Success factors of small and medium sized enterprises

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Chapter 7
Summary and Conclusions

The dissertation addressed two objectives. A first objective was to develop a general model of small-scale business success, which should coherently relate to the empirical literature. The aim of the detailed literature review was to propose an approach to entrepreneurship that is explicit in its theoretical assumptions and that integrates perspectives of different disciplines. A second objective of the dissertation was to test predictions derived from the general model of small-scale business success empirically using data of a longitudinal study. Therefore, the proceeding chapters all concern success factors of small and medium sized enterprises.

A general model of business success

The dissertation started with a detailed literature review that guided the development of the Giessen-Amsterdam model of small business-owner’s success (Figure 1). There are two important assumptions of this model. First, it assumes that success is determined by actions, which are guided by goals and strategies. This implies that business owner’s personality, human capital, and environmental conditions are not directly related to success but should work via goals and strategies on success. There is some empirical evidence of this prediction (Heron & Robinson 1993b; Rauch & Frese 2000; Frese, Krauss & Friedrich, 2000). Of course, both goals and strategies may be misplaced in a certain environment. Therefore, environmental conditions moderate the effect of goals and strategies on success (Rauch & Frese, 1998; Risseeuw & Masurel, 1993). The model differs from the theoretical stance of the ecological approach, which assumes that environmental conditions generate variations in the number of founding and survival of small businesses (Aldrich, 1990). The model however, assumes that the individual business owner has an impact, he or she may for example choose the right moment to start the business.

A second assumption of the model is that the individual business owner impacts on the firm’s success. This assumption is controversial because some authors called for the firm level of analysis (Covin & Slevin, 1989; Lumpkin & Dess, 1996), and some others for the population level analysis (Hannan & Freeman, 1984). However, the level of analysis issue (Klein & Sorra, 1996) has a slightly different function in entrepreneurship research because company size determines which level of analysis is the adequate one. In small-scale businesses, the founder/owner is typically the main decision-maker, and he determines
actions, strategies and priorities existing. Thus, the individual level of analysis can profitably be used to study success in small firms (Frese, van Gelderen, & Ombach, 2000). In large firms, the right level of analysis of variables that determine success is the organizational level.

Further considerations

The most important contributions of the literature review can be summarized in six general conclusions. First, one needs to incorporate the knowledge of different disciplines (e.g., psychology, economy, sociology) to describe small business success because no single discipline can explain entrepreneurship on its own. Second, personality characteristics of business owners are important for business success. Need for achievement and locus of control are related to the emergence of entrepreneurship; characteristics related to success are need for achievement, locus of control, and risk-taking. However, much of the research on business owner’s personality can be criticized for empirical and theoretical reasons. Empirically, there are very few longitudinal analyses, small sample sizes, and methodological misinterpretations of results. Theoretically, much of the advances that have been made in personality research in the last 20 years has been overlooked in entrepreneurship research (Rauch & Frese, 2000). There are at least three important issues that must be considered in entrepreneurship research. First, a general trait can predict behavior, such as starting up a business only through certain mediating processes (Epstein & O’Brian, 1985). Moreover, the interaction between personality characteristics and situational conditions predicts behavior better than any of these factors alone (Magnusson & Endler, 1977). Finally, specific measures of personality characteristics and attitude belief processes show a better prediction of behavior than general personality traits (Fishbein & Ajzen, 1975; Bandura, 1997). Therefore, a more sophisticated approach to studying business owners’ personality is called for including task domain analysis, moderators, mediators, and process issues.

A third conclusion is that human capital of business owners is related to success, although this relationship is small. However, human capital studies typically use proxy measures of skills and knowledge, even though expertise research has shown that it is not the length of experience but rather the depth of experience that has an influence on expertise (Sonnentag, 1996). Using more direct measures of skills and knowledge may result in increased explained variance. Moreover, the small relationships found in the literature suggest that one should look for moderators that influence the human capital-success relationship. Finally, studies on human capital of business owners hardly ever address the
question of how human capital leads to business success. However, knowledge about these mechanisms is necessary to develop a full theory of human capital.

A forth conclusion is that goals and strategies are important because these are central factors determining business success. However, research usually does not clearly differentiate between goals and strategies. Moreover, different components of strategies are not carefully distinguished and therefore, many strategies have not been studied, such as human resource development.

A fifth conclusion is that there is a need to look more into interactionistic models that hypothesize contingent relationships (Frese, 2000). The small correlations found in the empirical literature generally suggest that moderators should be included into further models of small business success. For example, the relationship between planning and success is dependent on environmental conditions (Rauch & Frese, 1998; Risseew & Masurel, 1993).

A final conclusion is that much more and much better research needs to be done in the field of entrepreneurship research. Compared to other areas on work and organizational psychology the methodological quality of entrepreneurship research is relatively weak (Low & McMillan, 1988). There are very few longitudinal studies. However, the quality and usefulness of a theory of entrepreneurship success is dependent on the identification of patterns of causality. Another issue is the low response rate. Frequently, questionnaire studies lead to 10-40 percent response rates. Biases in response rate may occur (eg. entrepreneurs in time pressure are not responding). Moreover, methodological misinterpretations are common (e.g., non-significant findings based on small sample sizes are interpreted as null findings), analysis is often not up to date, and reliabilities and inter-correlations of variables are not reported. Finally, broad normative generalizations are common based, for example, on studies including surviving enterprises only. Given the methodological quality in this area, Davidsson (2000) concluded that entrepreneurship research caused a lot of harm for businesses and policy practice.

This dissertation reflects an attempt to improve the quality of small-business success research for several reasons. First, an explicit theoretical framework is presented that guides the hypotheses and research questions. Second, perspectives of different disciplines were integrated proposing an inter-disciplinary approach to entrepreneurship. Consequently, the operationalizations of the variables were not all based on psychology, but often reflected methods common in entrepreneurship research. By using concepts customary in entrepreneurship research this dissertations also tries to increase implications for professionals working in the field of entrepreneurship. Third, the dissertations used a
longitudinal design in an attempt to identify causal pattern of small business success. Finally, the study tried to increase response rates by using a careful procedure to approach business owners selected for the survey.

Personality characteristics of business owners

The first set of variables presented was about the relationship between personality characteristic of business owners and success in three different samples—Ireland, East Germany and West Germany. Achievement orientation consisted of need for achievement, self-efficacy, and internal locus of control and was consistently related to business success in all three samples. Moreover, the relationship between achievement orientation and success was mediated by business planning. This mediator was positive in Germany and negative in Ireland.

The results on personality-success relationships are interesting because these relationships are discussed controversial (cf. the discussion by Gartner, 1988). This dissertation supports positive relationships between achievement orientation and success in three different samples. One reason for the controversy about the personality-success relationship is that studies frequently used broad trait measures that were not related to the task of business owners and thus, lead to unstable results (Rauch & Frese, 2000). Fishbein and Ajzen (1975) have argued for specific measures to be good predictors of behavior. This dissertation analyzed personality variables, which are closely related to the domain of entrepreneurship. Need for achievement is a concept which is related to entrepreneurship because entrepreneurs must perform well at challenging tasks, they must take responsibility for results and must seek feedback on their business’ performance (McClelland, 1986). Internal locus of control and self-efficacy are also closely related to the domain of entrepreneurship. Internally controlled business owner’s belief that they are in control of business outcomes instead of chance events. Brockhaus (1980) showed that successful entrepreneurs had significantly more internal control believes than unsuccessful entrepreneurs. The same is true of self-efficacy (Baum, 1995). Thus, domain specific personality measures are related to business outcomes. The mediation model supported in this dissertation leads to another important consequence. There are relationships between personality and success. However, these relationships are not direct, but come about because achievement orientation affect planning. Thus, business owner’s personality leads to the use of strategies, which then in turn leads to business success (Baum, 1995; Goebel & Frese, 1999; Frese, Krauss, & Friedrich 2000).
Further considerations

An important limitation of the analyses on personality characteristics of business owners is their cross-sectional character. Therefore, one does not know whether there are causal effects between achievement orientation and success. Probably both causal paths are operative. Success may lead to larger enterprises that make the introduction of more formal procedures necessary. Moreover, prior success may increase achievement orientation. On the other hand, achievement orientation may lead to the use of strategies (preparing a detailed business plan at start up) that are culturally successful. The start-up business plan was prepared before we measured business success and therefore, it is likely that this is the mechanism that leads to success. However, this does not imply that there are long-term effects of personality on business success. As the enterprise is successfully and growing, the business owners’ impact on company’s policy, culture, and strategies becomes smaller and consequently, the effect of business owners’ characteristics on success becomes smaller as well.

A second limitation may be the measurement of the dependent variable. Unfortunately there was no hard data available on profit rates and sales. Additionally, every single measure is prone to errors, which can be due to tax structure, industry type, memory problems, or reporting biases. Unfortunately, such a bias is even higher when using a cross-country design. One way to reduce this problem is to use multiple measures of success (Frese, van Geldern, & Ombach, 2000) and in the analyses on business owner’s personality they were combined into an overall success index.

Human Capital Theory

The results of this dissertation indicated support for human capital theory (Becker 1975). Human capital of small business owners had effects on changes in business success. However, these effects were not direct but come about because of the presence of moderators and mediators. Environmental hostility, growth orientation, and focused strategy moderated the effect of human capital. Action goals/action plans and growth orientation were mediating the effects between human capital and success.

The results on the effect of business owner’s human capital on success replicate other studies. Analyzing seven studies quantitatively, Rauch and Frese (2000) found an average correlation of .09 between human capital and success. However, this relationship is not high enough to make human capital the decisive factor for business success. The fact that human capital produces consistently small and positive correlations with success leads to the
consequence to look for moderators that impact on this relationship. This study provides evidence, that the effect of business owner's human capital is contingent on environmental hostility, focused strategy and growth orientation. Human capital is important in hostile environments probably because it helps the owner to anticipate scarce resources and decreasing profits and to increase business's maneuverability. Similarly, human capital is important for using a focused strategy because knowledge and skills are required to develop this strategy successfully. Finally, human capital is required for growth orientation because it helps to use the right strategies for growth. Thus, this dissertation showed that the effect of human capital is contingent on moderator variables.

The mediation model for action goals/ action plans and growth orientation was supported for the relationship between human capital and success. However, the mediation was not complete indicating the presence of multiple mediation. The mediation model provides knowledge to two fields. First, the identification of such mediators helps to understand the link between human capital and success. Studies on human capital of business owners seldom analyzed the mechanisms through which human capital leads to business success. It is difficult to observe human capital directly. Therefore, it important to look at processes that are an outgrowth of skills and knowledge. The effects of human capital are not direct (Herron & Robinson, 1993b), but human capital affects action goals/action plans. Second, the mediator model suggest that the inclusion of psychological process variables increases the predictive power of a prediction of small business success (Frese, Krauss, & Friedrich, 2000). The advantage is that measures of action goals/action plans are conceptionally nearer to behaviors of business owners. Gartner (1988) argued that behavior approaches would be a productive perspective for research in entrepreneurship.

Additional Remarks

As common in entrepreneurship research, this dissertation used proxy measures and thus, did not measured really skills and knowledge of business owners but rather experiences. Unfortunately, there is no specific knowledge test for entrepreneurs. However, one study showed, that cognitive ability of business owners was positively related to small-scale business success and that this relationship was mediated by action process characteristics (Frese, Krauss, & Friedrich, 2000). Possibly, more direct measures of skills and knowledge could produce higher predictions of small business success than common measures used in human capital research.
A further comment must be made about the mechanisms through which human capital is functioning. This dissertation proposed a mediator model. However, there are other potential mechanisms through which human capital leads to success. For example, the effect of human capital could be due to selection processes. This argument would imply that business owners with high human capital set up firms with high a-priori chances of survival. While this dissertation did not address this mechanism there is at least one study supporting this position (Bruderl et al. 1992). Moreover, a higher intelligent quotient might lead to more learning and to more human capital. Thus, intelligence might be the construct behind human capital.

Some limitation should be mentioned with regard to the dependent variable. The relationships hypothesized on the effect of business owner’s human capital were confirmed when predicting business success; business owner’s satisfaction was not predicted well by human capital. However, the latter variable is probably influenced by what owners want to achieve. Owners who do not want to achieve high growth may well be satisfied with a stagnating enterprise and may think of it to be successful. Therefore, satisfaction is an important variable in its own right (Cooper & Artz, 1995). A weakness of the measurement of the dependent variable is that there was no hard data on cash flow and profit in both waves although these measures are frequently used in entrepreneurship research. On the other hand, the measures on business success were closely related to sales and sales growth in wave two, indicating a certain amount of validity for success measurement used.

Business Owner’s Planning

Numerous of books and article have taken it for granted that planning is of particular importance for small firm’s performance (see Ryans, 1997). However, empirical results on planning-success relationship did not lead to consistent results (Rauch & Frese, 2000). In a meta-analysis, Schwenk and Shrader (1993) found small and positive relationships between planning and success and concluded that third variables might moderate this relationship. One goal of this dissertation was to take up Schwenk and Shrader’s (1993) argument and to analyze the moderating effect of environmental conditions on planning-success relationships.

Two sets of results supported a contingency view of planning-success relationships, with environmental conditions being important moderators. A first set of analyses compared three different cultures- Ireland, West Germany, and East Germany. Results indicated that the relationship between planning and success is moderated by cultural conditions. In West Germany as well as in East Germany detailed planning was positively related to success. In Ireland, detailed planning was negatively related to success. I interpreted these results against
the background of differences in cultural values of uncertainty avoidance. Germany is a
country with high levels in uncertainty avoidance while Ireland is the country with the lowest
levels in uncertainty avoidance in Europe (Hofstede, 1991). One way to reduce uncertainty is
to plan well (Thurston, 1983). Therefore, Germany is a country in which people plan and in
which planning is called for. Business owners who plan in Germany satisfy cultural
expectations and are, therefore, successful. In Ireland, planning has little fit with people’s
expectations. Planning has also disadvantages since it is an investment in terms of time and
money and since it carries the risk of inflexibility. For those reasons, planning might be even
negatively related to success in a culture where planning does not meet people’s expectations.

A second set of results was about planning-success relationships analyzing data from the
longitudinal study in Germany. In both waves environmental hostility and uncertainty (i.e. an
unfavorable environment) moderated the relationship between planning and success.
Additionally, there were significant contemporaneous moderator effects with detailed
planning predicting changes in success in unfavorable environments. It is interesting that the
interaction effects were consistently found in cross-sectional and in longitudinal analyses.
Thus, planning only helps in a particular (hostile, uncertain) environment. Possibly, planning
is important in such an environment because one anticipates decreasing demands and
decreasing profits, one makes better use of scarce resources and one explores alternatives to
increase business’ maneuverability. The results on direct relationships between planning and
success pretty much reflect inconsistencies found in other studies. There was a positive
relationship between detailed planning and success in wave one. However, planning was
positively and non-significantly correlated with success in wave two and there were no direct
effects of planning in longitudinal analyses. Thus, planning is sometimes helpful and
sometimes not. It may be interesting to speculate whether sophisticated planning is
particularly important for newly founded enterprises, for example to raise money and to
attract customers.

Further Considerations

One limitation is that I did not measure “culture” directly. The interpretation is based on
data from Hofstede (1991) who gathered the data more than 20 years ago. An inclusion of
measures of cultural values would have resulted in a much stronger interpretation.

An additional comment must be made about the planning measures used in this study.
There is already a vast body of research on planning. However, studies on small business
planning used different concepts of planning. There are two general approaches to planning.

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Economic approaches conceptualize planning as a business/management activity. Thus, a written business plan is to be prepared that consists sometimes of 50 pages and more. The psychological approach defines planning as a characteristic of a person. This dissertation used both approaches. In one measure, business plans were evaluated and their quality was rated. This measure is closely related to the economic approach of planning. A second measure of planning asked business owners how they want to reach their yearly targets and the plans to reach these targets was rated. This measure is more closely related to the psychological concept of planning. Results of this dissertation showed that the measure of business plans had more power to explain business success. In a further development to the study reported here, Frese et al. (2000) developed a psychological typology of process characteristics in small-scale enterprises in which they differentiated between complete planning, critical point strategy, opportunistic strategy, reactive strategy, and habits. One result was that a reactive strategy, which implies no planning at all, was negatively related to small business success.

This could be shown to be a causal process (van Gelderen & Frese, 1998) and was replicated in four studies in Africa (three of them published in Frese 2000; Frese, Krauss, & Friedrich, 2000). These results indicate that a psychological approach on planning can indeed improve our knowledge on small-scale business success.

**Effects of Human Resources Strategies**

Results of the dissertation indicated that human resource management positively affects small-scale business success. Moreover, these effects were moderated by business owner’s and employee’s human capital.

Studies on larger companies have shown that human resource management is an efficient strategy related to company performance (Artur, 1994, Huselid, 1995; Youdt, Snell, Dean & Lepak, 1996; Welbourne and Andrews, 1996). Therefore, my study speaks for the generalizability of the findings to small companies. With respect to small-scale enterprises however, the literature on personnel issues is more conceptual than empirical/data based (Hornsby & Kuratko, 1990). This is surprising because small firms are a unique source for studying human resource management for theoretical and practical reasons. Theoretically, small firms show more variation in dependent and independent variables. The dominant research method in human resource management is sending questionnaires to human resource professionals; therefore samples of firms were selected that have a human resource department. In addition, samples of large enterprises limits variance in performance as well since these enterprises have survived their early years are, as a result, in a better position to
continue survival (Welbourne & Andrews, 1996). Practically, human resource management might be an efficient strategy especially in small-scale enterprises. In small enterprises, there is typically low labor productivity combined with lower than average wages (Mulhern, 1995). Employees have to work in various areas because task differentiation is low. At the same time, improving company’s effectiveness by rationalization is hardly possible due to a limited number of employees and limited financial resources. Consequently, improving employee’s effectiveness by an optimal utilization of their knowledge, skills and motivation is an important strategy for small-scale enterprises.

Analyses on human resource management further indicated that the effect of human resources management on changes in business success was contingent on human capital of business owners and employees. Human capital of business owners is moderating the effect of HRM on business success probably because better-educated owners are able to introduce new ways of leading people and they are more receptive to ideas and initiatives of employees. Employees’ human capital is important because better-qualified employees can meaningfully contribute to decision making and learn firm specific skills more quickly. In summary, human resource management is a useful strategy in small-scale enterprises when there is high human capital in the firm.

Additional comments need to be made concerning the human resource management measure. In this study, the small business owner was asked about human resource strategies applied in his firm. Therefore one does not know whether business owner’s intentions are really translated into behaviors of personnel management. Possibly, future research about human resource management should include employee measures. This may result in a more accurate picture of personnel practices in small firms.

Final remarks and conclusions

Many shortcomings have already been mentioned. However, there are two limitations concerning all analyses reported in this dissertation, which need to be discussed more in detail. First, an important limitation is that analyses are based on owner-reported data rather than on observation of behavior. Therefore, the results presented in this dissertation are somewhat far from business owner’s behavior and its causal relationship with business success. A potential bias concerns business owners that may have intentionally or unintentionally provided inaccurate information. However, self-reported data also have advantages because there is higher construct validity on subjective data compared to objective data (Smith, Gannon, & Sapienza, 1989). For example, it is difficult to observe business
owners' goals and targets directly because they may be represented only internally. Therefore, any attempt to observe owners' goals must accept loose and incomplete definitions of the construct of goals. On the other hand, self-reported data can provide accurate information on owners' goals and targets, although these intentions may not always reach realization. However, it is useful to study such intentions because intentions drive business owner's behavior (Birch, 1988). For those reasons subjective data was a useful source of information in this dissertation.

A second limitation is that successful enterprises were over-represented in two ways. First, enterprises were already existing at the time of wave one. Enterprises that failed prior to that time-point were not included in the study. Second, the longitudinal analyses included surviving enterprises only. The reason behind this bias is simple; In 1997 - the second wave-58 enterprises could not be identified again (experimental mortality 29%). They may have moved, may have changed companies' name, or may have gone bankrupt. Since I did not know exactly about the whereabouts of these enterprises they were excluded from further analyses. Consequently, business survival was not used as a dependent variable in this study. Sometimes one can assume that this bias makes it less likely to confirm the hypotheses proposed. For example, given that business owners with low human capital have to close down their company earlier than business owners with high human capital, business owners with high human capital were over-represented as well. Since this results in reduced variance of both dependent and independent variable correlation coefficients are reduced as well. Thus, the results can be seen as a conservative representation of the human capital-success relationship.

A strength of this dissertation is the longitudinal design, which allowed to hold prior levels of success constant. This means that the predictors used can explain changes in business success. By using different times of measurement and different sources of information (interview and questionnaire) percept-percept problems were reduced. Thus, analyses presented in this dissertation reflect a conservative way of looking at relationships between variables.

The empirical results of this dissertation supported the assumptions of the Giessen-Amsterdam model of business owner's success (Figure 1). Goals and strategies are found to be of central importance for business success. They represent the actions through which business success is accomplished. The right way of planning, HRM, action goals and action plans, and growth orientation are leading to changes in success. But where do these goals and strategies come from? Chapter 3 showed that achievement orientation leads to the use of
strategies that are successful. Chapter 4 indicated that high human capital leads to more
growth orientation and to better action goals/ action plans. This result confirms recent
empirical results of other studies. The relationship between owner’s personality and success
is mediated by strategy (Baum, 1995, Frese, Kraus, & Friedrich, 2000). Similarly, the
relationship between human capital (and/or competencies) and success was found to be
mediated by strategies (Heron & Robinson, 1993b; Baum, 1995; Frese, Krauss & Friedrich,
2000). Based on these results one can conclude that characteristics of business owners relate
to business success only through certain mediating processes. Thus, models of small-scale
business owner’s have to include mediator variables, which results in a much better
prediction of small-scale business success.

The dissertation further highlights, that it is useful to study contingency theories in
small-scale enterprises (Sandberg & Hofer, 1987). Testing contingencies in large enterprises
results in a high degree of error variance because different sub-units differ highly from each
other. Small-scale businesses are more coherent than large organizations and, therefore,
contingency theories can be tested better. Results of empirical analyses indicated that
environmental conditions moderate the effect of strategies on success. This is in accordance
with the Giessen-Amsterdam model and with empirical findings in the literature (Covin
& Slevin, 1989; Zahra, 1996). The dissertation indicated further that moderator effects appeared
quite consistently in every set of results presented. Important moderators identified were
environmental conditions, cultural context, strategies, goals, and human capital. There were
only very few direct effects on business success. Thus, small business success is a complex
phenomenon and simple assumptions about direct relationships do not reflect business reality.
However, other moderator variables, which had not been studies in this dissertation are
possibly important in predicting business success, such as for example motivation of business
owners (Herron & Robinson, 1993a). It might be useful to develop a classification of
moderating variables, which should be validated in further studies. I think, that the
moderators identified in this dissertation can be fruitfully used to develop such a
classification.

Finally, the dissertation highlighted the importance of using a longitudinal design, which
is seldom done in entrepreneurship research. Early efforts in entrepreneurship research had
good reasons to use explorative case studies or cross-sectional studies to gain a first picture of
the field. However, developing a theory of small-scale business success requires to establish
causal linkages among variables (Low & McMillan, 1988). The analyses on business
planning presented in this dissertation provide a good example for the importance of using a
longitudinal design (Rauch & Frese, 1988). Planning was related to success in wave one. However, can we now conclude that planning has effects on small-scale business success? Of course not and results of longitudinal analyses indicated that there is no lagged effect of planning on success. Results indicated that planning has contemporaneous effects on success in uncertain and hostile environments. This means, that business owners are more successful when they plan more in uncertain and hostile environments, while in a non-hostile or certain environment those owners who plan less are more successful. On the other hand, it is possible that planning is more important for newly founded enterprises, for example to get government support of to raise money. To test this proposition empirically, one needs to collect first wave data already at the stage of business formation, because many business start-ups are likely to fail very early. Thus, doing a longitudinal study requires to develop some hypotheses about the correct time points. Live cycle theories may indicate good time points for a longitudinal study. Dodge and Robbins (1992) for example tested a four-stage model that differentiated between business formation, early growth, later growth, and stability.

The dissertation provides practical implications for professionals in the field and business owners. First, business owner’s characteristics are important, although not sufficient for small-scale business success. This implies that selecting, supporting, and funding only potential entrepreneurs with high achievement orientation and high human capital would be a bad practice. A bank may for example very well provide capital to a business owner with low human capital, because he might be as successful as the highly educated business owner is. There are two important reasons justifying this argument. First, the effect of human capital is dependent on the strategy used and on environmental conditions. Thus, the lowly educated business owner may very well be successful when using broad strategies and/or maneuver in favorable environments. Second, the business owner can compensate a lack of human capital, for example by setting high and specific goals and by introducing the right way of planning.

A long-term political intervention would imply to strengthen the education system, because human capital is important for small business success and therefore, for economic growth. However, any attempt to increase potential business owner’s characteristics is difficult to realize. Personality is relatively stable and it is expensive and time consuming to increase human capital. Thus, both human capital and personality can not be easily changed in the short term. However, characteristics of successful business owners affect goals and strategies and they can be more easily changed and are, therefore, more useful intervention points. Useful intervention points are goals, strategies, and actions because these can be used to compensate lacking achievement orientations or human capital. Start-up programs should
advise potential business owners in business planning because planning helps to become successful. However, at the same time owners must learn that planning is not always a useful approach to business success because it helps only in certain situations. Therefore, owners must learn to scan environmental conditions adequately to apply planning accordingly. Other useful intervention points for training programs are growth goals, action goals/ action plans, and personnel management.

Obviously, the set of analyses presented here can not answer all questions and can not deal with the complexity of all issues of small business success. Entrepreneurship is an interesting research area at an interface between business and psychology. However, much more research is needed about the causal processes that lead to success.