

## STRATEGY PROCESS AS A CHARACTERISTIC OF SMALL SCALE BUSINESS OWNERS: RELATIONSHIPS WITH SUCCESS IN A LONGITUDINAL STUDY



Marco van Gelderen, *EIM Small Business Research and Consultancy*  
Michael Frese, *University of Amsterdam*

### ABSTRACT

Because of the dominant influence of the founder on his firm, research of small start-ups is able to equate the individual and the firm levels of analysis. The behavior of the founder is then regarded as the behavior of the firm. Strategy use of small business founders can be studied by what they do (strategy content) and by how they do it (strategy process). This article focuses on characteristics of the strategy process of individuals. These are operationalized by a behavioral measure of the manners in which small business founders deal with situations. This measure is based on a theoretical analysis of individual level planning and reacting to the environment by small business owners that distinguishes five different strategy processes: Complete (top-down) Planning Strategy, Critical Point (main issue planning) Strategy, Opportunistic Strategy, Reactive Strategy and Habit (Routine). Longitudinal analyses of 49 small business starters relating strategy use to firm performance suggests a circular process between a Reactive Strategy and performance, with reactivity leading to decreased success and decreased success leading to further reactivity. With regard to high success, in the first wave the Critical Point Strategy is connected to high success. This success then leads to a Complete Planning Strategy, after which another circular process follows with success influencing the use of Complete Planning and Complete Planning leading to further success.

### INTRODUCTION

A strategy can be regarded as a plan for action that influences how we are doing things (Hacker, 1989). When people deal with situations, they are following a strategy of action. Regardless of the degree of rationality and explicitness, founders of new ventures also follow a strategy to reach their goals. In contrast to most of the strategy literature which focuses on the firm level (Hart & Banbury, 1994; Rajagopalan, Rasheed & Datta, 1993), we shall look at the strategies of the founders of new firms. The pervasive influence of founders on their firms, and their dominance in making decisions, makes it possible to assume a high degree of equivalence between the individual and the organizational levels of analysis.

One can examine the content and the process of strategies (Austin & Vancouver, 1997; Dess, Lumpkin & Covin, 1997; Hart, 1992; Olson & Bokor, 1995; Rajagopalan et al., 1993). The strategy content specifies how a goal can be reached, for example by a low costs, differentiation or focus/niche strategy (Porter, 1980). The strategy process on the other hand refers to how one formulates and implements strategy content (Olson & Bokor, 1995). In this study, we will focus on the strategy process. By looking at the relationship between strategy process and entrepreneurial suc-

cess, we hope to make a contribution to the literature in two ways: First, to learn more about strategy processes of small business founders. Eventually, this might also add to a better knowledge of the micro processes of organizational strategy development (Rajagopalan et al., 1993). Second, we would like to contribute to the literature on the relationship between strategy processes and entrepreneurial success.

Strategy is defined as a sequence of means to achieve a goal (Miller, Galanter, & Pribram, 1960). The function of a strategy is to deal with uncertain situations because a strategy presents a template that can be applied in various situations. Thus, it helps to deal with the limited processing capacity of the human mind (Frese & Zapf, 1994; Hacker, 1989; Kahneman, 1973).

Personal strategies are not the same as personality variables nor are they completely determined by the situation. Personal strategies can be changed at will, do not have to be temporally stable, and are changeable depending upon the situation. However, there are limits to the changeability of strategies; people cannot develop new ways of doing things in each situation. Were people to do that, they would have no sense of coherence and self and their processing capacity would be constantly overloaded (Kahneman, 1973). Thus, ready made strategies allow the person to deal with those situations.

Cognitive and action theories have differentiated the following process characteristics of strategies (Hacker, 1986; Hayes-Roth & Hayes-Roth, 1979; Zempel, 1994): Reactive, Complete Planning, Opportunistic, and Critical Point Strategies. *Reactive Strategy* implies that one is driven by the situation, makes little proactive use of information and that actions are not planned. In contrast, a person using a *Complete Planning Strategy* plans ahead and actively structures the situation. Thus, Complete Planning Strategy implies a comprehensive representation of the work process, a long time frame to plan ahead, a large inventory of signals, clear knowledge and anticipation of error situations, and a proactive orientation (Frese & Zapf, 1994; Hacker, 1986). An *Opportunistic Strategy* starts out with some form of rudimentary planning. However, the person using an opportunistic Strategy deviates from these plans easily when opportunities arise (Hayes-Roth & Hayes-Roth, 1979). Plans are constantly being adjusted. Thus, this strategy is not top-down and systematic. On the other hand, Opportunistic Strategy is not completely driven by the situation as the Reactive Strategy; it is much more proactive. The *Critical Point Strategy* (Zempel, 1994) starts out with the most difficult, most unclear, and most important point and plans and acts on this one first without any planning of other points. Only after solving the first critical point, further steps may be attacked. Thus, one has a clear goal in mind and one concentrates on it and on the main issues of one's tasks—it is main-issue-planning.

The four strategies—Reactive, Opportunistic, Complete Planning and Critical Point—can be differentiated according to the amount of planning and subgoal setting, of situational orientation and of proactivity (cf. Frese, Stewart & Hannover, 1987). One can be oriented towards the situation or towards one's goals. If one is oriented towards the situation, there are two possibilities: One can either be reactive to the situation (Reactive Strategy) or one can have a multidirectional planning with an emphasis on using opportunities which one proactively searches for (Opportunistic Strategy). If one is goal oriented, one can either have a top-down approach using a completely worked out plan (Complete Planning Strategy) or one can plan locally for things that are particularly important (Critical Point Strategy).

This categorization shows some resemblance to typologies of organizational strategy processes (Hart & Banbury, 1994). For example, Miles and Snow (1978) developed a typology with the Reactor using a Reactive Strategy, the Prospector using an Opportunistic Strategy, and the Analyzer using a Complete Planning Strategy (cf. also Doty, Glick & Huber, 1993). Their concept of Defender has no equivalence in our categorization. There are also similarities to a typology suggested by Mintzberg (1978) with the Rational Mode being similar to our Complete Planning and the Entrepreneurial Mode being similar to our Opportunistic Strategy. The third Mode—Bargaining—only pertains to large companies and, therefore, has no equivalence in our categorizations.

These strategies should be differentially related to success of small scale entrepreneurs. However, we also assume that this relationship will be modified by the life cycle situation (Kimberly & Miles, 1980) of a firm. Complete Planning and Critical Point Strategies share an emphasis on structure and goal setting, although the Critical Point Strategy is more flexible. The first years for the start-up firms are usually fraught with a high degree of uncertainty and the necessity to make quick decisions (Bhide, 1994). Therefore, the Critical Point Strategy will be particularly useful in the beginning phase of a business in which entrepreneurs are constantly working at a high level of load of their processing capacity. When focusing only on the main points, one needs less cognitive resources than when developing a full top down plan. Critical Point allows people to be action oriented (Lumpkin & Dess, 1995, argue similarly for the superiority of a simple strategy for young firms). In this period a pure Complete Planning Strategy carries costs as it takes time and effort to plan for all sorts of eventualities (Bhide, 1994). Later, there may be advantages to using a Complete Planning Strategy, as it helps to deal with a more complex organization.

An Opportunistic Strategy may also be useful in the beginning of one's career as a small scale business owner. Here it is important to look out for opportunities. However, many small scale entrepreneurs are forced to produce some kind of plan to get financing from a bank. Therefore, opportunistic strategies may actually be used prior to borrowing money. In a later phase it can also be a good strategy to act in a proactive way on opportunities. However, Opportunistic Strategy carries the risk of losing sight of one's goals if jumping from opportunity to opportunity. Thus, it is hard to develop a specific hypothesis for the relation of the Opportunistic Strategy with firm performance.

The Reactive Strategy should be the least effective strategy regardless of where in the life cycle a business is. Here people do not choose a plan of action, do not have clear cut plans and are at the mercy of situational influences without anticipating them. Blue and white collar employees using this strategy have been shown to be less effective (Hacker, 1992).

Our first pilot interviews and action theory (Frese & Zapf, 1994) convinced us that we needed to also have a fifth category. In contrast to the strategies discussed up to this point, people sometimes just use their routines without any explicit decision for a strategy. For this reason, we added routine or *habit* as a fifth variable. This is a standardized approach which has been developed in redundant environments. When using this approach, there is little learning, because one essentially does things the same way as always.

The unfolding of process characteristics of strategies over time is highly complex. We already referred to the issue that we expect differences in the effectiveness of strategies to depend upon the stage of the business life cycle. Additionally, we assume that success is not just a dependent variable. Changes in the success status of firms should also change their strategies. For example, failure may

lead to reactive strategies, because crisis and stress put additional strain on the decision making processes. This leads one to be cognitively parsimonious by simply reacting to situational demands. Similarly, success may lead to an increased use of the Complete Planning Strategy because increasing business and hiring new employees leads to the necessity to develop more sophisticated management and control techniques (Ketchen, Thomas & McDaniel, 1996). Thus, organizations may have an upward or downward spiral (Hambrick & D'Aveni, 1988; Weitzel & Jonsson, 1989) leading to exceptional success or organizational death.

Our conceptualization of process characteristics of action strategies leads to the following hypotheses (no specific hypotheses were advanced with regard to Opportunistic Strategies and Habit):

1. There is a circular process of Reactive Strategy and failure; a Reactive Strategy leads to less success and failure leads to Reactive Strategies.
2. Similarly, there is a circular process of Critical Point or Complete Planning Strategies and success with Critical Point being connected to success at an earlier phase and success leading to a higher use of Complete Planning Strategies.

## METHOD

### Sample

Our sample of entrepreneurs was to be representative of small scale business founders in Amsterdam, The Netherlands. We wanted starters because start-up firms are usually small and the influence of the owners is very high. For this reason we selected a sample of firm owners who had less than 50 employees and who had founded their firm during the last five years. This selection was made from a random list of firms supplied to us by the chamber of commerce (all entrepreneurs in Holland are required to register with the chamber of commerce). Business owners came from various industries. We did not differentiate between entrepreneurs and small scale business owners (Carland, Hoy, Boulton & Carland, 1984) but did exclude retail, repair shops, bars, and restaurants because we chose industries that allowed a high degree of freedom to maneuver and that were of moderate to high complexity.

Of the 236 contacted, 60 did not fall into our sample description and 76 declined to participate leading to a sample of 100 founders. Additionally, we excluded 20 who turned out to be not the founders, have no employees, or were very recently established. Of the 80 participants in the first wave, 49 participated again in the second wave which took place 16 months later. Our sample was mainly male, highly educated, and starting with a small amount of start-up capital.

### Operationalization of the Variables

Structured and coded interviews as well as questionnaires were used. All the means, standard deviations and ranges of the variables are included in Table 1.<sup>1</sup> By and large the alphas and interrater reliabilities are adequate (Nunnally, 1978). A procedure of mean substitution of items in scales was used to reduce the problem of missing data.

*Success Variables.* Both economic and personal success measures were used. The use multiple measures of success in entrepreneurship research is advocated because any one measure is prone to

**Table 1**  
**Correlation Matrix and Descriptive Statistics of Strategies and Success (n = 49)**  
**Results t1 Above the Diagonal; on the Diagonal t1 x t2; Under the Diagonal t2**

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	M t1	SD t1	Range
1. complete planning t2	.36*	-.27	-.61**	-.30*	-.07	-.12	.12	-.08	.02	.14	23.1	21.6	1-100
2. critical point t2	-.43**	.35*	-.01	-.23	-.37**	.24	.05	-.12	-.02	.02	33.5	15.1	1-100
3. opportunistic t2	-.54**	.10	.30*	-.21	-.12	.15	-.04	.07	.14	-.22	26.9	18.6	1-100
4. reactive t2	-.22	-.28	-.18	.39**	.24	-.32*	-.18	-.10	-.04	.02	10.4	17.2	1-100
5. habit t2	-.03	-.48**	-.29*	-.11	.59**	.12	.04	.29*	-.15	.03	6.1	13.6	1-100
6. total success n = 49 t2	.24	.16	.06	-.59**	-.02	.70**	.37**	-.13	.05	-.12	3.90	.53	1-5
7. age of company	-.00	.03	-.00	.13	-.14	-.01	—	.18	-.02	.04	3.55	1.53	0-6
8. experience of founder	-.01	.06	-.04	.02	-.03	-.09	.19	—	-.16	.07	9.14	9.23	0-34
9. ind. type dummy 1	.12	-.13	-.07	.08	.00	-.08	.17	-.08	—	-.45**	.59	.50	0 or 1
10. ind. type dummy 2	.05	-.25	.02	-.04	.25	-.12	-.18	-.02	-.47**	—	.76	.43	0 or 1
11. munificence	.03	-.09	-.03	.39**	-.26	-.45**	.07	-.00	-.02	.19	-.02	.50	-1-1
12. industry margins	.02	-.02	.24	-.24	-.02	.31*	.22	-.29*	.07	-.02	3.10	1.08	1-5
13. industry risk	.03	-.08	-.22	.17	.12	-.28	.11	-.11	.04	.06	3.51	1.12	1-5
M t2	20.0	33.5	28.2	10.5	8.0	3.92							
SD t2	17.8	16.3	14.4	12.5	13.8	.55							

Note: \*\* p < .01; \* p < .05

errors which may be due to the tax structure, to memory problems, and reporting biases (e.g., social desirability). *Economic success* includes growth of turnover, profit, investments, personnel, and personal income since the start of the company. Changes in turnover, profit and investment were measured by asking the business owners to draw changes from the start of the company to the present time into a graph (this measure was modeled after a measure used by Brüderl et al., 1992). These curves were rated on a scale from 1–5 (the interrater reliability was  $r = .96$  for a subsample of  $n = 40$ ; because of the high interrater reliability, we did not use double coding in this case). Data on the amount of employees and on the business owner's personal income were ascertained in the questionnaire for each year since start-up. These numbers were also transformed into numbers between 1 and 5.

*Personal success* asked on the extent of start-up goals realized. In addition, 9 questions on success were asked. We combined the personal and economic success into a total success score. This final total success scale consisting of six variables—turnover, profit, personnel, personal income, goal reaching and subjective success—had a Cronbach's alpha of .73 at t1 ( $n = 80$ ) and .65 at t2 ( $n = 49$ ).

*Action Strategies.* Following Gartner (1988), a measure of strategy use was developed that reflects actual behavior. We used a behavior event procedure (Spencer & Spencer, 1993) to analyze action strategies in an interview. This procedure means that interviewees are asked about past events. The strategies could be better ascertained in an interview because the interviews allowed us to probe into the answers. Moreover action strategies are better described in stories told by the interviewees than in sole use of questionnaire items. Structured interviews often have very good validities as meta-analyses show (e.g., Wiesner and Cronshaw, 1988).

In the first wave the business owners were asked to report their way of dealing with common aspects of running a business, like getting customers, dealing with personnel, product development and they were asked to give concrete examples of what they were actually doing. In the second wave the use of action strategies was ascertained by asking the participants how they deal with economic uncertainties. The interviewers asked several questions to force the interviewees to become more and more concrete and to make it possible to decide on the differential diagnosis of the strategies.

The coding was done by two (in t1) or one interviewer (t2) who listened to the tapes and gave ratings on the action strategies (for details see, Frese, van Gelderen & Ombach, 1998). Interrater reliability for the five strategies was on average .75 (between .63 and .90) at t1. These are adequate reliabilities. Our measurement approach is ipsative (forced choice) as the subjects and the interviewers were supposed to add up all the action strategies to a total of 100% (in Bartram's 1996 terminology, we used semi-ipsative measures). There is a lively debate on the usefulness ipsative measures in work and organizational psychology that has not yet been completely resolved (Bartram, 1996; Baron, 1996; Cornwall & Dunlop, 1994; Saville & Willson, 1991). An ipsative measurement has advantages and disadvantages. The advantage is that people are forced to make deliberate comparisons and that the scaling of the strategies is done on the same dimension with the same meaning (% of time used). It also makes intuitive sense to the subjects because it mimics the practical situation that one has to make (sometimes hard) decisions between alternative approaches (Baron, 1996). Moreover, impression management toward the interviewer is reduced when using this approach. The disadvantage is based on the fact that the answers are not independent of each other. For this reason, the intercorrelations amongst the strategies are nearly all negative (if one adopts one strategy very strongly, others are getting a lower percentage automatically).

This means that regression weights in a regression analysis that includes all strategies cannot be interpreted. Therefore, we calculated several regression analyses, including one of the strategies in each case.

*Control Variables.* Research on entrepreneurial success has customarily demanded that certain controls should be included in the studies (Dess, Ireland & Hitt, 1990). For this reason we have asked single questions on the age of the company, on industry experience of the owner, on industry type (with manufacturing, trade, service), and the amount of start-up capital. Additionally, we thought it necessary to develop a set of control measures on the self-reported environment which were used at t2. Three of these, industry risk (single item), industry profit margins (single item) and environmental munificence (17 items based on Khandwalla [in Covin & Slevin, 1989] and Miller & Friesen [1982], with a Cronbachs' alpha of .79), were significantly correlated with firm success and were, therefore, also included as controls.

## RESULTS

Table 1 describes the correlations as well as the descriptive statistics of the variables of the longitudinal study.<sup>2</sup> The results for t1 are given above the diagonal, the results for t2 are given below the diagonal. On the diagonal are the correlations of the same variable at the two time-points. The intercorrelations of the action strategies were mainly negative because of the ipsative nature of measurement. The means for the three strategies Planning, Critical Point, and Opportunistic were of equal size, both for t1 and for t2. Reactive Strategy and Habit were used infrequently.

Table 2  
Success t1 Explained by Strategies t1 (N = 80)

	Success t2	
	$\beta$	Rsq. $\Delta$
Step 1: controls t1		
age of company	.24	
experience of founder	-.09	
industry type dummy one	-.07	
industry type dummy two	.04	
		.07
Step 2 (in separate analyses)		
complete planning t1	.00	.00
critical point t1	.30**	.09**
opportunistic t1	-.01	.00
reactive t1	-.34**	.11**
habit t1	.11	.01

Note: \*\* p < .01; \* p < .05

**Table 3**  
**Success t2 Explained by Strategies t1 Resp. Strategies t2 (N = 49)**

		Success t2			
		$\beta$	Rsq. $\Delta$		
Step 1: success t1		.70**	.49**		
Step 2: controls t1					
age of company		-.33**			
experience of the founder		.07			
industry type dummy one		-.11			
industry type dummy two		-.13	.10*		
Step 3: controls t2					
Environmental munificence		-.06			
industry risk		-.03			
industry profit margins		.26*	.07		
				$\beta$	Rsq. $\Delta$
Step 4 (separate analyses)				Step 4 (separate analyses)	
complete planning t1		.03	.00	complete planning t2	.16# .02#
critical point t1		.07	.00	critical point t2	.04 .00
opportunistic t1		-.07	.00	opportunistic t2	-.07 .00
reactive t1		.00	.00	reactive t2	-.27* .05*
habit t1		-.06	.00	habit t2	.00 .00

Note: \*\*  $p < .01$ ; \*  $p < .05$ ; #  $p < .10$

In the following we first present the results of the cross sectional analyses and then the longitudinal results. Table 2 presents the t1 relationships of strategies with success in hierarchical multiple regression analyses for the full sample at t1 ( $n = 80$ ). Three controls (age of company, industry experience of owner, two dummy variables describing the three industries involved) were included in the first step. In the second step the strategies were included in separate analyses (we could not put all of the strategies in one regression analysis because of their ipsative nature of their measurement). Critical Point showed a significantly positive and Reactive Strategy showed a significantly negative relationships with success after controlling for the variables in step 1. The only significant Beta for a control was the one for age of company.

Table 3 shows the results on the longitudinal hierarchical regression analyses of the effects of strategies on success (t2). This was done by holding prior success (at t1) constant (in step 1), adding the 7 control variables in a second and third step, and finally adding strategies in the final step (again in separate analyses). We are, of course, most interested in the betas and the increments of



R2 after we have added the strategies. The lower left block of step 4 in Table 3 shows that strategy use at t1 made no impact on success status at t2. The lower right block of step 4 in Table 3 shows that Complete Planning (t2) had a positive effect on changes in success at t2 (albeit this effect is only marginally significant) and that the beta and the R2 change for success at t2 were significant for Reactive Strategy (t2). There was no significant effect for Critical Point (we shall come back to that later).

Table 3 shows the results on the longitudinal hierarchical regression analyses of the effects of strategies on success (t2). This was done by holding prior success (at t1) constant (in step 1), adding the 7 control variables in a second and third step, and finally adding strategies in the final step (again in separate analyses). We are, of course, most interested in the betas and the increments of R2 after we have added the strategies. The lower left block of step 4 in Table 3 shows that strategy use at t1 made no impact on success status at t2. The lower right block of step 4 in Table 3 shows that Complete Planning (t2) had a positive effect on changes in success at t2 (albeit this effect is only marginally significant) and that the beta and the R2 change for success at t2 were significant for Reactive Strategy (t2). There was no significant effect for Critical Point (we shall come back to that later).

Table 4 shows the second part of the circular process: the effects of success on changes in strategies. The method is the same as used for the analysis displayed in Table 3. First, prior (t1) strategies are entered separately, then the 7 controls, and then in the final step success (t1 respectively t2 in separate analyses). The results for success t1 (lagged effects) are shown in the second last row, the results for success t2 in the last row (contemporaneous effects). Changes in Planning Strategy were significantly predicted by success (positive Beta) and Failure led to an increase of Reactive Strategy (negative Beta). The lagged effects were marginally significant and the contemporaneous effects were fully significant.

Thus, our hypotheses turned out to be correct: Success led to a higher use of Planning Strategy and Planning Strategy led to higher success, with Critical Point being connected to success at an earlier phase. Similarly, Reactive Strategy led to failure and failure led to a higher degree of Reactive Strategy.

This suggests the following interpretation. There is a stronger effect of the Critical Point Strategy in the early phase of the life cycle of a firm. At this time, the founder is bombarded with the need to make quick decisions under a high degree of uncertainty. Thus, the most economic form of planning—the Critical Point Strategy—is the most effective one at this time. Later (16 months later as in our study), the uncertainty is reduced to a certain extent, the business has grown and division of labor sets in. In such a phase, Planning Strategy becomes more effective. This Planning Strategy is actually brought forward by the success that may have been caused by earlier Critical Point Strategy (there is also a marginally significant lagged effect of prior success on later Planning Strategy use).

The differences between the cross-sectional results at t1 and the longitudinal results for the Critical Point Strategy add to the notion that Critical Point Strategy precedes Complete Planning Strategy in the success cycle. This becomes clear when one looks at the 21 business owners who participated at t1 but who did not participate at t2 because they either could not be traced or were out of business. As it turns out, these non-participants used the Critical Point Strategy significantly less

**Table 4**  
**Strategies t2 Explained by Success t1 Resp. Success t2 (N = 49)**

	Complete Planning		Critical Point		Opportunistic		Reactive		Habit	
	$\beta$	Rsq. $\Delta$	$\beta$	Rsq. $\Delta$	$\beta$	Rsq. $\Delta$	$\beta$	Rsq. $\Delta$	$\beta$	Rsq. $\Delta$
Step 1: strategy t1	.36*	.13*	.35*	.12*	.30*	.09*	.39**	.15**	.59**	.35**
Step 2: controls t1										
age of company	-.07		-.03		.05		.19		-.12	
experience of the founder	.04		.08		-.08		.03		-.18	
industry type dummy one	.15		-.30#		-.10		.07		.27	
industry type dummy two	.05	.02	-.40*	.15#	.05	.02	.02	.05	.33	.16*
Step 3: controls t2										
environmental munificence	.05		-.04		.08		.25		-.10	
industry risk	-.11		-.08		.09		.09		.11	
industry profit margins	.02	.01	.02	.01	.23	.04	-.12	.11	-.12	.02
final step: (separate analyses)										
success t1	.33#	.07#	-.06	.00	.00	.00	-.30#	.05#	-.14	.01
success t2	.41*	.12*	-.02	.00	-.06	.00	-.48**	.16*	-.05	.02

Note: \*\* p < .01; \* p < .05; # p < .10

often than those who participated in the second wave ( $F_{1,68} = 13.00, p < .01$ ) (there was no significant differences for the other strategies). Thus, in the second wave we had a higher participation of successful firms ( $F_{1,68} = 10.51, p < .01$ ). At the same time, the variance of the Critical Point Strategy was reduced which for methodological reasons diminishes the chance to find significant correlations with success.

### DISCUSSION

Our results show that process characteristics of action strategies predict entrepreneurs' success and the other way around. In line with our first hypothesis, our results suggest that Reactivity has a circular relationship with failure. This supports Miles & Snow's (1978) hypothesis that reactors are least successful in the market (Doty, Glick & Huber, 1993). Our results reinforce the argument that at least some restricted form of planning is necessary for success.

Our hypotheses with regard to the Complete Planning and Critical Point strategies are also confirmed by the results. First, we find a positive and significant relationship between Critical Point Strategy and success at t1. This is not reproduced at t2. At t2, we find a marginally significant prediction of success by Complete Planning. Interestingly, this relationship is also reciprocal as success predicts Complete Planning at t2. The non-lagged (contemporaneous) effects are stronger for Complete Planning and Reactive Strategies. Thus, the results for t2 are in line with our second hypotheses on Planning Strategy.

For entrepreneurship research, the differentiation of different forms of planning used in this article may be of importance. As Schwenk & Shrader (1993) and Miller & Cardinal (1994) point out, the relationship between strategic planning (as customarily defined by management science) and success is not as high as one would expect. Often only formal planning is considered in research (Matthews & Scott, 1995; Olson & Bokor, 1995). Maybe our more differentiated conceptualization of what planning means is helpful. We distinguish three forms of planning: Complete Planning Strategy which attempts to use a top down approach; Critical Point also implies some degree of planning, albeit only for the main issue at stake; and Opportunistic Strategy which interjects periods of planning into acting on opportunities. The results suggest a success cycle pattern, in which the Critical Point Strategy is related to success at an earlier phase. Success in turn may lead to the necessity to use a more structured and top down planning approach. Using this approach in turn helps to increase success. Opportunism has been deemed to be an important strategy in cognitive science (Hayes-Roth & Hayes-Roth, 1979), but does not seem to be so clearly related to business ownership success. One reason may be that despite of its advantages it also leads one to loose sight of one's goals.

The major contribution of our study is to show the relationship between firm performance and a process concept of action strategies that differentiates various forms of planning and reacting to the environment by individual business owners. Another strength of our study was the longitudinal nature of the study. This has given us a chance to make a circular process of strategy and success plausible. Moreover, the Betas in the Tables 3 and 4 can be interpreted to mean that strategies predict *changes in success* and that success predicts *changes in strategies*. This comes nearer to a causal analysis and is, therefore, superior to typical cross-sectional studies in this area. Unfortunately, we would need three waves and more subjects that would allow a structural equation analysis of results, to be really able to prove a circular process.

As in any study, there are also limitations. We could not calculate the interactions between strategies and environmental factors because the *N* was too small for such an analysis (Aiken & West, 1991). Another interesting interaction would be the interaction between strategy process and strategy content. Olson & Bokor (1995) provide an example of the interaction between formal planning and innovation. It is a reasonable hypothesis that, for example, a niche strategy should be planned formally (using Complete Planning or Critical Point Strategies), while individualized customer orientation may work better within the framework of an opportunistic process.

A problem of many business ownership studies is the survivor bias. All business in our sample was successful in the sense that they had survived thus far. We attempted to control for this problem, in restricting our sample to new start-ups who were on the market for less than 6 years. However, there is a selection effect which clearly shows up in our study. Those, who could not be reached any longer or where we learnt from neighbors or themselves that they were out of business at *t*<sub>2</sub>, made less frequently use of the successful strategy of Critical Point and they were less successful. This may also suggest an alternative explanation of why Critical Point predicted success significantly at *t*<sub>1</sub> but not any longer at *t*<sub>2</sub>: Possibly, the variance of this variable was reduced so its correlation with success decreased as well.

One could argue that we ascertained both strategies and success from one source (the owner) and that this leads to a common method variance problem. However, our interview techniques avoided some of the single source problems. We ascertained strategies by asking the participating to give us concrete examples of how they proceeded and we prompted them to provide details on how they did things. Further, we think that strategies do not have obvious differential social desirability implications. For example, even reactive strategies were seen by some owners as quite okay because it meant that they showed to be geared towards situational problems and prospects. Since the interviewer coded the answers after probing the participants, it was also possible to "find" reactive strategies in people who wanted to present themselves as complete planners and vice versa. Generally, structured interviews of this type have been shown to show good reliability in selection research (Wiesner & Cronshaw, 1988).

However, we believe that social desirability plays a role in success measures. Unfortunately, it is practically impossible to get good and reliable archival measures from small scale business starters. Most of them are not required to submit a public official statement of their financial performance. Even if archival measures are available, problems remain (Boyd, Dess, & Rasheed, 1993). For example, a measure like archival profit rate cannot be used since most owners try to reduce profit as much as possible because of tax reasons (and are usually able to do that). On the other hand, we have included in our success measure items on growth of turnover and personnel which are unlikely to be biased and which show high correlations with the overall success measure.

Our measures of environmental conditions and age show only partly familiar patterns. Industry margins are clearly related to success and give added evidence for the validity of the success measures (cf. Table 3). The standardized regression coefficient of  $-.33$  for age of company with success at *t*<sub>2</sub> may be surprising (cf. Table 3). However, this may be a pure suppressor effect as shown by the non-significant zero order correlation of company with success *t*<sub>2</sub> (cf. Table 1).

Practically, our results mean that the undifferentiated prejudice by advisors and banks as well as other influential agencies that top down planning is always good has to be modified. While it is

true that the direct opposite of planning—Reactive Strategy—turns out to be bad in our study as well, different concepts of planning may lead to different results at different points along the success cycle of a firm.

#### NOTE

1. The descriptive statistics for the full sample at t1 (n = 80) can be received from Marco van Gelderen, EIM Small Business Research and Consultancy, P.O. Box 7001, 2701 AA Zoetermeer, The Netherlands; (T) 0031-79-3413634; (F) (+31)79-341.5024; mge@eim.nl

#### ACKNOWLEDGMENT

We would like to thank A. Roy Thurik of Erasmus University (the Netherlands) for his contributions and Mr. Epping from the Chamber of Commerce of Amsterdam who supported us in providing addresses for our research.

#### REFERENCES

- Aiken, L. S., and West, S. G. 1991. *Multiple Regression: Testing and Interpreting Interactions*. New York: Sage.
- Austin, J. T., and Vancouver, J. B. 1997. "Goal Constructs in Psychology: Structure, Process, and Content." *Psychological Bulletin*, 120: 338-375.
- Baron, H. 1996. "Strengths and Limitations of Ipsative Measurement." *Journal of Occupational and Organizational Psychology*, 69: 49-56.
- Bartram, D. 1996. "The Relationship Between Ipsatized and Normative Measures of Personality." *Journal of Occupational and Organizational Psychology*, 69: 25-39.
- Bhide, A. 1994. "How Entrepreneurs Craft Strategies That Work." *Harvard Business Review*, (March-April): 150-161.
- Boyd, B. K., Dess, G. G., and Rasheed, A. M. A. 1993. "Divergence Between Archival and Perceptual Measures of the Environment Causes and Consequences." *Academy of Management Review*, 18: 204-226.
- Brüderl, J., Preisendörfer, P., and Ziegler, R. 1992. "Survival Chances of Newly Founded Business Organizations." *American Sociological Review*, 57: 227-242.
- Carland, J. W., Hoy, F., Boulton, W. R., and Carland, J. C. 1984. "Differentiating Entrepreneurs from Small Business Owners: A Conceptualization." *Academy of Management Review*, 9: 354-359.
- Covin, J. G., and Slevin, D. P. 1989. "Strategic Management of Small Firms in Hostile and Benign Environments." *Strategic Management Journal*, 10: 75-87.
- Cornwall, J. M., and Dunlap, W. P. 1994. "On the Questionable Soundness of Factoring Ipsative Data: A Response to Saville, and Willson 1991." *Journal of Occupational and Organizational Psychology*, 67: 89-100.
- Dess, G. G., Ireland, R. D., Hitt, M. A. 1990. "Industry Effects and Strategic Management Research." *Journal of Management*, 16: 7-27.
- Dess, G. G., Lumpkin, G. T., and Covin, J. G. 1997. "Entrepreneurial Strategy Making and Firm Performance: Tests of Contingency and Configurational Models." *Strategic Management Journal*, 18: 677-695.

- Doty, D. H., Glick, W. H., and Huber, G. P. 1993. "Fit, Equifinality and Organizational Effectiveness: A Test of Two Configurational Theories." *Academy of Management Journal*, 36: 1196-1250.
- Frese, M., van Gelderen, M. W., and Ombach, M. 1998. "How to Plan as a Small Scale Business Owner: Psychological Process Characteristics of Action Strategies and Success." Submitted for publication.
- Frese, M., Stewart, J., and Hannover, B. 1987. "Goal Orientation and Planfulness: Action Styles as Personality Concepts." *Journal of Personality and Social Psychology*, 52: 1182-1194.
- Frese, M., and Zapf, D. 1994. "Action as the Core of Work Psychology: A German Approach." In H. C. Triandis, M. D. Dunnette, and J. M. Hough, (Eds.), *Handbook of Industrial and Organizational Psychology*, Vol. 4, 271-340. Palo Alto, CA: Consulting Psychology Press.
- Gartner, W. B. 1988. "'Who Is an Entrepreneur' Is the Wrong Question." *Entrepreneurship Theory and Practice*, 12(4): 11-32.
- Hacker, W. 1986. *Arbeitspsychologie: Psychische Regulation von Arbeitstätigkeiten*. Berlin: Verlag der Wissenschaften.
- Hacker, W. 1989. "On the Utility of Procedural Rules: Conditions of the Use of Rules in the Production of Operation Sequences." *Ergonomics*, 32: 717-732.
- Hacker, W. 1992. *Expertenkönnen: Erkennen und Vermitteln*. Göttingen: Hogrefe, Verlag für angewandte Psychologie.
- Hambrick, D. C., and D'Aveni, R. A. 1988. "Large Corporate Failures as Downward Spirals." *Administrative Science Quarterly*, 33: 1-23.
- Hart, S. L. 1992. "An Integrative Framework for Strategy Making Processes." *Academy of Management Review*, 17: 327-351.
- Hart, S. L., and Banbury, C. 1994. "How Strategy-Making Processes Can Make a Difference." *Strategic Management Journal*, 15: 251-269.
- Hayes-Roth, B., and Hayes-Roth, F. 1979. "A Cognitive Model of Planning." *Cognitive Science*, 3: 275-310.
- Kahneman, D. 1973. *Attention and Effort*. Englewood Cliffs, NJ: Prentice-Hall.
- Ketchen, D. J., Jr., Thomas, J. B., and McDaniel, R. R., Jr. 1996. "Process, Content and Context: Synergistic Effects on Organizational Performance." *Journal of Management*, 22: 231-257.
- Kimberly, J., and Miles, R. 1980. *The Organizational Life Cycle*. San Francisco: Jossey-Bass.
- Lumpkin, G. T., and Dess, G. G. 1995. "Simplicity as a Strategy-Making Process: The Effects of Stage of Organizational Development and Environment on Performance." *Academy of Management Journal*, 38: 1386-1407.
- Matthews, C. H., and Scott, S. G. 1995. "Uncertainty and Planning in Small and Entrepreneurial Firms: An Empirical Assessment." *Journal of Small Business Management*, 33: 34-52.
- Miles, R. E., and Snow, C. C. 1978. *Organization Strategy, Structure, and Process*. New York: McGraw-Hill.
- Miller, C. C., and Cardinal, L. B. 1994. "Strategic Planning and Firm Performance: A Synthesis of More than Two Decades of Research." *Academy of Management Journal*, 37: 1649-1665.
- Miller, D., and Friesen, P. 1982. "Innovation in Conservative and Entrepreneurial Firms: Two Models of Strategic Momentum." *Strategic Management Journal*, 3: 1-25.
- Miller, G. A., Galanter, E., and Pribram, K. H. 1960. *Plans and the Structure of Behavior*. London: Holt.
- Mintzberg, H. 1978. "Patterns in Strategy Formulation." *Management Science*, 24: 934-948.
- Nunnally, J. C. 1978. *Psychometric Theory*, 2nd ed. New York: McGraw-Hill.

- Olson, P. D., and Bokor, D. W. 1995. "Strategy Process-Content Interaction: Effects on Growth Performance in Small, Start-Up Firms." *Journal of Small Business Management*, 33: 34-44.
- Porter, M. E. 1980. *Competitive Strategy: Techniques for Analysing Industries and Competitors*. New York: MacMillan.
- Rajagopalan, N., Rasheed, A. M. A., and Datta, D. K. 1993. "Strategic Decision Processes: Critical Review and Future Directions." *Journal of Management*, 19: 349-384.
- Saville, P., and Willson, E. 1996. "The Reliability and Validity of Normative and Ipsative Approaches in the Measurement of Personality." *Journal of Occupational and Organizational Psychology*, 64: 219-238.
- Schwenk, C. R., and Shrader, C. B. 1993. "Effects of Formal Strategic Planning on Financial Performance in Small Firms: A Meta Analysis." *Entrepreneurship Theory and Practice*, (Spring): 53-64.
- Spencer, L. M., and Spencer, S. M. 1993. *Competence at Work: Models for Superior Performance*. New York: Wiley.
- Weitzel, W., and Jonsson, E. 1989. "Decline in Organizations: A Literature Integration and Extension." *Administrative Science Quarterly*, 34: 91-109.
- Wiesner, W. H., and Cronshaw, S. F. 1988. "A Meta-Analytic Investigation of the Impact of Interview Format and Degree of Structure on the Validity of the Employment Interview." *Journal Occupational and Organizational Psychology*, 61: 275-290.
- Zempel, J. 1994. *Psychologische Strategien der Handlungsplanung*. Giessen, Fachbereich Psychologie: Unveröffentlichte Diplomarbeit.