Perceiving the Value of Business Planning

Anne Chwolka ⋆ Matthias G. Raith

FEMM Working Paper No. 17, May 2009

F E M M

Faculty of Economics and Management Magdeburg

Working Paper Series

Perceiving the Value of Business Planning

Anne Chwolka[*] and Matthias G. Raith

Department of Economics and Management
Otto-von-Guericke University
P.O. Box 4120
39016 Magdeburg
Germany

May 26, 2009

Abstract

The value of business planning has been subject to much controversy over the past years. Indeed, there appears to be an escalation in empirical research, with opposing implications and diverging approaches to teaching entrepreneurship. Most empirical studies have taken an ex-post, comparative view of the relationship between planning and performance. In this paper, we introduce an ex-ante perspective by formally characterizing the decision of the nascent entrepreneur whether or not to start a business and whether or not to plan beforehand. We focus on the evaluative function of business planning, define the information value of business planning, identify its influencing factors, and show how costs of business planning determine the quality of planning. We find as the crucial aspect of good evaluative business planning that it helps to identify and to sort out poor business ideas before they reach the market. We contrast our results with conclusions drawn from empirical studies that have been critical of planning. In a setting in which, by construction, planning has a positive value, we question several popular negative implications by showing how they result from an incomplete sample of entrepreneurs.

Keywords: Business plan, Start-ups, Entrepreneurship, Decision Making, Uncertainty
JEL-Classification: C11, D81, L26, M13, O21

---

[*] Corresponding Author: Chwolka@ovgu.de

1. Introduction

The value of business plans has been subject to much controversy in the literature over the past years, where different empirical samples have been used to investigate whether it is worthwhile for nascent entrepreneurs to "look before they leap,"[1] i.e. plan the venture in advance, or simply to skip the planning, go ahead, and "just do it."[2] Proponents of planning regard the business plan as a crucial prerequisite for creating a successful new venture.[3] Critics, in contrast, doubt whether business planning is a worthwhile activity for new venture creation.[4] The ongoing debate cannot be disregarded as purely academic, since it has far-reaching implications for how business plans are to be dealt with in practice, by those who are supposed to write as well as those who are supposed to read them.

While the majority of studies on this issue is empirical and generally takes an ex-post, comparative view of the relationship between planning and performance, we introduce in this paper an ex-ante perspective and propose a theoretical framework that enables us to identify and measure the value of business planning, as seen by the relevant planner. Business planning preceding the start-up can be viewed as an information system that facilitates the entrepreneur's decision to enter the market. Thus, our perspective is that of the nascent entrepreneur confronted with the decision on whether or not to start a business and whether or not to plan beforehand. The formal setting enables us to quantify the information value of business planning and to identify its influencing factors. Moreover, the structured decision model not only lets us see what the entrepreneur does, but also understand why he does it, which enables us to interpret empirical observations of entrepreneurial behavior and performance.[5]

It is important to distinguish between two qualitatively different kinds of business planning activities. In its basic form, the business plan is supposed to serve as an information instrument, providing both the nascent entrepreneur and potential investors with quantifiable scenarios and an assessment of monetary consequences for the envisioned venture. Thus, the business plan comprises what Arora and Fosfuri (2005) refer to as "diagnostic information." In terms of decision analysis, the set of strategies (or terminal actions) is given, and planning helps to improve an individual's assessment concerning the distribution of the outcome. Our

---

[1] Gruber et al. (2008).
[2] Lange et al. (2007).
[3] This has been the message of most entrepreneurship textbooks over the past decade. The persistence of this perspective can be seen in the various editions of prominent textbooks, e.g. by Hisrich et al. (2006) or Timmons and Spinelli (2007).
[4] cf. e.g. Bhidé (1994, 2003) or Lange et al. (2007).
[5] By linking the decision maker with the decision problem, the decision-analytic framework overcomes the dichotomy of what Eckhardt and Shane (2003) refer to as the "human-type" and the "opportunity-based" explanations of entrepreneurship.

focus is on this type of business planning, regarded as a process dealing with analysis and assessment of a given business idea. Indeed, the bulk of the business-planning literature as well as the majority of entrepreneurship textbooks is focused mainly on this task. Here the leading topics are budgeting balance sheets and cash flow statements, opportunity analysis, SWOT analysis, market analysis, risks and rewards, etc., all of which have become important elements of standardized business plans, e.g. as they are seen at business-plan competitions. The quality of planning is then given by its reliability in assessing the venture's market prospects. For the entrepreneur, planning quality is characterized by the validity of the en- or discouraging signals received from the analyses.

On a more sophisticated level, business planning supports the development of an initial idea with potential value into a business venture with market potential. Business planning, in this sense, means creating and developing the business idea. In terms of decision analysis, new strategies are to be generated, thus enlarging the set of terminal actions. The value of the business plan is then to be measured by the prospective performance of the conceived business. In particular with regard to this latter type of planning, i.e. the relationship between planning and performance, one finds the most disagreement among researchers. Delmar and Shane (2003), for example, reveal different channels, through which planning has a positive impact on the business venture.[6] In contrast, Lange et al. (2007) find support for the hypothesis that "new ventures launched with formal written business plans do not subsequently outperform ones launched without them."[7] Karlsson and Honig (2009) conclude from this debate that the empirical "research on the link between business planning and performance has, so far, been inconclusive."[8] Yet, Brinckmann et al. (2008) find in their meta-analysis of the vast empirical literature that the results do seem to point slightly in favor of planning.

In our view, the main reason for this continuing empirical controversy is a lack of distinction between evaluative and performance-enhancing business planning, leading the critics to draw their negative implications for business planning in general, thus throwing out the baby with the bath water.[9] In our analysis, we, therefore, sidestep the debate by neglecting performance-enhancing planning completely, in order to exclusively highlight the value of evaluative information activities and compare it to the information costs.

---

[6] See also Armstrong (1982), Castrogiovanni (1996), Shane and Delmar (2004), Gruber (2007), Gruber et al. (2008), and Kraus and Schwarz (2007) for further studies showing the different benefits of planning.
[7] Further prominent examples along this line include Bhidé (1994, 2003) and Honig and Karlsson (2004).
[8] As Arora and Fosfuri (2005) note, it is also theoretically difficult to put a value on states of nature that do not exist a priori.
[9] The importance of contextual differences in planning is emphasized by Castrogiovanni (1996).

Our analysis reveals that, from an ex-ante viewpoint, i.e. before starting the business, the main purpose of good evaluative business planning is to obtain reliable signals concerning the future prospects of the planned venture and, thus, to reduce the probability of failure by keeping poor business ideas from reaching the market. Indeed, within our rational decision-making framework, the probability of terminating a project rises with the quality of planning, if the failure of a venture is a-priori more likely than its success. As a consequence, those carefully planned projects that do become start-ups justify higher expectations – not because planning affects their actual market performance, but simply due to their higher a-posteriori probability of success. Hence, planning may lead to rational start-up decisions that empirical analyses might misinterpret as entrepreneurial hubris,[10] in particular when the venture has, a priori, a negative expected payoff. For funding institutions, the increase in expected value seems to be reason enough for demanding a business plan, regardless of whether or not it is thoroughly studied.[11]

We employ our decision model of the representative nascent entrepreneur to investigate the statistical implications of a population of rationally planning entrepreneurs. We intentionally construct a theoretical setting, in which the information value of business planning is unambiguously positive, to revisit recent empirical studies, in particular some which have come to the conclusion that business planning has no significant value. We show how different seemingly negative implications of business planning can be derived when only a sub-tree of the complete entrepreneurial decision problem is taken into account. Empirical analyses focusing on only successful entrepreneurs neglect important information on reference groups, such as entrepreneurs that have failed or nascent entrepreneurs that have terminated their projects before entering the market. As a consequence, the conclusions are inevitably biased. Thus, while we do not doubt the empirical results, we question the strong negative implications that are drawn for business planning and entrepreneurial education.

The rest of the paper is organized as follows. In section 2, we model and analyze the decision problem of a representative, rational, nascent entrepreneur, who is confronted with two choices: One is whether or not he should initiate a new venture. The other is whether or not he should plan the business before making the market decision. In section 3, we define the information value of planning and show explicitly how it is related to the quality of planning. In

---

[10] Hayward et al. (2006) present a theory of entrepreneurial hubris which closely resembles the behavior of a rational decision maker, which we discuss below.

[11] From an insider perspective, Kawasaki (2004) claims that most venture capitalists require a business plan as proof of due diligence, but do not spend much time reading it. An explanation for this behavior is given by Castrogiovanni (1996), who argues that planning is a signal for proactive learning, which has a positive impact on performance.

section 4 we acknowledge the costs of planning and discuss their effect on the entrepreneur's decision to plan as well as the quality of planning. In section 5 we then revisit the empirical discussion on the value of planning and contrast well-known results with our theoretical model. Section 6 concludes with a discussion of the implications of our results and possible extensions for further research.

2.   The Decision Problem of the Nascent Entrepreneur

Consider the decision context of a representative entrepreneur planning a start-up. We conduct our analysis in the simplest possible setting in order to make our results transparent. For simplicity, we assume that the representative entrepreneur is risk neutral, since it does not matter for our subsequent results whether the decision maker is maximizing expected values or expected utilities. Business planning is an activity that the entrepreneur can choose to perform or else disregard. The sequential structure of the entrepreneur's decision problem is described by the decision tree depicted in Figure 1, where the squares, circles, and triangles denote decision, chance, and payoff nodes, respectively. Observe that the formal characterization of the decision problem requires a precise timing of events. Since business planning helps to substantiate the consequences of action, it is natural to place the decision to plan (BP) before the decision to initiate the start-up.

Consider first the lower branch in Figure 1, associated with the entrepreneur's decision to implement the start-up without prior business planning (No BP). We assume that the implementation of the business idea in the form of a new venture requires an initial investment I, where the returns of the investment are uncertain at the time when the investment decision is made. Without loss of generality, we reduce the more complex situation with multiple possible outcome scenarios to a setting with binary consequences and two states. With the probability $p_S \in (0,1)$ the start-up will generate a stream of future receipts, yielding a present value of V_S which is higher than the initial investment I, such that the resulting net present value of $NPV_S = -I + V_S > 0$ is positive. We, therefore, define the corresponding state as success. With probability $1 - p_S$, the start-up will turn out as a failure, generating a lower present value of V_F, such that the net present value is negative, i.e. $NPV_F = -I + V_F < 0$. We assume that the reference alternative to starting a business has a net present value of $NPV_0 = 0$. Thus, the entrepreneur will choose to initiate the start-up if, and only if, the expected net present value of the start-up is positive, i.e. $p_S V_S + (1 - p_S)V_F - I > 0$.

- 4 -
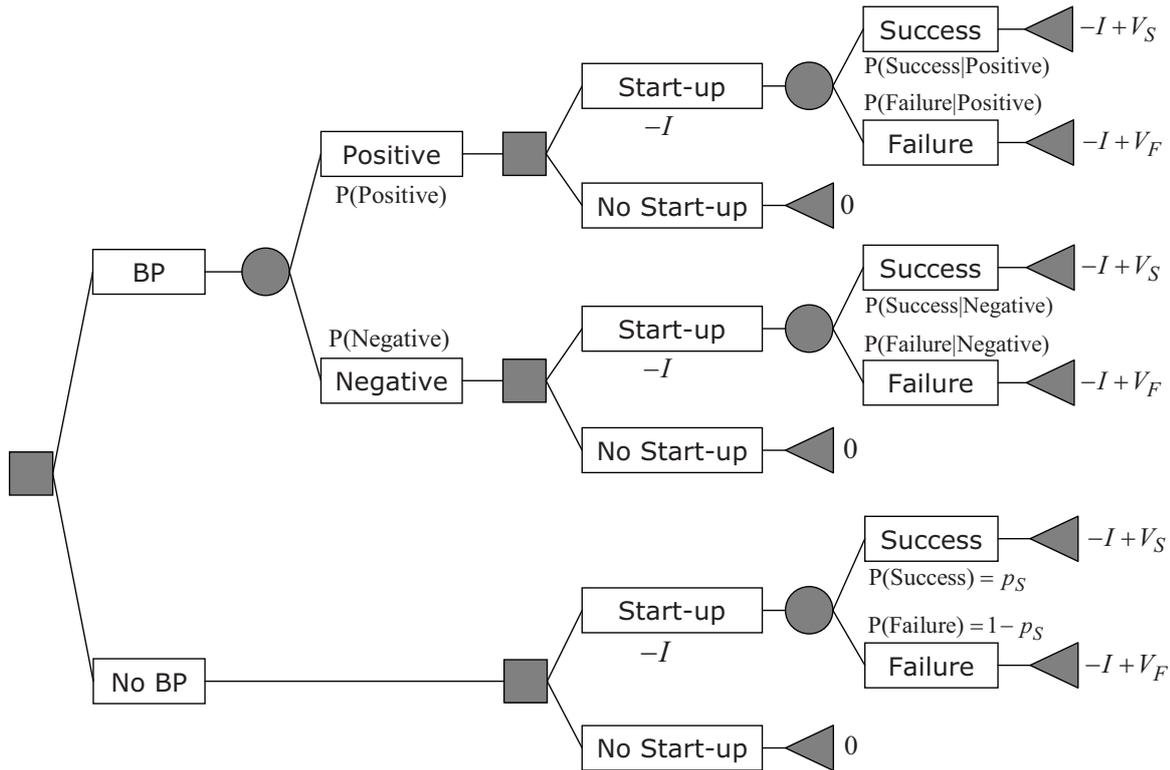
Figure 1: The decision to plan before starting

The upper branch (BP) in Figure 1 follows the entrepreneur's decision to plan before starting the business. The purpose of business planning is to analyze the chances of initiating a successful venture. Therefore, the entrepreneur expects to receive some signal regarding the prospects of the venture. For simplicity, we assume that business planning results in two alternative signals, positive or negative. More generally, we could consider multiple alternative signals from business planning, without having this affect the qualitative results of our analysis. In our view, a written business plan only documents the successful completion of planning. Hence, while every entrepreneur with a business plan is assumed to have planned, not every nascent planner – in particular those that terminate their project – will necessarily have a written business plan to show.[12]

After the signal is obtained from planning, the terminal actions are the same as before: On the one hand, the entrepreneur can choose the reference alternative, i.e. no start-up, yielding a net present value of zero. On the other hand, the entrepreneur can go ahead with the start-up, where the venture may turn out a success or a failure. Note that, in both cases, the present

---

[12] This corresponds to our practical experience with the facilitation of many start-ups over the past years, which typically begin with an idea that is developed, augmented by a business strategy, presented, assessed, and revised until the concept eventually converges to a business plan that can be written as one coherent text. The completion of the business plan very often coincides with the decision to enter the market, which matches the observation made by Liao and Gartner (2006).

value of the venture, i.e., V_S or V_F, is unaffected by business planning. We explicitly assume that planning does not affect the quality of the business idea, because our focus here is on the evaluative function of planning. Moreover, our main message concerning the value of business planning is even enhanced, if our results are not driven by enhanced performance.

The essential difference between the upper and lower branch of the decision tree is that, if the signal from planning has any relevance, then the a-posteriori conditional probabilities of success and failure will differ from the a-priori probabilities. The sole purpose of planning is to obtain some insight on the chances of success before making the decision to start. Therefore, we assume that the quality of planning is given by the likelihoods, q_S and q_F, of being able to identify in advance successful or unsuccessful business ideas, respectively. These likelihoods are given in Table 1, where 'Success' and 'Failure' characterize the actual ex-post realization of the business idea, and 'Positive' and 'Negative' are the two alternative signals obtained from planning.

		States	
		Success	Failure
Signals	Positive	q_S	$1 - q_F$
	Negative	$1 - q_S$	q_F

Table 1: The information structure

One can consider different constellations of q_S and q_F, reflecting whether it is easier to detect a successful or an unsuccessful venture. However, when different levels of planning effort are taken into account, it seems reasonable to assume that changes of effort affect both likelihoods qualitatively in the same way. For analytical convenience we, therefore, assume in the following that $q_S = q_F \equiv q \in (0,1]$, as most of our results are not affected qualitatively by this simplification.

For his decision on whether or not he should enter the market, the entrepreneur is interested in the expected net present value of implementing the start-up. This critically depends on the probabilities of success and failure, conditional on the signal of business planning (cf. Figure 1). How planning affects these probabilities is formalized in the following proposition.

Proposition 1: *The a-posteriori probability of venture success is greater (less) than the a-priori probability of success, if planning yields a positive (negative) signal and $q > 0.5$.*

Moreover, the absolute difference between a-posteriori and a-priori probabilities rises with the quality of planning.

Proof: Given our characterization of planning quality in Table 1, we can calculate the a-posteriori (conditional) probabilities with Bayes' rule, yielding

$$(1) \qquad P(\text{Success}|\text{Positive}) = \frac{qp_S}{qp_S + (1-q)(1-p_S)},$$

where $P(\text{Failure}|\text{Positive}) = 1 - P(\text{Success}|\text{Positive})$, and

$$(2) \qquad P(\text{Success}|\text{Negative}) = \frac{(1-q)p_S}{(1-q)p_S + q(1-p_S)},$$

where $P(\text{Failure}|\text{Negative}) = 1 - P(\text{Success}|\text{Negative})$.

In order to prove the first part of the statement, note that both $P(\text{Success}|\text{Positive}) > p_S$ and $P(\text{Success}|\text{Negative}) < p_S$ hold for $q > 0.5$. The second part of the statement follows from the differentiation of the conditional probabilities in equations (1) and (2) with respect to q.

$\square$

Proposition 1 provides a rational explanation for the observation made by Cooper et al. (1988), stating that most entrepreneurs (68%) "perceived their odds for success as better than others" in a similar business. If an entrepreneur entering the market perceives his own odds for success as $P(\text{Success}|\text{Positive})$ with the general odds given by $P(\text{Success}) = p_S$, the difference in perception in the present setting might simply be the logical consequence of planning, having nothing to do with cognitive dissonance, hubris, or other psychological aspects.[13] According to the research agenda of Shane and Venkataraman (2000), one of basic questions of entrepreneurship is "why some people and not other exploit opportunities." A simple but rational explanation could be that some people are just better in assessing the prospects of ventures than others. The deviation of the conditional probabilities in Proposition 1 from their a-priori values also offers a rational explanation for why Townsend et al. (2008) find that the a-priori probability of success (referred to as 'outcome expectancy') loses its relevance for influencing the entrepreneur's decision to initiate the venture, once the entrepreneur's quality of planning (belonging to what the authors refer to as 'ability expectancy') is taken into account.

---

[13] See also Hayward et al. (2006).

From the denominators of the conditional probabilities in equations (1) and (2) we can directly infer the probabilities of the two planning signals,

(3)
$$P(\text{Positive}) = qp_S + (1-q)(1-p_S) \text{ and}$$

(4)
$$P(\text{Negative}) = (1-q)p_S + q(1-p_S).$$

Note that the two probabilities given in equations (3) and (4) are endogenously determined. Hence, the explanatory quality of our theoretical model will depend on how well these values correspond to empirical estimates. We return to this issue in Section 5.

3. The Information Value of Business Planning

With the formal characterization of the entrepreneur's decision situation, we can now derive the information value of business planning. More specifically, the relationship between the information value and the quality of planning is summarized in the following proposition.

Proposition 2: *The information value of business planning is positive, if a positive signal induces the entrepreneur to initiate and a negative signal induces the entrepreneur to terminate the start-up. Moreover, the positive information value is a monotonically increasing affine function of the quality of planning.*

Proof: A positive signal induces the entrepreneur to initiate the start-up, if the expected value of entering the market is greater than zero, i.e. the value of staying out. With the conditional probabilities P(Success|Positive) and P(Failure|Positive) from Proposition 1, the critical condition is

$$\frac{qp_S}{qp_S + (1-q)(1-p_S)}(-I+V_S) + \frac{(1-q)(1-p_S)}{qp_S + (1-q)(1-p_S)}(-I+V_F) > 0$$

$$\Leftrightarrow \qquad q > \frac{(1-p_S)(I-V_F)}{p_S(V_S-I)+(1-p_S)(I-V_F)} =: q_{\text{Pos}}.$$

A negative signal induces the entrepreneur to terminate the start-up, if the value of staying out of the market is greater than the expected value of entering. With the conditional probabilities P(Success|Negative) and P(Failure|Negative), the critical condition is

$$\frac{(1-q)p_S}{(1-q)p_S + q(1-p_S)}(-I+V_S) + \frac{q(1-p_S)}{(1-q)p_S + q(1-p_S)}(-I+V_F) < 0$$

$$\Leftrightarrow \qquad q > \frac{p_S(V_S-I)}{p_S(V_S-I)+(1-p_S)(I-V_F)} =: q_{\text{Neg}}.$$

Thus, if the quality of planning exceeds the minimum level $q_{\min} := \max\{q_{\mathrm{Pos}}, q_{\mathrm{Neg}}\}$, the entrepreneur will initiate the start-up after receiving a positive signal and terminate the project after receiving a negative signal.[14] The expected value of the venture with business planning, $NPV_{BP}(q)$ prior to receiving a signal, is then given by

$$NPV_{BP}(q) = \mathrm{P(Positive)}\left[\mathrm{P(Success|Positive)}V_S + \mathrm{P(Failure|Positive)}V_F - I\right]$$
$$= -(1-p_S)(I-V_F) + \left[p_S(V_S - I) + (1-p_S)(I-V_F)\right]q \ .$$

The information value of business planning, $\Omega_{BP}(q)$, is given by the difference between the expected value of the venture with planning, $NPV_{BP}(q)$, and the expected value of the venture (starting or terminate the business) without planning, NPV. Depending on the sign of the expected net present value of starting without planning, NPV is positive or zero, i.e. $NPV = \max\{0; p_S V_S + (1-p_S)V_F - I\}$, so that there are two cases to consider:

i. $p_S V_S + (1-p_S)V_F - I > 0$: Here the advantage of planning is to stop seemingly unsuccessful ventures, and $q_{\min} = q_{\mathrm{Neg}}$, such that $NPV_{BP}(q_{\min}) = p_S V_S + (1-p_S)V_F - I$, which is just the expected value of starting without planning. The information value of planning is then given by

(5) $\qquad \Omega_{BP}(q) = \begin{cases} -p_S(V_S - I) + \left[p_S(V_S - I) + (1-p_S)(I-V_F)\right]q \ge 0 \ , & \text{for } q \ge q_{\min} \\ 0 \ , & \text{for } q < q_{\min}. \end{cases}$

ii. $p_S V_S + (1-p_S)V_F - I < 0$: Here the advantage of planning is to start seemingly successful ventures, and $q_{\min} = q_{\mathrm{Pos}}$, such that $NPV_{BP}(q_{\min}) = 0$, which is just the expected value of terminating the project without planning. The information value of planning is then given by

(6) $\qquad \Omega_{BP}(q) = \begin{cases} -(1-p_S)(I-V_F) + \left[p_S(V_S - I) + (1-p_S)(I-V_F)\right]q \ge 0 \ , & \text{for } q \ge q_{\min} \\ 0 \ , & \text{for } q < q_{\min}. \end{cases}$

In both cases, the positive information value is a monotonically increasing, affine function of the quality of planning.

$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ □

---

[14] For completeness, one must also acknowledge the case, where q is so low, that the entrepreneur does exactly the opposite of what planning recommends – if the signal is positive, the entrepreneur stays out of the market, and if it is negative, he enters the market. In the proof of Proposition 1, this is the case where $q < \min\{q_{\mathrm{Pos}}, q_{\mathrm{Neg}}\}$. We regard this case as a technical peculiarity of the model and ignore it in the following analysis.

Proposition 2 is depicted in Figure 2, which shows the graphic characterization of equations (5) and (6), associated with the two cases *i.* and *ii.*, respectively. Note that in case *ii.* of Proposition 2 the nascent entrepreneur would not start the business without planning, because the a-priori expected net present value is negative. Nevertheless, for a sufficiently high quality of planning, i.e. $q > q_{min}$, the rational entrepreneur will initiate the venture, if he receives a positive signal. Again, this behavior has nothing to do with over-confidence, although the sole observation of the entrepreneur's entering the market might suggest otherwise.[15]
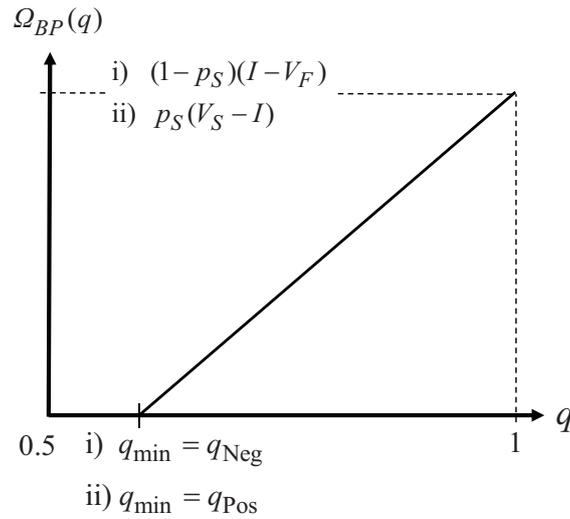
Figure 2: The information value of business planning

As Figure 2 shows, planning requires a minimum level of quality, q_{min}, in order to be of any positive value to the entrepreneur. This minimum level sensitively depends on the parameters of the venture which is at stake.

Corollary 1: *The minimum quality for a positive information value of business planning is determined by the a-priori expected net present value of the venture. In particular, $q_{min} \geq 0.5$, and the higher the absolute a-priori expected net present value is, the higher q_{min} must be.*

Proof: From the proof of Proposition 1, one can infer that the critical levels of planning quality, q_{Pos}, q_{Neg}, are related through the conditions

$$q_{Neg} + q_{Pos} = 1 \quad \text{and} \quad q_{Neg} - q_{Pos} = \frac{p_S V_S + (1 - p_S) V_F - I}{p_S (V_S - I) + (1 - p_S)(I - V_F)}.$$

---

[15] cf. Hayward et al. (2006).

Hence, q_{Pos} and q_{Neg} are symmetric around 0.5, implying that $q_{min} \geq 0.5$. Moreover, the minimum quality, $q_{min} := \max\{q_{Pos}, q_{Neg}\}$, rises with $|p_S V_S + (1 - p_S) V_F - I|$.

$\square$

Intuitively, the more the a-priori expected net present value of the start-up deviates from the net present value of the reference alternative ($NPV_0 = 0$) in either direction, the more critical the quality of planning becomes in order to evoke a relevant stop-or-go signal. Indeed, if the quality of planning falls below q_{min},[16] then the signal that the entrepreneur receives is too imprecise to yield distinguishable implications. One can easily verify that, after having received such a low-quality signal, the entrepreneur will do whatever he would do without planning, implying that planning has no information value for the entrepreneur.

In order to fully acknowledge the impact of business planning, consider the following numerical example of a representative entrepreneur: The necessary investment in the venture is given by $I = 200,000$, where the successful venture yields a present value of $V_S = 800,000$ and a failure results in $V_F = 100,000$. The a-priori probability of success is given by $p_S = 0.20$. Nevertheless, the net present value of the start-up without planning is $p_S V_S + (1 - p_S) V_F - I = 40,000 > 0$ (this is case i. of Proposition 2), implying that the risk-neutral entrepreneur would initiate the venture, although the odds for success are very low.[17] With $q_{min} = 0.60$ determined by the parameters of the venture, assume that the entrepreneur has the possibility of planning with a quality $q = 0.75$ (i.e. in three out of four cases planning will reveal the ex-post actual performance). The effect on the entrepreneur's decision can be seen by applying the values of our example to the decision problem of Figure 1. The result is shown in Figure 3.

Remarkably, for the individual entrepreneur who chooses to plan, the probability of a successful start-up increases by 115% from $p_S = 0.20$ to P(Success|Positive) = 0.43, while the probability of failure drops by almost 30% from $1 - p_S = 0.80$ to P(Failure|Positive) = 0.57, after receiving a positive signal, thus increasing the expected outcome of the venture. The value of this planning quality, i.e. the information value of business planning, according to equation

---

[16] Again, we ignore the case where $q < \min\{q_{Pos}, q_{Neg}\} < 0.5$.

[17] Note also that the decision can be motivated without having to refer to hubris (cf. Hayward et al. (2006)).

(5) of Proposition 2, is $\Omega_{BP}(0.75) = 30,000$. This is the amount the risk-neutral entrepreneur would be willing to pay for business planning with a quality of $q = 0.75$.

However, there are several other noteworthy effects. In the process of planning with $q = 0.75$, the nascent entrepreneur is quite likely (with a probability of 65%) to terminate his project. With a probability of only 35%, the nascent will actually enter the market to become an entrepreneur.[18] Moreover, as a founder with a business plan, the entrepreneur will still quite likely (with a probability of 57%) fail. Hence, the planning entrepreneur, ex ante, only has a 15% chance (0.35×0.43) of being successful, which is lower than the probability ($p_S = 0.20$) of implementing a successful venture without planning, because planning entails the risk of incorrectly disbanding a good project.
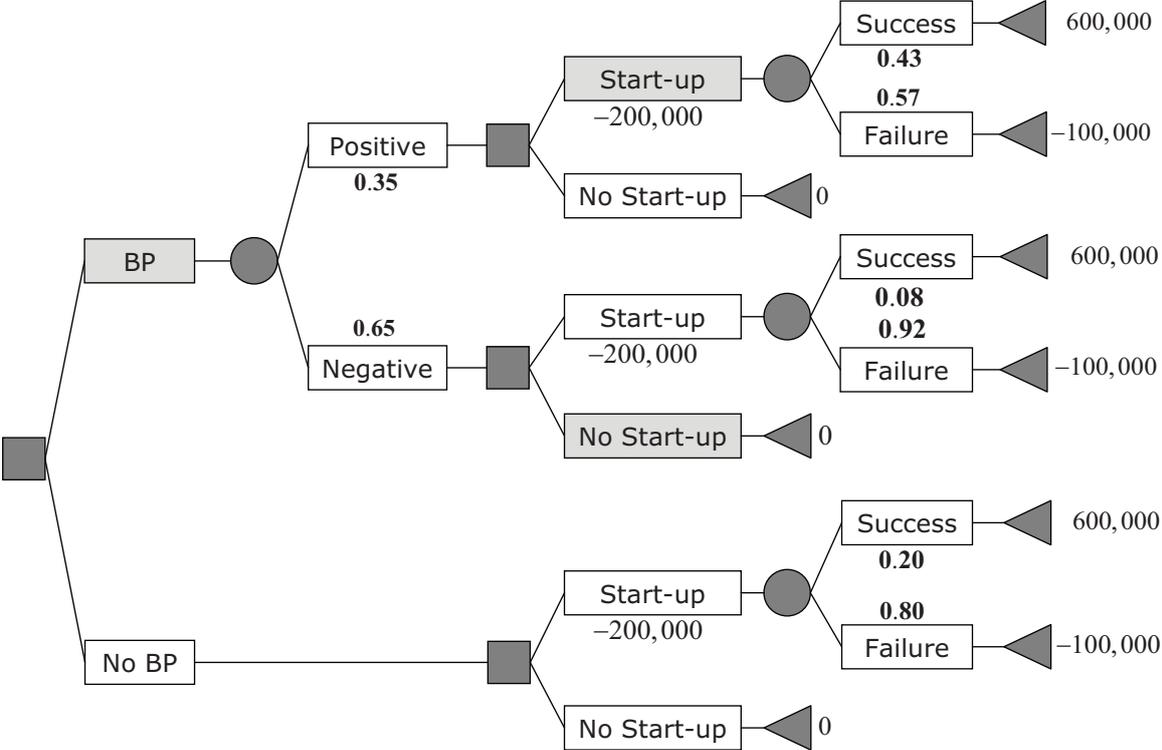
Figure 3: The decision problem of the entrepreneur with a planning quality of $q = 0.75$

More important, though, is the other side of the coin, as business planning also generates a lower probability of failure. In our example, the ex-ante probability of failure for the planning entrepreneur is only 20% (0.35×0.57). Compared with the 80% chance of failure without planning, this is a considerable improvement. Formally, we obtain the following result.

---

[18] It is this capability of sorting out the many poor and detecting the few good ideas that Bhidé (1994) finds to be characteristic for successful entrepreneurs.

Proposition 3: *If business planning is less than perfect, it will reduce the entrepreneur's chances of implementing a successful start-up. However, if planning has a positive value, the chances of implementing a failure will be reduced relatively more.*

Proof: According to equations (1) and (3), the probability of success for an entrepreneur with a business plan is given by $\text{P(Positive)}\times\text{P(Success|Positive)} = qp_S$. If planning is less than perfect ($q<1$), the chance of success falls below the a-priori probability (without planning), p_S, because a potentially profitable venture may be incorrectly sorted out. Accordingly, from equations (2) and (4), $\text{P(Positive)}\times\text{P(Failure|Positive)} = (1-q)(1-p_S)$, which is also lower than $1-p_S$. Yet, with $q \geq q_{\min} > 0.5$, the reduction in the probability of failure is relatively greater than the reduction in the probability of success.

$\square$

4.   The Costs of Business Planning

The information value of planning that we analyzed in the previous section was defined as the expected benefits of planning minus the expected benefits of not planning. As we showed in Figure 2, the information value rises with the quality of planning. Consequently, the entrepreneur should aim for the highest planning quality, yielding a perfect signal concerning the success of the venture. Yet, there are also costs of planning, which we have neglected in our previous analysis. Planning costs time, effort, or money, and one may assume that these costs increase with the quality of planning. In the following, we assume that the quality dependent costs of planning are characterized by the function

$$C:[0.5,1]\rightarrow\mathbb{R}, \ \ \text{with } C(0.5) > 0, \ C'(q) > 0, \text{ and } C''(q) > 0.$$

Business planning might entail fixed costs, e.g. given by the necessity of basic planning materials, such as books, spreadsheets, templates, check lists, etc. In addition, there are quality dependent variable costs that are increasing at increasing marginal costs.[19] The corresponding cost function is shown in Figure 4.

By comparing the costs with the information value one obtains the net benefit of planning, $\Pi(q) := \Omega_{BP}(q) - C(q)$. The relationship between the three corresponding curves is illustrated in Figure 4. If there exists a range of planning quality, over which the net value of planning is positive, then the optimal quality of planning, $q*$, is determined by the maximum net value.

---

[19] Gruber (2007) explicitly acknowledges the costs of planning, relating these to the time spent on planning.

However, if the costs of planning are so high that they exceed the information value for all levels of $q > q_{min}$, then the nascent entrepreneur will abstain from planning and has two possible choices. If the a-priori expected net present value is positive ($p_S V_S + (1 - p_S) V_F - I > 0$), the entrepreneur will start without planning. Otherwise, if faced with a negative expected net present value ($p_S V_S + (1 - p_S) V_F - I < 0$), he will refrain from starting a business altogether.
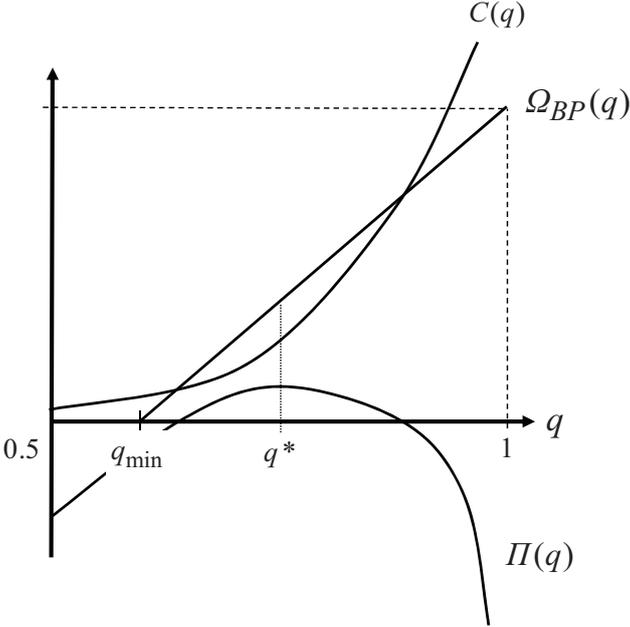
Figure 4: The costs of planning and the optimal planning quality

Applied to a population of nascent entrepreneurs, the absolute costs of business planning have a significant impact not only on the number of entrepreneurs who choose to plan, but also on the number of start-ups. In addition, the (marginal) costs determine the quality of planning and, thereby, the value of planning as well.

The question of whether or not planning is useful is beside the point. As we have shown in the previous section, relevant planning is always useful for a rational decision maker, if it is costless. The crucial aspect, highlighted in this section, is whether or not the usefulness of planning exceeds its costs. If a rational entrepreneur – and there is no convincing evidence that justifies the assumption of an irrational entrepreneur[20] – decides to plan, the value of planning must be higher than the associated costs. With this point in mind, we turn next to empirical studies that have investigated the usefulness of business planning.

---

[20] Wu and Knott (2006) even assume rationality when considering entrepreneurial traits that are related to overconfidence.

5. Empirical Implications of the Rational Decision Model

The clear-cut theoretical results that we have obtained concerning the value of planning may appear somewhat surprising in the light of the controversy over the observable value of planning, which has developed over the past years. In this section we, therefore, contrast our analytical results with findings from empirical studies, in particular also those studies that have been critical of business planning.

5.1. Observations Concerning Business Planners

We first generalize the decision problem of the representative individual entrepreneur to a population of identical entrepreneurs in order to interpret the probabilities as "statistics," which are generated in a decision context, in which planning, by assumption, has an unambiguously positive value. We continue to use the numerical example, illustrated in Figure 3.

It is important to stress that the numerical values for the signals' probabilities, P(Positive) and P(Negative), are endogenously determined by the decision model, in particular by the values for the a-priori probability of success and the quality of planning. If we apply these probabilities to a population of identical nascent entrepreneurs, we obtain the following result.

Proposition 4: *If venture success is, a-priori, less likely than failure ($p_S < 0.5$) and planning has a positive value, then only a minority of those nascent entrepreneurs, who plan their businesses, will end up entering the market.*

Proof: Only a minority of planning nascent entrepreneurs will enter the market, if

$$P(\text{Positive}) < P(\text{Negative})$$
$$\Leftrightarrow q p_S + (1-q)(1-p_S) < (1-q)p_S + q(1-p_S)$$
$$\Leftrightarrow (1-2q)(1-p_S) < (1-2q)p_S$$
$$\Leftrightarrow p_S < \frac{1}{2} \quad \text{for } q > \frac{1}{2} .$$

With $q > q_{min}$ this always holds, if success is a priori less likely than failure.

$\square$

Hence, when our numerical example is generalized to a population of planning nascent entrepreneurs, we see that, on average, only 35% enter the market. With the underlying parameter values, the endogenous share is well in line with empirical estimates. Indeed, Åstebro (1998) reports different studies showing that significantly less than 50% of nascent entrepreneurs

succeed in starting a new firm. These values also correspond to our own day-to-day experience with university start-ups, where approximately 1/3 of our 250 planning nascent entrepreneurs over the past three years have entered the market.

Critics of business planning complain that planning is time consuming and just keeps entrepreneurs from starting their business.[21] As our analysis reveals, there is a good reason for this: Good planning helps keep poor business ideas from the market. Indeed, in the light of Proposition 4, it appears cynical to urge nascent entrepreneurs to start without planning.

Proposition 4 may also explain why Honig and Karlsson (2004) find that, among nascents with a business education (indicating their openness towards business planning), the propensity to produce business plans is (surprisingly) low. However, in their study, terminated projects are not counted as planned, but simply as failed ventures, i.e. only market entrants with business plans count. As our example reveals, if planning is valuable and exceeds its costs, then all nascent entrepreneurs will rationally choose to plan, but the majority will terminate their projects, because of the negative signals they receive. Hence, from the observation of market entries alone, it is premature to conclude that of those nascent entrepreneurs, who could plan, only a minority will choose to do so.

The empirical evidence against business planning is obtained in different ways. One method is to study entrepreneurs that enter the market with business plans, in order to investigate what they do with their plans and how well they do with their business. With regard to the second question, it is of particular interest to see how they compare to entrepreneurs without a business plan. For example, Karlsson and Honig (2009) derive their pessimistic view of business planning from a sample of six incubator start-ups, of which the four with a business plan all fail. However, since this practice involves only a sub-sample of all nascent entrepreneurs, the empirical results may be misleading as the following result shows.

Proposition 5: *If planning is less than perfect and venture success is, a-priori, less likely than failure* ($p_S < 0.5$)*, then the majority of all entrepreneurs, who have a business plan before entering the market, may fail.*

Proof: From equations (1) and (3) one can infer for a population of identical nascent entrepreneurs that the majority of planners who enter the market will fail, if

$$(1-q)(1-p_S) > q p_S$$
$$\Leftrightarrow q + p_S < 1 .$$

---

[21] e.g. Lange et al. (2007).

As long as $q < 1$, i.e. planning is less than perfect, and $p_S < 0.5$, i. e. success is, a-priori, less likely than failure, the above condition is possible. However, as long as $q > q_{\min} \geq 0.5$, the value of planning will remain positive.

$\square$

From Proposition 5 we can, thus, conclude that, for any sample of entrepreneurs with a business plan, the value of business planning cannot be inferred from the share of entrepreneurs that are successful. In other words, a negative correlation between business planning and market success in a sample of entrepreneurs with business plans tells us nothing about the value of business plans.

Propositions 4 and 5 both assume that, a priori, success is less likely than failure. The empirical evidence concerning the underlying a-priori probability of success, p_S, is mixed. According to Headd (2003), the widespread belief that business failure is very high seems to be related to the official statistics on business closures, which are often misinterpreted as failures. He points to independent statistics revealing that up to 75% of start-ups survive the first two years, indicating a high value of p_S, while after six years 40% are still in business, i.e. less than half. Brüderl et al. (1992) identify several influencing factors for firm failure, the mortality rate being highest within the first year. However, even after five years more than 60% of the start-ups they studied were still in business. Strotmann (2007) obtains similar values, but also finds that less than half are still around after ten years. Åstebro (1998) holds a more pessimistic view, finding that less than half survive at least four years.

For our numerical example we chose a rather low value of $p_S = 0.2$, mainly to demonstrate the rationality of entering the market, even when the odds for a successful venture are very low. However, since venture failure in our setting only refers to a negative net present value, rather than insolvency, we believe that a low value of $p_S < 0.5$ can be justified even for shorter time horizons. In any case the a-priori probability of success will depend on the nature and environment of the start-up project, as well as the time horizon under consideration.

5.2. Observations Concerning Business Planning Quality

As we have shown in Section 3, a crucial aspect of business planning is that it helps keep entrepreneurs with bad ideas from entering the market. Therefore, one might assume that better business planning should be even more effective in preventing bad business ideas. The following proposition provides a formal statement on this issue.

Proposition 6: *A higher planning quality makes positive (negative) signals more likely, if, and only if, the a-priori probability of success is higher (lower) than the probability of failure.*

Proof: By differentiating the probability of receiving a positive signal with respect to the quality of planning, we obtain

$$\frac{d\,\mathrm{P(Positive)}}{dq} = 2p_S - 1 \gtreqqless 0 \quad \Leftrightarrow \quad p_S \gtreqqless 0.5\,.$$

$\square$

When planning is valuable, P(Positive) becomes the probability of implementing the start-up, while P(Negative) characterizes the probability of termination. Hence, Proposition 6 directly links the quality of planning to the entrepreneur's start-up decision. Whether higher planning quality increases the entrepreneur's propensity to enter the market or to disband the project sensitively depends on the a-priori probability of success.

It is interesting to compare Proposition 6 with the study of Delmar and Shane (2003), who find empirically that (better) business planning reduces the hazard of disbanding the venture.[22] In a similar vein, Townsend et al. (2008) find strong empirical evidence that the decision to initiate the start-up is positively related to entrepreneurs' ability expectancy. According to Proposition 6, these results can rationally be expected for ventures that, a priori, are more likely to succeed than to fail. However, with an a-priori probability of success lower than 0.5, better planning will induce more nascent entrepreneurs to terminate their projects.

If planning quality rises with the time spent on planning, these results also explain why longer planning may reduce the entrepreneur's propensity to initiate the start-up. According to Townsend et al. (2008), a longer time spent on planning reduces the entrepreneur's outcome expectancy, because windows of opportunity close if the start-up is delayed. From a different angle, Proposition 6 states that, if outcome expectancy (p_S) is low to begin with, then longer planning will increase the nascent entrepreneur's probability of receiving a negative signal and, therefore, terminating the project.

While Proposition 6 relates the quality of planning to the individual entrepreneur's start-up decision, we can also apply this statement to a population of planning entrepreneurs to immediately obtain the following implication.

---

[22] One must acknowledge, though, the different functions of business planning. While our focus here is purely on business analysis, Delmar and Shane (2003) focus their study more on business development. So there may actually be two complementary or counteracting effects at work.

Corollary 2: *If for all nascent entrepreneurs the a-priori probability of success is higher (lower) than the probability of failure, then an increase in the quality of planning will lead to an increase (a reduction) in the number of start-ups.*

Corollary 2 has important implications for the support and promotion of start-ups, because it reveals that, in an environment with less-promising start-up projects, i.e. where $p_S < 0.5$, the improvement of business planning, e.g. through training, coaching, or support tools, may conflict with the objective to create more start-ups. This can become frustrating for facilitators that are typically judged by the number of successful start-ups they have supported, rather than by the number of venture failures that they could prevent.

5.3. Observations Concerning Successful Entrepreneurs

In order to broaden our discussion, we next construct a hypothetical world of planning and non-planning entrepreneurs. Consider a start-up environment consisting of *n* nascent entrepreneurs. We impose the assumption of rationality, so that all entrepreneurs would plan their business, if planning yields a positive information value. Indeed, Lange et al. (2007) found that the entrepreneurs, surveyed in their study, stated strategic planning as the most important purpose of business plans.[23] Thus, the only reason for an entrepreneur not to plan is that the process of planning is too costly. In order to strengthen our arguments, we assume further that the expected net present value is positive for all *n* entrepreneurs, i.e. $p_S V_S + (1 - p_S)V_F - I > 0$, so that planning is not a necessity for starting a venture. Indeed, if the a-priori net present value of the project were negative, one could argue that the entrepreneur is forced to redevelop the project. However, we excluded this type of planning from our analysis, to avoid giving planning an exogenous benefit.

Suppose that a fraction $\gamma \in [0,1]$ of the *n* nascent entrepreneurs has sufficiently low quality-dependent planning costs of $C_L(q)$, enabling them to optimally plan with quality $q > q_{\min}$, while the rest are confronted with planning costs $C_H(q)$, which are too high to ensure a positive net benefit of planning for any level of q. Hence, we are considering a world in which planning is possible for some entrepreneurs and by construction has an unambiguously positive value.

---

[23] According to Lange et al. (2007), the four most important purposes of business plans stated by entrepreneurs were: 1. Strategic planning, 2. Articulate business model, 3. Financial planning, 4. Operations planning.

Of the first group of (planning) nascent entrepreneurs, some will receive a positive signal from planning, which encourages them to initiate their start-up. In contrast, those business planners, who receive a negative signal, will prefer to terminate their projects. Of the planners, who finally enter the market, some will be successful and some will fail. In the second group, all entrepreneurs initiate their start-ups without planning. In this group as well, some will be successful, while others will fail.

The different events described above are shown in Figure 5, where we have included the number of nascent entrepreneurs affected by the individual events, using the notation of the preceding sections. In addition, in order to provide a numerical example (characterized by the bold numbers in Figure 5), suppose that there are $n=10,000$ nascent entrepreneurs, of whom all are faced with a 20% a-priori chance of success. The majority of these entrepreneurs ($\gamma = 0.55$) wish to plan their business, due to sufficiently low planning costs, where business planning is conducted with optimal quality, which we, again, assume to be $q = 0.75$.
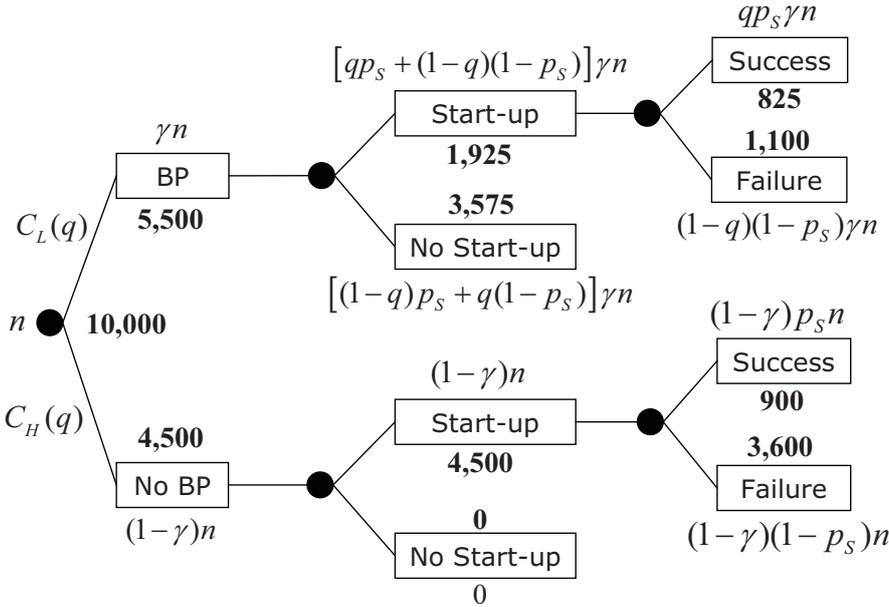
Figure 5: The relationship between business planning and success

The first observation is related to the widespread practice of studying the traits, decisions, etc. of only successful entrepreneurs, mainly because the unsuccessful ones are not available, and then drawing far-reaching implications from the statistically significant observations.

Proposition 7: *Even if the majority of nascent entrepreneurs plan their businesses, the majority of successful entrepreneurs may nevertheless start their venture without a business plan, if planning is less than perfect.*

Proof: The share of successful entrepreneurs without a business plan is higher than the share of entrepreneurs with a business plan if

$$(1-\gamma)p_S n > q p_S \gamma n$$

$$\Leftrightarrow \quad \gamma < \frac{1}{1+q} \; .$$

Hence, as long as planning is less than perfect, i.e. $q < 1$, it is possible that, even with $\gamma > 0.5$, the number of counted successful entrepreneurs without a business plans exceeds the number of those entrepreneurs with a business plan.

□

Consider our example shown in Figure 5. Of the 10,000 nascent entrepreneurs in the "sample", observe that 55% decide to plan their business. Of these planners, 825 turn out to be successful. Of the 45% nascents who "just do it", i.e. start without planning, e.g. as Lange et al. (2007) would advise, 900 are successful. The latter make up 52% of the total of 1,725 successful entrepreneurs. Thus, while the majority of nascent entrepreneurs plan before starting, the majority of (ex-post) successful entrepreneurs start without a plan. On the surface it seems that this sample would not make a strong case for business planning. However, this "observation" is made in an environment in which planning has an unambiguously positive value.

From Proposition 7 we can conclude that, for any sample of only successful entrepreneurs, the value of business planning cannot be inferred from the share of entrepreneurs with a business plan. For example, Honig and Karlsson (2004) find in their empirical study of nascent entrepreneurs that "survival" (in our context "success") seems to be unrelated to business planning. Proposition 7 shows how careful one must be in interpreting empirical characteristics of successful entrepreneurs and in drawing conclusions with respect to the value of business planning.[24]

As we have shown above in Proposition 4, business planning keeps entrepreneurs from starting their business, which is often wrongly criticized. However, there is a further argument, stated in the following proposition, which does seem to speak against business planning.

---

[24] Although we have, by assumption, excluded the positive influence of business planning on economic performance, one should be equally cautious in contesting this influence empirically on the basis of samples of only successful entrepreneurs (e.g. Bhidé (1994), Honig and Karlsson (2004) and Lange et al. (2007)). A similar caveat is justified for the observation of Allinson et al. (2000) that intuition rather than analytical planning best characterizes successful entrepreneurs, as types were not considered.

Proposition 8: *If some entrepreneurs write a business plan when planning is less than perfect, then the total number of successful entrepreneurs is lower than when all entrepreneurs enter the market without planning.*

Proof: Without any planning, the number of successful entrepreneurs is given by $p_S n$. With some entrepreneurs planning, there are two types of successful entrepreneurs, those with a business plan, $q p_S \gamma n$, and those without a business plan, $(1-\gamma) p_S n$. Since

$$q \gamma p_S n + (1-\gamma) p_S n = (q-1) \gamma p_S n + p_S n < p_S n \quad \text{for } q < 1 \;,$$

business planning reduces the number of successful entrepreneurs, if planning is less than perfect, i.e. $q < 1$.

☐

Formally, Proposition 8, stated for a population of planning and non-planning entrepreneurs, is an extension of Proposition 3, referring to the individual planner. In our example, if all nascent entrepreneurs would enter the market without planning, the statistics would reveal 2,000, i.e. 20%, successful entrepreneurs. However, observe in Figure 5 that there are only 1,725 successful entrepreneurs. As one can see, the loss of 275 successful ventures is only the result of business planning. Intuitively, if planning does not achieve perfect forecasts, some potentially successful ventures will be discarded.

From Proposition 8 we can conclude that, for any sample of nascent entrepreneurs, the value of business planning cannot be inferred from the effect on the share of successful entrepreneurs. In order to obtain a complete picture, one must also look at the failures. In our example, in Figure 5, a total of 4,700 ventures fail, which is considerably less than the 8,000 failures that one would expect in an environment without any planning. Thus, while less than perfect planning inevitably reduces the number of successful ventures, the number of failures drops even more. This undisputable benefit of business planning is typically neglected by all empirical studies that exclude failures.

6.   Conclusions

The widespread controversy over the value of business planning within the entrepreneurship research community over the past years does not seem to be coming to a settlement. To the contrary, one might even sense an escalation in empirical research with opposing implica-

tions, leading to different schools of thought and, consequently, diverging approaches to teaching entrepreneurship.

The purpose of this paper was to provide an analytical framework in order to provide, first, a precise definition of the value of planning and, second, an understanding of how it is affected in and by the entrepreneurial process. Since planning typically precedes doing, we focused on the ex-ante informational value of assessing the prospects of a given venture.

In addition to the evaluative function of business planning that we explored in the previous sections, one can also view business planning as the development of a business idea or strategy. However, we refrained from including this important strategic function of business planning for several reasons. First, we believe that the strategic development of a strong business concept requires a more sophisticated analysis than the evaluation of a given business idea. This advanced planning goes beyond the standardized concepts underlying most books on business planning, software packages, and templates for business plan competitions. Moreover, in terms of planning quality, strategic planning occurs at a higher, more costly, and as of yet less standardized level than evaluative planning. Finally, the information value of planning that we revealed in our analysis was driven only by the enhanced a-posteriori probability of success. Had we also included the enhanced value of a successful start-up through strategic planning of a better business idea, our results would have been even stronger. Yet, it would be more difficult to distinguish between the driving forces behind our conclusions, which would have obscured the message of our analysis.

Business planning has a positive value even if it has absolutely no measureable effect on the ex-post observable performance of the actual venture. The evaluative function of planning has its impact before market entry, as it helps to avoid poor start-ups – its value is measured by the ex-ante expected performance. Hence, empirical analyses studying only the performance of (often only successful) entrepreneurs that have entered the market simply do not have a sufficient sample for deducing implications on the evaluative value of planning.

In order to emphasize the latter point, we used our theoretical framework to derive observations from a hypothetical world, in which planning has an unambiguously positive value. This enabled us to provide answers to several open questions concerning the behavior of entrepreneurs. In particular, we were able to demonstrate that the rational decision model is quite useful in explaining entrepreneurial decisions, without having to refer to over-confidence or hubris. Although we do not dispute the relevance of these personal traits for entrepreneurial decision making, we find that the rational decision model is often too quickly discarded.

In a world, in which business planning is, by construction, useful, we were also able to obtain observations that have been used in empirical studies to question the value of planning. Hence, one must question the empirical validity of these studies. Even when the observations are statistically significant, we argue that the hypotheses can only be test appropriately, if the underlying samples are sufficient. As our analysis showed quite clearly, in order to test the value of business planning, the sample must include, beside successful ventures, market failures and disbanded projects.

A major advantage of the rational decision model is its theoretical foundation, which enables one to analyze and understand complex interdependencies of entrepreneurial decision making that are sometimes even counterintuitive. The crucial aspect of this approach is the perspective of the analysis. In order to understand the entrepreneur's decisions, one must see the world from his view. If one accepts that entrepreneurs behave rationally, which despite all their fascinating traits nevertheless appears to be plausible, it becomes much easier to influence their decisions and support their endeavors.

The theoretical framework in which we derived our results was purposely kept as simple as possible to emphasize our results. However the model is flexible enough to include further aspects of the entrepreneurial process and allow further modifications of the entrepreneur's decision context. Of particular interest is the interaction of the entrepreneur with providers of capital, as the latter are not only interested in the expected performance, but also want to share the resulting profits. How different modes of participation affect the value of planning and, thus, the entrepreneur's planning effort are important aspects for future research.

References

Allinson, C. W., Chell, E., Hayes, J. (2000): Intuition and Entrepreneurial Behavior, *European Journal of Work and Organizational Psychology*, 9, 31-43

Armstrong, J. (1982): The value of formal planning for strategic decisions: review of empirical research, *Strategic Management Journal,* 3, 197–211

Arora, A., Fosfuri, A. (2005): Pricing Diagnostic Information, Management Science, 51, 1092-1100

Åstebro, T. (1998): Basic Statistics on the Success Rates and Profits for Independent Inventors, *Entrepreneurship Theory and Practice*, 23, 41-48

Bhidé, A. V. (1994): How Entrepreneurs Craft Strategies that Work, *Harvard Business Review*, March-April, 150-161

Bhidé, A. V. (2003): *The Origin and Evolution of New Businesses*, New York: Oxford University Press

Brinckmann, J., Grichnik, D., Kapsa, D. (2008): Should entrepreneurs plan or just storm the castle? A meta-analysis on contextual factors impacting the business planning-performance relationship in small firms, *Journal of Business Venturing*, forthcoming

Brüderl, J., Preisendörfer, P., Ziegler, R., (1992): Survival Chances of Newly Founded Business Organizations, *American Sociological Review,* Vol. 57, 227-242

Castrogiovanni, G. J. (1996): Pre-Startup Planning and the Survival of New Small Businesses: Theoretical Linkages, *Journal of Management*, 22, 801-822

Cooper, A. C., Woo, C. Y., Dunkelberg, W. C. (1988): Entrepreneurs' Perceived Chances of Success, *Journal of Business Venturing*, 3, 97-108

Delmar, F., Shane, S. A. (2003): Does Business Planning Facilitate the Development of New Ventures? *Strategic Management Journal*, 24, 1165-1185

Eckhardt, J. T., Shane, S. A. (2003): Opportunities and Entrepreneurship, *Journal of Management*, 29, 333-349

Gruber, M. (2007): "Uncovering the Value of Planning in New Venture Creation: A Process and Contingency Perspective," *Journal of Business Venturing*, 22, 782-807

Gruber, M., MacMillan, I. C., Thompson, J. D. (2008): Look before You Leap: Market Opportunity Identification in Emerging Technology Firms, *Management Science*, 54, 1652-1655

Hayward, M. L. A., Shepherd, D. A., Griffin, D. (2006): A Hubris Theory of Entrepreneurship, Management Science, 52, 160-172

Headd, B. (2003): Redefining Business Success: Distinguishing between Closure and Failure, *Small Business Economics*, 21, 51-61

Hisrich, R., Peters, M., Shephard, D. (2006): *Entrepreneurship*, 7th Ed., McGraw-Hill, New York

Honig, B., Karlsson, T. (2004): Institutional Forces and the Written Business Plan, *Journal of Management*, 30(1), 29-48

Karlsson, T., Honig, B. (2009): Judging a Business by its Cover: An Institutional Perspective on New Ventures and the Business Plan, *Journal of Business Venturing*, 24, 27-45

Kawasaki, G. (2004): *The Art of the Start*, Portfolio, New York

Kraus, S., Schwarz, E. (2007): The Role of Pre-Start-Up Planning in New Small Business, *International Journal of Management and Enterprise Development*, 4, 1-17

Lange, J. E., Mollov, A., Pearlmutter, M., Singh, S., Bygrave, W. D. (2007): Pre-Startup Formal Business Plans and Post-Startup Performance: A Study of 116 New Ventures, *Venture Capital*, 9, 237-256

Liao, J., Gartner, W. B. (2006): The Effects of Pre-Venture Plan Timing and Perceived Environmental Uncertainty on the Persistence of Emerging Firms, *Small Business Economics*, 27, 23-40

Shane, S. A., Delmar, F., (2004): Planning for the Market: Business Planning before Marketing and the Continuation of Organizing Effort, *Journal of Business Venturing*, 19, 767–785.

Shane, S. A., Venkataraman, S. (2000): The Promise of Entrepreneurship as a Field of Research, *Academy of Management Review*, 25, 217-226

Strotmann, H. (2007): Entrepreneurial Survival, *Small Business Economics*, 28, 87-104

Timmons, J., Spinelli, S. (2007): *New Venture Creation – Entrepreneurship for the 21st Century*, 7th ed., McGraw-Hill, New York

Townsend, D. M., Busenitz, L. W., Arthurs, J. D. (2008): To start or not to start: Outcome and ability expectations in the decision to start a new venture, *Journal of Business Venturing*, forthcoming

Wu, B., Knott, A. M. (2006): Entrepreneurial Risk and Market Entry, *Management Science*, 52, 1315-1330