

Generic strategies and firm performance in SMEs: a longitudinal study of Austrian SMEs

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Accepted: 30 September 2009 / Published online: 5 November 2009
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Abstract This paper studies the impact of generic strategies on firm performance using a longitudinal study of small and medium-sized enterprises (SMEs) in Austria. In two surveys, data on the strategic behavior and performance of the same group of firms were gathered for the period from 1992 to 2002. The study expands existing literature, which provides little evidence whether the persistent commitment to a generic strategy over a longer period pays off or whether strategic change is the rule in SMEs, reflecting their flexibility as a potential competitive advantage. We consider the traditional generic strategies of cost-efficiency and differentiation, but also examine the group of firms that have no clear strategy or are “stuck in the middle.” Within this group, we distinguish between those companies that deliberately combine traditional low cost production and differentiation, i.e., follow a combination strategy, firms that change their strategy and those that have no strategy. We argue that a combination strategy is a viable strategic choice for SMEs in the long run. We found that the majority of firms pursued a persistent strategy over a 10-year period, but that companies that changed their generic strategy did not produce inferior results

to those that adhered to a single strategy over the entire period. Our results reveal that firms that follow a combination strategy outperform companies with no generic strategy in terms of profitability and growth and achieve higher profitability than companies that follow a differentiation strategy.

Keywords Small and medium-sized enterprises · Firm performance · Generic strategies · Combination strategy · Longitudinal study · Strategy persistence

JEL Classifications C12 · L21 · L25 · L26 · M10

1 Introduction

Strategy research has addressed a range of questions with respect to the importance, distinctiveness and impact of strategy on the performance of SMEs. A considerable number of papers have studied competitive strategy in SMEs using strategic classifications such as Porter’s (1980) strategy framework (e.g., D’Amboise 1993; Pelham 2000; Barth 2003), Ansoff’s (1965) product-market matrix (e.g., Teach and Schwartz 2000; Moreno and Casillas 2008) or Miles and Snow’s (1978) adaptation strategies (e.g., Shortell and Zajac 1990; O’Regan and Ghobadian 2006), thereby assuming that these strategies are also relevant for SMEs. In addition, some studies have

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adapted these well-known taxonomies or proposed alternative classifications that take account of the specific advantages and disadvantages of SMEs (e.g., Noteboom 1993; Chen and Hambrick 1995; Lee et al. 1999).

Although a vast number of studies investigates strategy development in SMEs and the impact of different strategies on SME performance, some questions continue to create controversy and thus merit further attention. Referring to Porter's competitive strategy typology, which—although published back in 1980—is still widely used in practice and extant research studies (e.g., Julien and Ramangalahy 2003; Shrader and Siegel 2007; Capelleras and Rabetino 2008), we address three issues in particular.

Firstly, there is an ongoing debate on whether SMEs need a competitive strategy that guides investment and market behavior by defining constraints or whether their competitive advantage stems from their ability to respond flexibly to market needs, particularly in today's highly competitive environments where continued adherence to a specific strategy can even harm competitiveness (Hair et al. 1998; Zhara et al. 2008). Some authors argue that optimizing a firm's operational efficiency and tactics suffices to improve its financial performance (e.g., Zhang et al. 2003). In contrast, others emphasize that strategic commitment over a certain period of time is a precondition for achieving sustained competitive advantage (e.g., Parnell 2005).

Secondly, some authors adhere to the notion that the choice of strategy impacts the performance of firms and that only a certain set of specific strategies provide competitive advantage. Porter (1980) argues that companies that mix cost leadership, differentiation or focus strategy are “stuck in the middle,” i.e., have no valid strategy and therefore achieve low performance, a view that is also adopted for SMEs (e.g., D'Amboise 1993). However, in recent years some authors have criticized Porter's notion of “stuck in the middle,” claiming that a strategy that combines cost leadership and differentiation can also be a valid option (e.g., Miller and Dess 1993). Such strategies have been referred to as “hybrid,” “mixed,” “combination” or even “paradoxical” strategies (e.g., Spanos et al. 2004; Parnell 2005; Thornhill and White 2007). In our study, we use the notion of the “combination strategy.” Some recently published studies take conflicting viewpoints, arguing either for

(e.g., Spanos et al. 2004) or against (e.g., Thornhill and White 2007) the validity of a combination strategy. Despite this, empirical evidence of the effect of a combination strategy for SMEs remains limited. However, some empirical studies (Miller and Dess 1993; Parnell 2000) show that a combination strategy can help to maximize adaptive capacity as firms do not have to rely solely on cost-based or differentiation advantages. Furthermore, we assume that the combination strategy is not simply operational flexibility chosen for short periods in turbulent times, but is instead deliberately chosen as a generic strategy followed persistently over a longer period.

Thirdly, there is hardly any empirical evidence showing whether SMEs pursue a strategy over a longer period of time or if they change their generic strategy (Pelham and Wilson 1996) and whether this persistence in their strategic behavior makes them more successful. Our longitudinal study contributes to this debate by identifying whether SMEs persistently following a generic strategy are more successful than SMEs that change their generic strategy over time.

Our study is based on a survey of 100 Austrian companies with 20–500 employees in seven manufacturing industries. The firms were interviewed in 1995 and again in 2003 using the same standardized questionnaire. In both surveys, the firms provided performance data covering the period between 1992 and 2002. Surprisingly, hardly any studies have examined whether strategy has an impact on performance of SMEs over a longer period of time and thus delivered proof of the sustaining effect suggested by many prominent strategy scholars. Pelham and Wilson (1996) and Gibcus and Kemp (2003) are among the few authors who provide studies of the performance impact of Porter's generic strategies, but even they do not go beyond a 5-year period. We argue that this lack of longer term perspective is one factor that might explain the inconsistent findings regarding strategy and firm performance.

We use a specific methodology to measure strategic behavior considering not only whether a company intentionally followed a particular strategy, but also whether it took any related action. Given the longer time span, this approach allows us to operationalize strategy more accurately by considering intentions and actions (Mintzberg and Waters 1985; Lyon et al. 2000). It also enables us to identify pure low cost and differentiation strategies and subdivide

the traditional “stuck-in-the-middle” group into three subgroups: one group that deliberately follows a combination strategy, a second that changes its generic strategy over a longer period and a third that has no strategy at all. Consequently, we also respond to the criticism encountered in extant literature (e.g., Spanos et al. 2004) that many studies to date have failed to distinguish adequately between “stuck-in-the-middle” and combination strategies.

In the next section, we develop our hypotheses and explain the measurement of the strategic variables, control factors and performance of the SMEs. We then present the results of the statistical analysis and conclude with a discussion of our main findings.

2 Theoretical background and hypotheses

2.1 Porter’s strategies and firm performance

A number of strategic typologies and taxonomies have been proposed to study the link between strategy and performance in SMEs. The classifications developed by Ansoff (1965), Porter (1980) or Miles and Snow (1978) are the ones most commonly found in empirical literature on SMEs. Porter uses the term “generic strategy” in his taxonomy to describe the specific strategies of cost leadership, differentiation and focus. While we concentrate in our study on the competitive strategy debate in the Porter tradition, others (e.g., Herbert and Deresky 1987) have proposed alternative classification systems that categorize generic strategies that can be applied across all industries, types or sizes of organization. Therefore, we argue in line with Porter (1980) that a competitive strategy is a plan that establishes a profitable and sustainable competitive position against the forces that drive industry competition.

Based on the traditional industrial organization (IO), Porter (1980, 1985) argues that firms have two primary types of competitive advantage: differentiation or low cost. Firms that follow one of these strategies, which are also often labeled as pure strategies (Thornhill and White 2007), should achieve above-average firm performance. Since these two dimensions demand different investments in resources, control procedures, organizational structures and incentive systems, Porter determines them to be incompatible. In addition to these dimensions, firms

have to make another important strategic choice, namely whether to compete in broad markets or focus on specific market segments (i.e., a focus strategy). Consequently, firms can follow a cost or a differentiation strategy in either narrow or broad markets. Porter (1980) maintains that his framework is applicable to both large and small firms and argues that smaller firms may elect more often to compete in niche markets.

The resource-based view that emerged in the late 1980s is another important and influential strategy paradigm (e.g., Wernerfelt 1984; Barney 1991; Grant 1996). While the traditional IO perspective on strategy has been criticized by the resource-based view, we nonetheless contend that the positioning of firms on markets does explain some of the variation in performance (e.g., Dess and Davis 1984). Moreover, in recent years some authors have argued the complementarity of both approaches (Amit and Schoemaker 1993; Grunert and Hildebrandt 2004) and state, for instance, that distinct competencies and resources are important for realizing sustainable competitive advantage when following a differentiation strategy (e.g., Mosakowski 1993; Shrader and Siegel 2007).

Some studies indicate that SMEs primarily follow a focus strategy (Watkin 1986; Weinstein 1994; Gibcus and Kemp 2003),¹ with differentiation appearing to be the most popular competitive strategy used by SMEs in market niches. For the purposes of our study, two differentiation alternatives central to SMEs were considered, namely product innovation and product quality. Product innovation is regarded as a particularly important strategy for survival in dynamic environments. Aside from the fact that some SMEs prefer to remain small (Bussiek 1983; Birley and Westhead 1990), innovation strategies often associated with entrepreneurial behavior are regarded as one of the most promising paths leading to corporate growth (Cooper and Dunkelberg 1988; Covin 1991).

Offering higher quality products is another important competitive weapon for SMEs in many countries. Indeed, as the widespread adoption of ISO 9000 illustrates, quality is one of the central themes for SMEs in Europe (van der Wiele and Brown 1998; Sun and Cheng 2002). Although differentiation by

¹ Since an early analysis of the data from the firms studied showed that they almost all followed a focus strategy, we did not investigate this strategy further.

brand, marketing and services (e.g., Miller 1988; Beal 2000) are frequently referred to in the literature as possible options for a differentiation strategy, our study does not look at these alternatives as they were not considered to be of high relevance for the manufacturing sectors and types of firms analyzed (see below).

In addition to differentiation strategies, low cost strategies assume a central role for SMEs (Ebben and Johnson 2005). However, even when SMEs are often too small to follow a cost-leadership strategy (Gibcus and Kemp 2003), cost-efficient production is still an important requirement. Lower costs can be achieved by modernizing production and/or implementing process innovations, frequently the main strategic investments made by a firm.

The empirical evidence on the impact of the generic firm strategies on performance in SMEs is inconclusive. Some studies deliver evidence of a similar impact of cost-leadership and differentiation strategies on profits (D'Amboise 1993; Kemp and Verhoeven 2002). Pelham (2000) reports that for SMEs a market differentiation strategy has a greater impact on profits than a cost-leadership strategy, while Dess and Davis (1984) find that low cost leaders had a higher return on assets than differentiators. Moreover, some authors (Moreno and Casillas 2008) claim that Porter's generic strategies are primarily associated with financial performance and not growth, while others point out that generic strategies impact both financial performance and growth (Pelham 2000). In this context, studies investigating the relationship between different performance variables suggest that performance is a multi-dimensional construct. Murphy et al. (1996) illustrate that there is only a weak correlation between the different dimensions of performance (e.g., profitability, growth, market share, etc.), thus maintaining that a positive association between strategy and performance in one dimension or variable needs not necessarily hold for another.

Summarizing the above-mentioned studies in SMEs shows that there is no clear evidence so far that one strategy is superior to another one with respect to both financial performance and growth. We hence formulate:

Hypothesis 1a With respect to profitability and growth, SMEs pursuing a cost-efficiency or differentiation strategy perform equally well.

Porter (1980) claims that firms that follow one of these two generic strategies can achieve above-average performance in the long term, while firms that are “stuck in the middle“ perform less well. For Porter (1985), “stuck in the middle” is often associated with a firm's unwillingness to make strategic choices and its attempts to compete by every means. Although a poor strategy, he argues that it is at least some form of a strategy. However, others claim that this group also encompasses firms that follow no clear strategy, with the two terms often being used synonymously (e.g., Gibcus and Kemp 2003).

In our longitudinal study, we sought to investigate this specific subgroup, since other empirical studies either do not investigate the “stuck-in-the-middle“ group with any greater accuracy or simply use it to subsume all the firms that do not follow any of the classic generic strategies. We argue that different types can in fact be identified within the “stuck-in-the-middle” group: some firms may have no coherent strategy at all, others may deliberately combine strategies, while others may change their generic strategy. The following section looks in more detail at why some firms may have no coherent strategy and concludes with a corresponding hypothesis.

Inkpen and Choudhury (1995) note that there is a tendency in traditional IO-dominated strategy literature to assume that every competing organization has a strategy—be it explicit or implicit—as all firms are searching for rents. However, they also offer an explanation as to why companies may have no strategy and point out that the absence of a strategy is not the same as having a bad or inadequate strategy. A strategy may be in the process of emerging, and young firms in particular do not have a history of decision-making that has evolved into a coherent pattern (Mintzberg and Waters 1985). However, Inkpen and Choudhury (1995) stress that the absence of a strategy should not necessarily be associated with poor performance. They believe that managers may even deliberately build in strategic voids and apparent incoherence in decision making, for instance to experiment in a transitional phase. Moreover, other authors argued that small firms in particular may have no clear long-term strategy and operate on a “day-to-day“ model of doing business in protected niches, at least for a certain period for time (e.g., Spanos et al. 2004). While we share the opinion that an absence of strategy might not harm performance in the short

term, we generally associate an absence of strategy with a weaker competitive position in the long run.

Few studies have investigated the “stuck-in-the-middle” group in more detail and refer explicitly to a “no strategy” group. Gibcus and Kemp (2003) found that the “stuck-in-the-middle” group (which they classify as “having no strategy”) achieved the lowest performance in three subsequently analyzed years (1997, 1999, 2001). Dess and Davis (1984) found that “stuck-in-the-middle” firms had lower sales growth but higher returns than the cost leadership group. In a meta-study, Campbell-Hunt (2000, p. 132) found that since most of the studies considered did not isolate “stuck-in-the-middle” clusters, there is no clear evidence of inferior performance on the part of “non-distinctive strategy designs.”

We assume that following a cost-efficiency or differentiation strategy is superior to following no strategy at all over a 10-year period and hence formulate the following hypothesis:

Hypothesis 1b SMEs pursuing a cost-efficiency or differentiation strategy will achieve higher financial performance and firm growth than SMEs with no strategy.

2.2 The combination strategy as distinct generic strategy

The question of whether companies can (or even should) combine differentiation and low cost strategies has been discussed in the extant literature (e.g., Helms et al. 1997; Parnell 2000; Spanos et al. 2004; Thornhill and White 2007). Porter (1985) argues that firms with no clear strategy are “stuck in the middle” and achieve inferior performance, maintaining that a “stuck-in-the-middle” position stems primarily from efforts to combine both low cost and differentiation strategies. A few researchers (e.g., Phillips et al. 1983; Murray 1988) counter that the two strategies are indeed compatible. For instance, Murray (1988) contends that the preconditions for a viable cost leadership strategy stem principally from an industry’s structural factors, whereas the preconditions for successful product differentiation are related to customer tastes. Since these two exogenous factors are independent and exist in many industries, he concludes that it is possible to successfully combine both strategies.

Although researchers have investigated the conditions under which low cost and differentiation strategies can be combined, no overarching framework has emerged to explain the effectiveness of such a combination (Parnell 2000). Some scholars argue that changing competitive environments have challenged the traditional view of generic strategy (Courtney et al. 1997; Fjeldstad and Haanaes 2001). Thus, a combination strategy allows firms to maintain greater agility and flexibility in offering products that focus either more on costs or on a specific product feature (e.g., Anand and Ward 2004; Parnell and Hershey 2005).

More recently, and particularly with regard to modern quality management approaches such as total quality management (TQM), some authors have claimed that such techniques help to reduce costs and, at the same time, assure both higher product quality and greater market responsiveness (Reitsperger et al. 1993; Leonard and McAdam 2001). Hence, a firm that offers high-quality products may attract additional customers and thus increase market share, which then reduces average cost because of economies of scale. Thus, introducing a total quality strategy might allow firms to offer better products at a better price.

In addition, some authors apply resource-based theory to explain the validity of combining strategies and the resultant use of a combination of resources (e.g., Parnell 2000). From this perspective, a successful low cost strategy might also contribute to organizational learning, which, in turn, can enhance product quality without necessarily identifying quality as a means of differentiation (Parnell 2000). Organizational learning literature also delivers support for the notion that effective organizations constantly discover and implement means to reduce costs and differentiate their products to maintain their market position (Hawawini et al. 2003). Fuchs et al. (2000) argue that the integration capabilities and alignment of all the necessary elements provide the competitive advantage of a combination strategy and that these capabilities are as important as the positioning effect of a generic strategy.

Literature on innovation also delivers arguments supporting the validity of combining low cost and differentiation strategies. For instance, improving existing or developing new products (innovation differentiation) often requires process innovations, which, in turn, can reduce product costs regardless of

scale and scope (Helms et al. 1997). Targeted new production technologies and organizational or system innovations can also help firms to combine cost-efficient production and product differentiation (Love-man and Sengenberger 1991; Parnell et al. 2004).

Despite the arguments provided, empirical evidence on the impact of combination strategies in SMEs remains limited. White (1986), Wright et al. (1991) and Helms et al. (1997) number among the few authors who demonstrate that firms that combined low cost and differentiation strategies performed better than companies that followed a pure strategy. In their study of British SMEs, Wright et al. (1991) found that companies that followed a combination strategy performed better (ROI) than businesses with low cost and differentiation strategies. For retail firms, Parnell (2000) delivers evidence that specific combinations can lead to superior performance in terms of either growth or profitability, but not in both.

In their study of the importance of competitive strategy in Greek firms, Spanos et al. (2001) deliver evidence that low cost, quality and innovation strategies are often considered to be equally important by SMEs and large firms alike. In another study, Spanos et al. (2004, p. 146) show that hybrid strategies were more profitable than pure strategies and that firms that combined more dimensions were even more successful. In contrast, in their study of large and small Canadian firms, Thornhill and White (2007) found that a pure strategy produced better results than a combination strategy, although there was no impact of firm size on performance.

A recent study by Wu et al. (2007) takes a contingency perspective on the question of the appropriateness of a combination strategy, proposing that firms that combine differentiation and low cost strategies will achieve higher profits in any industry characterized by an economic downturn. They argue that the payoff from pure strategies is reduced in such environments as a result of the greater uncertainty and fiercer competition. Based on a sample of firms from 30 countries, they found that firms that combined technological differentiation and productive efficiency outperformed those that followed a pure strategy.

We contend that for a small, highly industrialized economy like Austria, a combination strategy is equally as important as in the cases described by Wu et al. (2007) and Spanos et al. (2004). In countries

like Greece, where the emphasis in the past was on low cost production driven, for example, by low labor costs (Spanos et al. 2004), the challenge was to produce more innovative and higher quality products. In contrast, in the last decade many Austrian SMEs producing high quality products faced the challenge of also having to focus on lower costs as a result of globalization, with new economies catching up and competition from the new EU member states. Moreover, the introduction of new manufacturing technologies such as Computer Integrated Manufacturing (CIM)—which facilitate more efficient, more cost-effective and more flexible production—is a common strategy in highly competitive economies like Austria, Switzerland and Germany (Armbruster et al. 2005) and should enable the adoption of a combination strategy. Consequently, we regard the combination strategy as a generic strategy, which leads us to the following hypotheses:

Hypothesis 2a SMEs pursuing a combination strategy will achieve equal or higher financial performance and firm growth than SMEs following a cost-efficiency or a differentiation strategy.

Hypothesis 2b SMEs pursuing a combination strategy will achieve higher financial performance and firm growth than SMEs with no strategy.

2.3 Persistence of generic strategies

Arguments can be found in the literature that either support the need for strategy persistence or reject its relevance in favor of strategic change and flexibility. Existing research examines aspects like the persistence, dynamics and change of competitive strategy with respect to the role of top management, the perception and influence of environmental conditions and the financial performance of the organization (Ginsberg 1988; Zajac and Shortell 1989; Pelham and Lieb 2004; Brunninge et al. 2007).

Porter (1980, 1991) argues that a generic strategy has to be followed over a long time period to pay off and that the choice of generic strategy is a fundamental decision that will not change often. At the same time, successful companies will maintain strategic consistency and are thus able to enjoy the benefits of the experience curve and learning. Some authors also argue that strategic change is risky and costly, difficult to implement and may require new

measures and considerable investments (Parnell 2005). SMEs may be particularly reluctant to introduce such changes, while larger firms may be more comfortable with the prospect of building up a new business line (Wernerfelt and Karnani 1987). A shift from a low cost strategy to a differentiation strategy, for instance, may require investments in quality management systems or outlays to develop research and development facilities. Moreover, a strategy shift may confuse consumers (Parnell 2005). For example, if an SME switches from a low cost strategy to a differentiation strategy, its price-oriented customers may become irritated and change to another low cost provider, while those customers who are willing to pay a premium price may not assess the strategic change positively. Thus, competitors may distort consumer perceptions (e.g., through advertizing campaigns) and thus themselves reap the benefits of the initial strategic change.

Contrarily, one may also argue that strategic flexibility and change are prerequisites for superior performance since the strategy and the environment have to be aligned, and a shift in the environment might necessitate a strategic change to maintain the fit (e.g., Dess et al. 1997; Hair et al. 1998). For instance, if the environment changes considerably, thereby diminishing the justification for following a low cost strategy, a change of strategy might be plausible. Based on Porter's and Ansoff's strategic typologies, Teach and Schwartz (2000) studied software firms in a longitudinal survey and contend that firms have to change their generic strategy in turbulent environments such as the software industry. They found no significant link between strategic change and performance and no indication of strategic persistence in software firms. Generally, the literature stressing the importance of environmental conditions often argues that flexibility is an SME's main competitive advantage, that their strategy inertia is low and that strategic change is a common measure used by firms in increasingly dynamic competitive landscapes (e.g., Hair et al. 1998; Wiggins and Ruefli 2005).

In contrast, Hughes and Morgan (2007) hypothesize that firms tend to keep to their strategic approach even in high-tech industries. They base their argumentation on the resource-based view and the need for investments in intangible resources. This in particular demands commitment to a chosen strategy, but also reflects a strong sense of strategic direction

and management confidence in this strategy. In this respect, Covin et al. (1997) find that firms that adhered to their strategic plans performed well, even in hostile environments. Although firms adapt their strategies, literature on adherence stresses that such modifications do not necessarily result in a change in prevailing "strategic posture" (Fox-Wolfgram et al. 1998).

There is little empirical evidence for the long-term impact of strategy persistence in SMEs. Pelham and Wilson (1996), for instance, studied a sample of 68 SMEs in 1991 and 1993, but found no significant relationship between the generic strategy and performance. They measured strategy using the interviewees' assessment of the importance of strategies, but did not measure to what extent strategies had been realized. They hence concluded that strategy implementation might be more important than strategy selection in explaining any effect of strategy on corporate performance. Parnell (1994) investigated strategy change in large US firms over a 5-year period based on Miles and Snow's (1978) strategy typology. Based on the information provided by the CEOs, he found that about 50% of the firms had changed their strategy and concluded that businesses maintained strategic persistence outperformed those that shifted away from their strategy. However, this offers only a weak indication of an impact of a continuous commitment to Porter's generic strategies in SMEs.

Our study looks at firms in low, medium–low and medium–high technology manufacturing industries in a small, highly industrialized economy. Since these environments were considered relatively stable in the 1990s, or at least not hyper-competitive, we would not generally expect them to have a strong need for strategic change. Consequently, and taking into consideration the positive effects of specialization, organizational learning and a clear customer image associated with a commitment to a strategy for an extended period of time, we propose the following hypotheses:

Hypothesis 3a SMEs that change their strategy have lower financial performance and growth than SMEs that persistently follow a cost-efficiency, differentiation or combination strategy.

Hypothesis 3b SMEs that change their strategy have higher financial performance and growth than SMEs with no strategy.

3 Methodology

3.1 Sample

The data used to test the study's hypotheses are taken from a longitudinal study of Austrian SMEs with 20–500 employees. The first survey was carried out in 1995 (Leitner 2001) and was followed by a second survey of the same firm sample in 2003.

The firms were selected at random from the Dun & Bradstreet database, which covers all Austrian companies with more than ten employees. The seven industries chosen represent about 30% of all firms in the country's manufacturing sector and cover the typical low- and medium-tech manufacturing industries that contribute to economic growth and productivity in Austria (ÖSTAT 1998). The total number of firms in these seven sectors was 2,051 in 1995. Our final sample is distributed across the industry classification standards as follows: manufacture of wood and of products of wood (NACE 20): 16%; manufacture of furniture (NACE 36): 10%; manufacture of basic metals (NACE 27): 11%; manufacture of fabricated metal products (NACE 28): 24%; manufacture of machinery and equipment (NACE 29): 19%; manufacture of chemicals and chemical products (NACE 24): 8%; manufacture of rubber and plastic products (NACE 25): 12%. This distribution accounts for the relative importance of these sectors across the Austrian manufacturing industry. The study includes both independent firms as well as firms owned by other firms (e.g., business groups or banks).

We chose to carry out the interviews by phone or on site as this method assures a higher response rate. We also anticipated that the personal contact established by using this method would help to assure a high response rate in a subsequent interview. Of the 120 firms contacted, a total of 100 firms agreed to participate in the study, and an interview date was arranged. An analysis of the motives for non-participation given during the phone conversation by the 20 firms that did not participate and the use of secondary data revealed no evidence of a bias in the sample with regard to performance (e.g., low performance), strategic behavior (e.g., no strategy) or industry. The interviews were carried out by phone with the managing directors using a questionnaire and lasted about 90 min. With the exception of those firms that

had gone bankrupt in the meantime, we were able to convince all the firms to participate in our second survey in 2003, where interviews were again carried out by phone with the managing directors, this time based on the same standardized questionnaire.

Nine of the companies initially interviewed had since gone bankrupt, leaving us with 91 companies for the second survey. A comparison of the failure rate of 9% with comparable national statistics showed this number to be in line with official bankruptcy statistics (Creditreform 2002), which were rather low in Austria during the period in question. Although the official statistics include all size classes and industries, it can be assumed that the SMEs in our size class and industries correspond roughly to the average statistics (see e.g., Gavac et al. 2002). However, we also included the nine companies that had gone bankrupt in our analysis, since we were interested in determining whether they had followed some sort of strategy in 1995 or whether a lack of strategy might have had an impact on their collapse.

3.2 Strategy variables

The question of measurement is crucial when studying generic strategies and can greatly impact the outcome. Indeed, in our opinion, the various approaches used to categorize generic strategies all have different constraints, particularly when it comes to accurately determining a combination strategy.

A large number of studies determine strategy based on the answers provided by respondents when asked whether they considered themselves to be a low cost producer or a differentiator (Beal 2000; Pelham 2000; Thornhill and White 2007). Some studies also use cluster analysis or factor analysis to identify different generic strategies if no “stuck-in-the-middle” position or “no strategy” group emerges. However, the reason for this non-emergence may lie in the methodology and does not necessarily mean that such groups did not exist (Ketchen and Shook 1996; Campbell-Hunt 2000).

With regard to combination and “stuck-in-the-middle” strategies, measurement is raised as an issue in the existing literature by Miller and Dess (1993), Spanos et al. (2004) and Thornhill and White (2007). Spanos et al. (2004) propose that “stuck-in-the-middle” strategies can be interpreted as strategies in which firms have an average emphasis in a certain

field (e.g., average investments in technology compared to the industry mean). They note that research often fails to distinguish between combination and “stuck-in-the-middle” strategies and consider a combination strategy to be characterized by a strong emphasis on more than one generic strategy, while “stuck-in-the-middle” strategies display a lack of distinctive emphasis on any one particular strategy.

While many scholars use intentions to operationalize strategies, some researchers also use investment behavior or actions to capture strategic behavior (e.g., Wu et al. 2007). However, we maintain that the total investments made by a firm are not necessarily a measure of emphasis in a specific strategic dimension. For instance, Wu et al. (2007) measure commitment to a technology differentiation strategy by a firm’s R&D expenditure. However, there is no reason why a company that spends less on R&D should not be following an innovation differentiation strategy. For instance, companies with higher R&D spending might be developing more radical innovations, while those with lower R&D focus on incremental product innovations. Both are still differentiating by product innovation.

Thus, while the amount of investments or accomplished activities (actions) captures strategies that have already been realized, the assessment of strategy by intentions can only be taken as an indication of a planned strategy (Mintzberg and Waters 1985). Consequently, we use both intentions and actions to measure realized strategies and thus operationalize strategic behavior over time, thereby overcoming some of the weaknesses of extant measurement approaches. We adopt an idea outlined by Lyon et al. (2000), who propose combining different aspects (e.g., firm behavior and managerial perceptions) to measure entrepreneurial orientation. Michie and Sheehan (2005) take a similar approach, using strategic intentions and actions to measure competitive strategy.

In our study, two criteria had to be met for a firm to be considered to have followed a specific strategy over a 10-year period: the respondent had to assess the related strategic objective (intention) as “highly important,” and the firm had to have taken corresponding action during the 3 years prior to the two surveys in 1995 and 2003.

To classify generic strategies, we measured strategic behavior by three dimensions: cost-efficiency, differentiation by quality and differentiation by

innovation. Each of these three dimensions was identified by two criteria: a question addressing specific strategic goals (and hence strategic intentions) and a question regarding related past managerial action (e.g., enlarging the customer base, launching new products, adopting CIM technologies, implementing a supplier-specific quality system, etc.). Strategy intention was measured on a scale of 1–5 (1 = “not at all important” and 5 = “highly important”). Our aim here was to uncover combination strategies and separate them from “stuck-in-the-middle” strategies.² Consequently, if a company met both criteria (action and intention) at both points in time, it was considered to have a committed and persistent strategy. However, firms did not have to have an explicitly formulated strategy to be categorized as having a strategy, which is particularly relevant considering the strategic management practice in SMEs.

To be classified as following a cost-efficiency strategy, a company had to have responded positively when asked whether it had taken action (e.g., invested, reorganized, invented) to modernize and/or improve its manufacturing processes in the previous 3 years. The following list of seven actions associated with cost reduction (Zahra and Das 1993) was provided: Modernization of Manufacturing Technologies, New Production Processes, Computer Integrated Manufacturing, Logistics Measures, Organizational Innovation, Outsourcing and Change of Suppliers. Furthermore, respondents also had to have assessed productivity as a “highly important” strategic goal in both surveys. This measure is commonly used for assessing cost-efficiency strategies (e.g., Wu et al. 2007).

Firms classified as having followed a product innovation strategy had to have improved an existing product or developed a new product in the 3 years prior to the interview date. This followed the recommendations found in the literature on innovation (e.g.,

² A statistical test parallel to the classification of our strategies shows high and significant correlations between intentions and corresponding actions in the different dimensions (e.g., quality). However, the analysis of the data showed that the use of both criteria ensured more reliable identification of whether a company had maintained a persistent strategy in both periods. This allowed us to separate those firms that demonstrated a lack of commitment over time or simply acted without deliberate intent over the whole period from those that consistently adhered to a specific strategy.

Baldwin and Johnson 1996). In addition, respondents also had to have assessed product innovation as a “highly important” strategic goal.

Differentiation by quality required a company to have introduced a quality measure (e.g., ISO 9000 certification or TQM) in the previous 3 years. This strategy was considered valid if the company had also assessed the production of high quality products as a “very important” strategic goal in 1995 and 2003.

Based on these three different strategies, we were able to construct the combination strategy by categorizing those companies that had combined cost-efficiency and differentiation by quality or product innovation (equivalent to calculating an interaction term). Thus, those SMEs determined to have been following a combination strategy had assessed both of these strategic dimensions as “highly important” and had taken corresponding managerial action. This procedure allowed us to construct the dichotomous variables used as dummy variables in the statistical analyses.

Firms that had changed strategy (e.g., followed a cost-efficiency strategy in 1995 and a combination strategy in 2003, or only followed a generic strategy in one period) were categorized as “Strategy Changed.” Companies for which we were unable to identify a generic strategy in either period were classified as having “No Generic Strategy.” A similar classification of the “No Strategy” group is also used by Spanos et al. (2004). For the nine companies that had gone bankrupt between the two surveys, we took the strategy (if any) used in the first period and assumed it had been followed until the date of shutdown.

3.3 Performance variables

Three performance indicators were used in the study for both time periods, namely average profitability, turnover growth and employment growth. It is often difficult to obtain data on the profit levels of small firms as they are, in many cases, not obliged to publish their results and are also often reluctant to provide financial information (Sapienza et al. 1988). Literature on this topic shows a strong correlation between self-reported, perceived measures of performance and objective measures of performance (Dess and Robinson 1984; Covin and Slevin 1988). Profitability was thus measured on the basis of a self-assessment by the respondents, who were asked to

compare themselves with their competitors using a 5-point scale (where 1 = very poor and 5 = very good). Respondents were asked to assess their annual performance for the previous 3 years (first survey in 1995) and for each year between 1995 and 2002 (second survey in 2003). Based on this sequence we calculated the mean, providing us with an average value for profitability ranging from 1.00 (1 in each year) to 5.00 (5 in each year) covering the period 1992–2002.

The figures for turnover and employment for the years 1992 and 2002 were reported by the interviewed firms themselves in both surveys. Firm growth rate can be operationalized in different ways (Davidsson and Wiklund 2000): we took the figures for 1992 and 2002 and calculated the average annual percentage growth. Given the differing growth rates in the industries used in the sample, the average annual percentage growth rate of a firm’s principal industry was subtracted from its real growth rate. Industry growth figures for 1992 and 2002 were taken from the Statistical Yearbook published by the *Austrian Statistical Office*. Since the analysis of the turnover and employment growth rates showed extremely high values for some firms, we censored three extreme outliers with respect to employment and turnover growth and replaced their values with an average annual percentage growth rate of 20% (employment) and 30% (turnover), an approach regarded appropriate in cross-sectional studies (e.g., Kothari et al. 2005) and used, for instance, by Lööf and Heshmati (2002).

For the nine companies that had gone bankrupt between 1995 and 2002, specific performance values were defined for the second period. Earnings for the second period were calculated by taking the lowest score (1 = very poor) for profitability between 1995 and 2002, leading to very low values for those firms. However, as these firms had shown different profitability levels in the first period, profitability levels still differed slightly for the nine bankrupt firms. In addition, we set the figures for turnover and employment for the second period as zero and thus achieved a growth rate of –100%. We again calculated the average annual value for these nine firms and obtained a growth rate of –10% for the period 1992–2002 (the smallest possible figure). However, as some of the surviving firms had also shown considerably negative growth rates, this indicated that there was no significant problem with the assumption

to be normally distributed. Since the number of firms with the same growth level at the low end of the scale (i.e., left-censored) was rather small and the distribution was hardly skewed, we concluded that the distribution was acceptable for carrying out an OLS regression (Chatterjee and Price 1991). Thus, our procedure corresponds to a winsorization of 88%, i.e., a 9% winsorization at the lower bound and a 3% winsorization at the higher bound. Finally, the Kolmogorov–Smirnov tests for employment and turnover growth and profitability confirmed that the performance variables were normally distributed.

3.4 Control variables

Previous research suggests that firm size and firm age are important factors that influence performance (Birley and Westhead 1990; Mata 1994; Almus and Nerlinger 1999). For instance, firm growth tends to decline with increasing firm size and age. We used firm size (measured as the total number of employees) and firm age in 1995 (log transformed) as control variables. Moreover, since it is frequently argued that ownership has an impact on performance (Randøy and Goel 2003; Durand and Vargas 2003), we included ownership as a further control variable at firm level. A dummy variable was used to distinguish between independent and dependent firms (e.g., subsidiaries).

The importance of company growth as a corporate goal was also used as independent variable. As already noted, not all SMEs want to grow, and we were therefore interested in studying whether a company's ambition to grow influenced its performance (Delmar and Wiklund 2008). In addition, a growth orientation in SMEs is seen as a key characteristic of an entrepreneurial orientation and is positively associated with firm growth (e.g., Moreno and Casillas 2008) and profitability (e.g., Lumpkin and Dess 1996). Growth orientation was measured using the respondents' assessment of the importance of firm growth as a strategic goal on a Likert scale of 1–5 (1 = "not at all important" and 5 = "highly important").

In addition, we used export intensity (export sales as a percentage of total sales in 1995) as a measure of the firm's scope of operations (e.g., Kotha and Nair 1995), which is an important strategy element of Austrian firms and may influence firm growth and profitability (Lee and Habte-Giorgis 2004).

In addition to firm-specific factors, we also accounted for industry environment, since this can also have an impact on firm performance. Since we had adjusted the growth rates by the industry growth figures and asked the firms to compare their own financial performance (profitability) with that of their main competitors, we had already checked for a possible confounding effect of industry on performance and did not include industry as a further control variable. However, we used market share, which reflects the industry context of the firm. Although market share can be interpreted as performance value, it is also used to reflect industry structure, which may have an impact on performance (e.g., Spanos et al. 2004).

3.5 Analysis methods

To test the research question (i.e., the relationship between a firm's performance and its strategic behavior), means comparisons (one-way tests) and regression analyses were carried out. The three performance variables profitability, turnover growth and employment growth served as dependent variables. The different strategic and control factors served as independent variables. For the regression models, we calculated a base model with the control variables and added in a second step the strategic variables. When running analyses of variance (ANOVA) and regressions, correlations between the independent variables were used in advance to control multicollinearity. We also calculated the variance inflation factors for the regression models to check for multicollinearity.

4 Results

Descriptive statistics for the variables used in the study, including means, standard deviation and correlation, are provided in Table 1. The size of the firms studied ranged from 21 to 470 employees, with a mean of 128. The average age of the firms was 48 years, with values ranging from 2 to 183 years, indicating that the firms were fairly mature. The majority of firms (70%) were independent. The correlation analysis shows that the relationships between the independent variables are low to modest and hence acceptable for performing meaningful multivariate statistical tests. In addition, the correlation coefficients between the three performance

Table 1 Summary statistics and correlation matrix ($N = 100$)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Firm size	128	94.98	1												
2 Firm age (log)	3.47	1.10	0.178	1											
3 Ownership	0.30	0.46	0.144	-0.143	1										
4 Export intensity	41.52	31.29	0.169	-0.221*	0.231*	1									
5 Market share	20.72	21.45	0.110	0.074	0.261**	-0.078	1								
6 Goal growth	3.54	1.10	-0.010	-0.128	0.218*	0.033	0.116	1							
7 Cost-efficiency strategy	0.12	0.32	0.091	0.189	-0.228*	-0.188	-0.011	-0.158	1						
8 Differentiation strategy	0.34	0.47	-0.101	-0.151	0.114	0.275**	0.088	0.024	-0.269**	1					
9 Combination strategy	0.23	0.42	0.158	0.082	0.161	0.014	0.138	0.160	-0.204*	-0.392**	1				
10 Strategy changed	0.16	0.37	0.053	-0.129	0.012	-0.032	-0.124	-0.022	-0.163	-0.313**	-0.239*	1			
11 Profitability	3.48	0.82	0.075	-0.018	0.118	-0.139	0.286**	0.258*	-0.081	-0.075	0.307**	0.065	1		
12 Turnover growth	1.25	9.34	0.076	-0.015	0.047	0.031	0.087	0.238*	-0.052	-0.085	0.329**	0.082	0.442**	1	
13 Employment growth	-0.46	7.41	0.102	-0.052	0.127	0.060	0.195	0.223*	-0.089	0.009	0.286**	-0.010	0.422**	0.776**	1

* $p < 0.05$; ** $p < 0.01$

variables were relatively weakly associated, suggesting that there might be a tradeoff in the long term (e.g., Murphy et al. 1996) and that growth does not necessarily lead to profitability nor does profitability enable growth (Baum and Wally 2003).

An initial analysis of the strategies followed by the participating firms revealed the significance of the different generic strategies. Overall, the most common strategy was the pure differentiation strategy, pursued over the entire period by 34 firms. In total, 23 of the firms followed a combination strategy, combining cost-efficiency with quality differentiation and product innovation respectively. Only a minority of firms (13) followed a pure cost-efficiency strategy in both periods. Comparing the strategies chosen in both periods revealed a trend toward the adoption of combination strategies in the second period. In other words, firms following a pure cost-efficiency strategy in the first period began to follow a differentiation strategy, while firms pursuing a differentiation strategy in the first period subsequently introduced a cost-efficiency strategy. This pattern also had a strong impact on the “strategy change” variable. In total, 15 companies changed their strategies or only followed a generic strategy in one period. No generic strategy could be identified in 1995 and 2003 for 15 of the 100 participating firms.

To test Hypotheses 1a and 1b, which state that SMEs pursuing either of the pure strategies perform equally well and outperform SMEs with no coherent strategy, we initially carried out an ANOVA with each dependent performance variable for the different strategies under consideration (see Table 2). The comparison of the mean values revealed that that growth rates for the no strategy group were considerably lower than those for companies following a cost-efficiency or differentiation strategy. However,

multiple comparisons based on a Scheffe test revealed that this difference was only significant at the 0.10 significant level. We thus found no clear support for Hypothesis 1b. Moreover, there was no significant difference between the two pure strategies for any performance variable. Consequently, we found support for Hypothesis 1a.

Hypothesis 2a addresses the question of whether a combination strategy is equal or superior to a pure strategy. Performing pairwise comparisons (see Table 2) delivered evidence that the combination strategy was associated with higher profitability scores than the differentiation strategy. However, a combination strategy was not significantly associated with higher employment or turnover growth than a pure strategy. Consequently, the results support Hypothesis 2a. With respect to Hypothesis 2b, we found evidence that on average the combination strategy group achieved higher performance levels for profitability (3.94 on average), turnover growth (6.65% average annual growth rate) and employment growth (3.39% average annual growth rate) than the no strategy group.

We also carried out a post-hoc analysis to establish whether a combination strategy pursued in three generic dimensions (cost-efficiency, differentiation by quality and product innovation) was more successful than a two-way combination of cost-efficiency and one form of differentiation. We constructed two sub-groups and found that 13 SMEs combined cost-efficiency with either quality or product innovation differentiation (two-way combination), while 10 companies mixed cost-efficiency with differentiation by quality and product innovation (three-way combination). A t-test revealed no significant difference between the two types of combination strategies. Profitability, for instance, was 3.92 for a two-way combination and 3.96 for a three-way

Table 2 Mean performance comparisons

Dependent variable	Cost-efficiency strategy (1)	Differentiation strategy (2)	Combination strategy (3)	Strategy changed (4)	No strategy (5)	F value	Significantly different groups ^a
<i>n</i>	13	34	23	15	15		
Profitability	3.25	3.39	3.94	3.69	2.96	4.41**	3 > 5, 4 > 5, 3 > 2
Employment growth	-0.25	-0.37	3.39	-0.28	-5.25	3.68**	3 > 5, 4 > 5
Turnover growth	-0.13	0.08	6.65	3.35	-6.09	5.28**	3 > 5, 4 > 5

** $p < 0.01$

^a Based on Scheffe

combination. Both growth rates were slightly higher for the three-way than the two-way combination strategy group, albeit not significant.

Hypotheses 3a and 3b deal with the role of strategic persistence. We found that a change of generic strategy from one period to the other was positively associated with performance (see Table 2). Pairwise comparisons showed that companies that changed their strategies exhibited higher profitability and growth (employment and turnover) than the no strategy group. We thus found support for Hypothesis 3b. However, contrary to our expectations for Hypothesis 3a, our results delivered no evidence that firms that deliberately changed their strategy were inferior to who had stuck to their strategy in both periods.

In addition to the comparison of means, we performed a hierarchical regression analysis to control for firm size, firm age, ownership, export intensity, market share and ambition to grow (see Table 3). A test prior to the correlations between the independent variables to check for multicollinearity indicated no problems (see Table 1). The error terms in the multiple regressions were also checked for outliers and heteroscedasticity and raised no concerns. None of the variance inflation factors for the model were greater than 2.2, which is far below the guideline figure (10)

suggested by Chatterjee and Price (1991). First, the control variables (see Table 3: Models 1–3) were entered, followed by the strategy variables in the second step for each performance variable (see Table 3: Model 2, 4, 6). Entering the strategy variables increased the variance of the regression equation in all three dependent performance measures (Model 2, 4, 6). To discuss the results we will focus on the full models. The regression analysis showed that the coefficient of the combination strategy was positive and significant for all three performance variables (Model 2: $b = 0.348$; Model 4: $b = 0.481$; Model 6: $b = 0.381$), and thus confirmed the previous results of the ANOVA, providing partial support for Hypothesis 2b. In addition, the models revealed positive significant coefficients for the variable “strategy changed” on turnover growth (Model 4: $b = 0.271$) and on profitability (Model 2: $b = 0.209$), albeit only on the 0.10 significant level for the latter one (see Table 3). Thus, the results partly support Hypothesis 3b.

Among the control factors, “market share” was positively associated with profitability, in line with basic strategy theory regarding the experience curve, while the export intensity had no impact on the different performance variables. The firm controls age and size had no effect on performance. More

Table 3 Regression analysis

Dependent variable	Regression coefficients (standardized)					
	Profitability Model 1	Profitability Model 2	Turnover growth Model 3	Turnover growth Model 4	Employment growth Model 5	Employment growth Model 6
Control variables						
Firm size	0.066	0.012	0.060	-0.012	0.071	0.024
Firm age	0.141	0.129	0.053	0.035	0.071	0.067
Ownership	0.027	0.007	-0.043	-0.069	0.020	0.002
Export intensity	-0.183 ⁺	-0.179 ⁺	0.007	0.005	0.029	0.014
Market share	0.285**	0.233*	0.139	0.063	0.176 ⁺	0.105
Growth orientation	0.257**	0.233*	0.245*	0.213*	0.213*	0.185 ⁺
Strategic variables						
Cost-efficiency		0.116		0.173		0.135
Differentiation		0.144		0.238		0.215
Combination strategy		0.348*		0.481**		0.381*
Strategy changed		0.209 ⁺		0.271*		0.179
Adj. R^2	0.166	0.200	0.089	0.119	0.092	0.113
Model F	4.252*	3.445*	1.494	2.475*	2.247*	2.646*

⁺ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$

interestingly, we found that the “ambition to grow” not only had an impact on turnover growth (Model 4: $b = 0.213$; Model 6: $b = 0.185$), but it also had an even more significant impact on profitability (Model 2: $b = 0.233$) (see Table 3). An additional analysis revealed that there was no correlation between performance prior to the first investigation in 1995 and goal orientation, indicating that a strong ambition to grow should have expressed positive future expectations based on past performance levels.

5 Discussion

Our longitudinal study of Austrian SMEs contributes to existing literature on generic strategy and strategy change as well as the strategy practice in SMEs, and several of the results are worth highlighting.

Firstly, we found evidence that SMEs that persistently follow a cost-efficiency or differentiation strategy performed equally well, thus confirming one proposition derived from Porter’s original strategy framework. However, of the two, the cost-efficiency strategy was associated with a comparatively low (albeit not significant) employment level, a factor that may reflect the impact of continuous cost-reduction efforts on employment growth.

Secondly, and in stark contrast to Porter’s original proposition, we found that SMEs that pursue a combination strategy achieved equal or greater financial performance than SMEs with cost-efficiency or differentiation strategies. Strategy is traditionally considered to be a choice between conflicting decisions, i.e., cost versus differentiation. Yet more recently, some authors have criticized Porter’s framework, suggesting that external factors like customer choices or internal factors like organizational learning allow a combination of both strategies (Parnell 2000; Fjeldstad and Haanaes 2001; Lubatkin et al. 2006). One explanation why a combination strategy delivers competitive advantage is that modern technologies and management practices such as quality management and flexible production technologies allow firms to simultaneously reduce costs and differentiate products.³ Furthermore, a combination strategy may help

³ We were interested in ascertaining whether companies that followed a combination strategy made more frequent use of specific manufacturing technologies such as CIM, which

to reduce market risk and maximize long-term performance. In this sense, Porter’s original framework may underestimate the strategic performance outcomes of modern resource-based management methods and production technologies like TQM.

Our results are in line with those empirical studies (e.g., Parnell et al. 2004; Spanos et al. 2004; Wu et al. 2007) that found that combination or mixed strategies perform equally well as or better than pure strategies. However, most of the studies published so far do not differentiate between large firms and SMEs and simply assume that the combination strategy is a valid generic strategy for both types of firms (e.g., Helms et al. 1997; Spanos et al. 2001). As we focused on SMEs, we found that those firms that follow a combination strategy performed best in terms of long-term profitability and growth. While a combination strategy was primarily regarded as an option mainly for larger firms, we showed that a combination strategy is also a valid generic strategy for SMEs. We assume that the organizational flexibility and customer intimacy of smaller firms support the successful realization of such a strategy.

We show that a combination strategy is advantageous for SMEs based in a highly industrial country like Austria. This indicates that such strategies are relevant not only in economies in transition or under high environmental hostility as suggested by some authors (e.g., Spanos et al. 2003; Wu et al. 2007) but also have a more generic character that can be applied in different competitive environments.

Our results support arguments from the field of organizational learning (e.g., March 1991; Lubatkin et al. 2004) advocating the viability of a combination and balance of different dimensions and maintaining that managers do not to necessarily have to concentrate resources, management routines and knowledge flows. In addition, our findings are related to the generic strategy classification proposed by Miles and Snow (1985) and their “analyzer” type. Analyzers combine both the prospector and the defender into a single system, thereby striving to defend existing product markets by improving efficiency while seeking new market opportunities by offering new products

Footnote 3 continued

should allow a differentiation by product as well as a cost reduction. Although the companies that pursued a combination strategy had implemented CIM technologies more frequently, a χ^2 test revealed that this difference was not significant.

(Venkatraman and Prescott 1990). Our study shows that a combination strategy should not be equated to an unwillingness to make choices that is pursued in a transitional phase (Thornhill and White 2007) but is followed deliberately over a longer period of time.

Moreover, we found that a combination strategy positively influenced all three performance indicators profitability, employment growth and turnover growth. However, since there was only a weak correlation between profitability and growth, following a combination strategy does not necessarily mean that a firm will perform better in both dimensions at the same time.

Thirdly, a comparison of companies following a cost-efficiency, differentiation or combination strategy with those that have no strategy indicates that growth requires a coherent strategy, although this relationship is only significant for the combination strategy. SMEs pursuing a combination strategy will achieve greater financial performance and growth than those with no strategy. Of all strategy groups, those companies with no coherent strategy generally achieved the lowest levels of performance in all three performance dimensions. A closer look at the nine companies in our sample that had gone bankrupt between 1995 and 2003 revealed that five of these had no strategy at all in 1995, a higher percentage than those which had not gone bankrupt. Consequently, lack of strategy is a factor that can be associated with the negative development of this group.

Fourthly, we found a considerable level of persistence in the strategies followed, with the majority of firms sticking to their chosen strategy over the entire period. Different theoretical propositions have been made regarding the drivers of strategy change: some scholars argue that there is a high likelihood that SMEs will change their strategy as doing so allows them to adapt to the environment by exploiting their agility and flexibility advantages (Lengnick-Hall and Beck 2005). In contrast, others claim that success breeds success, entrepreneurs stick to their strategies, and strategy change is costly (e.g., Parnell 1994). To investigate the specific proposition that performance might influence the probability of a change in strategy, we tested this relationship by constructing a logistic regression model with the dichotomous dependent variable “strategy changed.”⁴ This model

revealed no evidence that performance in the first period influenced the probability of a change in generic strategy. Hence, our results are in line with those authors who claim that managers tend to rely on past routines and adhere to their initial strategy even in the face of threats or declining profits. This type of behavior is especially typical in owner-managed SMEs (Ranft and O’Neill 2001).

Fifthly, we found that SMEs who indicated an “ambition to grow” not only produce higher turnover growth, they are also more profitable over a 10-year period. This strongly supports the claims in the existing literature on small businesses and entrepreneurship that the attitudes and values of owners and managers impact company development and performance (e.g., Barkham et al. 1996; Delmar and Wiklund 2008). Moreover, since an ambition to grow is also a commitment to higher risks, it is to be expected that companies with this goal will achieve higher profits. In general, ambition to grow is considered a central characteristic of entrepreneurial orientation (Lumpkin and Dess 1996; Moreno and Casillas 2008). Of the other control factors, only market share had a positive significant impact on performance, while ownership, size, age and export intensity had no significant influence in the long run. Thus, our results do not support those of other studies on SMEs with respect to firm size (e.g., Wagner 1995), ownership (Randøy and Goel 2003) or age (e.g., Ebben and Johnson 2005).

Contrary to our expectations, we found no evidence of inferior performance among companies that changed their strategy and those with a persistent strategy. Moreover, firms that changed their generic strategy performed significantly better than those with no strategy. While the variable “strategy changed” might traditionally be regarded as a “stuck-in-the-middle” strategy, our findings support the assertion that firms deliberately change their strategy. Our analysis revealed that many firms adopted a quality differentiation strategy in addition to a cost-efficiency strategy or a cost-efficiency strategy in addition to a quality or innovation differentiation strategy, thus converting to a combination strategy. This may also explain the relatively high performance of such firms. However,

⁴ Average profitability, average annual employment growth between 1992 and 1994, ownership, firm size and firm age

Footnote 4 continued

served as independent variables within a logistic regression model (log-likelihood = 85.163, pseudo $R^2 = 0.042$).

due to the low number of firms that changed strategy, we were unable to carry out a more detailed analysis of the differences between firms that adopted a combination strategy and those that changed from one pure strategy to another, i.e., from cost-efficiency to differentiation and vice versa. Thus, we found no indication that companies that changed their strategy suffered reduced performance as a result of the cost of developing the required new resources and capabilities as suggested, for example, by Mosakowski (1993).

Finally, we found no empirical evidence that SMEs that pursue a cost-efficiency or differentiation strategy significantly outperform SMEs with no strategy in financial terms. Thus, a traditional pure generic strategy does not suffice to ensure above average financial performance in the long run. This weakens the strong assertion that SMEs must follow such a strategy to attain superior financial performance. However, there is a weak indication that a pure strategy has a positive impact on growth or in other words that growth requires some form of strategy.

Our study delivered evidence of the need for strategic management in SMEs. Accordingly, strategic thinking and strategic behavior, which in practice go hand in hand with at least some basic strategic management, are not a luxury, but a necessity for sustainable development. Despite the fact that some management publications might promote following a pure strategy, SMEs should not hesitate to pursue a combination strategy.

6 Limitations and future research

When interpreting the results of this study, consideration must be given to its limitations. The findings are based on a survey of the same group of firms in 1995 and 2003 and have to be treated with caution as the sample size is fairly small. Although the majority of the SMEs studied competed in a single market, some were indeed active in several markets. We assumed that they used the same strategy in all markets.

In line with arguments from the resource-based view (e.g., Shrader and Siegel 2007), it can also be speculated that the possible positive impact of generic strategies must be aligned with specific competencies and resources. It would be interesting here to identify and examine the actual competencies needed in a firm to master the trade-offs and focus simultaneously on

two dimensions (e.g., Lubatkin et al. 2006). Specific organizational structures and a particular internal fit may also be required to deploy a combination strategy. Future studies investigating how companies manage to integrate the different aims without causing confusion or loss of direction would definitely be of interest (Parnell 2005).

The relationship between strategy and performance is also contingent on certain external factors (Miller 1988; Pelham and Lieb 2002). Although our study has not taken a contingency perspective, market conditions in particular may moderate the relationship between combination strategies and performance and, hence, might also be considered in future research. A further factor that merits more detailed study is the role of industry association, which might reveal specific technological or market opportunities relevant for the success of combination strategies.

We did not account for patterns in growth and could, for instance, have categorized different groups and patterns and considered the volatility aspect (Delmar 1997). Moreover, since we were not dealing with reverse causality, we assumed that strategy impacts performance and that there are strong reinforcing loops between the two (Pett and Wolff 2003). Although we found no evidence that past performance influenced the probability of a change in strategy, other factors might be worth considering in subsequent attempts to explain the dynamics of strategy (Kyung 2007), i.e., why some companies change their strategy and others have no clear strategy at all. Such factors might include a new executive management team, a change in legal status or a new supervisory board (Brunninge et al. 2007). It is possible that a strong commitment to a chosen strategy may be influenced by the national and cultural context, but there are currently no studies available that compare the role of strategic persistence across countries and cultures, another open research issue.

Clearly, a combination strategy is not only viable, it is also an increasingly advantageous option for SMEs in highly industrialized economies. Further studies in similar national contexts would serve to reveal the extent to which our findings can be generalized.

Acknowledgment We would like to thank the three anonymous reviewers and the Editor Per Davidsson who offered many constructive and helpful suggestions to improve the manuscript.

Appendix

See Table 4.

Table 4 List of variables

Variable	Scale	Characteristics and coding
Control variables		
Firm size	Ordinal	Number of employees in 1995
Firm age	Metric	Log of the number of years since inception in 1995
Ownership	Dichotomous	0: Independent firm, 1: dependent firm
Export intensity	Metric	Export intensity in % in 1995
Market share	Metric	Market share in % in 1995
Goal growth	Ordinal	On a scale of 1 ('Corporate growth is not at all important') to 5 ('Corporate growth is very important')
Strategy variables		
Cost-efficiency strategy	Dichotomous	1: Firm has modernized production technologies in the last 3 years in both periods, otherwise 0
Differentiation strategy	Dichotomous	1: Firm has taken measures to improve product quality or realized product innovations in the last 3 years in both periods, otherwise 0
Combination strategy	Dichotomous	1: Firm combines a cost-efficiency and a differentiation strategy by quality or product innovation in both periods, otherwise 0
Strategy changed	Dichotomous	1: Firm has changed its generic strategy between period 1 and 2, otherwise 0
Performance		
Profitability	Ordinal	Average score based on the annual values from 1992 to 2002: self-assessment in comparison to the main competitors
Turnover growth	Metric	Average annual growth in % between 1992 and 2002 (industry adjusted)
Employment growth	Metric	Average annual growth in % between 1992 and 2002 (industry adjusted)

References

- Almus, M., & Nerlinger, E. A. (1999). Growth of new technology-based firms: Which factors matter. *Small Business Economics*, 13(2), 141–154.
- Amit, R., & Schoemaker, P. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14(1), 33–46.
- Anand, G., & Ward, P. T. (2004). Fit, flexibility, and performance in manufacturing: Coping with dynamic environments. *Production and Operations Management*, 13(4), 369–385.
- Ansoff, H. I. (1965). *Corporate strategy*. New York: McGraw-Hill.
- Armbruster, H., Kinkel, S., Lay, G., & Moloca, S. (2005). Techno-organisational innovation in the European Manufacturing industry, European Manufacturing Survey, Bulletin EMS 1, Fraunhofer Institut ISI, Karlsruhe.
- Baldwin, J. R., & Johnson, J. (1996). Business strategies in more- and less-innovative firms in Canada. *Research Policy*, 25, 785–804.
- Barkham, R., Gudgi, G., Hart, M., & Hanvey, E. (1996). *The determinants of small firm growth*. London: Kingsley Publishers.
- Barney, J. B. (1991). Firm resources and Sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Barth, H. (2003). Fit among competitive strategy, administrative mechanisms, and performance: A comparative study of small firms in mature and new industries. *Journal of Small Business Management*, 41(2), 133–147.
- Baum, J. R., & Wally, S. (2003). Strategic decision speed and firm performance. *Strategic Management Journal*, 24, 1107–1129.
- Beal, R. M. (2000). Competing effectively: Environmental scanning, competitive strategy and organizational performance in small manufacturing firms. *Journal of Small Business Management*, 38(1), 27–47.
- Birley, S., & Westhead, P. (1990). Growth and performance contrasts between “types” of small firms. *Strategic Management Journal*, 11, 535–557.
- Brunninge, O., Nordqvist, M., & Wiklund, J. (2007). Corporate governance and strategic change in SMEs: The effects of ownership, board composition and top management teams. *Small Business Economics*, 29(3), 295–308.
- Bussiek, J. (1983). Ziele und Strategien in Klein- und Mittelbetrieben. *Internationales Gewerbearchiv*, 2, 73–84.
- Campbell-Hunt, C. (2000). What have we learned about generic competitive strategy? A meta-analysis. *Strategic Management Journal*, 21(2), 127–154.

- Capelleras, J.-L., & Rabetino, R. (2008). Individual, organizational and environmental determinants of new firm employment growth: Evidence from Latin America. *International Entrepreneurship Management Journal*, 4, 79–99.
- Chatterjee, S., & Price, B. (1991). *Regression analysis by example*. New York: Wiley.
- Chen, M.-J., & Hambrick, D. C. (1995). Speed, stealth, and selective attack: How small firms differ from large firms in competitive behavior. *Academy of Management Journal*, 38(2), 453–482.
- Cooper, A. C., & Dunkelberg, W. C. (1988). Entrepreneurial typologies: Definitions and implications. In B. A. Kirchoff, W. A. Long, W. E. McMullan, K. H. Vesper, & W. E. Wetzell (Eds.), *Frontiers of entrepreneurship research 1988* (pp. 165–176). Wellesley, MA: Babson College.
- Courtney, H., Kirkland, J., & Viguerie, P. (1997). Strategy under uncertainty. *Harvard Business Review*, Nov./Dec., 67–79.
- Covin, J. G. (1991). Entrepreneurial versus conservative firms: A comparison of strategies and performance. *Journal of Management Studies*, 28(5), 439–462.
- Covin, J. G., & Slevin, D. P. (1988). The influence of organization structure on the utility of an entrepreneurial top management style. *Journal of Management Studies*, 25, 217–234.
- Covin, J. G., Slevin, D. P., & Schultz, R. L. (1997). Top management decision sharing and adherence to plans. *Journal of Business Research*, 40(1), 21–36.
- Creditreform. (2002). Insolvencies in Europe. A survey by the Creditreform Economic, Research Unit, Creditreform, 2000/01. www.creditreform.de.
- D'Amboise, G. (1993). Do small business manifest a certain strategic logic? An approach for identifying it. *Journal of Small Business and Entrepreneurship*, 11(1), 8–17.
- Davidsson, P., & Wiklund, J. (2000). Conceptual and empirical challenges in the study of firm growth. In D. Sexton & H. Landström (Eds.), *The Blackwell handbook of entrepreneurship*. Oxford: Blackwell.
- Delmar, F. (1997). Measuring growth: Methodological considerations and empirical results. In R. Donckels & A. Miettinen (Eds.), *Entrepreneurship and SME research: On its way to the next millennium* (pp. 190–216). Aldershot, VA: Bookfield.
- Delmar, F., & Wiklund, J. (2008). The effect of small business managers' growth motivation on firm growth: A longitudinal study. *Entrepreneurship Theory & Practice*, 32, 437–457.
- Dess, G. G., & Davis, P. (1984). Porter's generic strategies as determinants of strategic group membership and organizational performance. *Academy of Management Journal*, 27(3), 467–488.
- Dess, G. G., Lumpkin, G. T., & Covin, J. G. (1997). Entrepreneurial strategy making and firm performance: Tests of contingency and configurational models. *Strategic Management Journal*, 18(9), 677–659.
- Dess, G. G., & Robinson, R. B. (1984). Measuring organizational performance in the absence of objective measures. *Strategic Management Journal*, 5(3), 265–273.
- Durand, R., & Vargas, V. A. (2003). Ownership, organization and private firms' efficient use of resources. *Strategic Management Journal*, 24, 667–675.
- Ebben, J. J., & Johnson, A. C. (2005). Efficiency, flexibility, or both? Evidence linking strategy to performance in small firms. *Strategic Management Journal*, 26(13), 1249–1259.
- Fjeldstad, O. D., & Haanaes, K. (2001). Strategy tradeoffs in the knowledge and network economy. *Business Strategy Review*, 12(1), 1–10.
- Fox-Wolfgram, S. J., Boal, K. B., & Hunt, J. G. (1998). Organizational adaptation to institutional change: A comparative study of first-order change in prospector and defender banks. *Administrative Science Quarterly*, 43(1), 87–126.
- Fuchs, P. H., Miffin, K. E., Miller, D., & Whitney, J. O. (2000). Strategic integration. *California Management Review*, 42(3), 118–129.
- Gavac, K., Kanov, H., Kamptner, I., Mandl, I. & Voithofer, P. (2002). Unternehmensübergaben und -nachfolgen in Österreich 2002, Institut für Gewerbe- und Handwerksforschung, Wien, ISBN 3-9501086-2-9.
- Gibcus, P., & Kemp, R. (2003). Strategy and small firm performance, Research Report H200208, January, EIM, Zoetermeer.
- Ginsberg, A. (1988). Measuring and modelling changes in strategy: Theoretical foundations and empirical direction. *Strategic Management Journal*, 9, 559–575.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(Winter Special Issue), 109–122.
- Grunert, K. G., & Hildebrandt, L. (2004). Success factors, competitive advantage and competence development. *Journal of Business Research*, 57(5), 459–461.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice-Hall.
- Hawawini, G., Subramanian, V., & Verdin, P. (2003). Is performance driven by industry- or firmspecific factors? A new look at the evidence. *Strategic Management Journal*, 24, 1–16.
- Helms, M. M., Dibrell, C., & Wright, P. (1997). Competitive strategies and business performance: Evidence from the adhesives and sealants industry. *Management Decision*, 35(9), 689–703.
- Herbert, T. T., & Deresky, H. (1987). Generic strategies: An empirical investigation of typology validity and strategy content. *Strategic Management Journal*, 8(2), 135–147.
- Hughes, P., & Morgan, R. E. (2007). A resource-advantage perspective of product-market strategy performance and strategic capital in high technology firms. *Industrial Marketing Management*, 36(4), 503–517.
- Inkpen, A., & Choudhury, N. (1995). The seeking of strategy where it is not: Towards a theory of strategy absence. *Strategic Management Journal*, 16, 313–323.
- Julien, P., & Ramangalahy, C. (2003). Competitive strategy and performance of exporting SMEs: An empirical investigation of the impact of their export information search and competencies. *Entrepreneurship Theory and Practice*, 27(3), 227–245.
- Kemp, R. G. M., & Verhoeven, W. H. J. (2002). Growth patterns of medium-sized, fastgrowing firms: the optimal resource bundles for organisational growth and performance, EIM SCALES Research Report H200111, EIM, Zoetermeer.

- Ketchen, D. J., & Shook, C. L. (1996). The application of cluster analysis in strategic management research: An analysis and critique. *Strategic Management Journal*, 17(6), 441–458.
- Kotha, S., & Nair, A. (1995). Strategy and environment as determinants of performance – evidence from the Japanese machine-tool industry. *Strategic Management Journal*, 16, 497–518.
- Kothari, S. P., Sabino, J. S., & Zach, T. (2005). Implications of survival and data trimming for tests of market efficiency. *Journal of Accounting and Economics*, 39(1), 129–161.
- Kyung, M. P. (2007). Antecedents of convergence and divergence in strategic positioning: The effects of performance and aspiration on the direction of strategic change. *Organization Science*, 18(3), 386–403.
- Lee, J., & Habte-Giorgis, B. (2004). Empirical approach to the sequential relationships between firm strategy, export activity and performance in U.S. manufacturing firms. *International Business Review*, 13, 101–129.
- Lee, K. S., Lim, G. H., & Tan, S. J. (1999). Dealing with resource disadvantage: Generic strategies for SMEs. *Small Business Economics*, 12(4), 299–311.
- Leitner, K.-H. (2001). Strategisches Verhalten von kleinen und mittleren Unternehmen. Eine empirische Untersuchung an österreichischen Industrieunternehmen vor einem industrieökonomischen und organisationstheoretischen Hintergrund. Dissertation, University of Vienna, Vienna.
- Lengnick-Hall, C. A., & Beck, T. E. (2005). Adaptive fit versus robust transformation: How organizations respond to environmental change. *Journal of Management*, 31(5), 738–757.
- Leonard, D., & McAdam, R. (2001). The relationship between total quality management (TQM) and corporate strategy: The strategic impact of TQM. *Strategic Change*, 10(8), 439–448.
- Lööf, H., & Heshmati, A. (2002). Knowledge capital and performance heterogeneity: A firm-level innovation study. *International Journal of Production Economics*, 76, 61–85.
- Loveman, G., & Sengenberger, W. (1991). The re-emergence of small-scale production: An international comparison. *Small Business Economics*, 3, 1–37.
- Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small- to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, 32, 646–672.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21, 135–172.
- Lyon, D. W., Lumpkin, G. T., & Dess, G. G. (2000). Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision process. *Journal of Management*, 26(5), 1055–1085.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2, 71–87.
- Mata, J. (1994). Firm growth during infancy. *Small Business Economics*, 6, 7–39.
- Michie, J., & Sheehan, M. (2005). Business strategy, human resources, labour market flexibility and competitive advantage. *International Journal of Human Resource Management*, 16(3), 445–464.
- Miles, R. E., & Snow, C. C. (1978). *Organizational strategy, structure, and process*. New York: McGraw-Hill.
- Miller, D. (1988). Relating Porter's business strategies to environment and structure: Analysis and performance implications. *Academy of Management Journal*, 31, 280–308.
- Miller, A., & Dess, G. (1993). Assessing Porter's (1980) model in terms of its generalizability, accuracy and simplicity. *Journal of Management Studies*, 30(4), 553–585.
- Mintzberg, H., & Waters, J. A. (1985). Of strategies, deliberate and emergent. *Strategic Management Journal*, 26, 257–272.
- Moreno, A. M., & Casillas, J. C. (2008). Entrepreneurial orientation and growth of SMEs: A causal model. *Entrepreneurship Theory and Practice*, 507–528.
- Mosakowski, E. (1993). A resource-based perspective on the dynamic strategy–performance relationship: An empirical examination of the focus and differentiation strategies in entrepreneurial firms. *Journal of Management*, 19, 819–839.
- Murphy, G. B., Traylor, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36, 15–23.
- Murray, A. I. (1988). A contingency view of Porter's "generic strategies". *Academy of Management Review*, 13(3), 390–400.
- Noteboom, B. (1993). Firm size effects on transaction costs. *Small Business Economics*, 5(4), 283–295.
- O'Regan, N., & Ghobadian, A. (2006). Perceptions of generic strategies of small and medium sized engineering and electronics manufacturers in the UK: The applicability of the miles and snow typology. *Journal of Manufacturing Technology Management*, 17(5), 603–620.
- ÖSTAT. (1998). Produzierender Bereich 1995, Österreichisches Statistisches Zentralamt. Heft 1.265, Wien.
- Parnell, J. A. (1994). Strategic consistency versus flexibility: Does strategic change really enhance performance. *American Business Review*, 12(2), 22–30.
- Parnell, J. A. (2000). Reframing the combination strategy debate: Defining forms of combination. *Journal of Applied Management Studies*, 9(1), 33–54.
- Parnell, J. A. (2005). Managing paradoxes in strategic decision-making. *International Journal of Management and Decision Making*, 7(6), 708–724.
- Parnell, J. A., & Hershey, L. (2005). The strategy-performance relationship revisited: The blessing and curse of the combination strategy. *International Journal of Commerce and Management*, 15(1), 17–33.
- Parnell, J. A., O'Regan, N., & Ghobadian, A. (2004). Combination strategies reassessed: Evidence from UK Engineering and Electronic Firms. In British Academy of Management conference 2004.
- Pelham, A. M. (2000). Market orientation and other potential influences on performance in small and medium-sized manufacturing firms. *Journal of Small Business Management*, 38(1), 48–67.
- Pelham, A. M., & Lieb, P. (2002). Industry environment and business strategy: A comparison of contingency theory expectations and relationships between small manufacturing firm manager's perceptions of environment and strategy. *International Business and Economics Research Journal*, 1(8), 49–62.
- Pelham, A. M., & Lieb, P. (2004). Differences between Presidents' and Sales Managers' perceptions of the industry environment and firm strategy in small industrial firms:

- Relationship to performance satisfaction. *Journal of Small Business Management*, 42(2), 174–189.
- Pelham, A. M., & Wilson, D. T. (1996). A longitudinal study of the impact of market structure, firm structure, strategy and market orientation culture on dimensions of small-firm performance. *Journal of the Academy of Marketing Science*, 24(1), 27–43.
- Pett, T. L., & Wolff, J. A. (2003). Firm characteristics and managerial perceptions of NAFTA: An assessment of export implications for U.S. SMEs. *Journal of Small Business Management*, 41(2), 117–132.
- Phillips, L. W., Chang, D. R., & Buzzell, R. D. (1983). Product quality, cost position and business performance: A test of some key hypotheses. *Journal of Marketing*, 47(2), 26–43.
- Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. New York: Free Press.
- Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. New York: Free Press.
- Porter, M. (1991). Towards a dynamic theory of strategy. *Strategic Management Journal*, 12, 95–117.
- Randøy, T., & Goel, S. (2003). Ownership structure, founder leadership, and performance in Norwegian SMEs: Implications for financing entrepreneurial opportunities. *Journal of Business Venturing*, 18, 619–637.
- Ranft, A., & O'Neill, H. M. (2001). Board composition and high-flying founders: Hint of trouble to come. *The Academy of Management Executive*, 15(1), 126–138.
- Reitsperger, W., Daniel, S. J., Tallman, B., & Chismar, W. G. (1993). Product quality and cost leadership: Compatible strategies? *Management International Review*, 33(1), 7–21.
- Sapienza, H. J., Smith, K. G., & Gannon, M. J. (1988). Using subjective evaluations of organizational performance in small business research. *American Journal of Small Business*, 12(3), 45–53.
- Shortell, S. M., & Zajac, E. J. (1990). Perceptual and archival measures of miles and snow's strategic types: A comprehensive assessment of reliability and validity. *Academy of Management Journal*, 33(4), 817–832.
- Shrader, R., & Siegel, D. S. (2007). Assessing the relationship between human capital and firm performance: Evidence from technology-based new ventures. *Entrepreneurship Theory and Practice*, 23(5), 893–908.
- Spanos, Y. E., Prastacos, G., & Papadakis, Y. (2001). Greek firms and EMU: Contrasting SMEs and large-sized enterprises. *European Management Journal*, 19(6), 638–648.
- Spanos, Y. E., Zaralis, G., & Lioukas, S. (2004). Strategy and industry effects on profitability: Evidence from Greece. *Strategic Management Journal*, 25(2), 139–165.
- Sun, H., & Cheng, T.-K. (2002). Comparing reasons, practices and effects of ISO 9000 certification and TQM implementation in Norwegian SMEs and large firms. *International Small Business Journal*, 20(4), 421–440.
- Teach, R. D., & Schwartz, R. G. (2000). Methodology to study firms' strategies and performance over time. *Journal of Marketing Theory and Practice*, 8(3), 32–40.
- Thornhill, S., & White, R. E. (2007). Strategic purity: A multi-industry evaluation of pure vs. hybrid business strategies. *Strategic Management Journal*, 28, 553–561.
- van der Wiele, T., & Brown, A. (1998). Venturing down the TQM path for SME's. *International Small Business Journal*, 16(2), 50–58.
- Venkatraman, N., & Prescott, J. E. (1990). Environment strategy co-alignments: An empirical test. *Strategic Management Journal*, 11, 1–23.
- Wagner, J. (1995). Exports, firm size and firm dynamics. *Small Business Economics*, 7(1), 29–39.
- Watkin, D. G. (1986). Toward a competitive advantage: A focus strategy for mall retailers. *Journal of Small Business Management*, 24(1), 9–16.
- Weinstein, A. (1994). *Market segmentation: Using demographics, psychographics, and other niche marketing techniques to product and model customer behavior*. Chicago: Probus Publishing Company.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171–180.
- Wernerfelt, B., & Karnani, A. (1987). Competitive strategy under uncertainty. *Strategic Management Journal*, 8, 187–194.
- White, R. (1986). Generic business strategies, organizational context and performance: An empirical investigation. *Strategic Management Journal*, 7(3), 217–231.
- Wiggins, R. R., & Ruefli, T. W. (2005). Schumpeter's ghost: Is hypercompetition making the best of times shorter? *Strategic Management Journal*, 26(10), 887–911.
- Wright, P., Kroll, D., Tu, I., & Helms, M. (1991). Generic strategies and business performance: An empirical study of the screw machine products industry. *British Journal of Management*, 2, 1–9.
- Wu, H.-L., Lin, B.-W., & Chen, C.-J. (2007). Contingency view on technological differentiation and firm performance: Evidence in an economic downturn. *R&D Management*, 37(1), 75–88.
- Zahra, S., & Das, S. (1993). Innovation strategy and financial performance in manufacturing companies: An empirical study. *Production and Operations Management*, 2(1), 15–35.
- Zahra, S., Hayton, J. C., Neubaum, D. O., Dibrell, C., & Craig, J. (2008). Culture of family commitment and strategic flexibility: The moderating effect of stewardship. *Entrepreneurship Theory and Practice*, 1035–1054.
- Zajac, E. J., & Shortell, S. M. (1989). Changing generic strategies: Likelihood, direction, and performance implications. *Strategic Management Journal*, 10, 413–430.
- Zhang, Q., Vonderembse, M. A., & Lim, J. (2003). Manufacturing flexibility: Defining and analyzing relationships among competence, capability, and customer satisfaction. *Journal of Operations Management*, 21, 173–191.

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