30 and 5,40. Consequently the group with lower EO consists of 5 firms and the group with higher EO consists of 8 firms. (See appendix 3)

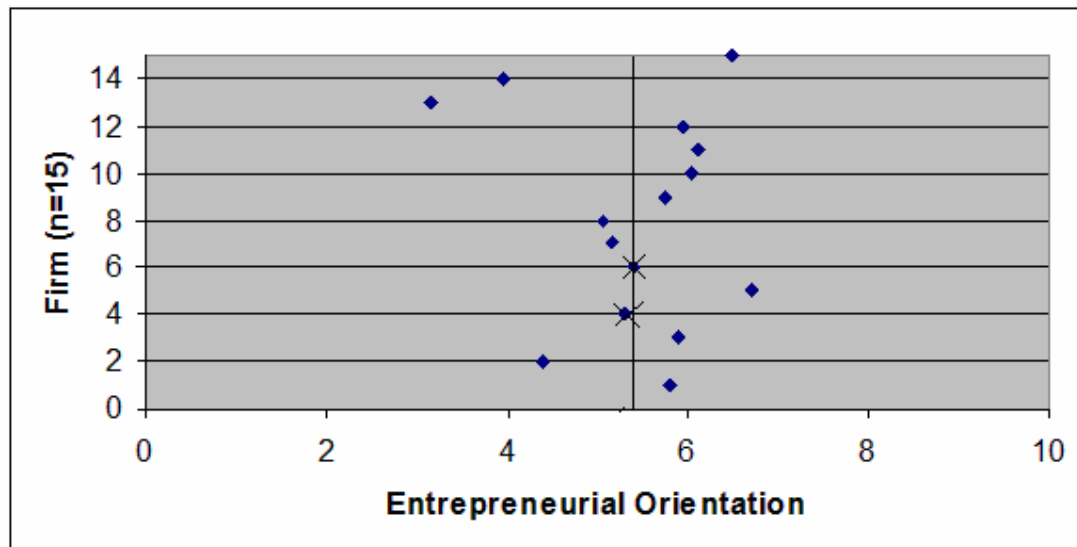


FIGURE 4.1 THE ENTREPRENEURIAL ORIENTATION OF THE FIRMS

#### 4.1.2 Analysis of entrepreneurial orientation

Looking at Figure 4.1 it becomes apparent that nearly all of the firms are clustered in the middle of the entrepreneurial scale, with no substantial extremity. However, if any kind of



analysis is to be carried out one has to divide the firms into two groups which are characterized as being either low or high entrepreneurially oriented. By doing this there can not be any expectations to find major differences between the groups. Nevertheless, the aim of this study is to search for tendencies and not to conclude a statistical survey. Thus, the results from this analysis will be used to divide the population into two groups, characterised as having either a strategy tilted towards high EO or towards low EO. These groups will henceforth be compared against each other.

## ***4.2 Budgeting***

### **4.2.1 Result budgeting**

In this section the results related to budgeting are presented. The section begins with a survey of budgets used in respective group. Further, we will give a statement of the set up of budgets, set up frequency, users of budgets and purposes of budgets set up. Finally, we will describe the changes within the field of budgeting.



#### 4.2.1.1 Budgets used

The respondents were asked to state which budgets that are set up by the firm.

P: number of firms in respective group.

N: number of firms that set up the specified budgets.

S: share of firms that set up the specified budgets.

	Low level, P=5		High level, P=8	
<b>Main budgets</b>	N	S	N	S
Profit budget	5	100,0%	8	100,0%
Cash budget	2	40,0%	3	37,5%
Budgeted statement of assets and liabilities	3	60,0%	4	50,0%
<b>Partial budgets</b>				
Purchase budget	3	60,0%	4	50,0%
Stock budget	1	20,0%	2	25,0%
Production budget	4	80,0%	6	75,0%
Investment budget	5	100,0%	7	87,5%
Sales budget	5	100,0%	7	87,5%
Administration budget	4	80,0%	5	62,5%
Marketing budget	4	80,0%	7	87,5%
Research and development budget	4	80,0%	5	62,5%
Operating budget	4	80,0%	2	25,0%
Personnel budget	4	80,0%	6	75,0%
Educational budget	4	80,0%	5	62,5%

TABLE 4.1 TYPE OF BUDGET

Table 4.1 indicates that of the main budgets profit budget is used by all firms in both groups. Likewise, *investment budget* and *sales budget* are the most commonly budgets set up, when comparing the partial budgets for both groups. The least commonly budget set up, of the main budgets, is *cash budget*, and of the partial budgets *stock budget* is the least common budget for both groups.

Characteristic for firms within the group with lower EO is that they for most of the budgets use them to a larger extent, by comparison with the group with higher EO. Table 4.1 shows that there is a difference in use, especially for *operating budget*, *administration budget*, *research and development budget*, and for *educational budgets*. All of the firms with lower EO set up investment respectively sales budgets. Only one firm uses *stock budgets*.



The budgets that are more commonly set up for the group with higher EO are *stock budget* and *marketing budget*, although *stock budget*, even for the group with higher EO, is set up to a small extent. Likewise, *operating budget* is set up to a small extent.

#### 4.2.1.2 The set up of budgets

The respondents were asked to state type of method used when setting up budgets.

P: number of firms in respective group.

N: number of firms that set up the specified budgets.

S: share of firms that have stated the specified types of budget.

	Low level, P=5						High level, P=8					
	N	Traditional budget, S	Revised budget, S	Rolling budget, S	Floating budget, S	Flexible budget, S	N	Traditional budget, S	Revised budget, S	Rolling budget, S	Floating budget, S	Flexible budget, S
<b>Main budgets</b>												
Profit budget	5	100,0%	80,0%	20,0%	20,0%	20,0%	8	87,5%	12,5%	25,0%	0,0%	0,0%
Cash budget	2	100,0%	50,0%	0,0%	0,0%	0,0%	3	66,7%	33,3%	33,3%	0,0%	0,0%
Budgeted statement of assets and liabilities	3	100,0%	33,3%	0,0%	0,0%	0,0%	4	75,0%	0,0%	50,0%	0,0%	0,0%
<b>Partial budgets</b>												
Purchase budget	3	100,0%	66,7%	100,0%	66,7%	66,7%	4	100,0%	25,0%	0,0%	0,0%	0,0%
Stock budget	1	100,0%	0,0%	0,0%	0,0%	0,0%	2	50,0%	50,0%	0,0%	0,0%	0,0%
Production budget	4	100,0%	75,0%	25,0%	25,0%	25,0%	6	100,0%	16,7%	16,7%	0,0%	0,0%
Investment budget	5	100,0%	40,0%	20,0%	20,0%	20,0%	7	100,0%	14,3%	28,6%	0,0%	0,0%
Sales budget	5	100,0%	60,0%	40,0%	20,0%	20,0%	7	100,0%	14,3%	28,6%	0,0%	0,0%
Administration budget	4	100,0%	75,0%	25,0%	25,0%	25,0%	5	100,0%	20,0%	20,0%	0,0%	0,0%
Marketing budget	4	100,0%	75,0%	25,0%	25,0%	25,0%	7	100,0%	14,3%	28,6%	0,0%	0,0%
Research and development budget	4	100,0%	50,0%	25,0%	25,0%	25,0%	5	60,0%	20,0%	40,0%	0,0%	0,0%
Operating budget	4	100,0%	50,0%	25,0%	25,0%	25,0%	2	100,0%	50,0%	0,0%	0,0%	0,0%
Personnel budget	4	100,0%	50,0%	25,0%	25,0%	25,0%	6	100,0%	16,7%	16,7%	0,0%	0,0%
Educational budget	4	100,0%	50,0%	25,0%	25,0%	25,0%	5	100,0%	20,0%	0,0%	0,0%	0,0%

TABLE 4.2 METHOD USED FOR BUDGETING

Table 4.2 shows that traditional set up of budgets are the most common used method for all of the different budgets in both groups.

Firms with lower EO tend to use more different methods when setting up budgets. Firms in this group use both floating and flexible budget, whereas no firm in the group with higher EO



use these. The distribution between the usage of budgets by other methods, but traditional and revised, in the group with lower EO is fairly even. Although there seem to be a preference of the traditional method, since all of the budgets, both main budgets and partial budgets are set up with this method.

In the group with higher EO, the majority of the budgets are set up traditionally. Only one firm uses revised budget and a few uses rolling budget. The partial budgets are in a larger scale set up with traditional method, in contrast to the main budgets.

P: number of firms in respective group.

N: number of firms that have stated the importance of up

S: share of firms that have stated the importance of follow up

	Low level, P=5		High level, P=8	
	N	S	N	S
Important	5	100,0%	5	62,5%
Not important	0	0,0%	3	37,5%

TABLE 4.3 FOLLOW UP OF BUDGET

We also inquired information about the firms' follow-up of budgets<sup>3</sup>. A major part of the firms in both groups had the approach that follow-up of budgets is important. Barely 40 per cent of the firms with higher EO state that follow-up of budgets are unimportant, whereas all of the firms with lower EO consider it as important.

<sup>3</sup> See appendix 1: 'Questionnaire', section 11, question 19.

### 4.2.1.3 Set up frequency of budgets

The respondents were asked to state frequency in budget set up.

P: number of firms in respective group.

N: number of firms that set up the specified budgets.

S: share of firms that have stated the specified frequencies of budget set up.

	Low level, P=5							High level, P=8						
	N	Daily, S	Weekly, S	Monthly, S	Quarterly, S	Half-yearly, S	Yearly, S	N	Daily, S	Weekly, S	Monthly, S	Quarterly, S	Half-yearly, S	Yearly, S
<b>Main budgets</b>														
Profit budget	5	0,0%	0,0%	40,0%	20,0%	20,0%	80,0%	8	0,0%	0,0%	12,5%	12,5%	0,0%	75,0%
Cash budget	2	0,0%	50,0%	0,0%	0,0%	0,0%	50,0%	3	0,0%	0,0%	33,3%	0,0%	0,0%	66,7%
Budgeted statement of assets and liabilities	3	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%	4	0,0%	0,0%	25,0%	25,0%	0,0%	50,0%
<b>Partial budgets</b>														
Purchase budget	3	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%	4	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%
Stock budget	1	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%	2	0,0%	0,0%	0,0%	0,0%	0,0%	50,0%
Production budget	4	25,0%	0,0%	0,0%	0,0%	25,0%	75,0%	6	0,0%	0,0%	16,7%	0,0%	0,0%	83,3%
Investment budget	5	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%	7	0,0%	0,0%	14,3%	14,3%	0,0%	85,7%
Sales budget	5	0,0%	0,0%	60,0%	20,0%	20,0%	60,0%	7	0,0%	0,0%	14,3%	14,3%	0,0%	85,7%
Administration budget	4	0,0%	0,0%	0,0%	0,0%	25,0%	100,0%	5	0,0%	0,0%	0,0%	20,0%	0,0%	80,0%
Marketing budget	4	0,0%	0,0%	0,0%	0,0%	25,0%	100,0%	7	0,0%	0,0%	14,3%	14,3%	0,0%	85,7%
Research and development budget	4	0,0%	0,0%	0,0%	0,0%	25,0%	100,0%	5	0,0%	0,0%	20,0%	20,0%	0,0%	40,0%
Operating budget	4	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%	2	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%
Personnel budget	4	0,0%	0,0%	0,0%	0,0%	25,0%	100,0%	6	0,0%	0,0%	16,7%	0,0%	0,0%	100,0%
Educational budget	4	0,0%	0,0%	0,0%	0,0%	25,0%	100,0%	5	0,0%	0,0%	0,0%	0,0%	0,0%	80,0%

TABLE 4.4 FREQUENCY IN BUDGETING

Table 4.4 indicates that budgets in most cases are set up yearly. This holds for all budgets in both groups. One could also state that of the main budgets, *profit budget* is most frequently set up on yearly basis for firms with higher EO. For firms with lower EO, the *budgeted statement of assets and liabilities* is the corresponding budget.

For the group with lower EO it is distinguishing that they to a greater extent set up budgets half-yearly, especially partial budgets. No budget in the group with higher EO is set up half



yearly. One firm in the group with lower EO has stated that they set up production budget daily, whereas no one of the firms with higher EO state that set up any of the budgets with this frequency. The case is similar for budgets set up weekly; one of the firms with lower EO set up cash budget weekly, whereas no budgets in the group with higher EO are set up weekly.

For the firms with higher EO it is in general more common that budgets are set quarterly and monthly by comparison with firms with lower EO. The only exception for this matter is sales budget, where a greater part of the firms with lower EO use a monthly or quarterly set up. Even if it is more usual with quarterly and monthly set up of budgets in firms with higher EO, it is also in this group a very limited part that uses this frequency.



#### 4.2.1.4 Users of budgets

The respondents were asked to state the users of budget.

P: number of firms in respective group.

N: number of firms that set up the specified budgets.

S: share of firms that have stated the specified users of budget.

	Low level, P=5						High level, P=8					
	N	By the financiers, S	By the owners, S	By the board, S	By the management, S	On the operative level, S	N	By the financiers, S	By the owners, S	By the board, S	By the management, S	On the operative level, S
<b>Main budgets</b>												
Profit budget	5	100,0%	100,0%	80,0%	100,0%	60,0%	8	87,5%	87,5%	100,0%	100,0%	75,0%
Cash budget	2	100,0%	100,0%	100,0%	100,0%	100,0%	3	100,0%	100,0%	100,0%	100,0%	66,7%
Budgeted statement of assets and liabilities	3	100,0%	100,0%	100,0%	100,0%	66,7%	4	100,0%	100,0%	100,0%	100,0%	50,0%
<b>Partial budgets</b>												
Purchase budget	3	100,0%	100,0%	66,7%	100,0%	33,3%	4	75,0%	75,0%	75,0%	100,0%	100,0%
Stock budget	1	100,0%	100,0%	100,0%	100,0%	0,0%	2	0,0%	0,0%	0,0%	50,0%	50,0%
Production budget	4	75,0%	75,0%	50,0%	100,0%	25,0%	6	83,3%	83,3%	83,3%	100,0%	83,3%
Investment budget	5	100,0%	100,0%	60,0%	100,0%	40,0%	7	100,0%	100,0%	100,0%	100,0%	57,1%
Sales budget	5	60,0%	60,0%	60,0%	80,0%	80,0%	7	85,7%	85,7%	100,0%	100,0%	42,9%
Administration budget	4	75,0%	75,0%	50,0%	100,0%	25,0%	5	80,0%	80,0%	80,0%	80,0%	60,0%
Marketing budget	4	75,0%	75,0%	50,0%	100,0%	75,0%	7	85,7%	85,7%	85,7%	100,0%	42,9%
Research and development budget	4	75,0%	75,0%	75,0%	100,0%	25,0%	5	80,0%	80,0%	80,0%	60,0%	60,0%
Operating budget	4	50,0%	50,0%	50,0%	75,0%	50,0%	2	100,0%	100,0%	100,0%	100,0%	100,0%
Personnel budget	4	75,0%	75,0%	50,0%	100,0%	50,0%	6	83,3%	83,3%	83,3%	100,0%	66,7%
Educational budget	4	75,0%	75,0%	50,0%	100,0%	25,0%	5	40,0%	40,0%	60,0%	80,0%	60,0%

TABLE 4.5 USERS OF BUDGET.

Table 4.5 shows that all of the specified levels in an organisation for both groups are users of budget to some extent. One could also state, that in general the operating level is indicated as users of the budgets to a relatively small extent. Concerning the partial budgets, the directors of the board in firms with higher EO are stated as users to a larger extent. The firms with higher EO have stated the operating level as user for more budgets than firms with lower EO.





A difference between the two groups can be found when looking at the users of *stock budget*. Even though none of the groups set up stock budget to a large extent (see section 4.2.1.1), the operating level and management are more important users in the firms with higher EO. In firms with lower EO the users of the *stock budget* levels are a senior position. Another clear difference can be seen in the purchase budget. All firms in the group with higher EO have stated the operating level as user, whereas only quite 30 per cent of the firms with lower EO have stated the operating level as user. The case is similar for *production budget*.

#### 4.2.1.5 The purpose of budgets set up

The respondents were asked to state the purposes of a budget set up. There are both routinely used budgets and non- routinely used budgets. In other words, the latter is of low frequency and the former is of high frequency. We asked the respondents to place and rank from 1 to 5 the five most frequent budgets. 1 is the most frequent budget and 2 is the second most frequent budget etc.

P: number of firms in respective group.

N: number of firms that have stated the purpose as one of the five most important.

S: share of firms that have stated the purpose as one of the five most important.

AV: average of the given order of precedence, the lower the more important purpose.

	Low level, P=5			High level, P=8		
	N	S	AV	N	S	AV
Implementation of strategies	3	60,0%	2,67	7	87,5%	1,43
Planning	4	80,0%	2,75	6	75,0%	2,00
Coordination of the business	3	60,0%	1,33	1	12,5%	1,00
To create awareness within the company	2	40,0%	5,00	2	25,0%	3,00
To follow-up the business	3	60,0%	3,33	4	50,0%	3,75
To create motivation	0	0,0%	0,00	1	12,5%	2,00
To be the basis for reward system	1	20,0%	4,00	1	12,5%	5,00
Allocation of resources	4	80,0%	2,50	6	75,0%	3,67
Prognosis for the business	3	60,0%	2,00	5	62,5%	3,00
Business goal	2	40,0%	1,50	2	25,0%	2,00
Communication within the company	2	40,0%	3,00	0	0,0%	0,00
Allocation of responsibility	0	0,0%	0,00	0	0,0%	0,00

TABLE 4.6 PURPOSE OF BUDGETING

Table 4.6 shows that the most important purposes of budgeting for both groups are *implementation of strategies*, *planning* and *allocation of resources*. As none of the firms in the group with higher EO has stated *communication within the company* and *allocation of*



*responsibility* as purposes, these can be seen as the purposes with the least importance. Correspondingly *allocation of responsibility* is the purpose with the least importance for the group with lower EO.

The lowest average of the given order of precedence is found for the group with higher EO for *coordination of the business*. Only one firm has stated this as a purpose though, which is a reason for this purpose not to be stated as the most important one. A better indicator to draw conclusions from could be the fact that almost 90 per cent of the firms have stated *implementation of strategies* as one of the most important purposes. This shows that the purpose mentioned is the one with the highest importance. Likewise *planning, allocation of resources* and *prognosis for the business* are purposes mentioned as important in the group with higher EO. The purpose which has got the lowest average is *to be a basis for the reward system*. This was mentioned as a purpose for only one of the firms.

For the firms with lower EO, *coordination of the business* and *business goal* have the lowest average of the given order of precedence. These have also been stated as one of the most important purposes for around 50 per cent of the firms. On the other hand, the purposes that have been stated as among the most important purposes by the majority of the firms with lower EO are *planning* and *allocation of resources*. All of the firms, except one, have stated this as one of the most important purposes. The purposes which have got the lowest average of the given order of precedence are *to create awareness within the company* and *to be the basis for the reward system*. These are also mentioned as purpose in a small extent of the firms with low EO.

#### **4.2.1.6 Changes within the field of budgeting**

Finally the respondents were asked which primary changes and developments they think will occur in the organisation within the field of budgeting in the next five years.

For the group with higher EO five of the firms stated that they do not think that they will change their work with budgeting, although one of them stated that he think that the work with budget will require more time as the organisation grows. Two of the firms will begin using rolling budgets instead of traditional. One of them will also start to set up the budgets quarterly instead of yearly. Several of the firms stated that they already now set up prognoses



as a complement to the budgets. Besides these firms, one respondent stated that the firm will start using forecasts instead of budgets.

Three of the firms with lower EO do not think that there will be any changes within the work with budgeting. They will continue to use their current system. One firm state that they will use the budget more as a “living document”. They will try to get the budget to lead to a better communication within the organisation. Another firm will start setting up more detailed budgets and to get more levels in the organisation to become users.

#### **4.2.2 Analysis of budgeting**

The results concerning budget design and use show that budgeting is an instrument of control, which has a greater importance for firms with a strategy characterised by lesser entrepreneurial orientation. They tend to use several methods, when setting up budgets. This may have its explanation in the fact that these firms have tighter control and monitoring of financial instruments. Furthermore, they consider budgeting as an important instrument of control. (Bruggemann and Van der Stede, 1993; Govindarajan, 1998; Langfield-Smith, 1997)

Firms with higher EO, on the other hand, tend to have a looser form of management control and the set up of budgets is done for its traditional purpose. In some cases they revise their budgets often as well. Moreover, these firms tend to exclude the usage of other methods e.g. flexible-, rolling- budgets etc. Thus we can see that a looser control of financial results is found for firms with a higher entrepreneurial orientation, whereas tighter control of financial results is found in firms with the opposite orientation. (Govindarajan, 1988)

The stated purposes with budgets do not demonstrate a big difference between the groups. This would, at first glance, seem odd but it may be explained by the fact that even if there are differences between the design and use of budgets for group high and low the main purposes are still the same.

Firms with higher EO tend to set up their budgets with a higher frequency, which can be explained by the fact that firms, characterised as being more entrepreneurially oriented, focus on creativity, innovation and risk-taking. When acting impulsive, budgets are mostly revised and considered as a restraint. Firms characterised as entrepreneurially oriented usually have



difficulties in implementing comprehensive planning systems, while the management accounting system often focuses on problem finding rather than problem solving. (Miles & Snow, 1982) Firms following a more entrepreneurial strategy use various control system in order to signal when innovation needs to be curbed. (Porter, 1980)

### 4.3 Product calculation

#### 4.3.1 Result product calculation

This section presents the results related to product calculation. In the first part the various situations where product calculations are used are presented, followed by a ranking of frequency, users of product calculations, main calculation methods and ending with changes within the specified field.

##### 4.3.1.1 Situations where product calculations are used

This part gives details about the different situation in which the respondents have stated usage of product calculations.

P: number of firms in respective group.

N: number of firms that have stated that they set up the different product calculations.

S: share of firms that have stated that they set up the different product calculations.

	Low level, P=5		High level, P=8	
	N	S	N	S
Order/Pricing of the offer	3	60,0%	6	75,0%
Pricing towards markets	2	40,0%	5	62,5%
Profitability follow-up/market	3	60,0%	2	25,0%
Profitability follow-up/customer	3	60,0%	2	25,0%
Profitability follow-up/product	3	60,0%	7	87,5%
Calculation of product costs for future goods currently in the state of R&D.	2	40,0%	3	37,5%
Choice for product	3	60,0%	2	25,0%
Decisions concerning buy in/produce self	5	100,0%	4	50,0%
Selection of method/way of producing	3	60,0%	3	37,5%
Cost control	4	80,0%	3	37,5%

TABLE 4.7 TYPE OF PRODUCT CALCULATION.

From Table 4.7 it may be concluded that all product calculations are used by a number of firms in both groups.



The Table 4.7 displays that all firms with lower EO use calculations in situations concerning *buy in/produce self decisions*. Moreover, the lower groups use product calculation to a great extent for cost control.

Firms with higher EO use product calculations mostly in situations concerning decisions like *order/pricing of the offer, pricing towards markets* and for follow-up situations concerning *profitability per product*.

From a general point of view there are several situations where the usage of product calculations vary. Firms with lower EO tend to use calculations to a greater extent in almost every situation by comparison with firms with higher EO. The greatest difference between the groups is seen in situations where calculations are set up for *decisions concerning buy in/produce self*. For firms with lower level of EO 100 per cent uses product calculations for this matter, in distinction to firms with higher EO, where the per cent is 50. (See Table 4.7)

#### **4.3.1.2 Ranking of frequency of product calculations**

The set up and use of product calculation vary between different situations. There are both routinely used calculations and non- routinely used calculations. In other words, the latter is of low frequency and the former is of high frequency. We asked the respondents to place and rank from 1 to 5 the five most frequent situations, in which they set up product calculations. 1 is the most frequent situation and 2 is the second most frequent situation etc.



P: number of firms in respective group.

N: number of firms that have stated the product calculation as one of the five most commonly set up.

S: share of firms that have stated the product calculation as one of the five most commonly set up.

AV: average of the given order of precedence, the lower the more commonly set up.

	Low level, P=5			High level, P=8		
	N	S	AV	N	S	AV
Order/Pricing of the offer	2	40,0%	1,0	5	62,5%	2,0
Pricing towards markets	2	40,0%	2,5	3	37,5%	1,7
Profitability follow-up/market	0	0,0%	0,0	1	12,5%	7,0
Profitability follow-up/customer	2	40,0%	4,5	2	25,0%	3,0
Profitability follow-up/product	1	20,0%	1,0	6	75,0%	2,7
Calculation of product costs for future goods currently in the state of R&D.	2	40,0%	3,0	3	37,5%	2,7
Choice of product	0	0,0%	0,0	0	0,0%	0,0
Decisions concerning buy in/produce self	4	80,0%	2,0	3	37,5%	2,3
Selection of method/way of producing	1	20,0%	3,0	0	0,0%	0,0
Cost control	2	40,0%	3,0	2	25,0%	4,0

TABLE 4.8 FREQUENCY IN PRODUCT CALCULATION.

From Table 4.8 it may be concluded when looking at AV numbers, that in firms with lower EO the most important situations where calculations are used are decisions *concerning order/pricing of the offer*, *profitability follow-up per product* and *decisions concerning buy in/produce self*. When looking at frequency of setting up product calculations, situations where decisions concerning *buy in/produce self* are to be made, 80 per cent within the lower group state this as one of the top five. This is the highest score of frequency for the lower group.

In firms with higher EO the most important situations, in which product calculations are used, are decisions concerning *pricing towards markets*, *order/pricing of the offer* and decisions concerning *buy in/produce self*. Moreover, the most frequent situations used in this group are *profitability follow-up per product* and decisions concerning *order/pricing of the offer*.

None of the firms with lower EO have neither ranked *profitability follow-up per market* nor *choice of product*, which is indicated in Table 4.9 by a zero as an average. The same situation applies to the firms with higher EO for using product calculations in situation of *choice of*



*product* and *selection of method/way of producing*. These situations are considered to be the least important ones.

In firms with lower EO, the less important situations, where product calculations are used, are decisions concerning *profitability follow-up per customer*, *calculations of product costs for future goods in the state of R&D* and in decisions concerning *selection of method/way of producing*. This is in some way also indicated when looking at the frequencies of the situations, where calculations are used. The less frequent situation is in decisions concerning *selection of method/way of producing* as percentage is equally distributed among the remaining situations not mentioned earlier.

In the higher group the less important situations, in which calculations are used, are decisions concerning *profitability per market*, *cost control* and decisions concerning *profitability per customer*. This is also indicated when looking at the frequencies of the situations where calculations are used.

### 4.3.1.3 Users of product calculations

In this section we asked the respondents to state the user/s of product calculations for each specified situation.

P: number of firms in respective group.

N: number of firms that have stated that they set up the different product calculations.

S: share of firms that have stated the specified users of product calculation.

	Low level, P=5						High level, P=8					
	N	By the financiers, S	By the owners, S	By the board, S	By the management, S	On the operative level, S	N	By the financiers, S	By the owners, S	By the board, S	By the management, S	On the operative level, S
Order/Pricing of the offer	3	0,0%	0,0%	0,0%	33,3%	100,0%	6	33,3%	33,3%	0,0%	83,3%	83,3%
Pricing towards markets	2	0,0%	0,0%	0,0%	100,0%	100,0%	5	20,0%	20,0%	0,0%	80,0%	60,0%
Profitability follow-up/market	3	0,0%	0,0%	0,0%	66,7%	0,0%	2	0,0%	0,0%	0,0%	100,0%	100,0%
Profitability follow-up/customer	3	0,0%	0,0%	0,0%	100,0%	33,3%	2	0,0%	0,0%	0,0%	100,0%	100,0%
Profitability follow-up/product	3	0,0%	0,0%	0,0%	100,0%	66,7%	7	28,6%	28,6%	0,0%	100,0%	85,7%
Calculation of product costs for future goods currently in the state of R&D.	2	0,0%	0,0%	0,0%	100,0%	100,0%	3	66,7%	66,7%	0,0%	100,0%	100,0%
Choice of product	3	0,0%	0,0%	0,0%	100,0%	66,7%	2	0,0%	0,0%	0,0%	100,0%	50,0%
Decisions concerning buy in/produce self	5	40,0%	40,0%	40,0%	80,0%	100,0%	4	25,0%	25,0%	0,0%	75,0%	75,0%
Selection of method/way of producing	3	0,0%	0,0%	0,0%	66,7%	33,3%	3	33,3%	33,3%	0,0%	100,0%	100,0%
Cost control	4	25,0%	25,0%	25,0%	75,0%	75,0%	3	0,0%	0,0%	0,0%	100,0%	66,7%

TABLE 4.9 USERS OF PRODUCT CALCULATION.

Table 4.9 shows that for both groups the management uses product calculation in all specified situations to a large extent. This can also be seen for the operative level, except from situations concerning *profitability follow-up per market* in firms with low level of EO where the operative level of organisation is not included.

The only situation where almost all the users participate in the use of product calculation is in *decisions concerning buy in/produce self*, except from the board of directors in firms with higher EO. It can also be derived from the table that the board of directors is to a lesser extent included in the use and set up of product calculation.





The table also indicate that financiers, owner and the board of directors in firms with lower EO participate in the set up of product calculation in the different situations, to a lesser extent, in distinction to firms with higher EO.

#### 4.3.1.4 Main calculation methods

The choice between methods of calculation differs among firms. The respondents were asked to state type of calculation method used.

P: number of firms in respective group.

N: number of firms that have stated the type of used calculation method.

S: share of firms that have stated the type of used calculation method.

	Low level, P=5		High level, P=8	
	N	S	N	S
Calculation of prime cost	4	80,0%	5	62,5%
Calculation of contribution	2	40,0%	4	50,0%

TABLE 4.10. TYPE OF USED CALCULATION METHOD.

From Table 4.10 it may be concluded that a majority of both groups use *calculation of prime cost*. Firms with lower EO tend to use *calculation of prime cost* to a greater extent than firms with higher EO. As the respondents were able to state one or two methods used by the firm, we can see that Table 4.10 indicate usage of both methods for some of the firms within both groups.

#### 4.3.1.5 Changes within the field of product calculation

The respondents of the questionnaire did not indicate any larger changes within the field of product calculation in the next five years. A belief expressed by one respondent was though, that product calculations will be used to a greater extent in the future.

### 4.3.2 Analysis of product calculation

The result from product calculation shows that firms, with lower EO, to a much larger extent, compared with the other group, use calculations in situations of follow-up kind. And as less entrepreneurially oriented firms prioritise cost minimization (Simon, 1987; Govindarajan, 1998) and product and distribution efficiency (Govindarajan, 1986), information to management would typically have a current or historical orientation (Abernethy and Guthrie,



1994). Therefore, one can argue that product calculations that are of follow-up kind are to be expected when studying firms with lower EO.

Situations where product calculations are of most importance for the firms with higher EO, are situations with a decision making character. This can be explained by the fact that firms that pursue a more entrepreneurially oriented strategy seek out and exploit new product market opportunities and focus on the external environment to a much greater extent than those firms that pursue a less entrepreneurially oriented strategy. (Miles & Snow, 1982) Therefore, firms with higher EO more likely need information that is externally-based and future oriented, (Abernethy and Guthrie, 1994).

Furthermore, firms with a higher EO use product calculations in situations, which are internally oriented, to a lesser extent than the other group, whereas the amount of usage of product calculations in externally oriented situations do not differ, substantially, between the groups. But when looking within the groups, the conclusion can be drawn that firms with high EO use external product calculations to a much greater extent than internal calculations. Also, the high EO firms tend to use product calculations to a much lower degree than the other group. This complies with the basic assumption, concerning low-grade entrepreneurial firms, that they are more focused on internal efficiency than are the high EO firms. The reversed can be said about firms with lower EO as their product calculations are more internally oriented. That is, they put more focus on follow-up and decisions concerning inner efficiency.

Firms that are more entrepreneurially oriented pursue opportunities, innovation, creativity and risk taking. This puts focus on the external market as growth and complexity of organisations acquire a continuous need for organisational renewal, innovation, constructive risk-taking, and conceptualization and pursuit of new opportunities, which explains the fact that firms with higher entrepreneurial orientation use external product calculations rather than internal product calculations. (Miller, 1983; Löfstål, 2001)

It can be argued that decisions concerning product calculations for future goods currently in the state of R&D, follow up per customer, -markets, and pricing toward markets would be of great importance for entrepreneurially oriented firms, (Nixon, 1998; Dergård, 2004), as external information should be important for more entrepreneurially oriented firms. This does



not seem to be the case when studying our empirical data and therefore we conclude that our findings, (Bromwich 1990; Bhimani and Bromwich, 1994), are inconsistent with earlier findings.

## ***4.4 Performance measurement***

### **4.4.1 Result performance measurement**

This section begins with a compilation of performance measurements used, followed by set up frequency, users and the purpose of performance measurements set up. Finally, changes within the field of performance measurements are brought up.

#### 4.4.1.1 Performance measurements used

The respondents were asked to state which performance measurements they set up.

P: number of firms in respective group.

N: number of firms that set up the specified performance measurements.

S: share of firms that set up the specified performance measurements.

	Low level, P=5		High level, P=8	
	N	S	N	S
Profit related measurements	5	100,0%	7	87,5%
Measurements related to earnings performance	3	60,0%	4	50,0%
Cash-flow related measurements	2	40,0%	4	50,0%
Sales related measurements	5	100,0%	7	87,5%
Other accounting related measurements	2	40,0%	5	62,5%
Cost related measurements	2	40,0%	3	37,5%
Productivity related measurements	4	80,0%	3	37,5%
Measurements related to utilization of resources	3	60,0%	1	12,5%
Personnel related measurements	1	20,0%	6	75,0%
Customer related measurements	2	40,0%	4	50,0%
Supplier related measurements	2	40,0%	1	12,5%
Measurements related to product development and innovation	1	20,0%	2	25,0%
Quality related measurements	3	60,0%	5	62,5%
Time related measurements	2	40,0%	3	37,5%
Environmental measurements	2	40,0%	3	37,5%
Market position related measurements	1	20,0%	1	12,5%

TABLE 4.11 TYPE OF PERFORMANCE MEASUREMENT.

When comparing the results, between the two groups, concerning the usage of performance measurements, one can see that the lower group use performance measurements to a greater extent. What also can be seen is that *profit related* and *sales related measurements* are the most common performance measurements within both groups. Moreover, the table shows that firms with lower level of EO tend to use measurements related to *productivity*, *supplier* and to *utilization of resources* more frequently than firms with higher EO. A performance measurement with high frequency for firms with higher EO, on the other hand, is *personnel* related measurements.



#### 4.4.1.2 Set up frequency of performance measurements

The respondents were asked to state the frequency of performance measurements set up.

P: number of firms in respective group.

N: number of firms that set up the specified performance measurements.

S: share of firms that have stated the specified frequency of performance measurement use.

	Low level, P=5							High level, P=8						
	N	Daily, S	Weekly, S	Monthly, S	Quarterly, S	Half-yearly, S	Yearly, S	N	Daily, S	Weekly, S	Monthly, S	Quarterly, S	Half-yearly, S	Yearly, S
Profit related measurements	5	0,0%	0,0%	<b>80,0%</b>	0,0%	<b>60,0%</b>	<b>40,0%</b>	7	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Measurements related to earnings performance	3	0,0%	0,0%	<b>66,7%</b>	0,0%	<b>33,3%</b>	0,0%	4	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Cash-flow related measurements	2	<b>50,0%</b>	0,0%	0,0%	<b>50,0%</b>	0,0%	0,0%	4	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Sales related measurements	5	0,0%	<b>40,0%</b>	<b>100,0%</b>	<b>40,0%</b>	<b>60,0%</b>	<b>40,0%</b>	7	0,0%	<b>14,3%</b>	<b>71,4%</b>	0,0%	0,0%	<b>14,3%</b>
Other accounting related measurements	2	0,0%	0,0%	<b>100,0%</b>	<b>50,0%</b>	0,0%	0,0%	5	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Cost related measurements	2	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%	3	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Productivity related measurements	4	0,0%	<b>50,0%</b>	<b>75,0%</b>	0,0%	<b>50,0%</b>	<b>50,0%</b>	3	0,0%	<b>33,3%</b>	<b>100,0%</b>	0,0%	0,0%	0,0%
Measurements related to utilization of resources	3	0,0%	<b>33,3%</b>	<b>66,7%</b>	0,0%	<b>33,3%</b>	<b>33,3%</b>	1	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Personnel related measurements	1	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	<b>100,0%</b>	6	0,0%	0,0%	<b>66,7%</b>	0,0%	0,0%	<b>33,3%</b>
Customer related measurements	2	0,0%	0,0%	<b>50,0%</b>	0,0%	0,0%	<b>50,0%</b>	4	0,0%	0,0%	<b>50,0%</b>	0,0%	0,0%	<b>50,0%</b>
Supplier related measurements	2	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%	1	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Measurements related to product development and innovation	1	0,0%	0,0%	0,0%	0,0%	0,0%	<b>100,0%</b>	2	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Quality related measurements	3	<b>33,3%</b>	0,0%	<b>33,3%</b>	<b>33,3%</b>	<b>33,3%</b>	<b>33,3%</b>	5	0,0%	0,0%	<b>60,0%</b>	<b>20,0%</b>	0,0%	<b>20,0%</b>
Time related measurements	2	<b>50,0%</b>	0,0%	<b>50,0%</b>	0,0%	0,0%	0,0%	3	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%
Environmental measurements	2	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%	3	0,0%	0,0%	0,0%	0,0%	<b>33,3%</b>	<b>66,7%</b>
Market position related measurements	1	0,0%	0,0%	0,0%	0,0%	0,0%	<b>100,0%</b>	1	0,0%	0,0%	<b>100,0%</b>	0,0%	0,0%	0,0%

TABLE 4.12 FREQUENCY IN PERFORMANCE MEASUREMENT.

In the Table 4.12 the set up frequency of performance measurements is shown. For both groups monthly set up is the most common time period. For the higher group it is done by some firms for every performance measurement set up, with the exception of *environmental measures*, which is done yearly or half-yearly. For the lower group monthly set up is done by some firms for every performance measure as well, but for measurements related to *market position, product development and innovation* and *cash-flow*. Furthermore, the result shows a



tendency of various different set up time periods and higher frequency within the group with lower EO.

For firms with lower EO, which set up measurements related to *cash-flow*, *quality* and *time* by several firms it is done on a daily basis, whereas no performance measurements are set up daily for firms with higher EO and only two firms do it weekly within this group.



### 4.4.1.3 Users of performance measurements

The respondents were asked to state the users of performance measurements.

P: number of firms in respective group.

N: number of firms that set up the specified performance measurements.

S: share of firms that have stated the specified users of performance measurement.

	Low level, P=5						High level, P=8					
	N	By the financers, S	By the owners, S	By the board, S	By the management, S	On the operative level, S	N	By the financers, S	By the owners, S	By the board, S	By the board, S	On the operative level, S
Profit related measurements	5	100,0%	100,0%	80,0%	100,0%	60,0%	7	85,7%	85,7%	71,4%	100,0%	85,7%
Measurements related to earnings performance	3	66,7%	66,7%	66,7%	100,0%	66,7%	4	100,0%	100,0%	100,0%	100,0%	100,0%
Cash-flow related measurements	2	50,0%	50,0%	100,0%	100,0%	0,0%	4	100,0%	100,0%	100,0%	100,0%	25,0%
Sales related measurements	5	60,0%	60,0%	80,0%	100,0%	60,0%	7	57,1%	57,1%	42,9%	100,0%	85,7%
Other accounting related measurements	2	0,0%	0,0%	100,0%	100,0%	0,0%	5	60,0%	60,0%	60,0%	80,0%	60,0%
Cost related measurements	2	0,0%	0,0%	50,0%	100,0%	50,0%	3	100,0%	100,0%	33,3%	100,0%	66,7%
Productivity related measurements	4	50,0%	50,0%	75,0%	100,0%	75,0%	3	33,3%	33,3%	33,3%	100,0%	100,0%
Measurements related to utilization of resources	3	33,3%	33,3%	66,7%	100,0%	66,7%	1	0,0%	0,0%	0,0%	100,0%	100,0%
Personnel related measurements	1	0,0%	0,0%	100,0%	100,0%	100,0%	6	16,7%	16,7%	0,0%	83,3%	83,3%
Customer related measurements	2	0,0%	0,0%	50,0%	100,0%	100,0%	4	75,0%	75,0%	0,0%	100,0%	75,0%
Supplier related measurements	2	0,0%	0,0%	50,0%	100,0%	100,0%	1	0,0%	0,0%	0,0%	100,0%	100,0%
Measurements related to product development and innovation	1	0,0%	0,0%	100,0%	100,0%	100,0%	2	0,0%	0,0%	0,0%	100,0%	100,0%
Quality related measurements	3	0,0%	0,0%	33,3%	100,0%	66,7%	5	20,0%	20,0%	0,0%	100,0%	80,0%
Time related measurements	2	0,0%	0,0%	50,0%	100,0%	100,0%	3	33,3%	33,3%	0,0%	100,0%	100,0%
Environmental measurements	2	0,0%	0,0%	50,0%	100,0%	100,0%	3	0,0%	0,0%	0,0%	100,0%	33,3%
Market position related measurements	1	0,0%	0,0%	100,0%	100,0%	100,0%	1	0,0%	0,0%	0,0%	100,0%	100,0%

TABLE 4.13 USERS OF PERFORMANCE MEASUREMENT.

Table 4.13 indicates that the managers and the operative personnel are the common primary users of performance measurements within both groups. For the higher group the owners and



the financiers use performance measures to a larger extent than the lower group, whereas the lower group indicate the board of directors as users for several performance measures where the group with higher EO does not.

#### 4.4.1.4 The purpose of performance measurements set up

The respondents were asked to state the purposes of performance measurements. There are both routinely used performance measurements and non-routinely used performance measurements. In other words, the latter is of low frequency and the former is of high frequency. We asked the respondents to place and rank from 1 to 5 the five most frequent performance measurements. 1 is the most frequent performance measurements and 2 is the second most frequent performance measurements etc.

P: number of firms in respective group.

N: number of firms that have stated the purpose as one of the five most important.

S: share of firms that have stated the purpose as one of the five most important.

AV: average of the given order of precedence, the lower the more important purpose.

	Low level, P=5			High level, P=8		
	N	S	AV	N	S	AV
To ensure that goals are achieved	5	100,0%	2,00	7	87,5%	1,57
To create conditions for identification of strategic opportunities	1	20,0%	3,00	0	0,0%	0,00
As a means of communication	0	0,0%	0,00	4	50,0%	3,75
To motivate responsible employees	1	20,0%	2,00	2	25,0%	1,50
To signal deviations from plans and expectations	4	80,0%	1,75	6	75,0%	2,00
To provide information about what privies think about the business	1	20,0%	4,00	0	0,0%	0,00
To provide information in order to make comparisons with other similar firms	0	0,0%	0,00	1	12,5%	2,00
To provide information about the effects of changes within the company	0	0,0%	0,00	2	25,0%	4,00
To determine reward distribution	1	20,0%	3,00	0	0,0%	0,00
To provide information for decision making	4	80,0%	3,50	7	87,5%	3,14
To give signals about changes in the surrounding world	1	20,0%	4,00	2	25,0%	2,00
To provide the privies information about development within the company and plans for the future	0	0,0%	0,00	1	12,5%	4,00

TABLE 4.14 PURPOSE WITH PERFORMANCE MEASUREMENT.

Table 4.13 points out three common purposes of setting up performance measurements that appear often for firms within both groups. These purposes are to ensure that *goals are achieved*, to signal *deviations from plans and expectations* and to *provide information for decision making*. The two purposes mentioned first are the ones with the most importance for both groups as well. The other purposes displayed above are considered to have less





importance for both groups, when looking at the AV, and they appear less often as well, with the exception that the higher group find performance measure *as a mean of communication* to be essential unlike the lower group.

#### **4.4.1.5 Changes within the field of performance measurements**

Changes to come within the field of performance measurement, firms' interviewed expressed an increase of performance measurements on a more detailed level, e.g to measure everything that is produced in the factory day and night every day of the week. Furthermore, measurements focusing on discovering strategically opportunities for the firm in the future were mentioned as a possible change. There may also be an increased focus on finding performance measurements directing towards a goal. These changes were thought to occur within five years.

#### **4.4.2 Analysis of performance measurement**

The usage of performance measurements for firms with higher EO are quite evenly distributed among financial and non-financial measures, whereas there is a slight tendency of higher usage of financial measures for firms with lower EO.

As firms with higher EO are innovators, they are continually developing and shaping their product domain through innovation and services (Miles & Snow, 1985). Firms oriented towards this strategy seek out and exploit new product market opportunities and continuously monitor a wide range of environmental changes and conditions (Miles & Snow, 1978; Abernethy and Guthrie, 1994). This suggests, as earlier mentioned, that firms pursuing a more entrepreneurial orientation are more externally oriented. Also, it means that entrepreneurial firms have to focus on their revenues in order to continue a successful entrepreneurial strategy. This is supported by our empirical data since the high EO firms give their sales and earnings measurements a lot of attention, which is also consistent with previous research (Miles & Snow, 1978; Snow, 1987; Löfstål, 2001). As these firms require information that monitors different environmental uncertainties which are associated with factors external to the firms, it could be argued, that the information that is more appropriate when monitoring external uncertainties should be more qualitative and non-financial, which is, however, not the case in our study and therefore inconsistent with earlier studies (Abernethy and Guthrie, 1994).



As the firms with lower EO use financial performance measurements to a greater extent than the other group, one can argue, that when monitoring performance in firms that are internally oriented, financial information is more appropriate. This can be connected to former finding regarding product calculation, where cost control was found to be more frequently used in firms with lower EO. (See section 4.3.2) This is also consistent with earlier researches (Simon, 1987; Govindarajan, 1988; Abernethy and Guthrie, 1994).

The result from a set up frequency of performance measurements show that two firms within the group with high EO set up performance measurements weekly, whereas the frequency is slightly higher for the lower group. This gives a weak indication of tighter control for the lower group. Furthermore, the result shows that firms with higher EO set up performance measures mainly monthly, and the lower group has a wider range of set up frequency. This might be so, while half a year or a year is a very long time for entrepreneurial oriented firms which have to be flexible and seek opportunities and therefore measuring with long time periods is not suitable. The commitment and engagement in projects for entrepreneurial oriented firms might have shorter time periods than a year, due to opportunity taking behaviour, whereas less entrepreneurially oriented firms know further in advance what will happen in the future and therefore they can measure with longer time periods.

## ***4.5 Benchmarking***

### **4.5.1 Result benchmarking**

In this section the results dealing with benchmarking are presented. By way of introduction, the direction of benchmarking is presented followed by the various aspect and frequency, working procedure and the purpose of benchmarking. To conclude, changes within the field are brought up.



#### 4.5.1.1 Direction of benchmarking

The respondents were asked to state their direction of benchmarking.

P: number of firms in respective group.

N: number of firms that have stated that they use the specified directions of benchmarking.

S: share of firms that have stated that they use the specified directions of benchmarking.

	Low level, P=5		High level, P=8	
	N	S	N	S
Internal direction	1	20,0%	1	12,5%
Competitive direction	3	60,0%	5	62,5%
Operating direction	0	0,0%	0	0,0%
Not used	2	40,0%	2	25,0%

TABLE 4.15 SPECIFICATION OF DIRECTION OF BENCHMARKING.

Benchmarking is used in firms with low as well as in firms with high level of EO. 60 per cent of the firms with low level of EO use benchmarking and 75 per cent of the firms with high level of EO use it. Table 4.15 shows that the lower group more often exclude the usage of benchmarking. However, competitive direction is dominant for both groups.



#### 4.5.1.2 Aspects and frequency of benchmarking

The respondents were asked to state aspects and frequencies of benchmarking.

P: number of firms in respective group.

N: number of firms that have stated that they use the specified types of benchmarking.

S: share of firms that have stated that they use the specified types of benchmarking.

	Low level, P=3		High level, P=6	
	N	S	N	S
Products	3	100,0%	5	83,3%
Services	0	0,0%	1	16,7%
Production	1	33,3%	3	50,0%
Personnel	1	33,3%	1	16,7%
Marketing	1	33,3%	2	33,3%
Sales	2	66,7%	3	50,0%
Financial aspects	1	33,3%	1	16,7%
Distribution	1	33,3%	1	16,7%
Product development	1	33,3%	2	33,3%
Critical elements/factors of success	2	66,7%	1	16,7%
Information technology	1	33,3%	1	16,7%
Customer relations	2	66,7%	2	33,3%
Administrative processes	1	33,3%	1	16,7%

TABLE 4.16 TYPE OF BENCHMARKING.

When comparing the result concerning the different aspects of benchmarking and its frequency two dominant aspects can be defined commonly for both groups, namely benchmarking for *products* and *sales*. Apart from this observation there is a distinction of importance regarding using benchmarking for *critical elements/factors of success*, which has a higher frequency within the group of low level of EO.



### 4.5.1.3 The working procedure of benchmarking

The respondents were asked to state working procedures of benchmarking.

P: number of firms in respective group

N: number of firms that have stated the specified way of working with benchmarking.

S: share of firms that have stated the specified way of working with benchmarking

	Low level, P=3		High level, P=6	
	N	S	N	S
On-going	3	100,0%	3	50,0%
Isolated case	0	0,0%	1	16,7%
Small extent	2	66,7%	5	83,3%
Large extent	1	33,3%	1	16,7%
Involves many people	1	33,3%	0	0,0%
Involves few people	1	33,3%	1	16,7%
Formalized	1	33,3%	0	0,0%
Systematic	1	33,3%	1	16,7%
Costly	0	0,0%	0	0,0%

TABLE 4.17 WAY OF WORKING WITH BENCHMARKING.

Table 4.17 indicates that the working procedure of benchmarking is an *on-going* process done to a *small extent*, which for neither group is a *costly* process. For firms with higher level of EO the working procedure is not *formalized*, but rather *systematic* and *involves few people*.



#### 4.5.1.4 The purpose of benchmarking

The respondents were asked to state the purpose of benchmarking. We asked the respondents to place and rank from 1 to 5 the five most frequent benchmarking. 1 is the most frequent benchmarking and 2 is the second most benchmarking etc.

P: number of firms in respective group.

N: number of firms that have stated the purpose as one of the five most important.

S: share of firms that have stated the purpose as one of the five most important.

AV: average of the given order of precedence, the lower the more important purpose.

	Low level, P=3			High level, P=6		
	N	S	AV	N	S	AV
Provides knowledge about already established and well-tried business success	2	40,0%	1,00	2	25,0%	2,00
A means to convince employees	1	20,0%	2,00	0	0,0%	0,00
A means to get things done	0	0,0%	0,00	1	12,5%	5,00
Stimulate improvements	3	60,0%	2,00	3	37,5%	2,00
Encourage the employees to think in new lines	2	40,0%	4,00	3	37,5%	2,33
Provides the basis of determination of competitive goals	3	60,0%	3,67	1	12,5%	4,00
Provides an efficient business	0	0,0%	0,00	4	50,0%	2,50
Creates awareness and understanding to what leads to success	3	60,0%	2,33	3	37,5%	2,00
Creates awareness and understanding to performance differences between the company and its competitors	0	0,0%	0,00	5	62,5%	2,20

TABLE 4.18 PURPOSE WITH BENCHMARKING.

The table displayed above shows the result of the purpose of benchmarking. A comparison made between the two groups lead to the conclusion that the purpose of benchmarking differ depending on a firms level of EO. The most distinctive difference is though that the main purpose for firms within the higher group, which is benchmarking in order to “*create awareness*” and “*understanding to performance differences between the firm and its competitors*”, seem to serve no purpose for firms within the lower group. The same relationship between the two groups is applicable concerning the purpose of using benchmarking for “*providing an efficient business*”.

#### 4.5.1.5 Changes within the field of benchmarking

The use of benchmarking in the future may increase and the working procedure will go towards systematization, according to a firm within the high group of the population interviewed. A firm from the lower group mentioned a possible change towards more detailed benchmarking in the future, which makes it impossible to be an inferior unit with less



productivity capacity compared to other units within the same firm. These changes were thought to occur within five years.

#### **4.5.2 Analysis of benchmarking**

In the field of benchmarking some significant differences can be gathered from the groups. Even though the firms with higher level of entrepreneurial orientation uses benchmarking to a larger extent, the result show that the lower group uses benchmarking more frequently, from several aspects and with more people involved.

For the firms with high EO the competitors' actions ought to be of great importance but this is contradicted by our empirical data since they do not use benchmarking more actively. It is noticeable, though that when looking at the stated purposes with benchmarking, the higher group has stated "*provides an efficient business*" as an important purpose. This is consistent with Khandawalla's (1972) study, as he emphasises that in increased competition the use of formal management accounting systems are used extensively.

It can be argued that more entrepreneurially oriented firms are more competitive and look at competitors to a larger extent than firms with lower EO, when making decisions concerning the organisation, e.g. when developing new products. (Miller, 1983) Less entrepreneurial firms on the other hand are characterized by narrow product range and undertake less product or market development, therefore the purpose "*provides an efficient business*" should be more common for this group, as it can be argued that efficiency and administration is of great importance in firms that are less entrepreneurially oriented. (Brown et al., 2001)

## 4.6 Transfer pricing

This section presents the results related to transfer pricing.

### 4.6.1 Result of transfer pricing

This section presents the results related to transfer pricing. First the various types of transfer pricing are presented, secondly, the ranking of frequency of transfer pricing followed by the purpose of transfer pricing. Finally, the possible changes within the field are presented.

#### 4.6.1.1 Transfer pricing used

The respondents were asked to state types of transfer pricing used. Out of 13 respondents, 6 have stated that they use some sort of transfer pricing.

P: number of firms in respective group.

N: number of firms that use the specified types of transfer price.

S: share of firms that use the specified types of transfer price.

	Low level, P=5		High level, P=8	
	N	S	N	S
Cost based	0	0,0%	1	12,5%
Cost priced/ Self-costs	0	0,0%	0	0,0%
Cost priced/ Self-costs + overhead charge	1	20,0%	1	12,5%
Standard price	1	20,0%	1	12,5%
Market based price	1	20,0%	1	12,5%
Negotiation based price	0	0,0%	0	0,0%
Not used	2	40,0%	5	62,5%

TABLE 4.19 TYPE OF TRANSFER PRICING.

Transfer pricing is used, as indicated in Table 4.19 more or less to the same extent for both groups, when comparing the number of firms in their respective group that use respective transfer pricing. Expressed as a percentage, the Group Low shows a higher score of usage than Group High. For firms with higher EO, transfer pricing is though an instrument of management control that is not used within numerous more firms compared to the lower group.





#### 4.6.1.2 Ranking of frequency of transfer pricing

We asked the respondents to place and rank the transfer pricing used from 1 to 5 the five most frequent transfer pricing. 1 is the most frequent transfer pricing and 2 is the second most transfer pricing etc.

P: number of firms in respective group.

N: number of firms that have stated the specific transfer prices as one of the two most commonly used.

S: share of firms that have stated the specific transfer prices as one of the two most commonly used.

AV: average of the given order of precedence, the lower the more commonly used.

	Low level P=3			High leve, P=3		
	N	S	AV	N	S	AV
Cost based	0	0,0%	0	1	33,3%	1
Cost priced/ Self-costs	0	0,0%	0	0	0,0%	0
Cost priced/ Self-costs + overhead charge	1	33,3%	1	1	33,3%	1
Standard price	1	33,3%	1	1	33,3%	2
Market based price	1	33,3%	1	1	33,3%	1
Negotiation based price	0	0,0%	0	0	0,0%	0

TABLE 4.20 FREQUENCY IN TRANSFER PRICING.

The frequency of using respective transfer pricing is the same for both groups, apart from the fact that Group High use *cost based* transfer pricing, whereas Group Low do not.



#### 4.6.1.3 The purpose of transfer pricing

The respondents were asked to state the purpose of transfer pricing and to place and rank them from 1 to 4, where 1 is the most frequent transfer pricing and 2 is the second most transfer pricing etc.

P: number of firms in respective group.

N: number of firms that have stated the purpose as one of the three most important.

S: share of firms in respective group that has stated the purpose as one of the three most important.

AV: average of the given order of precedence, the lower the more important purpose.

	Low level, P=3			High level, P=3		
	N	S	AV	N	S	AV
Provides the basis of decision making	2	66,7%	1	1	66,7%	1
Motivate to businesslike manner	1	33,3%	1	1	33,3%	1
Motivate to cost awareness	1	66,7%	2	1	33,3%	0,5
Devide the company into autonomous units	0	0,0%	0	1	33,3%	1

TABLE 4.21 PURPOSE OF TRANSFER PRICING.

In Table 4.21 various purposes of using transfer pricing within each group is presented. The result indicate that all purposes are applicable to equal frequency to some firm within the group of high level of EO, where the purpose of *motivating to cost awareness* is the most important one. For the lower group, on the other hand, this is the purpose with the least importance. The highest frequency score for this group is found for the purpose of transfer pricing as the *basis of decision making*.

#### 4.6.1.4 Changes within the field of transfer pricing

No changes within the field of transfer pricing in the next five years were expressed by any respondent interviewed.

#### 4.6.2 Analysis of transfer pricing

The results concerning transfer pricing do not show large differences between the groups. One significant thing though is that transfer pricing is used to a larger extent by less entrepreneurial firms. This can also be concluded when bearing in mind that 2 out of 5 respondent in the low group stated that they do not have intrastate commerce, while in the high group 5 out of 8 stated not having intrastate commerce. This may have its foundation in that firms with lower EO can be considered to be more formal with clearer separation between



the division units. For the results concerning the purposes with transfer pricing, the same pattern as by the other control instruments can be seen. The purposes with different control instruments seem not to differ between firms with lower level of EO and higher level of EO.

## ***4.7 Incentives programs***

### **4.7.1 Result incentives programs**

This section presents the results related to incentives programs. First the various incentives programs used and their frequency are shown, secondly, the purpose, third, the foundation whereupon rewards are based and fourth the receivers of incentives programs is shown. The section concludes with a part of possible changes within the field in the future.

#### 4.7.1.1 Incentives programs used

The respondents were asked to state which type of incentives programs they use.

P: number of firms in respective group.

N: number of firms that use the specified types of incentives programs.

S: share of companies that use the specified types of incentives programs.

	Low level, P=5		High level, P=8	
	N	S	N	S
<b>Monetary rewards:</b>				
Wage	5	100,0%	8	100,0%
Bonus	4	80,0%	6	75,0%
Retirement income	0	0,0%	1	12,5%
Profit share	2	40,0%	2	25,0%
Share	0	0,0%	0	0,0%
Convertible promissory note	0	0,0%	0	0,0%
Option	1	20,0%	1	12,5%
Benefits	2	40,0%	1	12,5%
<b>Non-monetary rewards:</b>				
Gratuity	1	20,0%	0	0,0%
career opportunities	1	20,0%	2	25,0%
Several job assignments	0	0,0%	1	12,5%
Job rotation	0	0,0%	2	25,0%
competence development	1	20,0%	4	50,0%
Promotion	1	20,0%	5	62,5%

TABLE4.22 TYPE OF INCENTIVES PROGRAM.

The result concerning usage of incentives programs by firms interviewed gives an indication that type of monetary rewards is used evenly independent on level of EO. There is though a slightly higher frequency of using monetary rewards in the low group and the reverse situation concerning non-monetary rewards. The non-monetary rewards are used to a larger extent within firms with higher level of EO, where promotion is the most common non-monetary reward. Monetary rewards such as *wage* and *bonus* are used with more or less the same frequency by both groups.



#### 4.7.1.2 The purpose of incentives programs

The respondents were asked to state the purpose of incentives programs and to place and rank them from 1 to 4, where 1 is the most frequent incentives programs and 2 is the second most incentives programs etc.

P: number of firms in respective group.

N: number of firms that have stated the purpose as one of the three most important.

S: share of firms that have stated the purpose as one of the three most important.

AV: average of the given order of precedence, the lower the more important purpose.

	Low level, P=5			High level, P=8		
	N	S	AV	N	S	AV
Motivate to desirable performances	5	100,0%	1,00	8	100,0%	1,00
Keep personnel	2	40,0%	3,50	5	62,5%	2,00
Recruit personnel	2	40,0%	3,00	3	37,5%	3,00
Business management	3	60,0%	1,33	2	25,0%	2,00

TABLE 4.23 PURPOSE OF INCENTIVES PROGRAMS.

The primary purpose of using incentives programs, which has the highest score of importance and frequency, within all firms is to *motivate to desirable performances*. For the lower level, *business management* serve as a purpose with the second largest frequency as well as the purpose with the second largest importance. *Keeping personnel* has the second largest score of frequency for the higher group.



### 4.7.1.3 Foundation of incentives programs

The respondents were asked to state which financial measures are used as the main foundation of incentives programs and on which ground these measures are based on.

P: number of firms in respective group.

N: number of firms that have stated the specified foundations of incentives programs.

S: share of firms that have stated the specified foundations of incentives programs.

	Low level, P=5		High level, P=8	
	N	S	N	S
Financial measures	5	100,0%	8	100,0%
Non-financial measures	0	0,0%	2	25,0%
Individual ground	3	60,0%	8	100,0%
Group based	0	0,0%	0	0,0%
Profit center	2	40,0%	3	37,5%

TABLE 4.24 FOUNDATION OF INCENTIVES PROGRAMS.

Table 4.24 reveal that financial measures are the main foundation of incentives programs for both groups. Two firms, which amount to 25%, with high level of EO use *non-financial* measures as well, whereas no firms with low level of EO use these measures. Furthermore, Table 4.24 indicate that all firms with high level of EO base the reward on an *individual ground*, where 37,5% out of these firms combine *individual ground* with foundation of rewards on *profit centers*. Firms with low level of EO almost equally found their rewards upon *individual ground* or upon *profit centers*.



#### 4.7.1.4 Receivers of incentives programs

The respondents were asked to state the receivers of the incentives programs.

P: number of firms in respective group.

N: number of firms that have stated the specified receivers of rewards.

S: share of firms that have stated the specified receivers of rewards.

	Low level, P=5		High level, P=8	
	N	S	N	S
Managing director	5	100,0%	8	100,0%
Managers	5	100,0%	8	100,0%
Groups/Departments	1	20,0%	2	25,0%
Individuals/Employees	3	60,0%	7	87,5%

TABLE 4.25 RECEIVERS OF REWARD.

The receivers of rewards, in accordance with Table 4.25, are in a greater or less degree the same for both groups. No distinct differences can be seen.

#### 4.7.1.5 Changes within the field of incentive programs

When asked about possible changes within the field of incentives programs in the next five years, firms from the higher group expressed a thought of future incentives programs, which include more people as receivers. E.g. all of the employees will receive a share of the firms' profits. Also profit wages will be introduced.

#### 4.7.2 Analysis of incentives programs

The result concerning incentive programs support the earlier stated conclusion that firms with higher level of EO in a slightly larger extent use *non-financial* control. Subjective performance evaluation is more appropriate for firms following a more entrepreneurial orientation, which goes hand in hand with the result found about performance measurements where entrepreneurial oriented firms emphasise *non-financial* measures to a higher level. (Simon, 1978a; Govindarajan, 1988; Gupta, 1987; Porter, 1980).

This may also be seen when looking at the foundation of incentive programs where firms with higher EO tend to in a larger extent have *non-financial* measurements as foundation for



incentive programs. The foundation is to a large extent, in firms with higher EO, based on *individual grounds*.

## 4.8 Organisational structure

### 4.8.1 Result organisational structure

This section presents the results related to organizational structure. The first part shows the use of organisational structure and the second part shows economical distribution of responsibility within the firms.

#### 4.8.1.1 Organisational structure used

There are several different organisational structures. We asked the respondents to state organisational structure used by the firm.

P: number of firms in respective group.

N: number of firms that have stated the specified types of organisational structure.

S: share of firms that have stated the specified types of organisational structure.

	Low level, P=5		High level, P=8	
	N	S	N	S
Operating structure	5	100,0%	4	50,0%
Divisional structure	0	0,00%	1	12,5%
Flow structure	0	0,00%	0	0,0%
Matrix structure	0	0,00%	3	37,5%
Customer oriented structure	0	0,00%	0	0,0%

TABLE 4.26 ORGANISATIONAL STRUCTURE USED.

When looking at the Table 4.26 one can easily see that all the firms within the lower group have an *operating* organisational structure, while firms with higher EO tend to use somewhat different organisational structures. *Flow structure* and customer oriented structure are not used by any firm in any group.





#### 4.8.1.2 Economical distribution of responsibility

There are different ways of distributing economical responsibility within a firm. It can be done through using different units and levels of responsibility. We asked the respondents to state which economical distribution of responsibility they use.

P: number of firms in respective group.

N: number of firms that have stated the specified types of responsibility divisions.

S: share of firms that have stated the specified types of responsibility divisions.

	Low level, P=5		High level, P=8	
	N	S	N	S
Investment center	4	80,0%	6	75,0%
Profit center	4	80,0%	4	50,0%
Cost center	2	40,0%	5	62,5%
Revenue center	2	40,0%	3	37,5%
Contribution center	1	20,0%	0	0,0%
Engineerd expense center	0	0,0%	0	0,0%
Not used	1	20,0%	2	25,0%

TABLE 4.27 TYPE OF RESPONSIBILITY DIVISIONS.

From Table 4.27 it can be seen that both groups use the same kind of economical distribution, except from firms with higher EO, where no firm has stated that they use *contribution centers*. Otherwise, no major difference exists between the groups, except from the fact that *cost centers* have a higher frequency within the group of firms with higher EO.

#### 4.8.1.3 Changes within the field of organisational structure

The respondents all stated that there were no plans for organisational changes for the next five years.

#### 4.8.2 Analysis of organisational structure

What may be concluded within the field of organisational structure concerns the type of organisational structure for different firms. Firms with higher level of EO tend to embrace different types of organisational structure to a higher level. Intense product competition may require complex organisational forms, which may explain the fact mentioned above. (Langfield-Smith, 1997) On the other hand, firms with lower EO tend to prefer *operating structure*, where the units are clearly separated. This is a logical consequence of their efforts to achieve a tighter control.



## 4.9 New models within the field of management accounting

### 4.9.1 Result new models within the field of management accounting

In this section the usage of new models within the field of management accounting is presented. The chosen models examined by the questionnaire are balanced score card, value based management accounting and intellectual capital. For each model the knowledge about it, the implementation of or intention of implementation it within five years have been investigated.

#### 4.9.1.1 *Balanced Scorecard*

The respondents were asked to state their knowledge of the *Balanced Scorecard* and their intentions to implement it.

P: number of firms in respective group.

N: number of firms that have stated knowledge about the model.

S: share of firms that have stated knowledge about the model.

	Low level, P=5		High level, P=8	
	N	S	N	S
Yes	4	80,0%	8	100,0%
No	1	20,0%	0	0,0%

TABLE 4.28 KNOWLEDGE ABOUT BALANCED SCORE CARD

The knowledge about *Balanced Scorecard* is high. All firms interviewed, but one in the low group, stated that they have knowledge about the balanced score card.



P: number of firms in respective group.

N: number of firms that have stated that they have implemented the model.

S: share of firms that have stated that they have implemented the model.

	Low level, P=4		Low level, P=8	
	N	S	N	S
Yes	0	0,0%	1	12,5%
No	4	100,0%	7	87,5%

TABLE 4.29 IMPLEMENTATION OF BALANCED SCORE CARD

The number of firms that have implemented balanced score card into the firm is low. The Table 4.29 above shows that only one firm in the group of firms with higher level of EO has implemented *Balanced Scorecard* and no firm from the lower group.

P: number of firms in respective group.

N: number of firms that have stated that they have intention to implement the model.

S: share of firms that have stated that they have intention to implement the model.

	Low level, P=4		High level, P=7	
	N	S	N	S
Yes	0	0,0%	2	28,6%
No	4	100,0%	5	71,4%

TABLE 4.30 INTENTION OF IMPLEMENTING BALANCED SCORE CARD WITHIN FIVE YEARS

Out of the firms that stated that they have not implemented balanced score card into the firm, 28,6 per cent from the higher group intend to do so within five years, whereas none of the firms from the lower group has the intention of implementing balanced score card into the firm within five years.



#### 4.9.1.2 Value based management accounting

The respondents were asked to state their knowledge about *value based* management accounting and their intention to implement it.

P: number of firms in respective group.

N: number of firms that have stated knowledge about the model.

S: share of firms that have stated knowledge about the model.

	Low level, N=5		High level, N=8	
	N	S	N	S
Yes	3	60,0%	4	50,0%
No	2	40,0%	4	50,0%

TABLE 4.31 KNOWLEDGE ABOUT VALUE BASED MANAGEMENT ACCOUNTING

Independently the level of EO knowledge about *value based* management accounting is more or less the same by the firms. The result shows no greater indication of differences between the groups.

P: number of firms in respective group.

N: number of firms that have stated that they have implemented the model.

S: share of firms that have stated that they have implemented the model.

	Low level, N=3		High level, N=4	
	N	S	N	S
Yes	1	33,3%	1	25,0%
No	2	66,7%	3	75,0%

TABLE 4.32 IMPLEMENTATION OF VALUE BASED MANAGEMENT ACCOUNTING

Table 4.32 show the result concerning which firms, out of the ones with knowledge about *value based* management accounting, have implemented it. Most firms have decided not to implement *value based* management accounting. The Table 4.32 show that only one firm from each group have done so.



P: number of firms in respective group.

N: number of firms that have stated that they have intention to implement the model.

S: share of firms that have stated that they have intention to implement the model.

	Low level, P=2		High level, P=3	
	N	S	N	S
Yes	0	0,0%	0	0,0%
No	2	100,0%	3	100,0%

TABLE 4.33 INTENTION OF IMPLEMENTING VALUE BASED MANAGEMENT ACCOUNTING WITHIN FIVE YEARS

The firms within both groups, which have not implemented *value based* management accounting, have no intention to implement it within five years period of time.

#### 4.9.1.3 Intellectual capital

The respondents were asked to state their knowledge about *intellectual capital* and their intention to implement it.

P: number of firms in respective group.

N: number of firms that have stated knowledge about the model.

S: share of firms that have stated knowledge about the model.

	Low level, P=5		High level, P=8	
	N	S	N	S
Yes	3	60,0%	5	62,5%
No	2	40,0%	3	37,5%

TABLE 4.34 KNOWLEDGE ABOUT INTELLECTUAL CAPITAL

Knowledge about *intellectual capital* lies around 60 per cent for both groups, which can be seen in Table 4.34.



P: number of firms in respective group.

N: number of firms that have stated that they have implemented the model.

S: share of firms that have stated that they have implemented the model.

	Low level, P=3		High level, P=5	
	N	S	N	S
Yes	0	0,0%	0	0,0%
No	3	100,0%	5	100,0%

TABLE 4.35 IMPLEMENTATION OF INTELLECTUAL CAPITAL

The table above indicate that none of the firms in neither of the groups, that stated knowledge about *intellectual capital*, has implemented it into the firm.

P: number of firms in respective group.

N: number of firms that have stated that they have intention to implement the model.

S: share of firms that have stated that they have intention to implement the model.

	Low level, P=3		High level, P=5	
	N	S	N	S
Yes	0	0,0%	3	60,0%
No	3	100,0%	2	40,0%

TABLE 4.36 INTENTION OF IMPLEMENTING INTELLECTUAL CAPITAL WITHIN FIVE YEARS

This table indicates that firms with a lower level of EO, which has knowledge about *intellectual capital*, but has not implemented it, have no intention to implement it within five years either. Firms with higher level of EO, on the other hand, with the same starting point show a greater willingness to implement *intellectual capital* within five years. 60 per cent of them have an intention of implementation shortly.

#### 4.9.2 Analysis of the usage of new models

The firms with higher EO have a higher tendency of having the intention to implement new models of management accounting systems into the firm, which is indicated for *Balanced Scorecard* and *intellectual capital*. This could have its basis in that these firms additionally tend to have an increased interest for non-financial control, and therefore have a higher need for management accounting systems, which also take non-financial factors into account.



## **4.10 Formal/informal management accounting**

### **4.10.1 Results formal/ informal management accounting**

This section presents the results related to *formal* and *informal* management accounting.

The respondents were asked to make a standpoint for 30 different statements on a scale from 1 to 10. These answers determine the level of *formal* respective *informal* use of management accounting for each firm, (See appendix 3). For every firm an average value has been calculated based on the 30 statements, which has been plotted in two different charts; one for firms with lower EO and one for firms with higher EO. These charts indicate the direction of level of *informal* use of management accounting for each group, which is presented below.

Further, a total average value for the firms within each group, have been calculated in order to see if there is a tendency towards a certain direction within each group. The result from this discussion is finally compared with a combined calculated total average value of all firms from both groups in order to see if the directions within each group remain for the total population.

#### **4.10.1.1 Level of informal management accounting in firms with lower EO**

The Figure 4.2 shows that a majority of firms with lower level of EO are clustered underneath the calculated total average value of 5,3 for the group, with an exception of one firm, which has an average value of 6,76. This concludes that firms with lower EO are less *informal* and therefore their use of management accounting can be characterized as *formal*.

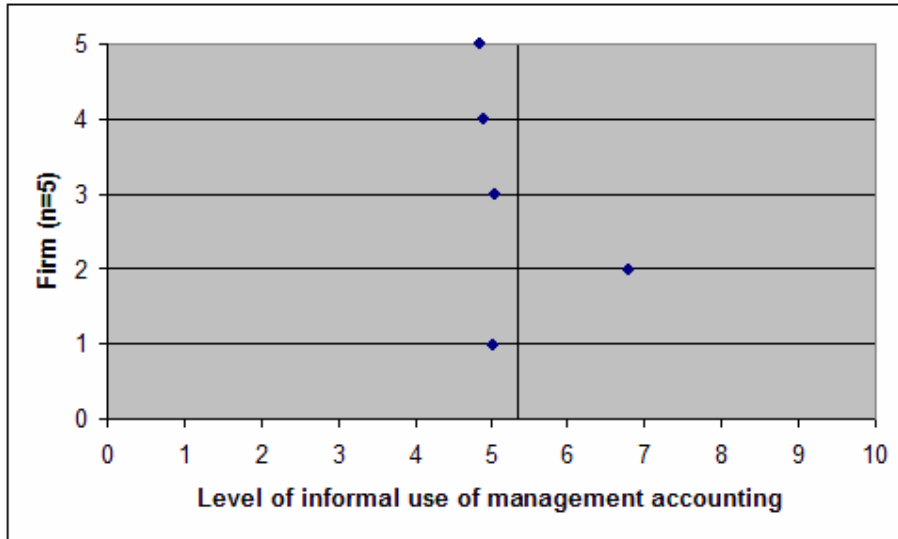


FIGURE 4.37 INFORMAL USE OF MANAGEMENT ACCOUNTING, LOW LEVEL

#### 4.10.1.2 Informal use of management accounting in firms with higher EO

In Figure 4.3 the level of *informal* use of management accounting for the group of higher level of EO is displayed. The figure shows that the plotted firms are mainly clustered above the total average value of 5,84 for the group (from 5,86 to 6,96), except from three firms which have an average value from 4,96 to 5,46. This concludes that firms with higher EO are more *informal* and therefore their use of management accounting can be characterized as *informal*.

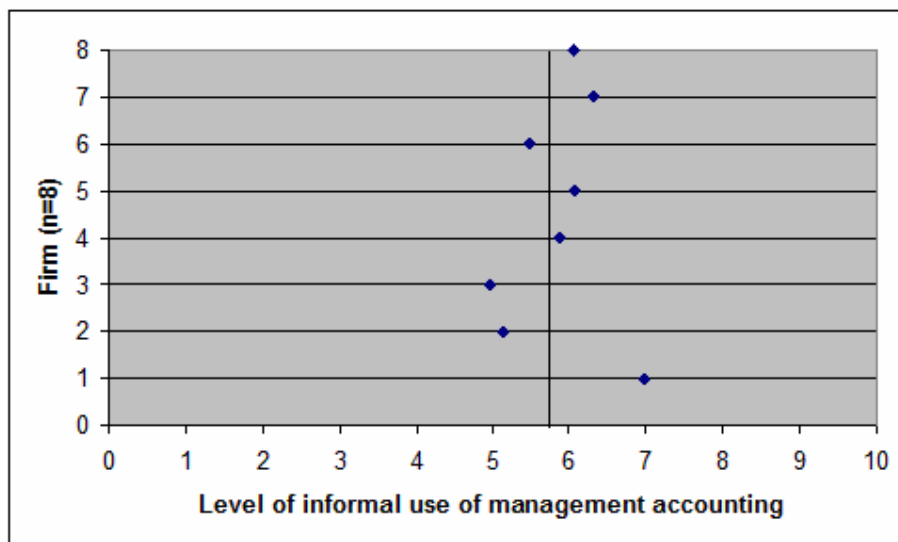


FIGURE 4.38 INFORMAL USE OF MANAGEMENT ACCOUNTING, HIGH LEVEL





To sum up, the combined total average value of all firms from both groups is 5,64. Knowing this fact, all firms that lie underneath this average value are classified as *formal* and all the firms that are situated above are classified as *informal*. This indicates that firms with higher EO tend to be more *informal* than the other group. (See appendix 3)

#### **4.10.2 Analysis of formal/informal management accounting**

The results indicate that firms characterised as more entrepreneurially oriented tend to some extent use *informal* instruments of control more than firms with a less entrepreneurially oriented strategy. This should not be surprising since we have already concluded that the firms with higher EO do not rely as heavily on budgets and financial data as do the firms with lower EO. Because of this some other means of control must be used and the *informal* instruments of control are apparent alternatives. Also, *informal* control might be more suitable in an entrepreneurial environment that is aiming to stimulate innovation and creativity.

### **4.11 Diagnostic/interactive use of management accounting**

#### **4.11.1 Result diagnostic/interactive use of management accounting**

This section presents the results related to the *diagnostic/interactive* use of management accounting.

The respondents were asked to make a standpoint for four different statements on a scale from 1 to 10. These answers determine the level of *diagnostic* respective *interactive* use of management accounting for each firm. In addition to that, results from the sections dealing with budget and product calculation and the frequency as well as the users of these instruments, serve as a determinant of *diagnostic* or *interactive* management accounting within firms.

##### **4.11.1.1 Diagnostic use of management accounting in firms with lower EO**

The figure displayed below shows the level of diagnostic use of management accounting within firms with lower level of EO. A total average value within this group is calculated 4,45. Three out of five firms are clustered underneath this total average and two firms have an average that exceeds the total average. This concludes that firms with lower EO use management accounting more *interactively*.

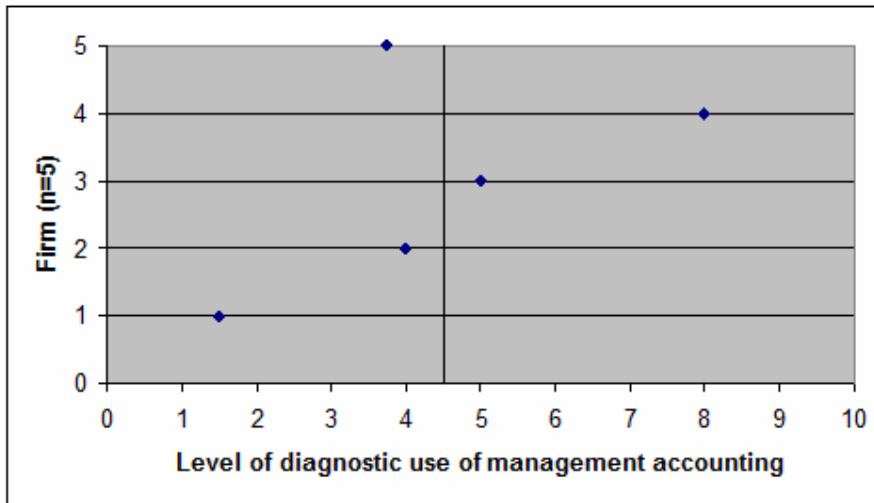


FIGURE 4.4 DIAGNOSTIC USE OF MANAGEMENT ACCOUNTING, LOW LEVEL

#### 4.11.1.2 Diagnostic use of management accounting in firms with higher EO

In Figure 4.4 the firms with a higher level of EO are plotted. The total average for the group is calculated 5,28. There appear to be a cluster of firms (ranging from 5,5 to 8,25) in the figure above this total average. Three out of eight firms have a lower average (1,25 to 3,25). This concludes that firms with higher EO use management accounting more *diagnostically*.

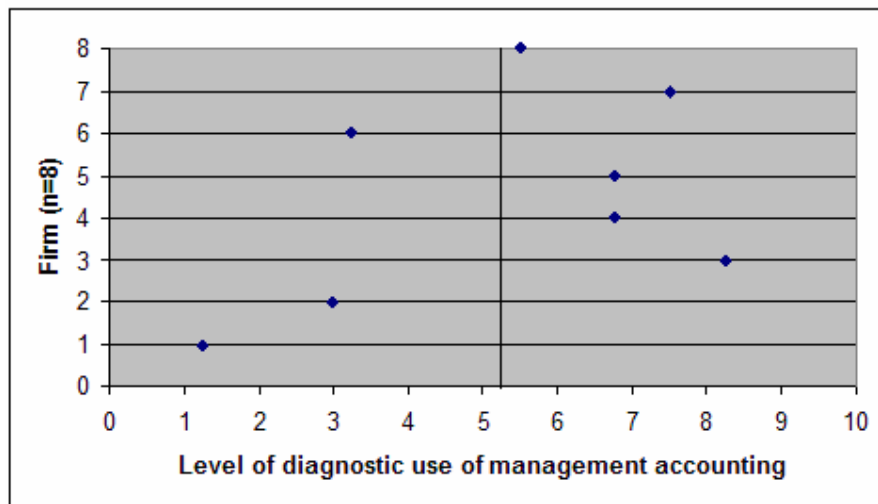


FIGURE 4.5 DIAGNOSTIC USE OF MANAGEMENT ACCOUNTING, HIGH LEVEL

To sum up, the combined total average value of all firms from both groups is 4,96. Knowing this fact, all firms that lie underneath this average value are classified as *interactive* and all the



firms that are situated above are classified as *diagnostic*. This indicates that firms with higher EO tend to be more *diagnostic* than the other group. (See appendix 3)

#### **4.11.2 Analysis of diagnostic/interactive use of management accounting**

The Figures 4.4 and 4.5 show that the degree of *diagnostic* use is widely spread for firms in both groups. Although, the results show that firms with higher entrepreneurial orientation tend to use management accounting slightly more *diagnostically*.

This is however contradictory to the results concerning users of budgeting (see section 4.2.1.4). This shows that firms with higher EO, to a higher extent than the other group, have stated the operating level as users of the different budgets. Consequently, these firms tend to be more *interactive* in their usage of budgeting. The result further shows that the major part of the budgets, for which the operating level is stated as user, are with clear connection to the operating level's assignment. Conspicuous, regarding the result related to purposes with budgeting is though, that none of the firms with higher EO have stated "*communication within the company*" as purpose. This is contradictory to the former result concerning budgeting which have given the picture that firms with higher EO use their budget more *interactive*.

A connection can be seen between firms with higher EO and increasing *interactive* use of budgeting as an instrument of control but the link is very weak due to the, above mentioned, widespread results. This corresponds with Simon's (1991) conclusion that top managers use selected instruments *interactively* within organisational units that are found important where attention and learning should be focused.

When looking at the result regarding users of product calculation one can state that there are no distinct differences between firms with higher EO and lower EO. Both groups seem to have fairly *interactive* use of product calculation. This also corresponds with Simon's (1991) conclusion mentioned above, as product calculation for firms with both higher EO and lower EO use different types of product calculations to a great large extent.



## 5 OVERALL ANALYSIS

It is clearly indicated that firms which have a lower entrepreneurial orientation are characterised by tight management accounting control, where the use of budgets and product calculations that are internally oriented characterised as being of follow up kind.

On the other hand, firms characterised as being more entrepreneurially oriented, have a looser form of management accounting where budgets are more flexible and more frequently set up and the frequently used product calculation is externally oriented. This can be seen as a consequence that a more entrepreneurially oriented firm is “...one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with ‘proactive’ innovations, beating competitors to the punch” (Miller, 1982, p. 771). As this thesis focus on entrepreneurial orientation, where the entrepreneurial process has put the key on *the examination of how, by whom, with what effects opportunities to create future goods and services are discovered, evaluated, and exploited* (Venkataraman & Shane, 2001; Venkataraman, 1997), one can argue that in order to do so it is essential that those firms that are more entrepreneurially oriented encourage innovation, creativity etc. For this to be possible it is important to suit the management accounting system to support the strategy of the firm.

In the field of benchmarking some significant differences can be gathered from the groups. The results show that the lower group uses benchmarking more actively, from more aspects and with more people involved. For the higher level, on the other hand, benchmarking is more internally oriented. This could also be seen when looking at the stated purposes with benchmarking, where the higher group has stated “*provides an efficient business*” as an important purpose. This could be argued to be inconsistent with earlier studies as it can be argued that more entrepreneurially oriented firms are more competitive and look at competitors to a larger extent than firms with lower EO, when taking decisions concerning the organisation, e.g. when developing new products. Less entrepreneurial firms on the other hand are characterized by narrow product range and undertake less product or market development, therefore the purpose “*provides an efficient business*” should be more common for this group which would be more consistent with earlier studies (Brown et al., 2001).



Firms with lower EO often display an internal orientation and stress the importance of financial instruments. The empirical data shows, for example, that firms with low EO tend to emphasize transfer pricing more heavily than do firms with high EO.

As the firms with lower EO tend to be internally oriented, one can argue that cost minimisation and efficiency is more important in these firms than in firms with higher EO. This also supports the results concerning product calculation where it is stated that cost control is more frequent in firms with lower EO, also consistent with earlier studies (Simon, 1987; Abernethy and Guthrie, 1994; Govindarajan, 1988). This also applies to the use of financial performance measurements, in the lower EO cluster, which is of a greater extent than the use of non-financial measurements. When monitoring performance in firms that are internally oriented, where cost control is found to be important, financial information is more appropriate, which is consistent with earlier researches (Abernethy and Guthrie, 1994). Performance measurement in the firms with higher EO seems to be evenly distributed between financial and non-financial methods. They tend to put emphasis on their sales and revenues which is to be expected from entrepreneurial firms.

When it comes to incentive programs firms with higher EO tend to, to a larger extent, have non-financial measurements as foundation for incentive programs. This goes hand in hand with the findings from the analysis of performance measurements and the causality should be the same. In addition, there is an indication that firms with higher EO tend to use informal instruments of control slightly more, but the difference is almost non-existent.

According to the empirical data, the higher the score on the entrepreneurial scale the higher the tendency to implement and use new models of management accounting. This is most likely due to their more outspoken reliance on non-financial instruments of control and consequently, the increased importance of management accounting in more entrepreneurial firms.

The link between entrepreneurial orientation and whether management has a diagnostic or interactive approach to management accounting seems to be weak but existing. The empirical



data show that firms with a higher level of EO more often take an interactive approach and this coherent with previous research.



## 6 CONCLUSIONS AND REFLECTIONS

As mentioned in Chapter One, the purpose of the study can be concretized with the following statements:

- *To explore the parts of the management accounting system that is used in general in organisations with different levels of entrepreneurial orientation.*
- *To explore if there is a connection between a firm's level of entrepreneurial orientation and its management accounting.*

This thesis started off on the assumption that there existed a knowledge-gap in the field of entrepreneurship and its relationship to management accounting. What do we know now that was not already known? This is not an easy question to answer since most of our findings are inconclusive and vague. However, we do believe that some tendencies can be noted and maybe they would have appeared more clearly had this study been even more extensive. As already pointed out, an even more extensive study would not have been feasible given the scope of time and access to resources. In fact, it might even be the case that the study at hand was too extensive in it self given the same conditions. Despite the vagueness of the above mentioned, tendencies we find that the image portrayed by our analysis is that there is a difference between different levels of entrepreneurial orientation and how the design and use of management accounting systems is constructed.

In general, the differences lie in three main categories: formal or informal control, internal or external orientation and financial or non-financial grounds for decision-making. Basically, when summed up it can be stated that a lower entrepreneurial profile coincides with a heavier reliance on formal control whereas a higher such profile implies an equally heavier reliance on informal control. Looking at the financial and non-financial aspects the conclusions are a little bit more ambiguous but it appears as if firms with a lower score on the entrepreneurial scale tend to support a larger proportion of their decisions with financial information. Firms at the other end of the entrepreneurial scale base more decisions on non-financial information but they also rely on financial information a lot. The ambiguity clears somewhat when



reviewing the directions of their orientations. The firms with higher EO obviously have an external orientation and therefore it appears logical that they should also consider more non-financial information in their decision-making processes but since they are so busy trying to exploit new markets and ideas they have to beware of their financial status. The group of firms with lower EO clearly has an internal orientation and this is also coherent with their view on essential information when making decisions. An internally oriented firm is, naturally, more concerned with financial information since they are so focused on internal efficiency.

Since earlier research findings are inconsistent, not all of our empirical results can be compared and supported by earlier researchers. Nevertheless, our results can be construed as being unique since no previous research has been done using the same methods and point of departure as ours. Thus it should be no concern of ours that we cannot back up our claims with previous findings. This being said, we do believe that there is a real need for more, and deeper, studying of this thesis subject and consequently there are some recommendations for future research below.

### ***6.1 Evaluation of the study***

Earlier studies done within this field have used primitive instruments for measuring strategic orientation in firms. Brown et al., (2001) instrument has not been evaluated by other researchers yet, though it is indicated that the instrument measure entrepreneurial orientation in a better way. Therefore, it should also be indicated that our findings are more valid than previous studies.

As stated in Chapter One, earlier research have mainly concentrated on formal instrument of control and the fact that this study also has included informal instruments of control implies a higher level of reliability. Although it should be noted that this extended scope of the survey means that the various instruments were treated to a lesser extent than would have been the case if fewer instrument were included in the study.

Also, as mentioned above it is hard to draw a general conclusion in this thesis as the aim of this study is not to reach an acceptable level of statistical inference but to address the research





problem. With the limited resources at hand we therefore concentrated on reaching a high level of quality on the empirical data.

## ***6.2 Suggestions for future research***

The reader may have noted some possibilities for future research when reading through the previous sections. We will in this section give some suggestions for conceivable directions and aims, which we hope will encourage to further researches, which will increase the knowledge concerning the connection between entrepreneurial orientation and management accounting.

Since this study is the first using the improved instrument of measuring entrepreneurial orientation more research is necessary to further utilize and evaluate the instrument. Since entrepreneurial orientation in earlier studies has been measured with focus on different dimensions the answers have been inconsistent. With this instrument hopefully researches, across different types of firms, in industries of different maturity, technology and market structure can be made, which will be possible to compare.

Since this study is not made with a statistically chosen population, a recommendation for further research is to make a similar study but with a larger population, which would make the results better statistically secured.

Although we have in this study also concluded the informal instruments of control when looking at the connection between management accounting and entrepreneurial orientation more research is needed. Therefore, an aim for further research could be to focus either on fewer informal or formal instruments of control and see if a connection between design and use of instruments of management accounting and level of entrepreneurial orientation could be found.

The focus on management accounting as a process has increased. Therefore it could be interesting to see how management accounting works within the process of exploitation and



exploration of new products. A longitude research with qualitative interviews would provide a picture of this process.

To further improve the study of entrepreneurship, it would be interesting to see if the differences concerning the design and use of management accounting control, between firms with higher respective lower level of entrepreneurial orientation, also have an influence on the performances in the firms. Could a connection between level of entrepreneurial orientation and profit be seen?



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## Appendix 1 – TRANSLATION OF THE COVER LETTER AND THE SURVEY QUESTIONNAIRE



School of Business  
Economics and Law  
GÖTEBORG UNIVERSITY

Gothenburg 2005-12-07

### **Is there a connection between a firm's entrepreneurial spirit and its management accounting? – a survey**

Thank you very much for taking part in this survey!

With reference to our telephone conversation, the questionnaire that will be discussed in the upcoming telephone interview is attached.

We are at present writing our Bachelor thesis about strategical and operational management accounting at Gotheburg School of Business Economics and Law. With supervision from Johan Dergård we are doing a research to see if there is a connection between a firm's entrepreneurial orientation and its management accounting.

The firm, where you are working, has been selected together with 14 other firms from the database AffärsData's register to take part in this research. The chosen firms are all middle sized firms in. In this research (and selection) no other firm can be selected instead of the one where You are working. Your participation is therefore very important for the result of this research.

The interview questionnaire consists of two parts. The first part treats the firm's emphasis on entrepreneurial orientation, while the second part treats management accounting. We would be very grateful if You prepare yourself for the interview by reading through the questions and looking up the information you may need in order to answer our questions successfully. You do not need to fill in the questionnaire yourself. That will be taken care of by us during the telephone interview, which will take approximately 20-30 minutes. The major part of the questionnaire has a multiple choice character, while the other part consist of questions with a scale where You pick the number which best represents the view of the firm. In a few cases we would like You to write a short answer.

We guarantee You and Your firm full anonymity and secrecy in this research. An anonymity and secrecy obligation is attached to assure You of this.

We are very grateful for Your time and cooperation and if You would like to, we will of course send you a copy of the finished thesis by e-mail.

Kind regards,

Katarina Boberg

Monika Nowak

Annika Olsson

0733-42 08 38

0704-93 34 74

0709-31 44 50



Gothenburg 2005-12-07

### **Anonymity and secrecy obligation**

**Questionnaire survey:** Entrepreneurial spirit and management accounting

**Supervisor:** Johan Dergård

**Writers:** Katarina Boberg, Monika Nowak och Annika Olsson

**This obligation concerns answers to the questions in the questionnaire as well as answers given during the telephone interview.**

This is to certify:

- that the answers that You have given will not be handed out, sold or be used in any other context.
- that Your participation in this questionnaire survey will not be known for anyone else but the responsible for the project and the writers.
- that the answers that You have given will be shown in aggregated form in the thesis, that is Your answers will be summed up together with the answers from all the other participators of the questionnaire survey.
- that Your answers to the questionnaire and the lists with all the participants in the survey will be kept apart from each other in a way that ensures confidentiality.
- that Your answers to the questionnaire will be destroyed when the research is finished.

Katarina Boberg

Monika Nowak

Annika Olsson



## Section 1 – General questions

Company name: \_\_\_\_\_  
 Position within the company: \_\_\_\_\_  
 Number of employees: \_\_\_\_\_  
 Year of establishment: \_\_\_\_\_

### PART 1

#### Section 2 – Model for stating a firm’s strategic direction

This measuring instrument is a development of Stevenson’s view of a number of dimensions within the management accounting of a firm, which have a significant importance in defining the strategy of an organisation. The measuring instrument is developed by T. E Brown, P. Davidsson and J. Wiklund.

1. As we define our strategies, our major concern is how to best utilize the resources we control.	1 2 3 4 5 6 7 8 9 10	As we define our strategies, we are driven by our perception of opportunity. We are not constrained by the resources at (or not at) hand.
2. We limit the opportunities we pursue on the basis of our current resources.	1 2 3 4 5 6 7 8 9 10	Our fundamental task is to pursue opportunities we perceive as valuable and then to acquire the resources to exploit them.
3. The resources we have significantly influence our business strategies.	1 2 3 4 5 6 7 8 9 10	Opportunities control our business strategies.
4. Since we do not need resources to commence the pursuit of an opportunity, our commitment of resources may be in stages.	1 2 3 4 5 6 7 8 9 10	Since our objective is to use our resources, we will usually invest heavily and rapidly.
5. All we need from resources is the ability to use it.	1 2 3 4 5 6 7 8 9 10	We prefer to totally control and own the resources we use.
6. We like to employ resources that we borrow or rent.	1 2 3 4 5 6 7 8 9 10	We prefer to only use our own resources in our ventures.
7. In exploiting opportunities, having the idea is more important than just having the money.	1 2 3 4 5 6 7 8 9 10	In exploiting opportunities, access to money is more important than just having the idea.
8. We prefer tight control of funds and operations by means of sophisticated control and information systems.	1 2 3 4 5 6 7 8 9 10	We prefer loose, informal control. There is a dependence on informal relations.
9. We strongly emphasize getting things done by following formal processes and procedures.	1 2 3 4 5 6 7 8 9 10	We strongly emphasize getting things done even if this means disregarding formal procedure.



10. We strongly emphasize getting things done by following formal processes and procedures.	1 2 3 4 5 6 7 8 9 10	We strongly emphasize adapting freely to changing circumstances without much concern for past practices.
11. There is a strong insistence on a uniform management style throughout the firm.	1 2 3 4 5 6 7 8 9 10	Managers' operating styles are allowed to range freely from very formal to very informal.
12. There is a strong emphasis on getting line staff personnel to adhere closely to their formal job descriptions.	1 2 3 4 5 6 7 8 9 10	There is a strong tendency to let the requirements of the situation and the personality of the individual dictate proper job behaviour.
13. Our employees are evaluated and compensated based on their responsibilities.	1 2 3 4 5 6 7 8 9 10	Our employees are evaluated and compensated based on the value they add to the firm.
14. Our employees are usually rewarded by promotion and annual raises.	1 2 3 4 5 6 7 8 9 10	We try to compensate our employees by devising ways so they can benefit from the increased value of the firm.
15. An employee's standing is based on the amount of responsibility he/she has.	1 2 3 4 5 6 7 8 9 10	An employee's standing is based on the value he/she adds.
16. It is generally known throughout the firm that growth is our top objective.	1 2 3 4 5 6 7 8 9 10	Growth is not necessarily our top objective. Long term survival may be at least as important.
17. It is generally known throughout the firm that our intention is to grow as big and as fast as possible.	1 2 3 4 5 6 7 8 9 10	It is generally known throughout the firm that steady and sure growth is the best way to expand.
18. We have many more promising ideas than we have time and the resources to pursue.	1 2 3 4 5 6 7 8 9 10	We find it difficult to find a sufficient number of promising ideas to utilize all our resources.
19. Changes in the society-at-large often give us ideas for new products and services.	1 2 3 4 5 6 7 8 9 10	Changes in the society-at-large seldom lead to commercially promising ideas for our firm.
20. We never experience a lack of ideas that we can convert into profitable products/services.	1 2 3 4 5 6 7 8 9 10	It is difficult for our firm to find ideas that can be converted into profitable products/services.



## PART 2

### Section 3 – Budgeting

A budget is a prognosis of the future. Budgeting is a means of assistance in order to guide the work towards goal set up and see to that they are fulfilled.

#### 1. Do you use budgeting?

- Yes
- No

#### 2. Specify the type of budget set up by the firm. More than one answer can be marked.

##### Main budgets

- Profit budget
- Cash budget
- Budgeted statement of assets and liabilities

##### Partial budgets

- Purchase budget
- Stock budget
- Production budget
- Investment budget
- Sales budget
- Administration budget
- Marketing budget
- Research and development budget
- Operating budget
- Personnel budget
- Educational budget
- Other \_\_\_\_\_

#### 3. Specify for every budget set up, how it is done.

	Traditional budget	Revised budget	Rolling budget	Floating budget	Flexible budget	Other	Do not set up
<b>Main budgets</b>							
Profit budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Budgeted statement of assets and liabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Partial budgets</b>							
Purchase budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stock budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Investment budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sales budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administration budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research and development budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operating budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personnel budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Educational budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**4. Specify for every budget that set up, how often it is done.**

	Daily	Weekly	Monthly	Quarterly	Half-yearly	Yearly	Other
<b>Main budgets</b>							
Profit budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Budgeted statement of assets and liabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Partial budgets</b>							
Purchase budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stock budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sales budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administration budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research and development budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operating budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personnel budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Educational budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**5. Specify the user of budget for every budget set up. More than one user can be marked for every budget.**

	By the financiers	By the owners	By the board	By the management	On the operative level	Other
<b>Main budgets</b>						
Profit budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Budgeted statement of assets and liabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Partial budgets</b>						
Purchase budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stock budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Investment budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sales budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administration budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research and development budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operating budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personnel budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Educational budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**6. For what purpose are budgets set up within the firm. More than one answer can be marked. Place 5 of them (or less, when less than 5 purposes are applicable for the firm) in order of precedence, where 1 is the most important purpose, 2 is the second most important purpose etc.**

<input type="checkbox"/> Implementation of strategies	
<input type="checkbox"/> Planning	
<input type="checkbox"/> Co-ordination of the business	
<input type="checkbox"/> To create awareness within the company	
<input type="checkbox"/> To follow-up the business	
<input type="checkbox"/> To create motivation	
<input type="checkbox"/> To be the basis for reward system	
<input type="checkbox"/> Allocation of resources	
<input type="checkbox"/> Prognosis for the business	
<input type="checkbox"/> Business goal	
<input type="checkbox"/> Communication within the company	
<input type="checkbox"/> Allocation of responsibility	
<input type="checkbox"/> Other _____	

**7. What main changes within the budgeting field do you think will occur for the firm within the next five years?**

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#### **Section 4 – Product calculation**

In a product calculation revenues and/or costs for a certain object, e.g. goods, services, customer, are put together. Product calculations are used in decision-making processes within firms.



**1. Specify the type of product calculation set up by the firm. More than one answer can be marked.**

**Product calculations for:**

- Order/Pricing of the offer
- Pricing towards markets
- Profitability follow-up/market
- Profitability follow-up/customer
- Profitability follow-up/product
- Calculation of product costs for future goods currently in the state of R&D.
- Choice for product
- Decisions concerning buy in/produce self
- Selection of method/way of producing
- Cost control
- Other \_\_\_\_\_

**2. Specify the type of product calculations used from previous question, which have frequent occurrence for Your firm. Place 5 of them (or less, when less than 5 product calculations are used) in order of precedence, where 1 is the product calculation that occur most frequently, 2 is the product calculation that occur second frequently etc.**

Order/Pricing of the offer	
Pricing towards markets	
Profitability follow-up/market	
Profitability follow-up/customer	
Profitability follow-up/product	
Calculation of product costs for future goods currently in the state of R&D.	
Choice for product	
Decisions concerning buy in/produce self	
Selection of method/way of producing	
Cost control	
Other _____	

**3. Specify the user of product calculation for every product calculation set up. More than one user can be marked for every product calculation.**

	By the financiers	By the owners	By the board	By the management	On the operative level	Other
Order/Pricing of the offer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pricing towards markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profitability follow-up/market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profitability follow-up/customer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profitability follow-up/product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calculation of product costs for future goods currently in the state of R&D.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





- |  |                          |                          |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Choice of product                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Decisions concerning buy in/produce self | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Selection of method/way of producing     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cost control                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other _____                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**4. Specify the main calculation method/-s used by the firm.**

- Calculation of prime cost
- Calculation of contribution
- Other \_\_\_\_\_

**5. What main changes within the product calculation field do you think will occur for the firm within the next five years?**

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**Section 5 – Performance measurement**

Performance measurement means that the firm transform performances into measurable numbers. These numbers can be named e.g key figures.

**1. Specify the type of performance measurement set up by the firm. More than one answer can be marked.**

- Profit related measurements
- Measurements related to earnings performance
- Cash-flow related measurements
- Sales related measurements
- Other accounting related measurements
- Cost related measurements
- Productivity related measurements
- Measurements related to utilization of resources
- Personnel related measurements
- Customer related measurements
- Supplier related measurements
- Measurements related to product development and innovation
- Quality related measurements
- Time related measurements
- Environmental measurements
- Market position related measurements
- Other \_\_\_\_\_



**2. Specify for every performance measurement set up, how often it is done.**

	Daily	Weekly	Monthly	Quarterly	Half-yearly	Yearly	Other
Profit related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurements related to earnings performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash-flow related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sales related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other accounting related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Productivity related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurements related to utilization of resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personnel related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customer related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supplier related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurements related to product development and innovation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Time related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market position related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3. Specify the user of performance measurement for every performance measurement set up. More than one user can be marked for every budget.**

	By the financiers	By the owners	By the board	By the management	On the operative level	Other
Profit related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurements related to earnings performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash-flow related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sales related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other accounting related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Productivity related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurements related to utilization of resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personnel related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customer related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supplier related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurements related to product development and innovation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Time related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market position related measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**4. For what purpose are performance measurement set up within the company. More than one answer can be marked. Place 5 of them (or less, when less than 5 purposes are applicable to the firm) in order of precedence, where 1 is the most important purpose, 2 is the second most important purpose etc.**

- |   |  |
|---|--|
| <input type="checkbox"/> To ensure that goals are achieved  |  |
| <input type="checkbox"/> To create conditions for identification of strategic opportunities                               |  |
| <input type="checkbox"/> As a means of communication  |  |
| <input type="checkbox"/> To motivate responsible employees  |  |
| <input type="checkbox"/> To signal deviations from plans and expectations   |  |
| <input type="checkbox"/> To provide information about what privies think about the business                               |  |
| <input type="checkbox"/> To provide information in order to make comparisons with other similar firms                     |  |
| <input type="checkbox"/> To provide information about the effects of changes within the company                           |  |
| <input type="checkbox"/> To determine reward distribution   |  |
| <input type="checkbox"/> To provide information for decision making   |  |
| <input type="checkbox"/> To give signals about changes in the surrounding world   |  |
| <input type="checkbox"/> To provide the privies information about development within the company and plans for the future |  |
| <input type="checkbox"/> Other _____  |  |

**5. What main changes within the performance measurement field do you think will occur for the firm within the next five years?**

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**Section 6 - Benchmarking**

Benchmarking means that a firm or sections of a firm is compared with other firms in order to improve the business of one's own.

**1. Specify the direction of benchmarking used within the firm.**

- Internal direction
- Competitive direction
- Operating direction
- Not used
- Other \_\_\_\_\_



**2. Specify the type/aspect of benchmarking used by the firm. More than one answer can be marked.**

**Benchmarking for:**

- Products
- Services
- Production
- Personnel
- Marketing
- Sales
- Financial aspects
- Distribution
- Product development
- Critical elements/factors of success
- Information technology
- Customer relations
- Administrative processes
- Other \_\_\_\_\_

**3. Specify the way of executing the benchmarking process. More than one answer can be marked.**

- On-going
- Isolated case
- Small extent
- Large extent
- Involves many people
- Involves few people
- Formalized
- Systematic
- Costly
- Other \_\_\_\_\_



**4. For what purpose is benchmarking used within the firm. More than one answer can be marked. Place 5 of them (or less, when less than 5 purposes are applicable to the firm) in order of precedence, where 1 is the most important purpose, 2 is the second most important purpose etc.**

- Provides knowledge about already established and well-tried business success
- A means to convince employees
- A means to get things done
- Stimulate improvements
- Encourage the employees to think in new lines
- Provides the basis of determination of competitive goals
- Provides an efficient business
- Creates awareness and understanding to what leads to success
- Creates awareness and understanding to performance differences between the company and its competitors
- Other \_\_\_\_\_


**5. What main changes within the benchmarking field do you think will occur for the firm within the next five years?**

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**Section 7 – Transfer pricing**

Transfer pricing is used between different organizational units within the firm, e.g. for delivery of finished products and utilization of services.

**1. Do you use transfer pricing?**

- Yes
- No

**2. Specify the type of transfer pricing used by the firm.**

- Cost based
- Cost priced/ Self-costs
- Cost priced/ Self-costs + overhead charge
- Standard price
- Market based price
- Negotiation based price
- Other \_\_\_\_\_



**3. Specify the type of transfer pricing used from the previous question, which have frequent occurrence for Your firm. Place 5 of them (or less, when less than 5 product calculations are used) in order of precedence, where 1 is the internal pricing that occur most frequently, 2 is the internal pricing that occur second frequently etc.**

- Cost based
- Cost priced/ Self-costs
- Cost priced/ Self-costs + overhead charge
- Standard price
- Market based price
- Negotiation based price
- Other \_\_\_\_\_


**4. For what purpose is transfer pricing used within the firm. More than one answer can be marked. Place 5 of them (or less, when less than 5 purposes are applicable to the firm) in order of precedence, where 1 is the most important purpose, 2 is the second most important purpose etc.**

- Provides the basis of decision making
- Motivate to businesslike manner
- Motivate to cost awareness
- Divide the company into autonomous units
- Other \_\_\_\_\_


**5. What main changes within the transfer pricing field do you think will occur for the firm within the next five years?**

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### Section 8 – Incentive programs

Incentive programs are programs within a firm, where the performance of the employees is measured and rewarded based on various grounds.

**1. For what purpose are incentive programs used within the firm. More than one answer can be marked. Place 3 of them (or less, when less than 3 purposes are applicable to the firm) in order of precedence, where 1 is the most important purpose, 2 is the second most important purpose etc.**

- Motivate to desirable performances
- Keep personnel
- Recruit personnel
- Business management
- Other




**2. Specify the type of incentive programs used by the firm.**

**Monetary rewards:**

- Wage
- Bonus
- Retirement income
- Profit share
- Share
- Convertible promissory note
- Option
- Benefits
- Other \_\_\_\_\_

**Non-monetary rewards:**

- Gratuity
- career opportunities
- Several job assignments
- Job rotation
- competence development
- Promotion
- Other \_\_\_\_\_

**3. Specify the ground, whereupon rewards are based.**

- Financial measures
- Non-financial measures
  
- Individual ground
- Group based
- Profit center
- Other \_\_\_\_\_

**4. Specify the receiver, who is able to be a part of the incentive programs**

- Managing director
- Managers
- Groups/Departments
- Individuals/Employees
- Other \_\_\_\_\_

**5. What main changes within the field incentive programs do you think will occur for the firm within the next five years?**

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## Section 9 – Organizational structure

The organizational structure of a firm implies various aspect that deals with management accounting, such as the design of the business, allocation of responsibility, performance of work and structure of the staff.

### 1. Specify the type of organizational structure, which correspond with Your firm.

- Operating structure
- Divisional structure
- Flow structure
- Matrix structure
- Customer oriented structure
- Other \_\_\_\_\_

### 2. Specify the financial units of responsibility used by the firm.

- Investment center
- Profit center
- Cost center
- Revenue center
- Contribution center
- Engineered expense center
- Not used

### 5. What main changes within the field organisational structure do you think will occur for the firm within the next five years?

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## Section 10 – The usage of new models of management accounting

Recently, new thoughts of management accounting has been presented as a complement to the traditional management accounting.

### Do you have knowledge about the management accounting systems presented below?

#### 1. Balanced score card

- Yes
- No

#### If yes, have it been implemented into to firm?

- Yes
- No





**If no, do you have an intention to implement it into the firm within the next five years?**

- Yes
- No

**2. Value based management accounting, e.g EVA (economic value added) and MVA (market value added)**

- Yes
- No

**If yes, have it been implemented into to firm?**

- Yes
- No

**If no, do you have an intention to implement it into the firm within the next five years?**

- Yes
- No

**3. Intellectual capital**

- Yes
- No

**If yes, have it been implemented into to firm?**

- Yes
- No

**If no, do you have an intention to implement it into the firm within the next five years?**

- Yes
- No

**4. What main changes within the management accounting field do you think will occur for the firm within the next five years?**

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### **Section 11**

Specify for every point below to what extent You agree with the statement or not.

**1. The employee's scope of action in the daily work is strongly limited.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**2. Prediction is important in our organization.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree



**3. We apply a uniform policy and customs concerning personnel policy throughout the company.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**4. The structure of the company gives a frame of action which direct the work of the employees in a way that the organizational management agreed upon.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**5. Formal means of control are most important, when striving to reach economic goal.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**6. Power of initiative and acting is being encouraged even though it can result in mistakes.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**7. Employees have influence and authority concerning:**

**a) Designing the place of work**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**b) Investments**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**c) Terms of employment**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**d) Appointing managers**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**8. We stake a lot on education and competence development.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**9. There is a constant changing-, renewal- and improvement process in progress, since the personnel has power to change existent working ways, -methods and –routines.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**10. The organizational structure within the firm is flat.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**11. Decision making within the organization is centralized.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**12. The management philosophy is built on close relationship with the fellow employees rather than a strong focus on numbers.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree



**13. Much of the decision making is based on informal information.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**14. The performances of the employees are being measures on a regular and frequent basis.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**15. Moral and ethical concepts have a high importance within our firm.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**16. We focus much on the individual within the firm.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**17. We aim at distribute responsibility as far out in the organization as possible.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**18. For every alternative below, rank the level of importance regarding delegation of responsibility:**

**a) Limiting conflicts**

Important    1   2   3   4   5   6   7   8   9   10    Unimportant

**b) Motivating**

Important    1   2   3   4   5   6   7   8   9   10    Unimportant

**c) Promotion of business activity**

Important    1   2   3   4   5   6   7   8   9   10    Unimportant

**d) Risk reducing**

Important    1   2   3   4   5   6   7   8   9   10    Unimportant

**e) Better and more accurate follow-up**

Important    1   2   3   4   5   6   7   8   9   10    Unimportant

**f) Fair picture of the units**

Important    1   2   3   4   5   6   7   8   9   10    Unimportant

**g) Forms a better basis for future activity measures/activity planning**

Important    1   2   3   4   5   6   7   8   9   10    Unimportant

**h) Increase the independence of the units**

Important    1   2   3   4   5   6   7   8   9   10    Unimportant

**19. Follow-up of budget is important**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree



**20. We often use budgeting information as a means of questioning and debating the ongoing decisions and actions of department managers.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**21. The budget process is continuous – it demands regular and frequent attention from managers at all levels.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**22. There is a lot of interaction between top management and department/unit managers in the budget process.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**23. We use the budget to discuss with the subordinates changes occurring in the company.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**24. Our firm is characterized by a high feeling of belonging and common corporate culture.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**25. The informal information is very important for several strategical decisions.**

Fully agree    1   2   3   4   5   6   7   8   9   10    Do not agree

**THANK YOU FOR PARTICIPATING IN OUR SURVEY!**



## Appendix 2 – Methodology

Industry code	Industry
SNI28	Manufacture of fabricated metal products, except machinery and equipment.
SNI29	Manufacture of machinery and equipment n.e.c.
SNI30	Manufacture of office, accounting and computing machinery
SNI31	Manufacture of electrical machinery and apparatus n.e.c.
SNI32	Manufacture of radio, television and communication equipment and apparatus
SNI 33	Manufacture of medical, precision and optical instruments, watches and clocks
SNI34	Manufacture of motor vehicles, trailers and semi-trailers

Swedish manufacturing firms in the engineering industry according to SNI2002, the Swedish standard industry



### Appendix 3 - Empirical result

FIGURE 4.1 THE ENTREPRENEURIAL ORIENTATION OF THE FIRMS

Question	Firm A	Firm B	Firm C	Firm D	Firm E	Firm F	Firm G	Firm H	Firm I	Firm J	Firm K	Firm L	Firm M	Firm N	Firm O
1	3	2	3	7	8	9	9	9	8	9	5	7	2	1	8
2	4	2	8	9	9	9	9	9	8	8	2	7	2	1	8
3	2	1	8	9	8	9	9	9	8	9	7	7	2	1	9
4	3	6	3	4	2	1	4	3	7	8	8	4	3	10	2
5	4	6	8	6	2	1	2	2	8	8	4	3	3	10	5
6	8	8	2	7	2	3	4	6	6	6	8	3	3	6	6
7	3	7	5	7	3	2	4	4	7	7	7	6	3	10	4
8	3	1	2	1	9	7	1	4	6	6	5	7	2	1	4
9	8	1	5	1	9	10	3	4	3	3	7	8	2	7	5
10	8	1	9	6	10	8	5	5	8	8	8	9	2	5	7
11	6	1	5	1	9	1	6	6	8	9	8	8	3	2	7
12	8	1	7	2	8	1	3	2	4	5	8	9	3	8	9
13	9	5	5	7	8	2	5	5	5	4	5	8	4	5	9
14	8	2	7	5	6	2	1	2	5	5	3	7	4	1	8
15	7	5	8	4	4	4	3	2	5	5	5	8	3	1	8
16	3	9	8	7	9	8	6	4	7	7	2	2	2	4	4
17	4	6	3	1	8	3	6	4	1	4	5	2	2	1	6
18	9	8	7	7	8	10	10	9	5	4	9	4	6	3	7
19	9	8	7	7	3	8	3	2	2	2	9	4	6	1	7
20	7	8	8	8	9	10	10	10	4	4	7	6	6	1	7
Total	116	88	118	106	134	108	103	101	115	121	122	119	63	79	130
Average	5.8	4.4	5.9	5.3	6.7	5.4	5.15	5.05	5.75	6.05	6.1	5.95	3.15	3.95	6.5

The total average is calculated for both groups:

Total both groups	81,15
Average both groups	5,41



FIGURE 4.3 INFORMAL USE OF MANAGEMENT ACCOUNTING, HIGH LEVEL  
FIGURE 4.2 INFORMAL USE OF MANAGEMENT ACCOUNTING, LOW LEVEL

Question	High level, P=8								Low level, P=5				
	Firm A	Firm B	Firm C	Firm D	Firm E	Firm F	Firm G	Firm H	Firm I	Firm J	Firm K	Firm L	Firm M
1	10	7	8	3	8	5	9	8	2	8	1	8	8
2	8	3	4	5	3	7	7	7	2	3	1	5	6
3	3	4	4	4	4	3	4	8	2	3	9	2	4
4	3	4	4	5	4	6	5	8	2	2	9	4	5
5	3	5	5	3	8	5	7	7	2	2	7	3	4
6	10	6	6	6	8	4	6	3	8	10	5	4	3
7a	9	9	8	8	6	3	8	3	8	9	10	2	2
7b	4	4	3	6	4	3	6	4	2	8	1	5	5
7c	8	5	5	5	5	2	3	4	2	9	2	5	5
7d	4	3	3	6	5	2	8	5	2	4	2	5	3
8	3	5	5	3	3	8	4	2	9	3	1	3	3
9	2	2	3	4	3	8	5	4	9	3	5	4	4
10	2	3	4	4	2	5	6	8	9	3	4	9	9
11	8	5	5	6	8	3	7	8	3	8	3	3	3
12	10	5	4	5	9	8	5	5	2	8	2	3	4
13	9	5	5	6	9	9	3	4	2	7	9	6	9
14	2	5	5	5	7	8	6	8	2	3	9	3	7
15	10	6	6	8	9	9	8	3	4	10	10	9	9
16	10	9	8	9	9	8	6	4	2	9	5	6	8
17	10	5	5	6	8	9	9	4	3	9	9	6	8
18a	2	8	6	5	4	8	8	8	8	8	1	5	3
18b	10	5	5	8	8	8	9	9	8	10	8	5	3
18c	10	8	6	8	8	5	9	9	8	9	9	5	3
18d	9	5	5	8	6	4	4	5	8	8	1	5	3
18e	9	5	5	8	5	4	4	8	8	9	8	5	3
18f	9	5	5	8	5	4	6	9	8	8	9	5	3
18g	9	5	5	6	5	3	6	9	8	8	2	5	3
18h	9	6	5	6	8	3	9	5	8	8	4	5	3
24	8	3	3	8	9	8	8	9	4	10	3	9	9
25	6	4	4	4	2	2	4	4	5	4	2	3	3
Total	209,00	154,00	149,00	176,00	182,00	164,00	189,00	182,00	150,00	203,00	151,00	147,00	145,00
Average	6,97	5,13	4,97	5,87	6,07	5,47	6,30	6,07	5,00	6,77	5,08	4,90	4,83

The total average is calculated for both groups:

Total both groups	73,37
Average both groups	5,64



FIGURE 4.4 DIAGNOSTIC USE OF MANAGEMENT ACCOUNTING, LOW LEVEL  
FIGURE 4.5 DIAGNOSTIC USE OF MANAGEMENT ACCOUNTING, HIGH LEVEL

Question	Low level, P=5					High level, P=8								
	Firm A	Firm B	Firm C	Firm D	Firm E	Firm F	Firm G	Firm H	Firm I	Firm J	Firm K	Firm L	Firm M	
20	3	2	3	9	2	1	4	5	4	5	6	8	5	
21	1	7	3	9	9	2	3	10	9	9	3	9	9	
22	1	4	9	5	2	1	3	10	10	9	2	9	5	
23	1	3	5	9	2	1	2	8	4	4	2	4	3	
Average	6	16	20	32	15	5	12	33	27	27	13	30	22	
Total average	1,5	4	5	8	3,75	1,25	3	8,25	6,75	6,75	3,25	7,5	5,5	

The total average is calculated for both groups:

Total both groups	64,5
Average Value, both groups	4,96

TABLES:

Budget

TABLE 4.2 METHOD USED FOR BUDGETING

P: number of firms in respective group.  
N: number of firms that set up the specified budgets.  
n: number of firms that have stated the specified types of budget.  
S: share of firms that have stated the specified types of budget.

	Low level, P=5										High level, P=8												
	N	Traditional budget, n	Traditional budget, S	Rev ised budget, n	Rev ised budget, S	Rolling budget, n	Rolling budget, S	Floating budget, n	Floating budget, S	Flexible budget, n	Flexible budget, S	N	Traditional budget, n	Traditional budget, S	Rev ised budget, n	Rev ised budget, S	Rolling budget, n	Rolling budget, S	Floating budget, n	Floating budget, S	Flexible budget, n	Flexible budget, S	
<b>Main budgets</b>																							
Profit budget	5	5	100,0%	4	80,0%	1	20,0%	1	20,0%	1	20,0%	8	7	87,5%	1	12,5%	2	25,0%	0	0,0%	0	0,0%	
Cash budget	2	2	100,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	3	2	66,7%	1	33,3%	1	33,3%	0	0,0%	0	0,0%	
Budgeted statement of assets and liabilities	3	3	100,0%	1	33,3%	0	0,0%	0	0,0%	0	0,0%	4	3	75,0%	0	0,0%	2	50,0%	0	0,0%	0	0,0%	
<b>Partial budgets</b>																							
Purchase budget	3	3	100,0%	2	66,7%	3	100,0%	2	66,7%	2	66,7%	4	4	100,0%	1	25,0%	0	0,0%	0	0,0%	0	0,0%	
Stock budget	1	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	2	1	50,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	
Production budget	4	4	100,0%	3	75,0%	1	25,0%	1	25,0%	1	25,0%	6	6	100,0%	1	16,7%	1	16,7%	0	0,0%	0	0,0%	
Investment budget	5	5	100,0%	2	40,0%	1	20,0%	1	20,0%	1	20,0%	7	7	100,0%	1	14,3%	2	28,6%	0	0,0%	0	0,0%	
Sales budget	5	5	100,0%	3	60,0%	2	40,0%	1	20,0%	1	20,0%	7	7	100,0%	1	14,3%	2	28,6%	0	0,0%	0	0,0%	
Administration budget	4	4	100,0%	3	75,0%	1	25,0%	1	25,0%	1	25,0%	5	5	100,0%	1	20,0%	1	20,0%	0	0,0%	0	0,0%	
Marketing budget	4	4	100,0%	3	75,0%	1	25,0%	1	25,0%	1	25,0%	7	7	100,0%	1	14,3%	2	28,6%	0	0,0%	0	0,0%	
Research and development budget	4	4	100,0%	2	50,0%	1	25,0%	1	25,0%	1	25,0%	5	3	60,0%	1	20,0%	2	40,0%	0	0,0%	0	0,0%	
Operating budget	4	4	100,0%	2	50,0%	1	25,0%	1	25,0%	1	25,0%	2	2	100,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	
Personnel budget	4	4	100,0%	2	50,0%	1	25,0%	1	25,0%	1	25,0%	6	6	100,0%	1	16,7%	1	16,7%	0	0,0%	0	0,0%	
Educational budget	4	4	100,0%	2	50,0%	1	25,0%	1	25,0%	1	25,0%	5	5	100,0%	1	20,0%	0	0,0%	0	0,0%	0	0,0%	





TABLE 4.4 FREQUENCY IN BUDGETING

P: number of firms in respective group.  
N: number of firms that set up the specified budgets.  
n: number of firms that have stated the specified frequencies of budget set up.  
S: share of firms that have stated the specified frequencies of budget set up.

	Low level, P=5												High level, P=8														
	N	Daily, n	Daily, S	Weekly, n	Weekly, S	Monthly, n	Monthly, S	Quarterly, n	Quarterly, S	Half-yearly, n	Half-yearly, S	Yearly, n	Yearly, S	N	Daily, n	Daily, S	Weekly, n	Weekly, S	Monthly, n	Monthly, S	Quarterly, n	Quarterly, S	Half-yearly, n	Half-yearly, S	Yearly, n	Yearly, S	
<b>Main budgets</b>																											
Profit budget	5	0	0,0%	0	0,0%	2	40,0%	1	20,0%	1	20,0%	4	80,0%	8	0	0,0%	0	0,0%	1	12,5%	1	12,5%	0	0,0%	6	75,0%	
Cash budget	2	0	0,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	1	50,0%	3	0	0,0%	0	0,0%	1	33,3%	0	0,0%	0	0,0%	2	66,7%	
Budgeted statement of assets and liabilities	3	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	3	100,0%	4	0	0,0%	0	0,0%	1	25,0%	1	25,0%	0	0,0%	2	50,0%	
<b>Partial budgets</b>																											
Purchase budget	3	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	3	100,0%	4	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	4	100,0%	
Stock budget	1	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%	2	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	50,0%	
Production budget	4	1	25,0%	0	0,0%	0	0,0%	0	0,0%	1	25,0%	3	75,0%	6	0	0,0%	0	0,0%	1	16,7%	0	0,0%	0	0,0%	5	83,3%	
Investment budget	5	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	5	100,0%	7	0	0,0%	0	0,0%	1	14,3%	1	14,3%	0	0,0%	6	85,7%	
Sales budget	5	0	0,0%	0	0,0%	3	60,0%	1	20,0%	1	20,0%	3	60,0%	7	0	0,0%	0	0,0%	1	14,3%	1	14,3%	0	0,0%	6	85,7%	
Administration budget	4	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	25,0%	4	100,0%	5	0	0,0%	0	0,0%	0	0,0%	1	20,0%	0	0,0%	4	80,0%	
Marketing budget	4	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	25,0%	4	100,0%	7	0	0,0%	0	0,0%	1	14,3%	1	14,3%	0	0,0%	6	85,7%	
Research and development budget	4	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	25,0%	4	100,0%	5	0	0,0%	0	0,0%	1	20,0%	1	20,0%	0	0,0%	2	40,0%	
Operating budget	4	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	4	100,0%	2	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%	
Personnel budget	4	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	25,0%	4	100,0%	6	0	0,0%	0	0,0%	1	16,7%	0	0,0%	0	0,0%	6	100,0%	
Educational budget	4	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	25,0%	4	100,0%	5	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	4	80,0%	

TABLE 4.5 USERS OF BUDGET

P: number of firms in respective group.  
N: number of firms that set up the specified budgets.  
n: number of firms that have stated the specified users of budget.  
S: share of firms that have stated the specified users of budget.

	Low level, P=5										High level, P=8												
	N	By the financiers, n	By the financiers, S	By the owners, n	By the owners, S	By the board, n	By the board, S	By the management, n	By the management, S	On the operative level, n	On the operative level, S	N	By the financiers, n	By the financiers, S	By the owners, n	By the owners, S	By the board, n	By the board, S	By the management, n	By the management, S	On the operative level, n	On the operative level, S	
<b>Main budgets</b>																							
Profit budget	5	5	100,0%	5	100,0%	4	80,0%	5	100,0%	3	60,0%	8	7	87,5%	7	87,5%	8	100,0%	8	100,0%	6	75,0%	
Cash budget	2	2	100,0%	2	100,0%	2	100,0%	2	100,0%	2	100,0%	3	3	100,0%	3	100,0%	3	100,0%	3	100,0%	2	66,7%	
Budgeted statement of assets and liabilities	3	3	100,0%	3	100,0%	3	100,0%	3	100,0%	2	66,7%	4	4	100,0%	4	100,0%	4	100,0%	4	100,0%	2	50,0%	
<b>Partial budgets</b>																							
Purchase budget	3	3	100,0%	3	100,0%	2	66,7%	3	100,0%	1	33,3%	4	3	75,0%	3	75,0%	3	75,0%	4	100,0%	4	100,0%	
Stock budget	1	1	100,0%	1	100,0%	1	100,0%	1	100,0%	0	0,0%	2	0	0,0%	0	0,0%	0	0,0%	1	50,0%	1	50,0%	
Production budget	4	3	75,0%	3	75,0%	2	50,0%	4	100,0%	1	25,0%	6	5	83,3%	5	83,3%	6	100,0%	5	83,3%	5	83,3%	
Investment budget	5	5	100,0%	5	100,0%	3	60,0%	5	100,0%	2	40,0%	7	7	100,0%	7	100,0%	7	100,0%	7	100,0%	4	57,1%	
Sales budget	5	3	60,0%	3	60,0%	3	60,0%	4	80,0%	4	80,0%	7	6	85,7%	6	85,7%	7	100,0%	7	100,0%	3	42,9%	
Administration budget	4	3	75,0%	3	75,0%	2	50,0%	4	100,0%	1	25,0%	5	4	80,0%	4	80,0%	4	80,0%	4	80,0%	3	60,0%	
Marketing budget	4	3	75,0%	3	75,0%	2	50,0%	4	100,0%	3	75,0%	7	6	85,7%	6	85,7%	6	85,7%	7	100,0%	3	42,9%	
Research and development budget	4	3	75,0%	3	75,0%	3	75,0%	4	100,0%	1	25,0%	5	4	80,0%	4	80,0%	4	80,0%	3	60,0%	3	60,0%	
Operating budget	4	2	50,0%	2	50,0%	2	50,0%	3	75,0%	2	50,0%	2	2	100,0%	2	100,0%	2	100,0%	2	100,0%	2	100,0%	
Personnel budget	4	3	75,0%	3	75,0%	2	50,0%	4	100,0%	2	50,0%	6	5	83,3%	5	83,3%	5	83,3%	6	100,0%	4	66,7%	
Educational budget	4	3	75,0%	3	75,0%	2	50,0%	4	100,0%	1	25,0%	5	2	40,0%	2	40,0%	3	60,0%	4	80,0%	3	60,0%	

Product calculation

TABLE 4.9 USERS OF PRODUCT CALCULATION.

P: number of firms in respective group.  
N: number of firms that have stated that they set up the different product calculations.  
n: number of firms that have stated the specified users of product calculation.  
S: share of firms that have stated the specified users of product calculation.

	Low level, P=5										High level, P=8											
	N	By the financiers, n	By the financiers, S	By the owners, n	By the owners, S	By the board, n	By the board, S	By the management, n	By the management, S	On the operative level, n	On the operative level, S	N	By the financiers, n	By the financiers, S	By the owners, n	By the owners, S	By the board, n	By the board, S	By the management, n	By the management, S	On the operative level, n	On the operative level, S
Order/Pricing of the offer	3	0	0,0%	0	0,0%	0	0,0%	1	33,3%	3	100,0%	6	2	33,3%	2	33,3%	0	0,0%	5	83,3%	5	83,3%
Pricing towards markets	2	0	0,0%	0	0,0%	0	0,0%	2	100,0%	2	100,0%	5	1	20,0%	1	20,0%	0	0,0%	4	80,0%	3	60,0%
Profitability measure/market	3	0	0,0%	0	0,0%	0	0,0%	2	66,7%	0	0,0%	2	0	0,0%	0	0,0%	0	0,0%	2	100,0%	2	100,0%
Profitability measure/customer	3	0	0,0%	0	0,0%	0	0,0%	3	100,0%	1	33,3%	2	0	0,0%	0	0,0%	0	0,0%	2	100,0%	2	100,0%
Profitability measure/product	3	0	0,0%	0	0,0%	0	0,0%	3	100,0%	2	66,7%	7	2	28,6%	2	28,6%	0	0,0%	7	100,0%	6	85,7%
Calculation of product costs for future goods currently in the state of R&D.	2	0	0,0%	0	0,0%	0	0,0%	2	100,0%	2	100,0%	3	2	66,7%	2	66,7%	0	0,0%	3	100,0%	3	100,0%
Choice of product	3	0	0,0%	0	0,0%	0	0,0%	3	100,0%	2	66,7%	2	0	0,0%	0	0,0%	0	0,0%	2	100,0%	1	50,0%
Decisions concerning buy in/produce self	5	2	40,0%	2	40,0%	2	40,0%	4	80,0%	5	100,0%	4	1	25,0%	1	25,0%	0	0,0%	3	75,0%	3	75,0%
Selection of method/way of producing	3	0	0,0%	0	0,0%	0	0,0%	2	66,7%	1	33,3%	3	1	33,3%	1	33,3%	0	0,0%	3	100,0%	3	100,0%
Cost control	4	1	25,0%	1	25,0%	1	25,0%	3	75,0%	3	75,0%	3	0	0,0%	0	0,0%	0	0,0%	3	100,0%	2	66,7%



TABLE 4.12 FREQUENCY IN PERFORMANCE MEASUREMENT.

P: number of firms in respective group.

N: number of firms that set up the specified performance measurements.

n: number of firms that have stated the specified frequency of performance measurement use.

S: share of firms that have stated the specified frequency of performance measurement use.

	Low level, P=5													High level, P=8												
	N	Daily, n	Daily, S	Weekly, n	Weekly, S	Monthly, n	Monthly, S	Quarterly, n	Quarterly, S	Half-yearly, N	Half-yearly, S	Yearly, n	Yearly, S	N	Daily, n	Daily, S	Weekly, n	Weekly, S	Monthly, n	Monthly, S	Quarterly, n	Quarterly, S	Half-yearly, n	Half-yearly, S	Yearly, n	Yearly, S
Profit related measurements	5	0	0,0%	0	0,0%	4	80,0%	0	0,0%	3	60,0%	2	40,0%	7	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Measurements related to earnings performance	3	0	0,0%	0	0,0%	2	66,7%	0	0,0%	1	33,3%	0	0,0%	4	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Cash-flow related measurements	2	1	50,0%	0	0,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%	4	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Sales related measurements	5	0	0,0%	2	40,0%	5	100,0%	2	40,0%	3	60,0%	2	40,0%	7	0	0,0%	1	14,3%	5	71,4%	0	0,0%	0	0,0%	1	14,3%
Other accounting related measurements	2	0	0,0%	0	0,0%	2	100,0%	1	50,0%	0	0,0%	0	0,0%	5	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Cost related measurements	2	0	0,0%	0	0,0%	2	100,0%	0	0,0%	0	0,0%	0	0,0%	3	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Productivity related measurements	4	0	0,0%	2	50,0%	3	75,0%	0	0,0%	2	50,0%	2	50,0%	3	0	0,0%	1	33,3%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Measurements related to utilization of resources	3	0	0,0%	1	33,3%	2	66,7%	0	0,0%	1	33,3%	1	33,3%	1	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Personnel related measurements	1	0	0,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%	6	0	0,0%	0	0,0%	4	66,7%	0	0,0%	0	0,0%	2	33,3%
Customer related measurements	2	0	0,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%	1	50,0%	4	0	0,0%	0	0,0%	2	50,0%	0	0,0%	0	0,0%	2	50,0%
Supplier related measurements	2	0	0,0%	0	0,0%	2	100,0%	0	0,0%	0	0,0%	0	0,0%	1	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Measurements related to product development and innovation	1	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%	2	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Quality related measurements	3	1	33,3%	0	0,0%	1	33,3%	1	33,3%	1	33,3%	1	33,3%	5	0	0,0%	0	0,0%	3	60,0%	1	20,0%	0	0,0%	1	20,0%
Time related measurements	2	1	50,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	3	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%
Environmental measurements	2	0	0,0%	0	0,0%	2	100,0%	0	0,0%	0	0,0%	0	0,0%	3	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	33,3%	2	66,7%
Market position related measurements	1	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%	1	0	0,0%	0	0,0%	7	100,0%	0	0,0%	0	0,0%	0	0,0%



## Performance measurement

TABLE 4.13 USERS OF PERFORMANCE MEASUREMENT.

P: number of firms in respective group.

N: number of firms that set up the specified performance measurements.

n: number of firms that have stated the specified users of performance measurement.

S: share of firms that have stated the specified users of performance measurement.

	Low level, P=5										High level, P=8											
	N	By the financiers, n	By the financiers, S	By the owners, n	By the owners, S	By the board, n	By the board, S	By the management, n	By the management, S	On the operative level, n	On the operative level, S	N	By the financiers, n	By the financiers, S	By the owners, n	By the owners, S	By the board, n	By the board, S	By the board, n	By the board, S	On the operative level, n	On the operative level, S
Profit related measurements	5	5	100,0%	5	100,0%	4	80,0%	5	100,0%	3	60,0%	7	6	85,7%	6	85,7%	5	71,4%	7	100,0%	6	85,7%
Measurements related to earnings performance	3	2	66,7%	2	66,7%	2	66,7%	3	100,0%	2	66,7%	4	4	100,0%	4	100,0%	4	100,0%	4	100,0%	4	100,0%
Cash-flow related measurements	2	1	50,0%	1	50,0%	2	100,0%	2	100,0%	0	0,0%	4	4	100,0%	4	100,0%	4	100,0%	4	100,0%	1	25,0%
Sales related measurements	5	3	60,0%	3	60,0%	4	80,0%	5	100,0%	3	60,0%	7	4	57,1%	4	57,1%	3	42,9%	7	100,0%	6	85,7%
Other accounting related measurements	2	0	0,0%	0	0,0%	2	100,0%	2	100,0%	0	0,0%	5	3	60,0%	3	60,0%	3	60,0%	4	80,0%	3	60,0%
Cost related measurements	2	0	0,0%	0	0,0%	1	50,0%	2	100,0%	1	50,0%	3	3	100,0%	3	100,0%	1	33,3%	3	100,0%	2	66,7%
Productivity related measurements	4	2	50,0%	2	50,0%	3	75,0%	4	100,0%	3	75,0%	3	1	33,3%	1	33,3%	1	33,3%	3	100,0%	3	100,0%
Measurements related to utilization of resources	3	1	33,3%	1	33,3%	2	66,7%	3	100,0%	2	66,7%	1	0	0,0%	0	0,0%	0	0,0%	1	100,0%	1	100,0%
Personnel related measurements	1	0	0,0%	0	0,0%	1	100,0%	1	100,0%	1	100,0%	6	1	16,7%	1	16,7%	0	0,0%	5	83,3%	5	83,3%
Customer related measurements	2	0	0,0%	0	0,0%	1	50,0%	2	100,0%	2	100,0%	4	3	75,0%	3	75,0%	0	0,0%	4	100,0%	3	75,0%
Supplier related measurements	2	0	0,0%	0	0,0%	1	50,0%	2	100,0%	2	100,0%	1	0	0,0%	0	0,0%	0	0,0%	1	100,0%	1	100,0%
Measurements related to product development and innovation	1	0	0,0%	0	0,0%	1	100,0%	1	100,0%	1	100,0%	2		0,0%		0,0%	0	0,0%	2	100,0%	2	100,0%
Quality related measurements	3	0	0,0%	0	0,0%	1	33,3%	3	100,0%	2	66,7%	5	1	20,0%	1	20,0%	0	0,0%	5	100,0%	4	80,0%
Time related measurements	2	0	0,0%	0	0,0%	1	50,0%	2	100,0%	2	100,0%	3	1	33,3%	1	33,3%	0	0,0%	3	100,0%	3	100,0%
Environmental measurements	2	0	0,0%	0	0,0%	1	50,0%	2	100,0%	2	100,0%	3	0	0,0%	0	0,0%	0	0,0%	3	100,0%	1	33,3%
Market position related measurements	1	0	0,0%	0	0,0%	1	100,0%	1	100,0%	1	100,0%	1	0	0,0%	0	0,0%	0	0,0%	1	100,0%	1	100,0%