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Resource organization and firm performance - How entrepreneurial orientation and management accounting influence the profitability of growing and non-growing SMEs

ABSTRACT

Purpose: The aim of this study is to examine how entrepreneurial orientation (EO) and the use of management accounting practices (MAPs) in decision making affects the profitability of SMEs, and also to analyze the extent to which EO and the use of MAPs affects profitability differently in growing and non-growing SMEs.

Design/Methodology/Approach: The paper employs an empirical investigation which is based on a sample of 153 Swedish manufacturing SMEs. The data is analyzed by two- and three way interaction regressions.

Findings: EO and MAPs have a positive effect on profitability in non-growing SMEs, but the combined effect of EO and MAPs has no additional effect. However, for growing SMEs, high usage of MAPs in decision making is a prerequisite for EO to influence profitability.

Originality/Value: This study is the first to use the resource-based view to examine the relationship between two dimensions of resource organization and SME profitability.

Entrepreneurial orientation (EO) is used as a proxy for how resources are organized in order to identify opportunities, and management accounting practices (MAPs) are used as a proxy for how efficiently resources are organized.

INTRODUCTION

Entrepreneurial orientation (EO) refers to a firm's propensity to undertake risk taking, innovative, and proactive endeavors (Covin and Slevin, 1989; Miller, 1983). The construct has received considerable interest in entrepreneurship research and numerous studies have examined the relationship between EO and various dimensions of the performance of small and medium-sized enterprises (SMEs). Meta-analyses of studies on the relationship between EO and performance (Rauch *et al.*, 2009; Saeed *et al.*, 2014) have shown that EO generally has a universal positive influence on performance. However, the relationship between EO and performance has been shown to be complex and several scholars (Lumpkin and Dess, 1996; Lyon *et al.*, 2000; Wiklund and Shepherd, 2005) have argued for examination of how other factors influence the relationship.

The call for research on moderating or mediating factors has been considered somewhat in later studies by mainly adopting the resource-based view (RBV) of the firm (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984) in order to examine how various resources in combination with EO affect performance (e.g. O'Shea *et al.*, 2005; Wales *et al.*, 2013; Wiklund and Shepherd, 2003; Zahra *et al.*, 2004). The definition of entrepreneurship as allocation of resources to exploit opportunities (Cantillon, 1755) is still valid, and whereas EO mainly concerns how opportunities are identified, the RBV captures the other dimension of the entrepreneurship concept, i.e. resource allocation (Alvarez and Busenitz, 2001). Although various internal factors that affect the EO-performance relationship have been analyzed in several contemporary studies (for a comprehensive review, see Saeed *et al.*, 2014), no studies have analyzed how the use of management accounting practices (MAPs) influences the relationship. MAPs generally include activities such as budgeting, long-term planning, decision support systems, and financial and non-financial performance analysis (Chenhall and Langfield-Smith, 1998). Considering the increased importance of non-financial measures in

MAPs (Norreklit, 2000; Said *et al.*, 2003) and the central role of intangible resources in the RBV (Mahoney and Pandian, 1992), examination of MAPs should have great potential in advancing the field of EO and RBV research. According to Barney (1995, p.56) “a firm’s competitive advantage potential depends on the value, rareness, and imitability of its resources and capabilities.” However, firms also have to have the proper organization in order to exploit these resources (Barney, 1995). Most RBV studies have focused on the potential dimensions of the VRIO framework (i.e. Value, Rare, and Imitability) (Arend, 2006), but few studies have addressed the Organization dimension of VRIO. Analysis of MAPs and EO has the potential to consider that “a firm must also be organized to exploit its resources” (Barney, 1995, p.56). Management control (i.e. a key dimension of management accounting) can be defined as “the process by which managers ensure that resources are obtained and used effectively and efficiently” (Anthony, 1965, p.17). Thus, it is plausible that extensive use of MAPs in decision making would result in improved exploitation of resources, which could strengthen the relationship between EO and performance. Thus, bringing MAPs into the EO-performance equation can take the “O”, i.e. the resource organization dimension, of the VRIO framework (Barney, 1995; Barney, 1997) of the RBV into account to a greater degree.

In numerous management accounting studies, it has been stressed that the importance of MAPs is dependent on a wide array of factors (Burns and Vaivio, 2001; Giovannoni *et al.*, 2011; Waweru *et al.*, 2004). For example, depending on whether or not a firm is experiencing growth is likely to influence the importance of and the adoption of MAPs in SMEs in particular (Davila, 2005; Davila and Foster, 2005). Whereas several studies have identified that different MAPs are required depending on whether or not a firm is experiencing growth, few studies have determined whether these firms also require different levels of entrepreneurial management. Thus, although various external factors such as environmental dynamism have been examined extensively in EO studies (e.g., Lumpkin and

Dess, 2001; Wiklund and Shepherd, 2005), how growth affects the relationship between EO and performance has not been addressed. Many previous studies on the EO-performance relationship have applied highly aggregated performance measurements by combining growth and profitability measures (e.g. De Clercq *et al.*, 2010; Wiklund and Shepherd, 2005). However, distinguishing between growth and profitability enables an analysis of factors that influence profitability in growing and non-growing SMEs separately. Based on the above discussion, the aim of this study is to examine how EO and the use of MAPs in decision making affects the profitability of SMEs, and also to analyze the extent to which EO and the use of MAPs affects profitability differently in growing and non-growing SMEs.

By examining these issues, the study will contribute to the EO literature by analyzing the importance of a previously overlooked moderator, i.e. MAPs, for growing and non-growing SMEs. Research on factors that affect the EO-performance relationship has been stressed as being crucial for understanding and developing EO (Lumpkin and Dess, 1996), and it is still an important area of research (Saeed *et al.*, 2014). This study also contributes to research on strategic entrepreneurship, a concept that generally refers to the ability to identify opportunities and the ability to exploit resources in order to take advantage of these opportunities (McGrath and MacMillan, 2000). Whereas EO concerns the opportunity identification dimension of strategic entrepreneurship, MAPs are possibly a suitable proxy for the ability to exploit resources. In addition, by analyzing how EO and MAPs affect profitability, the study contributes to the RBV literature by considering two dimensions of the organization criterion of the VRIO framework.

THEORY AND HYPOTHESES

Entrepreneurial orientation and profitability

Some scholars (Lumpkin and Dess, 1996; Lumpkin and Dess, 2001) have suggested that EO should be regarded and examined as a less aggregated concept by analyzing various sub-dimensions of EO separately. However, in the seminal publications on EO it was argued that EO should be examined as an aggregated construct, because in order for a firm to be entrepreneurial, the firm has to proactive, innovative, AND risk taking (Covin and Slevin, 1989; Miller, 1983). Because the present study focuses on the relationship between the overall level of entrepreneurship and due to the fact that the three dimensions have been found to be highly interrelated (e.g. Covin *et al.*, 2006; Keh *et al.*, 2007), EO is conceptualized as an aggregated concept that refers to a firm's propensity to be innovative, proactive, and risk taking (as defined by, e.g., Miller, 1983).

The conceptual arguments for a positive relationship between EO and profitability is that firms have to continually seek new opportunities in order to identify new profit streams (Lumpkin and Dess, 1996). These firms “innovate frequently while taking risks in their product market strategies” and the “efforts to anticipate demand and aggressively position new product/service offerings often result in strong performance” (Rauch *et al.*, 2009, p.764). As demonstrated in the two comprehensive meta-analyses on the EO-performance relationship (Rauch *et al.*, 2009; Saeed *et al.*, 2014), there is strong empirical evidence that supports the notion that EO has a universal positive effect on performance. Moreover, both reviews conducted separate analyses of the relationship between EO and growth, and EO and profitability, and in both studies it could be concluded that EO has a positive effect on profitability. Some scholars have argued that the relationship between EO and performance is more complex, and that EO mainly has a positive influence on performance under certain circumstances (e.g. Dimitratos *et al.*, 2004; George *et al.*, 2001;

Messersmith and Wales, 2011). Nevertheless, although the relationship between EO and performance can be complex, the first hypothesis can be formulated as follows:

Hypothesis 1: EO has a positive effect on SME profitability.

Management accounting practices and profitability

In the present paper, management accounting is defined as the provision of information to management to support them in their decision making, and thereby helping management to attain organizational goals (Burns *et al.*, 2013). Management accounting generally includes practices such as budgeting, long-term planning, formalized decision support systems, and performance evaluation of both financial and non-financial performance measures (Burns *et al.*, 2013; Chenhall and Langfield-Smith, 1998; Hyvönen, 2005).

Whereas research on EO has mainly focused on how EO affects firm performance, research on management accounting has mostly dealt with performance measurement and performance control instead of the potential impact of MAPs on performance. Nevertheless, there is some evidence that the level of usage of MAPs in decision making affects performance. Given the importance of resources for firm performance proclaimed in the RBV (Barney, 1991; Penrose, 1959), the RBV provides strong arguments for the importance of controlling and managing the resources of a firm—a key attribute of management accounting. The early publications on the RBV (Barney, 1986; Wernerfelt, 1984) focused on the *possession* of resources that were valuable, rare, inimitable, and non-substitutable (the VRIN attributes) (Barney, 1991). However, later publications have concentrated much more on the organization and management of existing resources, and most studies nowadays use the term “VRIO attributes” instead (Newbert, 2007; Peteraf and Barney, 2003). The “O” stands for the fact that firms must be properly “organized”, where organization involves various complementary resources and capabilities that can facilitate the

full exploitation of key resources and successful implementation of core capabilities (Zhou *et al.*, 2008: 988). Wiklund and Shepherd (2003, p.1310) argue that “EO captures a firm’s organization toward entrepreneurship and can enhance other firm resources”, because (p.1308) “management can respond to new opportunities and environmental changes by taking actions that affect the firm’s resource base and how those resources are utilized”. However, the main purpose of using MAPs in decision making is to increase the efficiency and effectiveness of resources (Ahrens and Chapman, 2004; Anthony, 1965; Hudson *et al.*, 2001). By using more management accounting information in their decision making, managers are more likely to make better-informed decisions, resulting in an improved understanding of the nature of the resources available and in improved exploitation of resources (Bourne *et al.*, 2005; Stede *et al.*, 2006). Consequently, MAPs reflect another dimension of the organization criterion, because the use of management accounting information in decision making is likely to result in improved exploitation of resources. Thus, EO and MAPs capture two important dimensions of the exploitation of resources (i.e. the “O”-dimension of the VRIO framework). EO concerns how resources are exploited in order to seize new opportunities, whereas the use of MAP in decision making concerns the effective and efficient exploitation of resources.

Whereas the RBV provides strong arguments for a positive relationship between the use of MAPs in decision making and profitability at a conceptual level, research on management accounting has empirically validated the presence of a positive relationship between various MAPs and profitability (for a comprehensive review, see Lavia Lopez and Hiebl, 2015). For example, several studies have found that the extensive use of non-financial measures (Davis and Albright, 2004) and also combinations of financial measures and non-financial measures (Bourne *et al.*, 2005; Stede *et al.*, 2006) have a positive effect on

organizational performance. Other empirical studies have identified positive relationships between management control systems, business strategy, and performance (Henri, 2006).

To summarize, the use of MAPs in decision making captures an important dimension of how resources are organized, and the RBV provides ample evidence for the importance of resource management in terms of organization of existing resources. In addition, several empirical studies have found a positive relationship between the use of MAPs in decision making and performance. Thus, the second hypothesis can be formulated as:

Hypothesis 2: The use of information from MAPs in managerial decision making has a positive effect on SME profitability.

The influence of EO and MAPs on profitability in growing and non-growing SMEs

So far, this paper has described that EO and MAPs are likely to have a positive effect on firm profitability, and these notions are neither new nor controversial. However, firms with high levels of EO is likely to benefit even more from the extensive use of MAPs in decision making. By definition, being entrepreneurial involves high levels of uncertainty and risk taking, and in order to take well-calculated risks it is essential to have control over the tangible and intangible resources of the firm (Alvarez and Barney, 2002). The key objective of management accounting is to provide management with information and, as expressed by Alvarez and Busenitz (2001, p.769), “entrepreneurs use their available information to make decisions to produce a product that utilizes the available resources in a superior and more efficient manner”. Several studies on management accounting have shown that the use of MAPs in decision-making is more important in conditions of uncertainty. For example, Chong (1996, p.415) found that, in uncertain situations, extensive use MAPs “led to effective managerial decisions and hence to improved managerial performance”, whereas “under low

task uncertainty situations, the extent of use of broad scope MAS [Management Accounting Systems, our note] information led to information overload which was dysfunctional to managerial performance”.

Moreover, entrepreneurial actions generally refers to the development of new resource combinations (Foss and Ishikawa, 2007; Simsek and Heavey, 2011), resulting in new capabilities (Helfat and Peteraf, 2003). The use management accounting in decision-making can contribute to such processes (i.e. development of new resources and capabilities) and improve performance (Henri, 2006). Thus, information is crucial when acting entrepreneurially and it is likely that entrepreneurially oriented firms have a greater need for management accounting information. The relationship between EO and profitability is therefore likely to be strengthened by the extensive use of MAPs in decision-making processes. Consequently, MAPs ought to be more important for entrepreneurially oriented companies, and our third hypothesis can therefore be formulated as follows:

Hypothesis 3: The combined effect of EO and MAPs will have a greater effect on profitability of SMEs than the separate effects of EO and MAPs.

Previous studies on the EO-performance relationship have found that the relationship is moderated by the level of uncertainty in terms of, for example, environmental dynamism (Lumpkin and Dess, 1996; Wiklund and Shepherd, 2005). However, an internal source of uncertainty that has not been examined in previous studies is the uncertainty caused by growth. The use of a non-aggregated performance measurement in terms of profitability enables an analysis of how EO and MAPs affect profitability in different phases of growth. Moreover, as will be argued in this section, EO and MAPs are likely to affect profitability differently depending on whether or not a firm is experiencing growth. Irrespective of whether a firm achieves growth due to increased demands in existing markets or whether a firm ventures into new markets with new or existing products, growth (in terms of increased

sales) generally causes change and thereby increased uncertainty—and therefore an element of risk (Davidsson, 1991; Moreno and Casillas, 2008). This uncertainty can involve organizational changes such as the employment of new personnel or a higher workload for existing personnel (Wiklund *et al.*, 2003), or there may be externally induced uncertainty due to the firm venturing into new markets (McKelvie *et al.*, 2011). The uncertainty and within-organizational dynamism caused by growth are likely to require different management practices. Whereas most studies on EO have mainly used growth as a dependent variable (e.g. Cassia and Minola, 2012; Wolff *et al.*, 2015), research in other fields of management has highlighted the importance of adapting management practices to the level of growth a firm is experiencing. For example, research on management accounting has shown that growing firms require MAPs other than those required by non-growing firms (Davila, 2005; Davila and Foster, 2005), and human management resource (HRM) research has shown that growing firms must be managed differently from other firms (Heneman *et al.*, 2000; Hughes and Morgan, 2007).

Although few studies have specifically analyzed whether EO has a different effect on growing and non-growing firms, some studies have examined the impact of EO on young firms. These firms generally experience higher levels of growth, and studies examining the EO-performance relationship have often failed to identify a universal relationship between EO and different indicators of performance in young firms (Hughes and Morgan, 2007; Messersmith and Wales, 2011). However, EO in combination with well-developed HRM practices has been found to contribute to performance (Messersmith and Wales, 2011), and this finding highlights the importance of combining EO with resource management of growing firms. The notion that EO in combination with efficient exploitation of resources is more important under conditions of uncertainty has support in the strategic entrepreneurship literature. Strategic entrepreneurship (McGrath and MacMillan, 2000) concerns the ability to

“sense opportunities, mobilize resources, and act to exploit opportunities, especially under highly uncertain conditions” (Hitt *et al.*, 2001, p.480). Thus, under uncertain conditions, it is not sufficient to be entrepreneurial by seizing opportunities; it also requires the efficient exploitation of resources (Cassia and Minola, 2012). Consequently, growing firms will face more uncertainty, and strategic (i.e. by efficient exploitation of resources through MAPs) entrepreneurship (i.e. by exploiting resources in order to seize identified opportunities) is likely to be more important. It is therefore plausible that EO may have a modest effect on profitability in growing firms but that EO in combination with efficiently exploited resources can increase the profitability of these firms. In non-growing firms, however, the combination of EO and MAPs is likely to be less important than for growing firms. These firms generally face less uncertainty than growing firms and, although both MAPs and EO are likely to increase profitability separately, the combined effect of EO and MAPs is probably of less importance for non-growing firms. Thus:

Hypothesis 4: The combination of EO and MAPs will have a greater effect on the profitability of growing SMEs than on the profitability of non-growing SMEs.

METHOD

Sample

The sample consists of manufacturing SMEs (with 10–250 employees) located in the Västra Götaland region, western Sweden, and the data used are part of a larger research project on management accounting in manufacturing firms. Different MAPs are generally used in different industries, and the sample was therefore delimited to manufacturing firms. Using the database “InfoTorg Företag”, 939 firms that met the selection criteria (i.e. SMEs with 10–250 employees, SNI/NACE code 10-32, and located in that specific region) were identified. In

addition to the identification of companies, the database was used to collect archival data for several variables and to validate other variables (the variables will be specified in the next section). In order to obtain relevant contact information, the contact information for CFOs or—for smaller companies with no CFO—for CEOs, was collected from the website of each company. Companies lacking specific contact information for CFOs (or CEOs) were sent an e-mail to their general e-mail address asking them to forward the e-mail address of the person with the best insight into the MAPs of the company. The e-mail contained a link to an online survey. Companies that did not reply were sent two reminders.

Of the 939 companies contacted, 176 companies replied to the survey. However, probably because of the large number of questions, 23 companies failed to reply to all the relevant questions, resulting in 153 usable replies, giving a response rate of 16%. T-tests between companies that answered the first e-mail and companies that answered the reminders did not reveal any significant differences in any key variables, indicating that non-response bias was not a major issue.

Variables

Independent variables

EO was measured with the scale developed by Miller (1983) and refined by Covin and Slevin (1989). It consisted of nine items representing the risk taking, innovativeness, and proactivity of a firm. This scale has often been used in research on EO, and it is highly valued for measuring entrepreneurship. Cronbach's alpha for EO was 0.85, indicating a high level of internal reliability.

The concept of MAPs is multidimensional, and the operationalization was based on the scale used by Chenhall and Langfield-Smith (1998) All the items are listed in the Appendix. The respondents were asked to rate the importance of various MAPs for their

business on a Likert scale ranging from 0 to 7 (number zero was included in order to cover firms that did not use a specific practice). The following MAPs were measured: Budgeting (8 items), Long-term planning (4), Financial measures (9), Non-financial measures (5), and Decision support systems (14). An overall MAP index for each firm was developed by calculating the average MAP for each. Cronbach's alpha for the five items was 0.74.

The respondents were asked to assess whether the company was a growing firm or a non-growing firm by choosing one of four different growth phases that most accurately reflected the current growth of the firm. Eighty-six respondents stated that their firm was in a mature phase (defined as non-growth or a decline in turnover) and these firms were classified as non-growing. Sixty-seven companies were classified as growing firms; of these, five were newly founded and were growing. Eighteen respondents stated that their firms were in a revitalization phase, and 44 firms classified themselves as experiencing a growth phase. In order to validate the accuracy of the answers, data on actual sales growth from the previous four years was collected. This information was available for 145 of the 153 companies, and the respondents' assessments of whether or not their firm was growing showed a high correlation to actual growth ($p < 0.01$).

Dependent variable

The dependent variable, i.e. profitability, was measured by asking the respondents to estimate the profitability of their firm during the previous four years (on average) in relation to their competitors on a seven-point Likert scale. Most previous studies on EO have used subjective performance measures (Saeed *et al.*, 2014), and asking respondents to relate their performance to their competitors can provide a more accurate picture of the performance of a firm than using objective data not related to competitors (Dess and Robinson, 1984). Nevertheless, due to the fact that a one-item subjective measure for the dependent variable was used, archival financial data on return of assets from the previous four

years was also collected. Due to the fact that some data were not available in the database used, we were only able to collect data from 145 of the 153 firms. Also, in contrast to the subjective measure, the objective measure was skewed (violating the assumption of normality necessary for multivariate regression). Nevertheless, the objective profitability measure was strongly correlated to the subjective measure (0.56, $p < 0.001$). Although this figure would ideally have been greater than 0.70, the level of significance indicates that the estimated level of profitability corresponds to actual profitability.

Control variables

Three control variables were used: firm size, firm age, and solidity. Size and age are common control variables in EO research (Rauch *et al.*, 2009) and in studies on management accounting (Perren and Grant, 2000; Reid and Smith, 2000). In addition to these variables, solidity was also used as a control variable. Solidity can give a good reflection of past profitability, and controlling for previous performance is common in studies examining firm performance (e.g. Bharadwaj, 2000; Wiklund and Shepherd, 2003).

All the control variables were measured using objective archival data. Firm size was measured as the number of employees whereas firm age was measured from the point of registration of the firm. To normalize the data for number of employees, the logarithm was used. Solidity was calculated as equity capital in relation to total assets.

RESULTS

The descriptive statistics concerning means, standard deviations, and bivariate correlations are given in Table 1. All residuals were normally distributed, and multicollinearity was not an issue; the highest variance inflation factor, VIF, was 1.31. As previously discussed, to test for possible common method variance, objective data was used for some variables (i.e. size, age,

and solidity) and objective data was used to confirm the validity of key subjective variables (i.e. profitability and growth). In addition, the Harman's single-factor test was performed by loading all of the subjective variables in the study into an exploratory factor analysis. No single factor accounted for the majority of the covariance (the factor accounted for 32 % of the variance), thus alleviating common method variance concerns.

INSERT TABLE 1 AND TABLE 2 ABOUT HERE

The results of hierarchical regressions are presented in Table 2. In model 1a–1d, all 153 firms in the sample are included. Model 1a includes the control variables. In model 1b, EO, MAP, and growth are added separately, and model 1c includes the three two-way interactions of EO, MAP, and growth. In model 1d, the three-way interaction effect of these variables is added. In model 2 and model 3, non-growing firms ($n = 86$) and growing firms ($n = 67$) are analyzed separately. In these regressions, the MAP and EO variables were first added separately. In model 2c and model 3c, the interaction effect of these variables was added.

As shown in model 1a, the control variables explain 12% of the profitability when all firms are analyzed ($p < 0.01$). Hypothesis 1, i.e. that EO has a universal effect on profitability, is partly supported. When all firms are included (model 1b) or when the non-growing firms are analyzed separately (model 2b), the addition of EO makes a significant contribution to profitability ($p < 0.05$). Model 2b ($p < 0.05$) and to a lesser extent model 1b ($p < 0.1$) also support hypothesis 2, i.e. the positive effect of MAP on profitability. Adding EO and MAP (and for model 1b, also growth) significantly ($p < 0.01$) increase the level of explanation of profitability for all firms and for non-growing firms ($\Delta R^2 = 11\%$ for all firms, and $\Delta R^2 = 17\%$ for non-growing firms). Concerning growing firms, model 3b shows that

adding EO and MAP to the control variables does not significantly affect profitability. Nevertheless, it is possible to ascertain that EO and MAP have a positive effect on profitability in non-growing firms, and hypotheses 1 and hypotheses 2 are supported regarding these firms.

When no distinction between growing firms and non-growing firms is made, there is no support for hypothesis 3, i.e. for the significance of an interaction effect of EO and MAP on profitability. As illustrated by model 1c, adding the interaction effect does not contribute to the explanation of profitability (with a small non-significant increase in R^2). Moreover, the lack of support for hypothesis 3 for non-growing firms is evident in model 2c.

Although hypothesis 3 cannot be supported when not distinguishing between growing firms and non-growing firms, hypothesis 4 is strongly supported. Thus, the interaction effect of EO and MAP is much stronger for growing firms than for non-growing firms. Whereas the interaction effect is non-existent for non-growing firms, as shown in model 2c, it is highly significant for growing firms (model 3c), increasing R^2 from 13% to 19% ($p < 0.05$). This is also illustrated by the three-way interaction regression in model 1d, which illustrates the higher explanatory power ($p < 0.05$) of the three-way interaction model (model 1d) compared to the two-way interaction (model 1c). In order to confirm hypothesis 4, model 2c and model 3c must be statistically significantly different. A Chow test (Chow, 1960) was therefore conducted and the test confirmed that the models are different at the $p < 0.05$ level. In order to confirm the nature of the interaction effect shown in model 3c, the recommendation by Cohen *et al.* (2003) for testing interaction effects was followed. Various figures of EO and MAP were plotted by entering these values into the regression equation. The results clearly showed the positive combined effect of EO and MAP on profitability. Thus hypothesis 4 is strongly supported; growing firms benefit much more from the combination of high EO and high MAP. The results strongly indicate that growing firms have

to accomplish high levels of EO in combination with the use of MAP in order to increase profitability, whereas non-growing firms can achieve high profitability with high EO and/or by relying heavily on MAP in decision making, but the combination will not give any additional effect.

DISCUSSION

The results validate much previous research on the EO-performance relationship by supporting the notion that EO often has a universal positive influence on performance. When all firms in the sample were analyzed or when non-growing firms were analyzed separately, EO was found to independently affect profitability, and this result confirms the presence of a universal relationship between EO and performance found in most studies (Saeed *et al.*, 2014). However, the finding that EO alone does not contribute to profitability in a certain type of firm—in the present study, a growing firm—provides support for those who have argued for the complexity of the EO-performance relationship (Andersén, 2010; Dess *et al.*, 1997).

The finding that the combination of EO and MAPs is a prerequisite for growing firms to achieve superior profitability, but that the combination *per se* is not important for non-growing firms, is a key contribution of this study. Although few studies have distinguished between growing and non-growing firms, SMEs that are experiencing growth are likely to face the same challenges as faced by young or small firms. Several EO studies on such firms failed to identify a universal relationship between EO and performance (e.g. Hughes and Morgan, 2007; Walter *et al.*, 2006) until they added a moderating variable that concerned resource management (Messersmith and Wales, 2011). The results of the present study show that growing firms that are entrepreneurial, without taking informed decisions based on information provided by MAPs, are unable to achieve superior profitability. This is most likely due to the fact that the increased uncertainty and change that growing firms are faced with require these firms to make well-informed decisions on how to exploit their

resources. Using MAPs in decision making is not enough, however, and in order to identify the best opportunities under conditions of growth, an entrepreneurial approach is also required. The findings support the core notion of strategic entrepreneurship (Hitt *et al.*, 2001; McGrath and MacMillan, 2000), by identifying the uncertain conditions (i.e. when a firm is growing) under which strategic (i.e. by effectively organizing resources through MAPs) entrepreneurship (i.e. EO) is most important.

Apart from its contribution to the EO literature by identification of a new important moderator of the EO-performance relationship and the validation of a core definition of the strategic entrepreneurship concept, this study is also an important contribution to RBV research. MAPs as a proxy for the organization dimension of the VRIO framework of the RBV have not been applied in previous RBV studies. The RBV has sometimes been criticized for being too static, by focusing on the possession of resources and ignoring the importance of how firms are organized to exploit their resources (Priem and Butler, 2001). EO can be used to examine one dimension of organization of resources because “EO represents how a firm is organized in order to discover and exploit opportunities” (Wiklund and Shepherd, 2003, p.1310). However, EO does not address whether or not a firm “utilizes the available resources in a superior and more efficient manner” (Alvarez and Busenitz, 2001, p.769). The present study has shown that MAPs can be used to examine how firms are organized to exploit its resources. Thus, combining EO and MAPs as a proxy for resource exploitation is an important contribution to the RBV. Whereas EO can be used to consider how resources are exploited in order to discover and seize opportunities, MAPs reflect how efficiently resources are exploited.

IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

Managerial implications and policy implications

The theoretical implications was discussed in the previous section. The results of this study have, however, some additional implications for practitioners in terms of SME managers and operators of business incubators.

The main value of this study for management is that it highlights the complexity of EO. Many previous studies have implied that management should undertake an entrepreneurial orientation, no matter what the circumstances might be (Madsen, 2007; Wiklund, 1999). However, acting entrepreneurially is, by definition, associated with risk taking, and from a managerial point of view it is therefore very important to be aware of the conditions under which EO can be beneficial. The most important managerial implication of the present study is that non-growing firms are likely to benefit from acting entrepreneurially and that they would also benefit from using MAPs to a great extent in their decision-making processes. However, for growing firms to be entrepreneurially oriented or to use MAPs extensively is not sufficient, and these firms must instead combine EO with MAPs in order to increase their profitability.

Another managerial implication is that the relationship under analysis is the correlation between EO and profitability—and not an overall performance measure, which is common in many other EO studies (e.g. Avlonitis and Salavou, 2007; De Clercq *et al.*, 2010; Li *et al.*, 2009). Not all SMEs are interested in growth *per se* and can sometimes be reluctant to grow (Wiklund *et al.*, 2003), and mixing growth with profitability measures into an overall measure of performance is not always relevant from a managerial point of view. Thus, the implications presented in this paper are relevant to firms that want to increase their profitability, and other possible dimensions of performance have not been considered.

Also, the results have some important implications for SME business advisors, such as operators of business incubators. For SMEs to survive and prosper, they must be profitable, and the present study has highlighted the importance of providing support—not only in terms of entrepreneurship education but also in terms of management accounting and how to use management accounting information in decision making. This is especially important for growing SMEs, which are often found in business incubators, because these firms must consider both entrepreneurship and the use of information from MAPs in their decision making in order to be profitable.

Limitations

A possible limitation of this study is the use of subjective data for the key variables. Moreover, the data was collected from the same respondents. This approach is very common in frequently quoted studies on EO (e.g. Lumpkin and Dess, 2001; Wang, 2008; Wiklund and Shepherd, 2005). Nevertheless, in order to evaluate the accuracy of the perceptions of the respondents, two of the variables (profitability and growth) were validated by confirming that the estimations of the respondents corresponded to objective archival data. In addition, objective data was used for all control variables (i.e. firm age, firm size, and solidity), and the fact that solidity was found to be strongly correlated to perceived profitability strengthens the validity of the perceptual dependent variable ($p < 0.05$ or 0.01 in all regressions).

The response rate of 16% is another limitation of the study, and this was most likely affected by the length of the survey. Although similar or lower response rates have been common in previous research on EO (e.g. Wang, 2008, Wiklund and Shepherd, 2005), having fewer questions—by, for example, focusing on some specific MAPs—would probably have given a higher response rate.

The sample analyzed in this study was Swedish SMEs in the manufacturing industry, and how far the conclusions can be generalized to firms of other sizes, industries, and countries can therefore be questioned. However, most studies on EO have been restricted to specific countries (Saeed *et al.*, 2014), and this study will hopefully add another piece to our understanding of the EO-performance relationship puzzle. Nevertheless, the importance of EO (Saeed *et al.*, 2014) and the use of MAPs (Hyvönen, 2005) can vary between countries, and application of this research design to other countries and/or industries would, of course, strengthen the generalizability of the findings.

Avenues of future research

In addition to the suggestion of testing the validity of the findings in other contexts, there are also some other avenues of future research that would be worth considering when investigating how management accounting and EO affect profitability. One such avenue would be to conduct studies with a more disaggregated approach. Several studies have examined some specific dimensions of EO (e.g. De Massis *et al.*, 2014; Lumpkin and Dess, 2001; Naldi *et al.*, 2007) and analysis of the relationship between specific dimensions of EO and MAPs, and how it affects profitability, could indicate how important certain elements of EO are. Moreover, in this study MAPs were measured at a highly aggregated level, and analysis of long-term planning, budgeting, the use of financial measures and non-financial measures, and decision support systems separately could show the dimensions of management accounting that are most and least important for the EO-performance relationship.

From the perspective of the RBV, this study has been restricted to analyzing the organization dimension of the VRIO framework. However, the vast majority of RBV studies have examined the relationship between a specific resource—or some specific resources—and performance (Armstrong and Shimizu, 2007; Crook *et al.*, 2008; Newbert, 2007). Bringing various specific resources into the equation and using EO and MAPs to analyze the

organization of such resources has the potential to advance the field of RBV research considerably.

CONCLUSION

By bringing the management accounting into the EO-profitability relationship equation and by comparing the effect of MAPs and EO in growing and non-growing firms, the present study has identified a new important moderator of EO. The finding that EO and MAPs independently affect profitability in non-growing SMEs, but that the combination of high EO and MAPs is essential for growing firms, has important theoretical and practical implications. Moreover, EO and MAPs reflect two different dimensions of how resources are exploited, which is a key aspect of the RBV, and the study has illustrated that combining these concepts captures the “opportunity identification dimension” as well as the “resource exploitation dimension” of strategic entrepreneurship.

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Appendix

Management accounting practices analyzed in the study, adopted from Chenhall and Langfield-Smith, (1998)

Long-term planning

- Long range forecasting
- Capital budgeting techniques
- Strategic plans developed together with budgets
- Strategic plans developed separate from budgets

Budgets concerning

- Controlling costs
- Compensating managers
- Resource allocation
- Activities (i.e. activity-based budget)
- Responsibility distribution
- Day-to-day operations
- Cash flow
- Financial position

Financial measures

- Capitalization
- Backlog value
- Profitability
- Sales
- Cost items
- Firm-level cash flow
- Cash flow of specific investments
- Sales related measures (number of orders, order value etc.)
- Return on investments

Non-financial measures

- Time related measures (lead times, delivery times, etc.)
- Quality measures
- Personnel related measures
- Customer related measures
- Productivity measures

Decision-support systems

- Result analysis
- Product life cycle analysis
- Analysis for activity-based management (ABM)
- Analysis of product profitability prognosis
- Value chain analysis
- Shareholder value analysis
- Internal/External benchmarking when developing/undertaking...

- New products
- Business processes
- Organizational changes
- Business strategies

Table 1. Means, standard deviations and correlations.

	Mean	S.D.	1	2	3	4	5	6
1. Profitability	4.29	1.43	1					
2. EO	4.17	0.99	0.28***	1				
3. MAP	3.78	1.05	0.16**	0.38***	1			
4. Growth	0.44	0.50	0.18**	0.28***	0.17**	1		
5. Firm size (ln)	3.43	0.75	-0.04	0.03	0.27***	0.04	1	
6. Firm age	31.18	17.35	-0.03	-0.07	0.03	-0.05	0.14	1
7. Solidity	40.67	22.02	0.33***	-0.01	-0.14	-0.06	0.00	0.13
p < 0.05 *p < 0.01 N = 153								

