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Should entrepreneurs plan or just storm the castle? A meta-analysis on contextual factors impacting the business planning–performance relationship in small firms

Jan Brinckmann [a,*], Dietmar Grichnik [b,1], Diana Kapsa [c,2]

[a] School of Business Administration, Loyola University Chicago, Chicago, IL 60611, United States
[b] WHU – Otto Beisheim School of Management Vallendar, 56179, Germany
[c] Witten/Herdecke University (UW/H) Witten, 58448, Germany

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ABSTRACT

Entrepreneurship research engages in an intense debate about the value of business planning. Prior empirical findings have been fragmented and contradictory. This study contributes insights to the business planning discussion by following an evidence-based research approach. We conduct a meta-analysis on the business planning–performance relationship and specifically focus on contextual factors moderating the relationship. Results indicate that planning is beneficial, yet contextual factors such as newness of the firms and the cultural environment of firms significantly impact the relationship. Based on this evidence, we propose a concomitant and dynamic approach that combines planning and learning.

1. Executive summary

An intense debate emerged recently in entrepreneurship research on the value of business planning for established small and especially new firms. It concerns the crucial quandary entrepreneurs face whether to plan before embarking on the perilous quest for venture success or if they should just storm the castle. Some researchers belonging to the planning school propose that business planning is crucial for the survival and development of both new and established small firms. The planning school argues that a systematic, prediction-oriented, and formal approach leads to superior venture performance. An opposing group of researchers challenges the value of prediction-oriented strategic approaches for an organization's performance. These researchers propose instead to focus on learning, strategic flexibility, and controlling resources, especially when facing high degrees of uncertainty.

With this study, we address this controversy by synthesizing prior empirical findings. Especially we aim to explain divergent findings by introducing context variables that moderate the planning–performance relationship such as the newness of the sampled firms, the nature of business planning, and cultural variables. In so doing, we intend to foster a contextual and dynamic understanding of the business planning–performance relationship. In other words, beyond the question whether a general planning-based approach is beneficial for small firms, we aim to uncover empirical evidence relating to contexts when business planning shows increased effectiveness.

* Corresponding author. Tel.: +1 312 915 6077.
E-mail addresses: jbrinck@luc.edu (J. Brinckmann), grichnik@whu.edu (D. Grichnik), dkapsa@luc.edu (D. Kapsa).
[1] Tel.: +49 261 6509 261.
[2] Tel.: +49 0 175 318 5324.

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In our study, we follow an evidence-based approach to entrepreneurship research by applying meta-analysis. Evidence-based research seeks to derive insights by systematic synthesizing prior empirical findings. It overcomes limitations of individual studies and narrative reviews of empirical findings. Our meta-analysis synthesizes extant research on planning comprising 46 studies on 11,046 organizations, both new and established small firms. To examine the moderating effect of contextual factors, we apply both bivariate analyses and meta-regressions.

Our findings confirm that business planning increases the performance of both new and established small firms, yet different factors moderate the strength of the relationship. In samples with more established small firms, business planning has a stronger positive effect on performance than it does in samples consisting only of new firms. Thus, we find indications that contingencies such as uncertainty, limited prior information, and an absence of business planning structures and procedures can limit the return on business planning. Based on these findings we suggest a concomitant and dynamic approach of planning, learning, and doing. Initially, basic business planning activities can be undertaken providing the foundation for sense-making and learning while other value creating activities are carried out at the same time. As plans are carried out, real-world experiences are made, and learning takes place, the business planning effort can be increased. This approach combines both planning school and learning school based approaches. Rather than understanding entrepreneurship as a sequential process of planning followed by execution, this approach stresses parallel activities of planning and doing with an increasing allocation of resources to the planning domain.

Moreover, our results also show that studies analyzing the performance effect of business planning outcome (written business plans) determine similar positive performance effects as studies focusing on the business planning process (sophistication of business planning activities). Both outcome and process of business planning augment firm performance with comparable strength. Since business planning in new and established small firms is oftentimes informal, iterative, incremental, unstructured, and irregular leading to no written outcome, the development of these firms might suffer. Our findings caution practitioners to avoid these frequent shortcomings of business planning and apply both formal and more sophisticated planning approaches.

Furthermore, our findings show with respect to different cultural settings that business planning is less beneficial for the performance in cultures characterized by higher uncertainty avoidance than firms in cultures with lower uncertainty avoidance. An interpretation of this finding is that founders or small business leaders might stick more closely to their predetermined plans in countries where uncertainty avoidance is high. This post-planning behavior could limit their strategic flexibility and openness to necessary changes to their business plans which in consequence limits performance. This interpretation of our study findings introduces post-planning behavior as a new dimension to the discussion of the business planning–performance relationship.

2. Introduction

Entrepreneurs face the challenge of determining the right approach to achieve their goals and aspirations. As highlighted by the question in our title, they could engage in extensive business planning or just storm the castle by rallying resources together, orchestrating an immediate offering, and hustling for a first customer. If nascent founders ask for advice on how to increase venture success, a likely response is “start-planning”. Universities around the globe teach students in numerous entrepreneurship classes about the importance of preparing business plans and how to write them. A study of the top 100 business schools in the U.S. finds that 78 schools offer courses on business plan preparation (Honig, 2004). Leading entrepreneurship professors rate the development of a business plan as the most important feature in their entrepreneurship courses (Hills, 1988). Many universities host business plan competitions. In many countries business plan competitions are a central instrument to foster entrepreneurship and regional development (Russell et al., 2008; Lange et al., 2007). Our own research reveals that every year thousands of persons participate in state-sponsored business plans competitions in Germany. Store bookshelves abound with books on how to prepare a business plan (Karlsson and Honig, 2007). If nascent entrepreneurs approach professional investors, they will most likely be required to write a business plan.

In consequence, nascent founders might equate new firm creation with business plan writing and adopt the assumption that more business planning implies greater business success. Overall, there appears to be a planning euphoria in the entrepreneurship domain. But what if the broadly propagated assumption that business planning increases venture success is wrong?

Turning to academic research in management science, we find that the value of planning for the performance of firms has been subject to a long debate (Ansoff, 1991; Mintzberg and Waters, 1985; Porter, 1985). Recently, the academic debate has intensified in the entrepreneurship domain (Bhide, 2000; Sarasvathy, 2001; Delmar and Shane, 2003; Gruber, 2007). Two opposing schools of thought can be identified. The planning school advocates that planning fosters the development of firms because resources are used more effectively, the decision speed is increased, and flexible actuation is supported (Delmar and Shane, 2003). Researchers challenging the value of business planning propose that dedicating top management's time to business planning results in lower returns than dedicating the time to activities of acquiring resources and building the organization (Bhide, 2000). Opponents of planning also stress that planning can lead to cognitive rigidities, organizational inertia, and limited strategic flexibility (Vesper, 1993).

In the entrepreneurship context a number of empirical studies have been conducted to examine the planning–performance relationship. These studies provided inconsistent results indicating a negative, null, or positive relationship between business planning and performance (Robinson and Pearce, 1984; Sexton and Auken, 1985; Bracker et al., 1988; Lange et al., 2007; Gartner and Liao, 2005). Overall, the empirical research base is disjoint. Empirical studies in the entrepreneurship domain draw from both new and established small firm samples oftentimes ignoring contextual differences that might exist between these two types of firms. Initial efforts to quantitatively summarize these findings capture a limited empirical base by focusing only on small firms. (Schwenk and Shrader, 1993). In the meantime, a substantial number of additional empirical findings have been generated in the small firm context (e.g., Sarason and Tegarden, 2003; McKiernan and Morris, 1994).

With the growth of interest in new firms, the last decade has brought an additional amount of empirical evidence concerning the impact of business planning in new firms (e.g., Delmar and Shane, 2003). However, findings in this domain are contradictory and fragmented (Gruber, 2007; Honig, 2004). A study quantitatively synthesizing empirical findings with a focus on new firms has not yet been undertaken. However, the test of basic assumptions and synthesis of research are crucial elements for the development of the entrepreneurship discipline (e.g., Gartner, 2001). Without a systematic integration of individual empirical findings, questions remain concerning the external validity and generalizability of such findings. In other words, relying on few individual studies that found a positive link without taking into consideration other studies that hold evidence in this regard exposes us to the risk of type one errors where we assume the correctness of a link between planning and performance when there is none.

In this paper, we follow an evidence-based approach to entrepreneurship (Rauch and Frese, 2006). The evidence-based approach aims to overcome limitations of individual findings and narrative research reviews. Individual findings can suffer from cognitive and normative biases of the researchers, sampling problems, measurement problems, stochastic effects, and questions regarding the external validity of the findings. Narrative reviews are often colored by stereotypes and biases (Rauch and Frese, 2006; Hunter and Schmidt, 2004). The evidence-based research approach was originally developed in medical research (Rosenberg and Donald, 1995). It encompasses a systematic analysis and appraisal of contemporaneous empirical findings. We pursue this approach, by integrating previous empirical findings concerning the business planning–performance relationship in both new and established small firms by applying meta-analysis. Meta-analysis is a quantitative and systematic research method particularly suitable for synthesizing empirical findings in social sciences (Hunter and Schmidt, 2004). Meta-analysis can offer new insights that go past the presentation of prior findings. First, meta-analysis enables assessment of direct relationships by synthesizing prior evidence and by determining average effect sizes. Second, meta-analytic reviews can control for the upward bias possibly due to the tendency of omitting unpublished research findings. Third, meta-analysis is more sophisticated than other quantitative reviewing techniques as e.g. straightforward counting of statistical significant results. The effect size statistic incorporates both the magnitude and the direction of each study in such a way that also studies with small samples and thus potentially low statistical power may contribute to the mean effect size (Lipsey and Wilson, 2001). As a result, meta-analytic reviews can generate a synthesized effect estimate with higher statistical power than the included individual studies. Finally, meta-analytic reviews can account for moderating variables possibly responsible for the variance of effect sizes across studies. Based on a theoretical framework, the contextual factors encountered in the underlying studies can be tested with respect to their moderating effects for the investigated relationship. For these reasons, meta-analysis findings provide more than a summation of the incorporated parts by generating new insights and thus directing future research.

Beyond the analysis of the general relationship between business planning and performance, we specifically aim for a more contextualized understanding of the planning–performance relationship. While it is insightful to analyze whether a general planning-based approach promises better performance for small firms given the strong advocacy of a planning-based approach, we especially want to increase awareness as to circumstances when such planning-based approach is likely to create more business success. In this regard, we draw attention to three moderating factors: 1) the development stage of the firm, 2) the form of business planning undertaken, and 3) the cultural context in which the planning–performance relationship takes place.

With regard to the development of the firm, we specifically differentiate between new and established small firms. Both types of firms encounter different planning contexts. An established small firm has an established organization, links to the market, and information based on its past operations. A new firm needs to specify its organizational structure and processes and link itself with its environment while lacking information from past operations. With this study, we aim for insights about how these different planning contexts influence the impact of business planning on performance. This analysis can shape our understanding concerning the information requirements for effective planning (Forbes, 2007) as well as the limits of planning in light of complexity and uncertainty (Sarasvathy, 2007). It also addresses the question whether a liability of newness can be overcome through business planning (Stinchcombe, 1965).

Additionally, the form of business planning can be expected to affect the performance. While some studies focus on the formal outcome of the planning effort (e.g. by investigating the existence of written plans or documented goals) other studies analyze how the process of business planning impacts firm performance (e.g. by investigating the sophistication of business planning activities) (Berman et al., 1997). Differentiating between these forms of planning approaches allows an evaluation of the effectiveness of business planning given the resource constraint environment of new and established small firms. Since business planning demands resources yet also promises improved resource utilization (Penrose, 1996), this part of our analysis contributes insights concerning effective resource utilization. Additionally, this analysis provides insights into how the legitimization and communication-based benefit of a written business plan compares to a learning benefit the entrepreneurs obtain in the business-planning process.

Furthermore, an analysis of national culture as a moderating factor on the business-planning performance relationship addresses the question whether business planning is indeed an internationally useful approach. This analysis can contribute insights with regard to the functions business planning fulfills for individuals in different cultural contexts and how different environments respond to the business planning efforts (e.g., Rauch et al., 2000; Honig and Karlsson, 2004; Reynolds et al., 2000). Our resulting research framework is presented in Fig. 1.

In sum, by shedding light on these three contextual variables we contribute to the growing entrepreneurship literature that understands business planning as a multi-facet phenomenon (Gruber, 2007). Beyond these theoretical contributions, our meta-analysis offers additional insights concerning methodical approaches that promise greater explanatory power for entrepreneurship research.

The paper is organized in four sections. In the first part, we develop the hypotheses. We start with the general hypothesis concerning the relationship between business planning and performance in the new and established small firm context. Subsequently we develop hypotheses concerning moderators of the planning–performance relationship distinguishing between studies focusing on new and established small firms, outcome and process of business planning, and different cultural environments. In the second part,

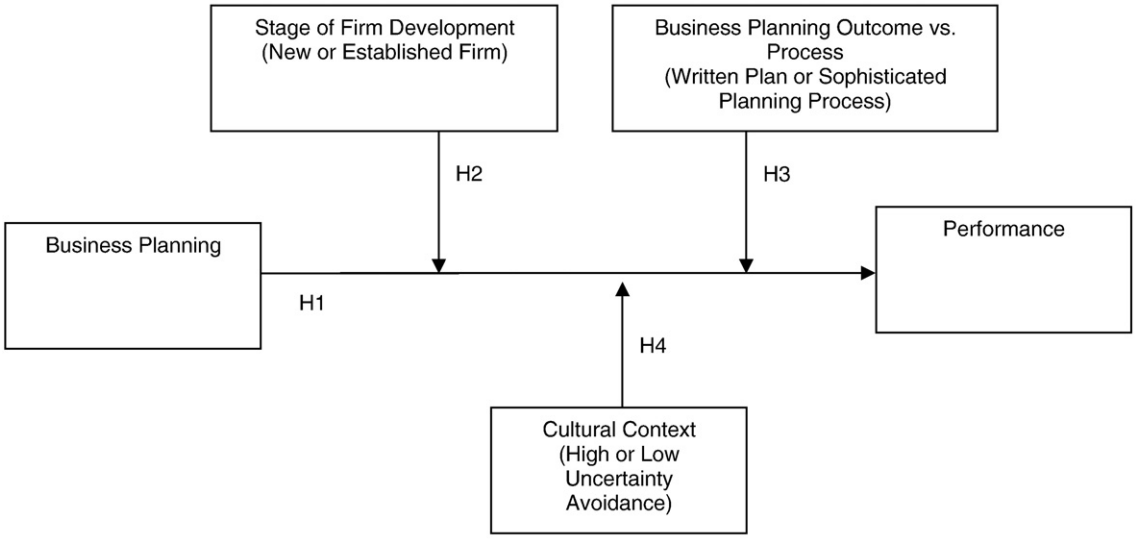

Fig. 1. Research framework.

we describe the applied meta-analysis. The third part presents the results of the meta-analysis. In the fourth part, we conclude with a discussion of the results and implications of our study and offer suggestions for future research.

3. Theory

3.1. Business planning and performance of small firms

Two distinct schools of thought have emerged that provide a theoretical foundation for effects of business planning on firm performance: the planning school and the learning school (Wiltbank et al., 2006; Brews and Hunt, 1999).

The planning school is built on the assumption that planning generally improves effectiveness of human action and facilitates goal achievement (e.g., Ansoff, 1991). Planning scholars describe the following key components of business planning (Armstrong, 1982; Porter, 1985; Andrews, 1971; Ansoff, 1965): definition of strategic goals, generation of alternatives to reach these goals, evaluation and decision among alternatives as well as implementation control. Specifically, evaluation and decision among alternatives require market research, forecasts, and detailed analysis, particularly of competitors' strategies. The planning approach relies substantially on prediction (Wiltbank et al., 2006). This rational-comprehensive and formal approach to strategy development rests on the belief that business planning helps to predict better and to prepare organizations for future challenges. Delmar and Shane (2003) synthesize various positive effects of planning. Planning allows more rapid decision-making than actuation without prior planning since information gaps can be anticipated and closed, assumptions can be tested without expending the resources, resource flows can be optimized, and bottlenecks can be avoided. Planning implies the specification of goals and fosters the identification of effective steps to achieve these goals. Planning enables firms to control goal achievement. If deviations from the plan occur, causes for these deviations can be identified. Additionally, plans enable communication with persons inside and outside the firm. Planning scholars argue that the benefits of business planning increase especially in dynamic and unstable external environments as business planning reduces uncertainty, facilitates faster decision-making, introduces controls for personal bias or subjectivity, and develops new forms of actuation (Goll and Rasheed, 1997; Dean and Sharfman, 1996; Miller and Friesen, 1977; Priem et al., 1995; Delmar and Shane, 2003).

The opposing learning school advocates an adaptive and incremental approach towards strategy development (Brews and Hunt, 1999). Effective strategies can be emergent patterns that do not necessarily follow a predefined, explicit or formal plan (Mintzberg, 1994). Especially in uncertain and unpredictable environments, emergent strategies allow rapid initiation of action to capture arising opportunities (Mosakowski, 1997; Mintzberg and Waters, 1985). Contrary to the planning school, this group of researchers suggests that organizations should focus on learning and pursue flexible ways to adapt strategies when facing high degrees of environmental uncertainty (Hough and White, 2003; Quinn, 1980). Moreover, they argue that in the face of dynamic external conditions, formalized and predictive behavior might create internal rigidities. As a consequence, an organization's commitment to plans and regulations can result in lower degrees of adaptation to external changes and lower performance (Mosakowski, 1997; Haveman, 1992). Because dynamic environments imply information gaps and uncertainty of information, the ability to develop reliable plans is questionable (Bird and Jelinek, 1988). With regard to resource restrictions, business planning requires top management's time, which could be used for other value creating activities (Carter et al., 1996). Rather than spending

time on trying to predict the future, executives could benefit from leveraging the resources currently controlled and acquiring more resources (Wiltbank et al., 2006). Especially in new and established small firms, the downside risk of losing resources due to managerial mistakes is limited (Bhide, 2000).

Early studies investigating the performance effects of business planning in the small firm context have found a positive relationship (Schwenk and Shrader, 1993). Additionally, recent studies investigating planning practices in the marketing domain of new firms suggest that planning has positive performance effects (Gruber, 2007). However, a comprehensive empirical synthesis of the planning–performance relationship specifically including new firm studies and international studies has not been undertaken.

In order to test the relationship between business planning and performance in the general small firm context, we follow arguments put forth by the planning school and prior empirical findings. We hypothesize that business planning helps new and established small firms to reflect and specify their goals and to pursue these goals in an effective manner while using their limited resource base efficiently. Thus, we put forward the following hypothesis:

Hypothesis 1. Business planning in small firms increases performance.

3.2. Development stage of the small firm

A number of factors can be expected to moderate the impact of business planning on firm performance (e.g., Boyd, 1991). The effectiveness of business planning might be dependent on whether the small firm is new or established. As opposed to established firms, new firms face the challenge of establishing themselves as an organization and in the marketplace while being exposed to higher degrees of uncertainty and less information to base their decision on (Stinchcombe, 1965; McMullen and Shepherd, 2006).

With regard to uncertainty, McMullen and Shepherd (2006) introduce Milliken's (1987) differentiation of uncertainty to the entrepreneurship field which distinguishes between state uncertainty, effect uncertainty, and response uncertainty. State uncertainty captures uncertainty about future conditions of the environment. Effect uncertainty concerns the inability to predict how future conditions of the environment will affect the organization. Response uncertainty regards unknown response options and consequences that different responses will have. Business planning involves the prediction of future conditions, a determination of effects that future conditions will have on the firm, the development of strategies in light of evolving environmental conditions, and an assessment of the expected outcomes of these strategies. Compared to managers of established small firms, entrepreneurs launching new firms are likely to face higher degrees of uncertainty, since they have less experience concerning the new firm's environment, the impact of environmental dynamics on the new firm, and adequate response options. When entering a new market, new firms need to make assumptions, which are difficult to test before proceeding to action. For example, they can face difficulties evaluating a priori their relative ability to serve customer needs and to predict customer demand (Bhide, 2000). In sum, the problems and opportunities of new small firms might be less predictable compared to those of established small firms resulting in greater uncertainty.

Additionally, new firms need to deal with limited information to a greater extent than established firms. The creation of new firms intrinsically implies novelty (Davidsson, 2004; Gartner, 1990). The greater the novelty of the firm, the greater the information that needs to be acquired and the more learning needs to take place (Shepherd et al., 2003). Founding teams might be unfamiliar working together as a team, lacking information about how to assign tasks. New firms often need to establish manufacturing processes while lacking information about which type of machinery to purchase and how to integrate it in the overall business processes. Major information gaps might also concern market related factors such as customer segments and preferences, the duration of the sales cycle, customer purchasing patterns, or requirements of the distribution channel. Additionally, many new firms focus on niche markets in which specific information about product prices and competition is not readily available (Bhide, 2000). Frequently, new firms lack the necessary time for gathering and processing information (Vesper, 1993). Moreover, entering niche markets often requires special knowledge or technologies (Ardichvili et al., 2003). Information about such resources might also be hardly available. By contrast, established firms can use their prior experience to plan in an effective way.

Specifically addressing situations of uncertainty and informational scarcity, Sarasvathy (2007) provides an explanation of how decision-making occurs at the level of new firms. According to the effectuation theory (Sarasvathy, 2007), in the context of ambiguous and missing information, predictive and formal planning techniques are less effective for an organization's survival and performance. Additionally, given the uncertain profit potential of the new business, new firms prefer to rather limit potential losses than to strive for maximum returns. Consequently, they might prefer to limit the initial costs of market analysis and research. Therefore, in their early stages of development, successful entrepreneurs are more likely to focus on controllable business aspects (such as building alliances, partnerships, etc.) than on prediction and planning (such as extensive market research and competitive analysis) (Sarasvathy, 2001; Wiltbank et al., 2006).

Strategic decision-making comprehensiveness literature provides further support for this view (Forbes, 2007). Strategic decision-making comprehensiveness denotes the extent to which organizations gather and analyze environmental information in order to prepare strategic decisions. Strategic decision-making comprehensiveness can have an ambivalent impact on performance: while it may improve the quality of strategic decisions, it requires time and other resources. Superior decision quality is likely to be achieved only when environmental information is sufficient and unambiguous. In an unstable environment, strategic decision-making comprehensiveness has been found to be associated with lower firm performance, which indicates that, under these circumstances, its costs might outweigh the benefits (Fredrickson and Mitchell, 1984; Fredrickson and Iaquinto, 1989).

We conclude that the context of new firms is characterized by higher levels of uncertainty as well as missing and ambiguous information. Given this context, we propose that business planning renders lower benefits than in more established small firms.

Hypothesis 2. Business planning increases performance more in established small firms than it does in new small firms.

3.3. Forms of business planning

Literature on business planning emphasizes the multi-dimensional character of the concept (e.g. Ramanujam et al., 1986). Generally, a distinction is made between the *process* of business planning, i.e. the activities performed to develop plans, and the *outcome* of business planning, i.e. the written business plan (Gibson and Cassar, 2005, Boyd and Reuning-Elliott, 1998, Matthews and Scott, 1995). Some scholars suggest that written business plans are more important for firm performance than the process of business planning as written documentation legitimizes the new organization and enables better communication between the entrepreneurs, internal and external stakeholders (Matthews and Scott, 1995, Stone and Brush, 1996). In contrast, other literature stresses the importance of the business planning process as it helps in understanding the mechanics of the intended business and enables learning (Sexton and Bowman-Upton, 1991).

Researchers studying the business planning process examine how the sophistication of planning activities impacts small firm performance (Baker, 2003; Bracker et al., 1988). The sophistication of these activities refers to e.g. the frequency of planning meetings, the detail degree of market analysis and forecasting as well as the extent to which organizations make use of computers or portfolio analysis (Berman et al., 1997). Researchers argued that the planning process is one of proactive learning because it expands the founder's knowledge about the intended business and reduces decision-making uncertainty (Delmar and Shane, 2003; Armstrong, 1982). Through learning, entrepreneurs improve their access to financial capital as well as the effectiveness of business approach and their chances of founding success (Castrogiovanni, 1996).

With regard to the business planning outcome, previous research analyzed how the formality of business plans affects firm performance. The formality of business plans generally refers to the degree of written documentation (Robinson and Pearce, 1983; Pearce et al., 1987a,b). As an alternative to formulating written plans, business plans can be implicit and remain abstract without a written outcome. Following the resource dependence view, the small firms depend on their environment to provide them with critical resources (Davidsson and Honig, 2003; Cooper et al., 1994). Having a formal business plan can serve to gain legitimization from external stakeholders (Castrogiovanni, 1996). Obtaining legitimization can be a critical factor for the survival and growth of new firms as it can both facilitate and impede the resource accumulation process (Aldrich and Fiol, 1994). Investors generally demand a written plan as a requirement to obtain funding (Castrogiovanni, 1996). The written documentation also can help firms communicate their goals, strategies, and operational tasks to internal and external stakeholders. Prospective suppliers, customers or employees might demand formal business plans to assess the viability of the business and the attractiveness of economic exchange. Thus, formal business plans are often created to respond to internal and external pressure of commitment and legitimization rather than to serve as an instrument to directly improve performance (Stone and Brush, 1996; Honig and Karlsson, 2004).

It can be expected that studies analyzing the business planning process determine different performance effects than those exclusively focusing on the written documentation as an outcome of business planning (Boyd and Reuning-Elliott, 1998). Written formal plans aiming to assure commitment of stakeholders which can provide resources might be more important for growth and development of firms than the level of sophistication employed in the business planning process. Basic business planning activities might be sufficient to determine goals and strategies, as well as critical tasks, to avoid bottlenecks and assure an economic use of resources. Extensive research activities and forecasts may lead to better decision quality on the one hand, but they may also induce higher costs on the other. In order to carry out highly sophisticated business planning activities, substantial additional managerial resources might be required, while the marginal benefits might be limited. The relevance of the sophistication of business planning process may depend on the availability and the ambiguity of information (Forbes, 2007). Particularly in new firms, the business-planning process is generally characterized by scarce, unstructured, and missing information. Thus, the costs of sophisticated planning might outweigh its benefits. Overall, following resource dependence view as well as the legitimization and communication-based literature, we expect that small firms benefit more from creating formal, written business plans than from a sophisticated business planning process. This leads us to propose:

Hypothesis 3. The outcome of business planning has a greater effect on firm performance than the business planning process.

3.4. Cultural context

Another moderator of the business planning–performance relationship appears to be the cultural setting in which firms operate. The cultural setting impacts organizational and managerial behavior and its performance effects (Schneider and De Meyer, 1991). An important difference between cultures is the tolerance of uncertainty (Hofstede and Hofstede, 2005). Members of different cultures perceive ambiguous or unknown situations in different ways. In cultures with high degrees of uncertainty avoidance, people are more easily threatened by ambiguous situations; they have a preference for structures, regulations, and expert knowledge as ways of reducing their perceived ambiguity. Shane (1993) found that in countries with high levels of uncertainty avoidance, managers rely on more extensive forms of planning to cope with uncertainty, which in consequence limits innovative behavior (Shane, 1993). Additionally, the impact of strategic plans on managerial decisions may be different depending

on the cultural context. In cultures with high degrees of uncertainty avoidance, explicit plans may have greater normative importance and be implemented more strictly (Hofstede and Hofstede, 2005). In these countries, a deviation from plans could imply high degrees of perceived uncertainty, since managers can not rely on guiding plans. Thus, they can be expected to avoid a deviation from their plans by all means. However, this behavior might create cognitive fixations, a belief in artifacts, and limited strategic flexibility. Following the learning school, this behavior hinders rapid adaptation to environmental changes and decreases

Table 1
Overview of meta-analysis studies — independent set of effect sizes.

Studies	Journal name[a]	Sample size	Effect size	Std. dev.	95% confidence interval		*p*-Value	Performance measure	Firm type	Country
					Lower limit	Upper limit				
Growth-related performance measures										
Ackelsberg and Arlow, 1985	LRP	92	0.39	0.16	0.07	0.70	0.09	Sales growth	Est.	US
Barringer et al., 2005	JBV	100	0.12	0.20	−0.27	0.51	0.55	Sales growth	Est.	US
Berman et al., 1997	JBES	83	0.37	0.23	−0.08	0.81	0.11	Sales growth	Est.	US
Berman et al., 1997	JBES	64	0.41	0.26	−0.10	0.92	0.12	Sales growth	Est.	US
Berry, 1998	LRP	257	0.66	0.13	0.41	0.92	0.000	Sales growth	Est.	UK
Bracker et al., 1988	SMJ	73	0.91	0.26	0.39	1.42	0.001	Sales growth	Est.	US
Bracker and Pearson, 1986	SMJ	188	0.46	0.15	0.16	0.75	0.003	Sales growth	Est.	US
Brinckmann, 2007	Thesis	118	−0.10	0.19	−0.46	0.27	0.60	Sales growth	New	Germany
Brinckmann, 2007	Thesis	69	0.42	0.25	−0.08	0.91	0.10	Sales growth	Est.	Germany
Cragg and King, 1988	ETP	113	−0.32	0.19	−0.70	0.06	0.10	Sales growth	Est.	England
Crusoe, 2000	Thesis	57	0.56	0.33	−0.09	1.20	0.10	Sales growth	Est.	US
French et al., 2004	JMD	126	0.14	0.28	−0.40	0.68	0.62	Sales growth	Est.	Australia
Frese et al., 2007	JAP	117	0.24	0.19	−0.13	0.61	0.20	Growth	Est.	South Africa
Frese et al., 2007	JAP	215	0.50	0.14	0.28	0.77	0.001	Growth	Est.	Zimbabwe
Frese et al., 2007	JAP	78	0.65	0.25	0.16	1.15	0.01	Growth	Est.	Namibia
Gable and Topol, 1987	AJSB	179	0.14	0.15	−0.16	0.44	0.35	Sales growth	Est.	US
Haber and Reichel, 2007	JBV	305	0.05	0.12	−0.18	0.28	0.64	Sales growth	New	Israel
Lumpkin et al., 1998	FER	94	−0.02	0.21	−0.44	0.39	0.91	Sales growth	New	US
Matthews, 1990	Thesis	93	0.20	0.21	−0.21	0.62	0.35	Sales growth	Est.	US
McKiernan and Morris, 1994	BJM	57	0.27	0.27	−0.26	0.79	0.33	Sales growth	Est.	UK
Miller and Toulouse, 1986	AJSB	97	0.10	0.21	−0.31	0.51	0.63	Sales growth	Est.	Canada
Olson and Bokor, 1995	JSBM	89	0.02	0.21	−0.39	0.44	0.92	Sales growth	New	US
Orpen, 1985	JSBM	52	0.30	0.29	−0.26	0.87	0.30	Sales growth	Est.	US
Orser et al., 2000	JSBM	1004	0.33	0.07	0.20	0.46	0.000	Sales growth	Est.	Canada
Pearce et al., 1987a,b	SMJ	97	0.93	0.23	0.48	1.37	0.000	Sales growth	Est.	US
Rauch and Frese, 1998	FER	104	−0.18	0.20	−0.57	0.21	0.37	Sales growth	New	Germany
Rauch et al., 2000	JSBM	77	−0.26	0.14	−0.53	0.01	0.06	Combined measure[b]	Est.	Ireland
Robinson, 1982	AMJ	202	0.33	0.14	0.05	0.60	0.02	Sales growth	Est.	US
Rue and Ibrahim, 1998	JSBM	253	0.26	0.15	−0.03	0.54	0.08	Sales growth	Est.	US
Sarason and Tegarden, 2003	JBM	314	0.10	0.11	−0.12	0.33	0.36	Sales growth	Est.	US
Shrader et al., 1989	JSBM	97	0.04	0.21	−0.36	0.44	0.85	Sales growth	Est.	US
Smith, 1998	LRP	150	0.13	0.18	−0.22	0.48	0.48	Combined measure[c]	New	UK
Stewart, 2003	Thesis	120	0.97	0.21	0.57	1.38	0.000	Value growth	Est.	US
Van Geldern et al., 2000	SBE	49	0.49	0.30	−0.10	1.09	0.11	Combined measure[d]	New	Netherland
Wijewardena et al., 2004	JSBM	143	0.65	0.18	0.30	1.00	0.000	Sales growth	Est.	Sri Lanka
Yusuf and Saffu, 2005	JSBM	297	−0.22	0.12	−0.45	0.01	0.07	Sales growth	Est.	Ghana
Total (36 growth-related effect sizes)		5623	0.24	0.03	0.19	0.30	0.000			
Profitability-related performance measures										
Baker, 2003	RAE	192	0.12	0.15	−0.17	0.41	0.41	ROA	Est.	US
Calori et al., 1997	RFG	1589	0.13	0.06	0.02	0.24	0.03	ROI	Est.	France
Honig and Karlsson, 2004	JM	396	0.23	0.10	0.03	0.42	0.03	Profit	New	Sweden
Jones, 1982	JSBM	69	0.13	0.25	−0.35	0.62	0.59	ROA	Est.	US
Jungbauer-Gans and Preisendörfer, 1991	SZbF	880	0.09	0.07	−0.05	0.24	0.21	Profit	New	Germany
Lange et al., 2007	VC	116	0.26	0.19	−0.12	0.63	0.18	Profit	New	US
Powell, 1992	SMJ	68	−0.12	0.25	−0.61	0.37	0.63	Profit	Est.	US
Powell, 1992	SMJ	45	0.78	0.33	0.12	1.42	0.02	Profit	Est.	US
Shuman et al., 1985	FER	220	−0.40	0.14	−0.66	−0.13	0.004	Profit	New	US
Total (9 profitability-related effect sizes)		3575	0.10	0.04	0.03	0.17	0.000			
Bankruptcy-related performance measures										
Carter et al., 1996	JBV	71	−0.12	0.24	−0.59	0.35	0.62	Bankruptcy[e]	New	US
Delmar and Shane, 2003	SMJ	223	0.50	0.14	0.22	0.77	0.001	Bankruptcy	New	Sweden
Gartner and Liao, 2005	FER	276	0.52	0.13	0.27	0.76	0.000	Bankruptcy	New	US
Perry, 2001	JSBM	304	0.14	0.17	−0.09	0.37	0.23	Bankruptcy	Est.	US
Sexton and Auken, 1985	JSBM	352	0.22	0.11	0.01	0.43	0.04	Bankruptcy	Est.	US
Ziegler et al., 1995	Original data set	622	0.16	0.09	−0.01	0.33	0.07	Bankruptcy	New	Germany
Total (6 bankruptcy-related effect sizes)		1848	0.25	0.05	0.16	0.34	0.000			
Total sample		11,046	0.20	0.02	0.16	0.24	0.000			

performance (Mosakowski, 1997). In countries with greater tolerance of uncertainty, managers may feel more comfortable deviating from their plans. These managers may be more responsive to information contradicting established plans, more likely to adopt necessary changes to the strategic plans, and more inclined to improvisational decision-making in light of ambiguity. Responsiveness, strategic flexibility, and improvisational activity have all been found to have high value for firm survival and performance (Baker et al., 2001). Thus, we propose:

Hypothesis 4. Business planning has a greater effect on firm performance in cultures with low uncertainty avoidance than it does in cultures with high uncertainty avoidance.

4. Methods

Following an evidence-based research approach, we test our hypotheses by applying meta-analysis. Meta-analysis is a quantitative approach that synthesizes prior empirical results (Smith and Glass, 1977). The objectives of meta-analysis are twofold: (1) to provide an accurate estimate of the overall magnitude of the relationship between two variables and (2) to investigate potential sources of inconsistencies between study findings by analyzing the effect of contextual factors (Lipsey and Wilson, 2001; Hunter and Schmidt, 2004; Rosenthal and DiMatteo, 2001). Meta-analysis aims to reduce subjectivity bias and enhance statistical accuracy by aggregating individual empirical findings. Recent literature encourages the usage of meta-analysis in order to establish the status of concepts in the field of entrepreneurship and to derive recommendations for practice (Rauch and Frese, 2006).

4.1. Literature search and selection strategy

We conducted a comprehensive and systematic search in a number of international databases in order to identify and retrieve an exhaustive number of studies on business planning in new and established small firms. Following the recommendation of Lipsey and Wilson (2001), we structured our literature search and selection process in two stages.

First, we identified a large number of potentially suitable studies for meta-analysis based on the previously formulated research questions on the value of business planning for performance. We conducted a keyword-search of the following bibliographic databases: EBSCO Host Research Databases Business Source Premier, JSTOR Databases, ProQuest Database (including ABI/INFORM Database), Emerald Management Xtra, Wilson Select Plus, EconLit, Social Sciences Citation Index, Dissertations and Theses Database (Proquest), WISO Business Sciences (GBI), and SSG Business Sciences. Most databases focus primarily on UK and North American publications. Emerald Management Xtra, WISO Business Sciences (GBI), and SSG Business Sciences cover mainly European and Australian contributions. Dissertations and Theses Database (Proquest) contains over 2.3 million dissertations and theses from all around the world and provide thereby substantial coverage for unpublished research results. Overall, we encountered over 4000 search results based on the following keyword combinations: “planning” and “small firm” (“small business”), “planning” and “new venture” (“new firm”, “startup”), “performance” and “small firm”, “performance” and “new venture”. We identified candidate studies for meta-analysis by reviewing the title and abstract of each search result. In addition to the keyword-based search in bibliographic databases, we conducted hand and electronic searches in selected journals that are not entirely covered electronically such as “Frontiers of Entrepreneurship Research”. Additionally we retrieved further studies included in previous reviews by Shea-Van Fossen et al. (2006), Miller and Cardinal (1994), Schwenk and Shrader (1993), Boyd (1991), and Pearce et al. (1987a,b). The first stage of our literature search concluded with a total of 119 candidate studies.

Second, we specified more detailed criteria for identifying studies eligible for meta-analysis. We included only studies, which measured the effect of planning on firm performance empirically. We further included only studies with samples of small firms. Small firms are firms with less than 500 employees or sales below 1 million USD. Only one study (Berman et al., 1997) has been included based on the second criterion (e.g., Shea-Van Fossen et al., 2006; SBA, 2007). To ensure that the cut-off organizational size of 500 employees did not influence the meta-analysis results, we further performed sensitivity analysis. Based on a reduced sample of studies on firms with less than 250 employees, meta-analysis findings remained largely unchanged (e.g. 0.19 for the total average effect size). Hypotheses tests provided identical results as for the original cut-off organizational size of 500 employees.

In a further step, we divided the original sample of small firm studies into two groups: one group includes studies on new small firms while the other group covers studies with samples of mainly established small firms. For this purpose, firms with eight or less years of business activity were defined as new firms (e.g. Zahra, 1996). Firms with more than 8 years of business activity were considered established firms.

Notes to Table 1:

[a] LRP (Long Range Planning), JBV (Journal of Business Venturing), JBES (Journal of Business and Economic Studies), SMJ (Strategic Management Journal), ETP (Entrepreneurship Theory and Practice), JMD (Journal of Management Development), JAP (Journal of Applied Psychology), AJSB (American Journal of Small Business), FER (Frontiers of Entrepreneurship Research), BJM (British Journal of Management), AMJ (Academy of Management Journal), JBM (Journal of Business and Management), SBE (Small Business Economics), RAE (Review of Agricultural Economics), RFG (Revue Francaise de Gestion), JM (Journal of Management), SZbF (Schmalenbachs Zeitschrift fuer betriebswirtschaftliche Forschung), VC (Venture Capital).

[b] Combines employee growth, number of employees and sales volume, entrepreneur's income and level of satisfaction.

[c] Combines employment growth, net profit divided by financial capital and turnover divided by total employment.

[d] Combines economic success (measured by growth of turnover, profit, investments, personnel, and personal income) with personal success (measured by the extent to which start-up goals were achieved).

[e] Assesses whether new ventures have been started (or are in process of being started) versus have been abandoned.

Following Shea-Van Fossen et al. (2006), we excluded studies reporting solely operational measures of performance such as labor productivity. In the context of new ventures, we encountered several studies using specific items to assess new firm success such as the product development stage, product sales, acquisition of external funding or registration with authorities (Delmar and Shane, 2003; Carter et al., 1996). Due to the limited number of studies using these performance measures, and in order to ensure comparability within the meta-analysis sample, we excluded these studies. Following Schwenk and Shrader (1993), we further excluded studies measuring short-term planning (i.e. less than 1 year planning horizon), operational, or functional planning (e.g. marketing planning, financial planning). When studies used the same empirical data, we included the study reporting the most comprehensive data. Estimation of effect sizes requires a range of statistical data. If data were incomplete, we contacted the authors to obtain necessary information.

We concluded the study search and selection process in November 2007 with a total of 47 studies. Three studies contained multiple samples providing us overall with 52 usable data sets covering both new and established small firms.

4.2. Measures

4.2.1. Performance

Studies covered by present meta-analysis measured performance in terms of growth, profitability, and survival. Growth and profitability are frequently used performance dimensions. We also included survival, because it is a commonly used dependent variable in entrepreneurship literature (Honig and Karlsson, 2004).

4.2.2. Business planning

Based on extensive planning literature reviews by Boyd and Reuning-Elliott (1998) and Pearce et al. (1987a,b) two business planning constructs can be distinguished: the outcome of business planning and the process of business planning. We defined the outcome of business planning based on the extent of written documentation, e.g. written business plans, goals or budgets. The process of business planning is measured based on the intensity and analytic complexity of business planning activities (e.g. economic forecasts, scenario analysis). Our meta-analysis includes both studies assessing the outcome of business planning (e.g. the existence of written business plans) and studies assessing the process of business planning (e.g. the sophistication of market analysis and forecasting procedures). We introduced a dummy variable to denote studies focusing only on the business planning outcome as measured solely by the existence of written business planning documentation (coded 1). Studies that focused on the sophistication of business planning process were coded (0). Further, the remaining 6 studies (accounting for 7 effect sizes) which measured both the outcome and the process of business planning were excluded from further moderator analysis.

4.2.3. Newness

In order to distinguish between studies of new and established small firms, we introduced a dummy variable which was coded (0) for studies specifically focusing on new firms and (1) for studies drawing on a general small firm sample. The lack of information on the average sample age for general small firm studies resulted in a dichotomous operationalization (only 18 of the 51 samples could be associated with a mean age). The general small firm studies might include new firms in their sample to a limited extent. However, for our analysis the newness proxy serves its purpose. A pure sample of established firms can be expected to show even more pronounced differences. Following prior research (e.g. Zahra, 1996), the threshold age distinguishing new from established firm studies was set to 8 years. Studies in which the maximum venture age within the sample did not exceed 8 years were considered new firm studies. In order to further test the robustness of our findings we also applied a more comprehensive definition of newness including studies with a maximum firm age of 15 years. This robustness test provided additional support concerning our findings.

4.2.4. Cultural uncertainty avoidance

In order to evaluate how the cultural context moderates the business planning–performance relationship, we used the uncertainty avoidance index (UAI) developed by Hofstede and Hofstede (2005). Based on the country sample information of each study, we assigned a respective uncertainty avoidance value. We carried out an initial bivariate moderator analysis (Table 3). Here we had to form groups based on the distribution of the UAI values in our study. We computed the median value of the countries indices covered by the sample. This approach appears appropriate since our comparison focuses on relative differences between countries rather than absolute levels of uncertainty avoidance. Due to a fairly large number of US studies in our sample, further differentiation of subgroups would have lead to small sample sizes. Based on the 12 countries represented in our meta-analysis sample, we obtained a cut-off value of 50. The higher UAI-group contains countries with UAI scores between 51 and 86 such as France, Israel, and Germany. The lower UAI-group contains studies carried out in the USA, Canada, Sweden, Ireland, and the UK with UAI scores between 29 and 48. Furthermore, we used the original UAI values for the regression analysis (Table 4).

4.2.5. Controls

In our regression analysis we controlled for other factors, which could impact the business planning–performance relationship. In order to control for possible divergent performance effects when using survival versus growth or profitability

measures, we introduced a respective control variable (coded 1 for survival and 0 for growth or profitability). Studies use both objective and subjective performance measures. Thus, we also controlled for objective (value 1) versus subjective performance measurements (value 0). We also examined whether the respective study controlled for industry effects (1) or not (coded 0), whether the study was longitudinal (coded as 1) or cross-sectional (coded as 0). Moreover, in order to control for potential biases resulting from diverging research designs and measurements, we examined effects on performance based on variables such as whether the business planning measurement was based on dichotomous variables versus ordinal or continuous variables, whether the business planning measurement used single-item or multiple-items, and for the time length (in months) performance measurement. Furthermore, we controlled for the average employee number. We did not include this last group of variables in the final analysis due to high correlation with the variable distinguishing between new versus established small firm studies.

4.3. Meta-analysis methods

Meta-analysis is a powerful statistical method for aggregating findings across individual empirical studies. We followed the meta-analysis approach recommended by Lipsey and Wilson (2001). In the first step, we aggregated individual findings of each study to derive an effect size statistic. For the calculation of effect sizes, meta-analysis offers two possible measures: the standardized mean difference effect size and the correlation coefficient effect size (Lipsey and Wilson, 2001). Within our sample, nearly 80% of the studies used dichotomous or ordinal business planning measures. Therefore, we chose the standardized mean difference statistic as a measure for synthesizing study findings. This approach is consistent with previous meta-analyses on business planning–performance relationship (Shea-Van Fossen et al., 2006; Schwenk and Shrader, 1993). For computing the standardized mean difference of the effect size, we used a wide range of information: sizes of samples and subsamples, means, standard deviations, correlations, *t*-test-statistics, *F*-test-statistics, Chi-square statistics and *p*-values. For our calculations we used formulas provided by Lipsey and Wilson (2001) and the Comprehensive Meta Analysis software (Borenstein and Rothstein, 2007). When coding and calculating effect sizes, we first calculated separate effect sizes for each reported performance measure, deriving a total of 78 effect sizes. To mitigate coding errors, we used two independent coders. We achieved coding conformity in nearly all cases; we rectified a small number of inconsistencies based on discussions and on the coding guidelines.

In a second step, we analyzed the distribution of effect sizes. We identified and excluded one outlier study for both statistical and content related reasons (Robinson et al., 1984). Based on the remaining 46 studies with a total of 77 effect sizes, we constructed an independent set of effect sizes using the most frequently encountered performance measures, such as sales growth and profitability. This approach is consistent with Lipsey and Wilson (2001) and prior analyses of the business planning–performance relationship (Shea-Van Fossen et al., 2006; Schwenk and Shrader, 1993). Our final independent set of data points includes 51 effect sizes on 11,046 firms.

Within a third step, we examined the relationships between effect sizes and contingency variables. Following Hedges and Olkin (1985), we used two approaches: bivariate analysis by applying an analog to analysis of variance (Table 3) and multivariate analysis by using meta-regressions where effect size is the dependent variable and the independent variables are the contextual factors identified in our Hypotheses 2, 3, and 4, as well as additional control variables (Table 4).

One final concern in the computation and interpretation of meta-analysis results is due to the sampling or publication bias. The sampling bias refers to the potential upward bias of the mean effect size due to the exclusion of unpublished and therefore more difficult-to-find studies from meta-analytic review (Lipsey and Wilson, 2001). The upward bias is suggested to result from the fact that significant results are more likely to be published, while insignificant studies are rather abandoned. Thus, questions arise whether a potential sampling bias may impact the relevance of meta-analysis findings. We accounted for this concern in two ways. First, we explicitly searched and included unpublished studies from e.g. the Dissertations and Theses Database (Proquest) database. In sum, our meta-analysis included 7 effect sizes from unpublished studies: 5 effect sizes were extracted from dissertations (Brinckmann, 2006; Matthews, 1990; Stewart, 2003; Crusoe, 2000), 1 effect size was calculated based on the original data sheet and yet reported by a published study (Ziegler et al., 1995) and 1 effect size was provided by the author but not reported in the original paper (Haber and Reichel, 2007). The second way to address the publication bias was to estimate its potential magnitude by applying the file drawer technique (Hunter and Schmidt, 2004; Rosenthal, 1979; Rosenthal, 1984). The file drawer technique provides the number of null-effect studies, which when included into the meta-analysis would lead to insignificance of the overall result. In the context of this meta-analysis, application of the file drawer technique indicated that 2034 null-effect studies would be required in order to question the overall significance of the meta-analysis result. Since this number exceeds by far the generally accepted tolerance criterion suggested by Rosenthal (1984) (i.e. $5*51+10$ studies), it can be concluded that the impact of publication bias on overall meta-analysis results is likely to be limited.

5. Findings

An overview of all 46 studies included in the meta-analysis and their respective 51 effect sizes is provided in Table 1. Descriptive statistics of mean effect sizes, including all studies as well as sub-samples of studies, are presented in Table 2. For the set including all effect sizes, the mean effect size is .20 ($p<.000$). Thus, our findings confirm the first hypothesis proposing that business planning increases firm performance. In order to assess the degree of homogeneity of the effect size distribution, we computed the

Table 2
Overall average for the standardized mean difference effect size statistic.

	Total set of effect sizes	Independent set of effect sizes
No of studies	46	46
No of effect sizes	77	51
No of firms	13,519	11,046
Average effect size	0.19	0.20
Std. deviation	0.08	0.02
Lower limit CI	0.16	0.16
Upper limit CI	0.23	0.24
p-Value	0.000	0.000
Total homogeneity statistic	207.32	155.61
Critical value	97.35	67.51

homogeneity *Q*-statistic. A statistically significant *Q* indicates heterogeneous effect size distribution and thereby the potential existence of moderators for the business planning–performance relationship (Lipsey and Wilson, 2001). The *Q*-statistic of our study sample ($Q = 155.61$; $df = 50$) is statistically significant ($p < .000$), which indicates that variability among effect sizes exceeds errors due solely to subject-level sampling. This confirms our assumption that contextual factors influence the planning–performance relationship.

In order to carry out an initial test of moderation effects, we applied bivariate analysis (Table 3). Based on categorical variables, we divided effect size groups (Lipsey and Wilson, 2001). For each group, we computed mean effect size and homogeneity statistics. With respect to our second hypothesis, we find that the mean effect size for new small firms (.13; $p = .002$) is smaller than the mean effect size for established small firms (.24; $p < .001$). The difference between the two groups is statistically significant ($Q = 6.42$; $p < .05$). These results indicate that in samples of new small ventures, the impact of business planning on performance is lower than in samples of established small firms. This serves as an initial confirmation of our second hypothesis. With respect to our third hypothesis, we find that the difference of the effect size between studies investigating the business planning outcome (.18; $p < .001$) and studies investigating the business planning process (.21; $p < .001$) is not significant. Thus, this initial test does not support the third hypothesis. Additionally, we calculated the mean effect size for studies on countries with high UAI-values (.08; $p = .04$), and low UAI-values (.26; $p = .000$). The distinction between the three groups is statistically significant ($Q = 18.14$; $p < .000$). The data indicates that higher UAI-values have a significantly negative impact on the strength of the planning–performance relationship. This provides initial support for the fourth hypothesis.

To test further our Hypotheses 2, 3 and 4, we calculated meta-regression coefficients. As opposed to bivariate analysis, meta-regression allows one to investigate simultaneously the relative explanatory power of each contingency variable in the presence of other variables. In so doing, we test whether our findings based on variance partitioning also hold when simultaneously assessing

Table 3
Bivariate moderator analysis.

	Number firms	Number studies	Mean ES	Std. dev.	95% CI		*p*-Value	*Q*-value
					Lower limit	Upper limit		
1. New firms versus established small firms								
New firms	3713	15	0.13	0.03	0.06	0.20	0.002	40.66***
Established firms	7333	36	0.24	0.02	0.19	0.28	0.000	108.52***
Total sample	11,046	51	0.20	0.02	0.16	0.24	0.000	155.61***
Homogeneity explained by categorical variable								6.42*
2. Business planning outcome versus business planning process								
Business planning outcome	7776	24	0.18	0.02	0.14	0.23	0.000	99.37***
Business planning process	2436	20	0.21	0.04	0.13	0.29	0.000	31.17***
Total sample	10,212	44	0.19	0.02	0.15	0.23	0.000	130.84***
Homogeneity explained by categorical variable								0.30
3. Cultural context: high and low uncertainty avoidance index (UAI)								
High UAI	4159	10	0.08	0.03	0.02	0.15	0.04	16.31*
Low UAI	6887	41	0.26	0.03	0.21	0.31	0.000	123.16***
Total sample	11,046	51	0.20	0.02	0.16	0.24	0.000	155.61***
Homogeneity explained by categorical variable								18.14***

+$p < 0.1$.
*$p < 0.05$.
**$p < 0.01$.
***$p < 0.001$.

Table 4
Meta-regression analysis on effect size.

	Model 1		Model 2	
	Unstandardized coefficient	Adjusted std. error	Unstandardized coefficient	Adjusted std. error
Constant	−0.05	0.09	0.04	0.12
Objective performance measure	0.27***	0.07	0.31***	0.07
Longitudinal study	0.03	0.06	0.17*	0.07
Control for industry	−0.01	0.07	−0.09	0.07
Survival measure	0.01	0.07	−0.07	0.07
Established small firms versus new small firms			0.21***	0.06
Business planning outcome versus business planning process			0.06	0.06
High cultural uncertainty avoidance			−0.01***	0.00
R^2	0.40		0.59	
Adjusted R^2	0.16		0.22	
F-statistic	1.82		2.73	
Significance	0.14		0.02	
N	44		44	

+$p<0.1$.
*$p<0.05$.
**$p<0.01$.
***$p<0.001$.

multiple contingency variables. This approach is consistent with Miller and Cardinal (1994) and addresses criticism that meta-analysis is not suitable for assessing multivariate relationships (Guzzo et al., 1987). Table 4 presents the results of linear regressions, using contingency variables to explain differences in effect sizes. Model 1 includes three control variables (objective performance, longitudinal study, and control for industry) and is statistically not significant. Model 2 includes the three control variables and the three variables testing our hypotheses. This second regression is significant ($p=.02$) and confirms the findings from bivariate analysis. Business planning has significantly greater impact on performance in established small firms than in newer firms ($p<.001$). Thus, results confirm Hypothesis 2. However, the differences in effect sizes of the studies cannot be explained by whether studies analyze the outcome and the process of business planning. Therefore, Hypothesis 3 is rejected. In cultures with higher levels of uncertainty avoidance, business planning has a lower impact on performance ($p<.001$). Thus, findings support Hypothesis 4.

Additionally, the control variables indicate that using objective as opposed to subjective performance measures has a significantly positive moderating effect on the business planning–performance relationship. Results show further that conducting a longitudinal study as opposed to a cross-sectional study has a positive impact on the study's results concerning the magnitude of the business planning–performance relationship. Studies controlling for industry effects are found to report a weaker business planning–performance relationship.

6. Discussion and conclusion

Although broadly assumed to be of utmost importance for business success, the value of business planning for the performance of firms has been a matter of intense theoretical debate in management and more recently in entrepreneurship science. Empirical findings have been fragmented and contradictory with respect to the existence and direction of business planning–performance relationship. This study provides a quantitative synthesis of empirical studies analyzing the business planning–performance relationship in new and established small businesses with a focus on contextual factors influencing the relationship. By integrating prior findings and analyzing moderators of the planning–performance relationship, we provide a number of insights for academia and practitioners as well as suggestions for future research.

6.1. Implications for academia

Our findings determine a positive relationship between business planning and performance which is moderated by different factors. Although the gathering of information about market opportunities and the specification of how to use the information to exploit market opportunities consume resources, the benefits outweigh the costs leading to increased performance of the new and established small firms. Considering the substantial resource restraints these types of organizations face and the multitude of options how to utilize their restricted resource base, it is insightful to assert that planning is generally a value creating activity. However, our further analysis uncovers some important contextual determinants of the planning–performance relationship, which raise doubts concerning the general proposition that business planning is equally important under all circumstances or more important in the context of new firm creation. We find that the business planning–performance relationship is contingent on two contextual variables.

First, the development stage moderates the positive relationship between business planning and performance. While entrepreneurship scholars often draw on small and new firm studies without reflecting the unique circumstances of the respective firm type, we specifically distinguish between these types to evaluate how newness and emergence influence the planning–

performance relationship. We provide a quantitative synthesis of empirical studies focusing on new firms. Our analysis shows that there is a significant positive effect between business planning and new firm success. Nonetheless, compared to studies drawing on the general small firm population, the positive performance is significantly weaker. This finding is especially insightful as it raises questions about the planning euphoria in the entrepreneurship domain. Entrepreneurship literature hypothesizes that planning should yield greater returns for new firms than for established firms due to positive motivational effects of self-set goals in new firms versus relative performance goals of established firms and due to shorter planning-outcome feedback cycles (Delmar and Shane, 2003). Our findings suggest, however, that the contrary is the case. Business planning promises greater returns for the average small firm than for the new small firm. Established small firms have information from their prior operations as well as routines and processes in place, which support planning. By contrast, new small firms generally have to carry out business planning without prior information while missing structures and procedures that support planning. Various pressing strategic decisions need to be made involving a high degree of uncertainty. A high degree of uncertainty and a high degree of missing and ambiguous information characterizing the business planning in new firms could explain why the positive effect of business planning on performance is significantly reduced (Forbes, 2007). Considering the trade-offs of allocating limited resources to different entrepreneurial activities which are expected to yield positive returns, our findings suggests a dynamic understanding of resource allocation in the entrepreneurial context. The positive yet limited performance effect of business planning in the first years suggests that basic planning activities might suffice. At this stage, resources could be allocated to other value creation activities in parallel that enable information gathering, uncertainty reduction, and learning. Based on these complimentary activities the value of subsequent business planning increases which in consequence warrants the allocation of more resources to business planning. This theoretical approach is in contrast to other dynamic models which advocate sequential activities. However, we suggest a concomitant and isochronic approach. Planning and learning school propagated activities are carried out at the same time, yet the allotment of managerial attention changes depending on the contextual factors that influence the effectiveness of planning. This dynamic understanding does also imply that the outcomes of planning activities at any given moment in time are reflections of informational circumstances and the learning process; they are not decisive but will evolve as the information situation and learning progresses.

Second, our results indicate that the cultural context of organizations significantly moderates the business planning–performance relationship. We show that higher levels of uncertainty avoidance, which exist in certain national cultures, reduce the benefits from business planning on the performance of firms. At first, this finding appears counterintuitive as one could speculate that in cultures characterized by high uncertainty avoidance, business planning and the creation of business plans is appreciated as a tool to reduce uncertainty. Yet, we find that the opposite is the case. Empirical studies drawing samples from countries like Germany or France which are generally characterized by higher uncertainty avoidance levels compared to countries like the US or Canada (Hofstede and Hofstede, 2005), find a significantly less pronounced effect of business planning on firm performance. We find two explications for this finding. First, it could suggest that business planning is carried out differently depending on the cultural context. However, our further analysis finds that the form of business planning does not impact the planning–performance relationship. Second, this finding could suggest that executives of new and established small firms might adhere more closely to their predetermined plans in countries where uncertainty avoidance is high. In consequence this could limit their strategic flexibility and openness to necessary changes to their business plans. In countries where uncertainty avoidance is high, unforeseen occurrences might be interpreted as threats to the business success while in countries with reduced levels of uncertainty avoidance unpredicted events are perceived as opportunities or exploitable contingencies (Sarasvathy, 2001; Sarasvathy et al., 1998). Consequently, the divergent behavior of dealing with business planning and uncertainty can explain the performance. Following this line of argument, our study introduces post-planning behavior as a new dimension to the discussion of the business planning–performance. The interpretation of our findings suggests that beyond the business planning, the way in which managers consider and execute their own business planning efforts determines venture performance. In other words, in addition to the business planning per se, flexibility and the willingness to continuously learn and adapt could be the more successful business plan execution approach.

Additionally, our research shows that both the output of business planning (written plans) and the process of business planning (planning meetings, market and scenario analysis, use of computers, portfolio analysis) augment firm performance. Accordingly, our findings reject the proposition that the value of business planning can be explained mainly by the formal-legitimating or signaling function of written documentation (Honig and Karlsson, 2004). It can be concluded that both the symbolic and the learning effects of business planning play a key role in augmenting small firm performance (Castrogiovanni, 1996).

Finally, our results further indicate that methodological differences are partly responsible for inconsistencies in previous study findings (Boyd, 1991; Miller and Cardinal, 1994). It appears that using objective performance measures, as well as longitudinal research design, enables a more accurate assessment of business planning effects than subjective performance measures. Subjective performance measurements might not capture the true performance effects as accurately as objective performance measurements due to the bias of the respondent. Likewise, cross-sectional studies may render an unclear picture of the relationship between planning and performance as compared to longitudinal studies due to the measurement and time-lag problems involved (Morrison, 1990). These findings are consistent with prior meta-analyses, which propose that accounting for the reverse-lag problem and measuring performance lead to stronger business planning–performance relationships (Miller and Cardinal, 1994).

6.2. Implications for practitioners

Our meta-analysis of 46 quantitative studies on the planning–performance relationship in new and established small firms has important implications for entrepreneurs starting new ventures and managers of established small firms. Our findings show that

both groups benefit from business planning. Yet, the positive effects of business planning are substantially more pronounced for small business managers. Entrepreneurs need to carefully assess the value of business planning given their firms specific context. If the available information base is limited and high degrees uncertainty are prevalent, basic business planning might be sufficient. In these situations it is also advisable to consider contingency plans, and focus on controlling resources that can be used flexibly while carrying out activities that enable sense-making and learning. As the reliability, quality, and quantity of available information increases, the benefit of business planning increases. Thus, it becomes more economical to devote more resources to business planning.

Our findings also suggest being cautious concerning a process mindset where planning is the first step and execution of the plan is the second step. Business plans reflect the informational circumstances of the time. Oftentimes plans may need to be altered. Thus, being mentally prepared and willing to adjust them is critical. This mindset also implies that the quality of execution can not be judged by how closely plans have been executed. With respect to timing of activities, both planning and execution should be carried out simultaneously. Long pre-planning activities detached from market interaction and feedback appear detrimental. Planning and execution can be concurrent activities that are orchestrated to provide positive feedback-loops.

Furthermore, we find that different planning approaches yield divergent performance outcomes. Both the formal outcome of business planning and the process sophistication of business planning process increase small firm performance. Studies contrasting firms with respect to more formalized, written versus less formalized, unwritten business planning approaches reveal that a more formalized written approach increases the firm performance substantially. Thus, founders and small business managers are advised to go beyond the oftentimes informal and undocumented business planning, but develop written documentation which helps them in clarifying their own approach and also assists in the communication with others. The empirical studies analyzing how the business planning process impacts performance find that more sophisticated planning activities (frequent planning meetings, market and scenario analysis, use of computers, portfolio analysis methods) increase the performance of firms. Hence, founders and small business owners should institutionalize the planning approach in their business routines to facilitate systematic planning, replacing the frequently found random planning processes.

6.3. Limitations

To a limited degree, the distinction between new and established small firm studies might be affected by possible overlaps of the two samples. Generally, small firm studies do not provide data concerning the distribution of firms with regard to firm age, nor do they control for the age of firms within their samples. Since our meta-analysis relies on the specification of these studies, these characteristics impact our analysis. Yet, it can be expected that the actual difference of the business planning–performance is greater if the group of established small firm studies did not include any new firms.

Another limitation concern arises from the comparably small sample of new firm studies (15 effect sizes — reflecting data of 3713 new firms). While we made substantial efforts to identify all new firm studies investigating the business planning–performance relationship, empirical studies are still scarce. However, the new firm studies represent just one part of our meta-analysis. Other prominent meta-analysis studies used overall sample sizes, which in our study constitute only the subgroup of small firms (Schwenk and Shrader, 1993). Additionally, we can expect that greater sample sizes may augment the significance of the business planning–performance relationship (Lipsey and Wilson, 2001).

While meta-analysis is a useful method to estimate the strength of relationships between different variables, it cannot determine causality of these relationships. However, many of the underlying studies applied research frameworks that are designed to estimate causal relationships e.g. by applying longitudinal studies where the independent variables precedes the dependent variable (Gartner and Liao, 2005; Van Geldern et al., 2000; McKiernan and Morris, 1994; Ziegler et al., 1995).

Usage of the Hofstede framework for testing the fourth hypothesis might further represent a limitation of our study. Even though widely used within management research (Kirkman et al., 2006), Hofstede's four-dimensional concept of cultures has recently been criticized for an over-reduction of cultural diversity and complexity factors (McSweeney, 2002). Despite this critique, we consider the Hofstede framework appropriate for the purpose of this paper. Our paper does not aim to provide a holistic view on how cultures moderate the business planning–performance relationship. We focus on one specific dimension, uncertainty avoidance. Additionally, we do not attempt to analyze individual deviations from Hofstede's framework.

6.4. Future entrepreneurship research

Our study has several important implications for future entrepreneurship research. First, business planning is a concept relevant for the success of both new and established small firms. In light of our findings, research on business planning is a fertile field of entrepreneurship research and further analysis in this field appears promising. Questions remain regarding which types, degrees, and areas of business planning are more effective. In this regard, first studies take a functional perspective on planning (e.g., Gruber, 2007). Future research is needed for other functional domains such as the financial, human-resource, or the offering development domain. Specific planning areas often included in business plans such as exit-planning or venture team development planning need also be assessed with regard to their performance relevance. These more fine-grained studies could also benefit from improved frameworks that reflect a contextual understanding of planning and performance as suggested in this study; e.g., little is known about how business planning in these areas should change reflecting differences in different cultural contexts, development stages, market environments, or firm types.

Another direction of exploration could focus on the dynamic evolution and interaction of business planning and execution. This study showed the positive link between business planning and firm performance. While we discussed different theoretical

approaches linking business planning and firm performance, our empirical analysis did not address how business planning affected performance. Building on our findings, future research could e.g. analyze how uncertainty, sensitivity to contradictory information, or strategic flexibility impacts the execution of business plans.

Additionally, our meta-analysis indicates that future research should distinguish between new small and established small firms. Past entrepreneurship research generally did not pay attention to whether samples contained new small firms or established small firms (Stone and Brush, 1996). However, our study shows that a distinction between these types of firms has important theoretical implications and can lead to significantly different empirical results.

Furthermore, future research could benefit from applying international research frameworks. As our study shows, the national culture does impact the performance effect of entrepreneurial efforts. This suggests that the entrepreneurial planning phenomenon is culturally dependent and that entrepreneurship research can benefit from cross-country studies. Our study also depicts that longitudinal study designs and the use of objective performance measurements can foster the proper identification of planning–performance relationships. Our final suggestion regards the increased use of evidence-based research as an advanced method to analyze and synthesize contemporaneous research to derive substantiated insights based on empirical findings.

Returning to our entrepreneur who is considering whether to plan or just to storm the castle, our study suggests to assess the circumstances of the endeavor, and to develop a dynamic understanding of planning that integrates learning and attack, and preparedness for post-planning adjustments. In the early days of a venture characterized by environments of high uncertainty, one may need a degree of foolishness to rush into a new market with limited predictability of future happenings. With luck, this approach may lead to success, yet can imply substantial costs. In environments characterized by limited uncertainty (e.g. certain established markets) the planning approach may lead to an improved preparedness, less costs of newness, and greater likelihood of success when coupled smartly with a focus on contingencies, market-feedback, continuous improvement and learning. Clearly, more research is needed to help entrepreneurs develop an appropriate approach of attack and prepare them for the time when the bullets start flying.

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