

Toward a Psychology of Entrepreneurship — An Action Theory Perspective

By Michael Frese

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Toward a Psychology of Entrepreneurship — An Action Theory Perspective

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Abstract

This contribution discusses a theory of entrepreneurship, its empirical base, and its implications. First, it argues that a psychological approach is necessary to understand entrepreneurship. Second, it argues that any theory of entrepreneurship should use active actions as a starting point — entrepreneurship is the epitome of an active agent in the market (rather than a reactive agent). Third, it discusses an action regulation theory to better understand the psychology of entrepreneurship. Fourth, it provides examples how this theory can help to understand entrepreneurial success. Finally, I suggest intervention programs to help entrepreneurs to be successful at growing their organizations.

1

Introduction

This contribution discusses a theory of entrepreneurship, its empirical base, and its implications. First, it argues that a psychological approach is necessary to understand entrepreneurship. Second, it argues that any theory of entrepreneurship should use active actions as a starting point — entrepreneurship is the epitome of an active agent in the market (rather than a reactive agent). Third, it discusses an action regulation theory to better understand the psychology of entrepreneurship. Fourth, it provides examples how this theory can help to understand entrepreneurial success. Finally, I suggest intervention programs to help entrepreneurs to be successful at growing their organizations.

Entrepreneurship is defined by the action of the entrepreneur — starting an organization (Gartner, 1989) — or by the more elaborate definition that entrepreneurship involves discovery, evaluation, and exploitation of opportunities (Shane and Venkataraman, 2000). All definitions really imply actions. Entrepreneurship is not a cognitive enterprise of perceiving and interpreting the world. Rather, entrepreneurship implies that people act to change the world and this often comes about by not just “detecting” opportunities but by establishing them (as Schumpeter, 1935, has emphasized). Thus,

nearly all definitions emphasize that entrepreneurs are active actors in the market. Some entrepreneurship researchers reserve the concept of entrepreneur to those who are particularly successful with their firms (Carland et al., 1984). However, it is necessary not to confound the definition of a concept with the outcome of that concept and, therefore, I prefer a descriptive definition of the entrepreneur. I also emphasize that entrepreneurship does not necessarily imply the start-up and growth of business organizations but is a more general phenomenon of starting social organizations and changing organizations. Thus, I also include social entrepreneurs in our definition — thus, founders of social service organizations (such as Greenpeace or Medicine without borders) are legitimate aspects of entrepreneurship as well.

2

Psychology is Needed to Understand Entrepreneurship

It is surprising that (organizational) psychology, although once at the forefront of developing entrepreneurship research (McClelland, 1961; McClelland and Winter, 1971), had for some time given up research on entrepreneurship. At about the same time entrepreneurship research also had given up on psychology's usefulness for understanding entrepreneurship. Entrepreneurship research often equated psychological research with personality effects and found a personality approach wanting (Aldrich and Widenmayer, 1993; Gartner, 1989). Thus, there was little interest in the psychology of the entrepreneur. Lately, this picture has changed: First, there is more and more evidence that personality may play an important role in entrepreneurship anyhow (Carter et al., 2003; Chell et al., 1991; Rauch and Frese, 2007; Zhao and Seibert, 2006). Of particular importance is meta-analytic evidence that underlines the importance of personality factors (Rauch and Frese, 2007; Zhao and Seibert, 2006). Second, more and more psychologists started to work in the field and inform the field of the empirical importance of psychological variables (Baron, 2002; Baron et al., 2007; Baum et al., 2007; Baum and Locke, 2004; Foo et al., 2009; Frese, 2007; Rauch and Frese, 2000). Third, psychology itself moved away from a

purely personality trait based approach and started to emphasize other variables (Baron, 2002; Baum et al., 2007; Foo et al., 2009; Shaver and Scott, 1991). Finally, psychology asserted itself and argued eloquently that actions need to be studied from a psychological perspective — and actions are necessary to start a firm and are necessary to be successful (Rauch and Frese, 2000). The alternative — often thought to be an ecological approach to entrepreneurs (Aldrich and Widenmayer, 1993) — could not really explain intentional behavior away completely: It was too obvious that in the final analysis some entrepreneurs used more appropriate strategies to grow than others (more on this later). Since, psychology has traditionally defined itself to achieve an understanding of people's perceptions, cognitions, emotions, motivation, and behavior, it makes sense to turn to psychology to study such important categories of entrepreneurship research as decisive actions (behaviors), perceptions, and implementation of opportunities (perception, cognition, emotions, motivation). My impression is that entrepreneurship research is now strongly influenced by psychological variables and is more and more cognizant about this fact.

Similarly, organizational psychology has started to be interested in entrepreneurship again (Baum and Locke, 2004; Baum et al., 2007; Baron et al., 2007; Foo et al., 2009; Rauch and Frese, 2000; Shane et al., 2003). Organizational psychology needs to understand the process of starting and growing of an organization. Not only do the founders of an organization have an enormous role in shaping the structure and culture of the organization (Katz and Kahn, 1978; Schein, 1987), but the dynamics of growing, keeping a certain organizational size, or the death of organizations needs to be a centerpiece of any organizational psychology (Katz and Kahn, 1978) — it is, therefore, positive that this area is attracting new research again.

3

Active Entrepreneurial Actions

Entrepreneurs' actions need to be the starting point for theorizing in entrepreneurship. As will be shown in this chapter, entrepreneurs are most frequently the most active performers — more active than rank and file employees and also more active than managers (Utsch et al., 1999). A theory that helped me to develop the concept of active performance, has been action theory or action regulation theory (Frese and Sabini, 1985; Frese and Zapf, 1994; Hacker, 1998; Miller et al., 1960).

Scientists have been interested in the issue of being active ever since they have shed the constraints of behaviorism and psychoanalysis. I agree with White (1959) that phylogenetically, organisms have developed into being mastery oriented. The same theme has been developed in Rotter's theory of internal control (Rotter, 1972), in helplessness theory (which, of course, taught people not to be helpless) (Seligman, 1975), in achievement motive theory (McClelland, 1987), or in self-efficacy or psychological agency theory (Bandura, 1989, 1997). In this article I want to develop an action theoretic approach that puts the active nature of actions into the center stage of entrepreneurship.

I have been interested in an active approach to work by using the concept of personal initiative (Frese and Fay, 2001). Entrepreneurs have

to be more active than normal employees and even managers (Utsch et al., 1999). A large part of my research concentrates on entrepreneurship in changing economies, e.g., in East Germany, but also in developing countries, as in Africa or Asia. Changing economies provide more opportunities but often also more necessity to become a business owner. Entrepreneurship develops more strongly in those economies and contributes more to the development of wealth in these economies. Entrepreneurship has been argued to be an important factor contributing to economic development in such transitional economies (Mead and Liedholm, 1998; Reynolds et al., 2004). In the following, I would like to describe what it means to be active and then apply it to the issues of entrepreneurship as described in Table 3.1.

Table 3.1. Facets of active performance of entrepreneurs.

Action sequence	Self-starting	Proactive	Overcome barriers
Goals/ redefini- tion of tasks	<ul style="list-style-type: none"> — Active goal, — Not just goals that are taken over from others — Setting higher goals (growth goals) 	<ul style="list-style-type: none"> — Anticipate future opportunities and problems and convert into goals 	<ul style="list-style-type: none"> — Protect goals when frustrated or taxed by difficult environment or complex goals structure
Information collection and prognosis	<ul style="list-style-type: none"> — Active search, i.e., exploration, active scanning 	<ul style="list-style-type: none"> — Search for potential problem areas and opportunities before they occur — Develop knowledge on alternatives routes of action 	<ul style="list-style-type: none"> — Maintain search in spite of lack of resources, problems, complexity, and negative emotions
Plan and execution	<ul style="list-style-type: none"> — Active plan — High degree of self-developing a plan — Don't imitate, don't just follow advisors 	<ul style="list-style-type: none"> — Back-up plans — Have action plans for opportunities ready — Proactvitiy of plan and detailedness 	<ul style="list-style-type: none"> — Overcome barriers — Return to plan quickly when disturbed
Monitoring and feedback	<ul style="list-style-type: none"> — Self-developed feedback and active search for feedback 	<ul style="list-style-type: none"> — Develop pre-signals for potential problems and opportunities 	<ul style="list-style-type: none"> — Protect feedback search

Based on Frese and Fay (2001).

Table 3.1 distinguishes different steps in the action sequence (more on this later) and three aspects of being active — self-starting, long-term proactivity, and persistence in the face of barriers and obstacles that need to be overcome (Frese and Fay, 2001): First, entrepreneurs must start something; thus, they have to be self-starting. *Self-starting* implies that a person does something without being told, without getting an explicit instruction, or without an explicit role requirement. This is in contrast to assigned tasks. In contrast to entrepreneurs, employees and managers usually work within some organizational hierarchy; there is usually some superior present who tells the employee what to do or not to do. There is also usually a developed structure of a company, both in terms of its history and its long-term visions that may prescribe role requirements (sometimes these are formalized explicitly). All of this does not exist for the entrepreneur — he or she has to be self-starting. Being self-starting is related to being innovative — an innovation implies that a new idea for that context is developed and implemented: Innovative products, services, production, or marketing strategies, all help to make firms to be successful. Innovation has been studied within the concept of entrepreneurial orientation which included not just innovativeness but also proactivity. Meta-analytic evidence has shown innovation to be useful for the long-term profitability of firms and this tendency has been particularly successful for very small and very large companies (Rauch et al., in press; Szymanski et al., 2007). Research on the first mover advantage (Lieberman and Montgomery, 1998) demonstrates that late-comers are usually less successful with their business. If business owners do not want to be self-starting, they usually revert to mimicking other business owners or they follow prescriptions suggested by consultants. Both strategies should be less successful than being self-starting. Owners who are not self-starting can be described as reactive; in those cases, the owners do things because the environment or important people tell them to do them; they do not use this environmental input as a starting point for an active approach but rather as a blueprint of action. Of course, it is possible that an entrepreneur is self-starting not by mimicking what others do but by applying a new idea of efficiently producing a product in such a way as to render some price advantage.

Second, proactivity means to have a long-term focus and not to wait until a demand is explicitly made to which one must respond. A long-term focus can be related to future opportunities and to stressors; preparing for opportunities now implies that one assembles resources now so that one is able to quickly make use of future opportunities (Dimov, 2007; Hamel and Prahalad, 1994). Similarly, preparing for future problems and stressors now is consistent with being active — preparation is probably helpful when confronted with stressors. The opposite is again reactive which implies that entrepreneurs act only ad hoc when the situation demands such an action. The concept of proactiveness has been conceptualized as part of the concept of entrepreneurial orientation (Lumpkin and Dess, 1996; Miller and Friesen, 1978). Empirically, proactiveness has been of particular importance to explain organizational success of business owners (Krauss et al., 2005; Rauch et al., 2009; Van Gelderen et al., 2000).

Persistence has been conceptualized to be an important part of entrepreneurship since Schumpeter (1935) described entrepreneurial industrialists. Whenever new ideas are pursued, adversity needs to be overcome; this is particularly so under resource constraints (Kodithuwakku and Rosa, 2002) — a situation that is frequently present in business owners. Persistence in the face of obstacles implies two self-regulatory processes. First, protecting self-regulatory processes; this implies to protect goals, plans, and feedback seeking when competing goals, plans, and feedback appear or when goals, plans, and feedback seeking are frustrated or taxed by difficult situations. Second, using self-regulatory processes to overcome external barriers; thus, when an active approach runs into difficulty, these difficulties are dealt with in an effective and persistent manner. However, there are also costs associated with high persistence — not only financial but also emotional costs (DeTienne et al., 2008; Shepherd et al., 2009). Thus, persistence can be overdone — a point I shall take up again at a later point. In contrast, the reactive approach would stop acting too early when a set of problems occur because the difficulties appear insurmountable.

Before I discuss these action processes in more detail, it is useful to give a rough outline of the process of entrepreneurship — I do this under the heading of the process of organizing opportunities.

3.1 The Process of Organizing Opportunities

Table 3.2 helps us to understand the process by which an entrepreneur (or a group of entrepreneurs) detects (or develops) an opportunity, thinks of organizing the exploitation of this opportunity (this is the start-up phase), how he or she grows the organization, and how the dynamics of the organization starts to play out and how the entrepreneur is able or not able to manage this dynamics. I start with Baron's division of pre-launch and launch phases (Baron, 2007).

The pre-launch phase implies that the entrepreneur assembles resources to make a launch possible. To do this, the entrepreneur needs to be self-starting because otherwise he or she would only imitate others; if he or she does not do things at least slightly different, it would be a complete replica of existing firms; such an approach would not be functional because the others already have a first mover advantage (Lieberman and Montgomery, 1998).

For a pre-launch phase, the entrepreneur needs to be proactive and to overcome barriers. He or she must have a long-term wish that needs to be translated into an intention — this is done via the processes of OTIUM (opportunity, time, importance, urgency, and means)

Table 3.2. Phases of entrepreneurship and research topics.

(1) Pre-launch phase: dependent variables: Assemble resources to make launch possible
(a) Wishing a start/motives
(b) Intending a start, setting goals
(c) Perceiving an opportunity and evaluation
(d) Finding resources, e.g., opportunity, money from family, friends and banks, networks
(e) Dealing with setback, errors, barriers
(2) Launch phase: dependent variables: starting the organization, first sale, survival
(a) Opportunity exploitation
(b) Dealing with multiple diverse demands
(c) Dealing with errors, setback, barriers
(d) Setting goals
(e) Developing strategy
(3) Success: growth and stagnation: dependent variables: growth of sales, profits, employees, size, revival, and recovery
(4) Decline and organizational death: dependent variables: getting out in time and gracefully

(Heckhausen and Kuhl, 1985). An opportunity must be perceived and evaluated. Time resources and the means (e.g., the money) for a potential launch must be assembled. The matter must be conceptualized to be important and urgent at the same time. During these activities, it is likely that the founder(s) have to go through a number of setbacks and errors — these errors and setbacks have to be managed by the would-be-entrepreneur(s). At every point of this process there are barriers that need to be overcome.

The launch phase is characterized by starting the organization, by making the first sale(s), and by survival. Dealing with diverse and often conflicting demands (the latter implies that the entrepreneur is in a constant state of being overwhelmed by the demands and has to be able to make quick decisions), dealing with errors, setbacks, and barriers, and setting goals, both short term as well as long term (strategy). The entrepreneur needs to be self-starting during this phase because new and interesting solutions to the problems are needed and because these determine to some extent whether or not the entrepreneur can be successful.

The next phase consists of a growth period which may culminate into a period of stability (or of stagnation). Growth may need a more active approach than stagnation. The final phase of an organization is usually a period of decline. Organizations may eventually dissolve, at least in their current form (although there are a few organizations that have been around for 2,000 or more years). An alternative to organizational decline and wealth may be to get out in time or to decline gracefully. To sell or to stop with an organization in time require a high degree of active actions. I should hasten to add that I do not want to propose a phase model that implies that every entrepreneur has to go through the same phases in exactly the same order — I use phase rather loosely implying primarily a convenient way to summarize the action requirements of organizing.

We can use action theory to analyze the entrepreneurial process. In the following, I shall briefly describe the building blocks of action theory and describes how this theory explains to show active actions; afterward, I shall describe empirical data that help us understand the phenomenon of being active.

4

Action Theory — Building Blocks

Action is goal-oriented behavior (Frese and Sabini, 1985). There are three aspects that are important to understand how humans regulate their actions: sequence, structure, and focus. Sequence refers to how actions unfold, structure involves levels of regulation, and the focus of an action can be the task, the social context in which the task is done, and the self. I argue that every action can be decomposed into these three components of actions.

4.1 Sequence

The following steps can be minimally differentiated in the action sequence: goal and intention, processing of information about the environment, planning, monitoring of the execution, and feedback processing (Dörner and Schaub, 1994; Frese and Zapf, 1994; Gollwitzer, 1993; Heckhausen and Gollwitzer, 1985; Norman, 1986). There are also described in Table 3.1. Psychology uses these terms slightly different from economics: All of these terms relate to all actions. Thus, the time that an action takes may be seconds, hours, weeks, months, or years (and longer). This just implies that the goals, plans, and feedback also related to these times. When a person stands in front of a machine to

buy a train ticket in Europe, he or she needs to develop the goal (I want to go to this city — do I want to continue with a bus or take a taxi, needs to be put into the goal process as well as to get the appropriate ticket), information needs to be collected on how to use this new machine, a plan needs to be developed on how to get the ticket, feedback from the machine needs to be monitored whether one has done it correctly, etc. A similar issue appears when a business owner is thinking in the morning about his or her day or when a 2–3 months goal is to be pursued. Only in very rare circumstances, will these goals, plans, etc. be written up in the form of a business plan. Whenever formal plans, like the business plan is developed, it is much harder to differentiate what the entrepreneur has done and what potential consultants (including books) have done. Moreover, even entrepreneurs who are not usually planning things out in any detail, will develop a business plan — they are commonly demanded by banks — thus, business plans are less well integrated into the personality of the entrepreneur than the goals, plans, etc. that I discuss in this article.

These action phases cut across the different entrepreneurial phases and they are also hierarchically organized. For the entrepreneurial process this means, for example, that a person may have been laid off and is, therefore, desperate to finding a job. This may lead him to develop the idea to be an entrepreneur. He or she starts to collect information in which area the new entrepreneurial unit could operate (opportunity recognition is one facet). A first idea may develop that leads to a goal intention (meaning that the would-be-entrepreneur is now serious about starting a company because he or she knows how to go about it). Once a plan is developed, this leads to an implementation intention to actually start a company — an implementation intention implies that the entrepreneur will scan the situation for cues to start the action.¹ The entrepreneur monitors the process of executing these ideas, and

¹Gollwitzer has developed the terms goal intention and implementation intention to understand how people move from thinking about the pros and cons of an action to actually performing the action (Brandstaetter et al., 2003; Gollwitzer, 1999; Gollwitzer et al., 1990a,b). At first there is a so-called deliberative mindset, in which the impartial analysis of the feasibility and desirability of a goal dominates. A plan of action translates this deliberative mindset into a so-called implemental mindset. Here the person is biased toward action and checks various environmental cues to act.

processes feedback from customers, banks, business angels, the public, etc. (the term sequence does not mean that there is an immutable sequence and that each of these action steps has to be traversed to be able to reach the next one). After a company has been started, goals, information collection, plans, etc. are needed in the phase of launching the firm, as well as in growing the firm.

Table 3.1 provides a few examples of what it means to self-starting, proactive, and overcoming barriers in the area of goals, information collection and prognosis, planning, and monitoring and feedback. Goals are self-starting if they are not taken over from others; often higher goals (in comparison to other business owners), such as higher growth goals may point to the fact that there are self-started. Goals are proactive, when future opportunities are transformed into goals, e.g., when the owner anticipates that a certain product may be more useful in the future (e.g., because of demographic changes). The owner can then transform this knowledge into an active goal. Finally, one's goals have to be protected against competing goals. This is particularly necessary when goals turn out to be more difficult to achieve than anticipated.

Self-starting forms of information collection are based on active search, active exploration of the environment and the information available. An example is an African business owner who does not have any formal support for exporting his or her produces and then systematically checks the Internet for information that might help exporting his or her products (or may be even changing his or her product line in light of this information). Proactive information collection appears if owners systematically search and scan for potential future opportunities or problems. Overcoming barriers in information collection implies that one continues on when it is difficult. An example is again an African garment maker who finds ingenious ways to find information on current trends in fashion even though he or she is not able to afford to buy expensive fashion journals such as *Cosmopolitan* that might help him in such endeavors.

Self-starting planning and execution are shown when there is an active plan, that has been self-developed; it must go beyond mere imitation. Such a plan is proactive if it is oriented toward the longer term future and if it is sufficiently detailed. Back-up plans show that there is

a high degree of proactiveness of the plan and they also help in overcoming problems that may appear. Owners overcome barriers well, when they develop good and new ideas of how to deal with the problems and when they return to their action quickly if the flow of the action has been disturbed,

Finally, feedback signals can be developed by the owner, e.g., in the sense of developing good indicators of customer satisfaction, in developing and taking seriously potential early signals that something is not going well (pre-signals) and in protecting one's feedback search. People do not like negative feedback, but it is particularly useful to keep up the search for negative feedback (one aspect of overcoming barriers) (Ashford and Tsui, 1991).

Action sequence and acting under uncertainty. Entrepreneurial actions are typically done in uncertain situations (McMullen and Shepherd, 2006); therefore the questions needs to be asked how action theory can be used to understand acting in uncertain situations. Uncertainty pertains to how an action can affect the environment. If there is uncertainty, we do not know when, whether, and what effect our actions will have. Thus, in principle, there are three uncertainties — that refer to when, whether, and what (Miller, 1981). When-uncertainty implies that an actor does not know the timing of the effects of the action on the environment; is the effect immediately there or is there some unknown sluggishness of the reaction of the environment. And what is the best time for an intervention? Whether-uncertainty implies that one does not know whether or not an effect will appear at all. What-uncertainty means that it is unclear what other effects may appear as a result of one's actions. We agree with McMullen and Shepherd (2006, p. 135) that “uncertainty in the context of action acts as a sense of doubt that (1) produces hesitancy by interrupting routine action. . . , (2) promotes indecision by perpetuating continued competition among alternatives. . . , and (3) encourages procrastination by making prospective options less appealing. . . ” Whether or not these effects of uncertainty have negative effects or not, cannot be decided a priori.

Uncertainty in the person is a function of the uncertainty in the environment, uncertainty standards or goals of the person, and the

perceived competency of the person (or self-efficacy, cf. Bandura, 1989). Competency has probably a curvilinear relationship with uncertainty. If there is no competency, a person will not feel uncertain because he or she does not know enough of what can potentially go wrong in one's actions (Burson et al., 2006). If one feels very competent, there is little uncertainty. This is then the effect of uncertainty: Uncertainty needs to be managed; the need to manage uncertainty is higher, if people have high goals for certainty (which may come from personality or from culture — in the sense of high uncertainty avoidance). The way to manage uncertainty is to prepare for it — the most useful preparation one can do for uncertainty is to plan well (Hofstede, 2001) and to develop good feedback systems. Planning helps to deal with the problems of uncertainty, such as interruption of routine actions, because it anticipates such problems and deals with them beforehand; unfortunately, planning may also lead to procrastination or indecision. I shall discuss this issue later in this article.

4.2 Action Structure

The action structure is concerned with the hierarchical cognitive regulation of behavior. The notion of hierarchy is needed to understand well-organized behaviors that achieve higher level goals (e.g., launching a new product) by using lower level behaviors (e.g., uttering a sentence, typing a word, or using the appropriate muscles to strike a key) (Carver and Scheier, 1982; Johnson et al., 2006; Miller et al., 1960). The higher levels of the hierarchy of action regulation are conscious, thought oriented, and more general; the lower levels consist of routines; they are specific, and they frequently involve muscle movements. This hierarchy is not neatly organized but with potential reversals.

The Four Levels of Regulation

The four levels of regulation are described in Table 4.1 — three task-oriented levels of regulation and one metacognitive level are differentiated.

The skill level of regulation: The lowest level of regulation (called skill level: Rasmussen, 1982; sensorimotor level of regulation: Hacker, 1998;

Table 4.1. Levels of

Levels of action regulation	Skill level of regulation	Level of flexible action pattern	Conscious level	Level of meta-cognitive heuristics
Consciousness of regulation	Unconsciousness; normally no access to consciousness	Access to consciousness possible, but not necessary	Conscious representation necessary	Both conscious and automatic use of meta-cognitions
Goals	Priming of goals, sub-subgoals,	Subgoals	Goals	Standards and metagoals
Plans	Blueprints of elementary movements and cognitive routines	Well-known action patterns with situational specifications	Conscious complex plans, strategies	Templates, e.g., strategies; general procedures of how to plan; consistency and coordination of plans
Feedback/signals	Stereotype test programs, unconscious processing of kinesthetic and proprioceptive feedback signals	Processing of known signals/feedback	Analysis and synthesis of new information	Abstract (nonobject-oriented) checks, logical inconsistencies

Based on Frese and Zapf (1994, p. 285).

psychomotor: Ackerman, 1988; automatized: Shiffrin and Schneider, 1977; or procedural knowledge: Anderson, 1983) regulates situationally specific automatized or routinized skills. Information on this level is parallel, rapid, effortless, and without apparent limitations. The regulation is not conscious. However, it is difficult to substantially modify action programs. In order to change them, they have to be lifted to a higher level of regulation, so that some conscious form of (effortful) processing can be applied. The skill level of regulation is the preferred level of regulation (March and Simon, 1958), particularly when there is high load (Kahneman, 2003).

Goals in this level usually depend upon higher level regulation; however, recent studies have shown that goals can be primed on a lower

level as well (Bargh and Barndollar, 1996; Shah and Kruglanski, 2003). Plans on this level are non-conscious blueprints of movements or highly automatized cognitive routines; for example, swimming or for a highly experienced entrepreneur to perceive situations as opportunities. Feedback is on the unconscious level as well. Many actions — that are seen to be intuitive are regulated on this level of regulation — no or very little conscious effort needs to be expended on this level.

Level of flexible action patterns: In terms of goals, the most important goals are subgoals that are regulated by higher level goals of the conscious level of regulation. Well-trained schematic action patterns (Norman, 1981) dominate here. These ready-made action programs are available in memory but must be flexibly adjusted to situationally defined parameters. Examples are the process of buying and selling — highly overlearned actions that require some input from the situation (such as what the customer seems to want) but that do not need a high amount of conscious attention. Perceptual processes of action signals are important here (Ackerman, 1988; Hacker, 1998). Similarly, dealing with employees is often regulated on this level of regulation. That means only few parts of the processes are conscious; however, the owner can lift the level of action regulation into consciousness (while on the skill level, it takes effort to make a movement blueprint conscious). Signals are stimuli that trigger a certain action — for example, providing a certain sales pitch may be the result of a signal from the potential customer. With expertise and with training, formerly consciously regulated activities are regulated on this level. With further practice, regulation is delegated to the skill level of regulation.

Conscious level: This level is concerned with conscious regulation of goal oriented behavior (variously called “knowledge based”: Rasmussen, 1982; “declarative knowledge”: Anderson, 1983, “controlled”: Shiffrin and Schneider, 1977, “cognitive”: Ackerman, 1992, “intellectual level:” Hacker, 1998; Frese and Zapf, 1994, or “system 2 reasoning:”, Kahneman, 2003). While the term consciousness has had a checkered history in psychology, it seems to be a good umbrella term to mean that people are aware of how they go about a certain action (or are

aware of the important parameters of the action). Consciousness or awareness does not necessarily imply that a thought can be verbalized but consciousness can also imply an image that is held in awareness — in the sense of a vivid thought that is simulating a certain action (e.g., mental simulation: Shephard and Metzler, 1971). Conscious processing implies effort (Kahneman, 1973), it is slow, it is constrained by limited resources of the central (conscious working memory) processor (Baddeley, 1986), and works in a serial mode. This is the task-oriented level of regulation.

In the first phase of starting one's first business, most entrepreneurs have to perform many tasks for which they have no experience and no or little training. All of these tasks need to be performed on the conscious level of regulation. Because the cognitive resources are limited (working memory) and because most things need to be decided on this conscious level, there is a constant level of feeling overtaxed and working at the limits of one's cognitive apparatus. Various scholars have, therefore, suggested that entrepreneurs need to use heuristics (as cognitive shortcuts) rather than an analytical mind to regulate one's actions (Baron, 2007; Markman, 2007) — these are the issues that are regulated on the meta-cognitive level described next.

Level of metacognitive heuristics: This is a complex level of regulation, because it embraces both conscious as well as non-conscious forms of regulation. On the conscious side, the metacognitive approach is based on the knowledge people have on how they use strategies (knowledge about our cognitive regulation, cf. Brown, 1987). Moreover, people self-reflect about how they go about their actions (Brown, 1987). People often know how much they will be able to learn (Metcalf, 1993), what they do not know (Kruger and Dunning, 1999), and what kind of strategies they use (Gleitman, 1985; Weinert and Kluwe, 1987).

Metacognitive heuristics are also related to the steps of the action sequence discussed above; people have general heuristics of how they set goals, get information, plan, monitor, and process feedback (Frese et al., 1987). These general heuristics can be processed either consciously or automatically (Brown, 1987; Flavell, 1987) and they may be highly generalized or specific. Generalized and automatic heuristics with regard

to action regulation are called action styles and function as equivalents to personality traits (Frese et al., 1987). They affect directly how we regulate actions.

For some scholars the use of heuristics implies that biases are used to make decisions. This is just one aspect of decision-making in the sense of Kahneman (2003), e.g., the anchor effect, the availability, or the representative heuristics. However, heuristics is a much broader term that means that we use general approaches; they can result in cognitive biases or they can result in correct actions — something all cognitive theoreticians agree on (Polya, 1945).

The highest level — the metalevel — is usually not activated when we work on routine tasks with known solutions. Since routine tasks dominate our working life, we are usually not thinking on this metalevel. Since life goals, moral issues, or general procedures of how we deal with things, are regulated on this level, we are usually not aware of it in our everyday activities.

Active actions and the levels of regulation: Routines are developed when the environment is redundant and when satisfactory results can be achieved with routines (Ouellette and Wood, 1998). With practice, automatization is achieved (an overlearning process). Experts have more routines than novices. Therefore, it is not surprising that experts do not think about their goals a lot (because they are part of a routine), they do not consciously plan as much as novices and they think more holistically — similar results appeared in entrepreneurs (Dew et al., 2009) as well as in expert software developers (Sonnentag, 1998). Routines appear as a result of frequent use of a certain plan of action — this is not just true of sensorimotor acts but also for thoughts. The use of theories can be such a routinized skill. People react negatively when their usual routines do not work any longer. Moreover, people are motivated to re-establish the routine again.

Whenever possible, lower levels of regulation are preferred because processing on this level is less effortful and the action is smoother. Using lower levels of regulation frees up the higher levels of regulation. These high levels of regulation can then be used to find other tasks, that may either increase our enjoyment (e.g., when we have an

interesting conversation with a friend while driving a car) or that can be used to think more deeply about issues that are not currently in the foreground of our task performance. Thus, freeing up higher levels of regulation makes it possible to show active performance. First, freeing up the higher levels of regulation increases the chances to think creatively about our tasks and to develop new ideas and to start to implement them (the self-starting component of active performance). Second, this makes it possible to think of future problems and opportunities and to prepare for them now (the proactive component of active performance). Third, we may develop better strategies to protect our goals, information search, plans, monitoring, and feedback processing, etc. that guide our actions and thereby overcome barriers on the way toward a goal. Fourth, cognitive ability and qualifications allow the processing of more new information on the conscious level of regulation (cognitive ability implies that there is a higher degree of cognitive resources = larger working memory and qualifications implies skills that are regulated on lower levels of regulation) (Kyllonen and Christal, 1990); therefore qualifications and cognitive ability should, for example, increase the level of proactive planning which should increase the active performance of business owners.

Routines have a double function. On the one hand, in keeping with the concept of cognitive misery, people tend to stick to their routines. On the other hand, routines help to increase the motivation to go beyond routines. People have a tendency to employ their routines even against a certain amount of environmental pressure. This goes for thought routines (e.g., using a certain theory and keeping this theory even when there are actually better alternatives available or doing things according to a prescription that one has always used) as well as for sensorimotor routines (e.g., entrepreneurs are likely to use a certain approach to selling that is kept up even though better alternatives are available). Therefore, entrepreneurs who have done well in the past may have problems, when the environment changes, when continuous improvement is necessary, when innovations have to be speedily implemented (e.g., “not-invented-here-syndrome”), or when team composition is changed quickly (e.g., in project work) (Audia et al., 2000).

On the other hand, if a person is only routine driven (thus, the higher levels of regulation are underoccupied), boredom ensues. However, boredom does not necessarily lead to higher level processing on a particular task. Rather the higher levels are then in search of some other tasks. This may lead to day-dreaming or to radical and innovative changes (e.g., starting a new company).

4.3 The Focus: Task, Social, and Self

All actions are situated that means they are responding to the situation, they take up situational cues, they deal with situations, they are adjusted to situational requirements, and they attempt to stamp the effects of the action on the situation (Johnson et al., 2006; Suchman, 1985). There are three general classes of situational characteristics that can be differentiated; these constitute three foci of performance — the task context, the social context, and the self.

4.3.1 The Task as Focus of Regulation

The task at hand is the major focus of regulation — the task may be a social task (e.g., persuading a customer to buy a product), a creative task (thinking of alternative marketing approaches), or a specific task at hand (giving the correct change back). The task focus is of obvious importance and any diversion from the task probably leads to lower success. An interesting finding in the expertise literature shows that experts and non-experts alike may get diverted from the task, but experts are more quickly task oriented again than non-experts (Sonentag, 1998). As described in Table 3.1, the entrepreneurs need to set themselves the task to be long-term oriented (proactive), self-starting, and persistent.

4.3.2 The Social Context as Focus of Regulation

Most tasks are done within a social setting (even if done alone, a social entity may still be the focus) — this is particularly true of entrepreneurship that is oriented toward the market. Therefore, next to the task the social environment needs to be focused on as well. If the social context

is the only focus and becomes more important than the task, people cannot finish tasks and, therefore, will be ineffective. However, if there is no social focus at all, tasks become insular and people again are ineffective in the social environment. Thus, there needs to be a healthy balance between these two foci. Entrepreneurship is a social endeavor — as a matter of fact, starting an organization is per se a social endeavor because it implies that other people are involved. Therefore, to be successful, entrepreneurs have to regulate the social contexts of task performance. I shall show later that entrepreneurs can also be active toward the social environment.

4.3.3 The Self as the Focus of Regulation

High performance requires regulating oneself effectively — self-management (including personality management), self-efficacy, and switching from self to task. Whenever, attention is turned to a higher level of regulation, the self-system is potentially implicated (Carver and Scheier, 1982). This is particularly so after failure (Mikulincer, 1989).

Self-management implies that the own self is managed and regulated. This implies that one knows one's weaknesses and works consciously (and with time automatically) against them and that one knows one's strengths and capitalizes upon them. Self-management also implies some meta cognitive questions: Which long range goals does an entrepreneur pursue? What kind of approaches does he or she typically take? What has gone wrong and why and what has gone right and why?

The self-system is regulated on the metalevel. However, attending to the self implies often that one is consciously thinking about whether or not one is doing well. Reflection on the self is, therefore, an additional load on the working memory. Thus, attention to the self may lead to improvements of performance in an easy task but, at least in the short term, to a reduction of achievement in a difficult task (Mikulincer et al., 1991).

5

Characteristics of Active Performance and Entrepreneurial Success

Figure 5.1 describes characteristics of active performance and asks the question, how they are related to success (and how personality may play an additional role). Also, I assume that active performance may influence the environment and is in turn influenced by the environment. In addition, I postulate two moderator effects of personality and of environment — each time as moderators of the relationship between active performance and success.

5.1 Active Goals and Visions

I defined active performance as being self-started, proactive, and persistent. This implies that those goals and visions will be called active if there are self-set (instead of assigned or expected), if they are long-term (in the sense of proactivity), and if they imply that one should not give up a goal in case of problems (persistent).

To my knowledge, there are no studies that directly examine all of these factors. However, there are some approximations: First, a growth goal should be of more long term and a more proactive form of a goal than a non-growth goal. Indeed, growth visions have been shown to

be related to organizational performance (Baum et al., 1998). Growth goals also have an impact longitudinally on employment and sales growth of small companies (Delmar and Wiklund, 2008). In another study, there is no direct effect, but an interaction effect. Growth goals had an impact only when a number of goals by the entrepreneurs are characterized by high goal specificity (which follows from goal setting theory by Locke and Latham 2002) and when these goals are long term rather than short term (Krebber et al., 2009). These empirical data approximate what follows from an active goal setting concept. However, we should be careful to acknowledge that there can be other active goal pursuit than the goal to grow the firm in small business (Wiklund et al., 2003).

5.2 Entrepreneurial Orientation

The second active performance characteristics described in Figure 5.1 is entrepreneurial orientation which is a central predictor for start-up

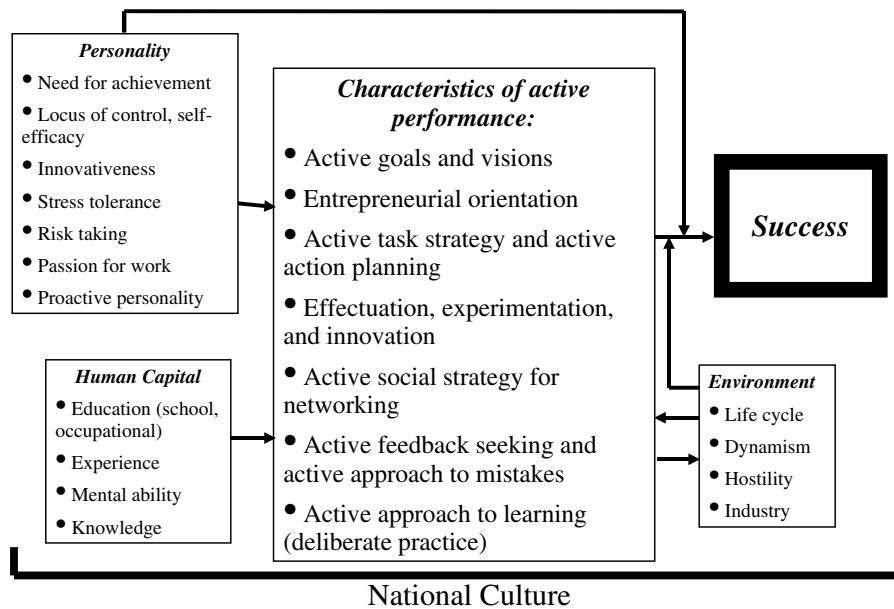


Fig. 5.1 Model: Active performance characteristics and entrepreneurial success.

activities and for firm success Lumpkin and Dess (1996) with a long tradition in the field of entrepreneurship (Miller and Friesen, 1982). Entrepreneurial orientation is an omnibus variable as it includes a number of different constructs. Some of the single constructs will be re-discussed again in our review of the field, e.g., proactivity. Lumpkin and Dess (1996) summarized entrepreneurial orientation to consist of five dimensions: Autonomy, innovativeness, risk taking, competitive aggressiveness, and pro-activeness. Entrepreneurial orientation is related to our concept of active performance. Autonomy implies to being self-directed when pursuing opportunities. An autonomous person acts independently and makes decisions in spite of constraints — it is clearly a concept related to the above developed concept of active performance. Innovativeness refers to developing new ideas (on products, services, and processes). Although, innovativeness is not the same as being self-starting, there is a relationship between these two concepts. New ideas are an important aspect of being self-starting, because to be self-starting is the opposite of imitating what others are doing. Risk taking implies to venture into the unknown, to commit one's assets to the business, and to borrow money. Risk taking is the only variable not being related to active performance; although one could argue that there is a certain risk when active performance is taken because it usually implies that one ventures into some kind of unknown and usually there will be some kind of negative reaction of the environment when changes are suggested. Competitive aggressiveness implies to make it difficult for competitors to enter the same market and to attempt to outperform one's competitors. A proactive person takes the initiative to actively exploit market opportunities.

In contrast to all other constructs to be discussed in this monograph, entrepreneurial orientation is a construct that uses the referent "firm" and not the individual; thus, questions are related to whether the firm is entrepreneurially oriented or not (compare Chan, 1998 on different ways to develop scales). Nevertheless, I tend to think of entrepreneurial orientation as a psychological concept (in spite of many entrepreneurship researchers). The reasons are: First, most of the time only one high manager (e.g., the CEO) of the firm is asked about entrepreneurial orientation. Thus, entrepreneurial orientation is about

managers' perceptions of his or her firm. Second, the most likely implicit referent of entrepreneurial orientation is not really the firm but the culture or climate of the firm — a typical variable of organizational psychology.

Entrepreneurial orientation has been shown to be highly and relatively consistently related to organizational success in a meta-analysis (Rauch et al., in press); for example the meta-analytic correlation is 0.273 for micro-businesses. There have been attempts to make the concept more psychological in the sense of an individual action orientation (with the individual as the referent) and this too has been shown to be related to firm success in two cross-sectional studies (Koop et al., 2000; Krauss et al., 2005). Additionally, an interaction between the environment and entrepreneurial orientation has been shown as well, as posited in Figure 5.1: In a difficult environment (characterized by high complexity, hostility, and uncertainty) there is a high relationship between entrepreneurial orientation and firm success while in the non-difficult environment, this relationship does not exist (Frese et al., 2002).

5.3 Active Task Strategy and Active Action Planning

We discussed the importance of planning to overcome uncertainty and by actively influencing the environment rather than by only reacting to the environment. This is an area that has been central to the action theory paradigm in entrepreneurship research. Therefore, we have done a number of studies in this area (Frese et al., 2000). Action theory (see above) argues that a plan is a bridge between goals (intention) and action (Miller et al., 1960). Plans can take the form of conscious or non-conscious (automatized or routinized) plans. In the following we are primarily interested in conscious plans because they refer to new and important situations. These plans are steps toward important goals to be reached within a few months or a year, for example, buying or building a new relatively expensive machine (or in our studies in Africa building a roof for an open-air auto-repair shop). From an action theory perspective conscious plans are mental simulations of actions (*Probe handlung*) that are used to control actions; plans make it possible to anticipate the action environment and action parameters;

planning requires a certain analysis of the situation and decisions on how to proceed to achieve a goal (Hacker, 1992). Experimental research has demonstrated that specific plans on the when and where of actions convert goals into actions (Gollwitzer, 1996).

Plans can be differentiated according to the degree of detail and the degree of proactiveness (Frese and Zapf, 1994). The degree of detail may vary from an elaborate, detailed, and specific plan to one that is very general and does not specify steps to achieve the goals in any detail. One aspect of detailed planning is that one also thinks about contingencies or a plan B if one plan does not work out. The proactiveness dimension of planning may go from reactive to proactive (Hacker, 1992). A reactive planning implies that owners react to environmental signals that tell them what needs to be done at this point (e.g., paying when the supply arrives). Thus, for a reactive approach to tasks, a kind of stimulus–response model is adequate — once there is a stimulus, the response follows. These stimuli may be objective facts, such as receiving a bill or that a machine breaks down or they may lie in the social environment, e.g., if competitors do things in a different way (e.g., adding a product to their range of products offered or changing the way they produce their products). In contrast, proactive planning implies that owners determine their environment to a certain extent by anticipating future demands and preparing now to meet them later. For example, establishing one’s firm in a market niche is a change in the environment.

This also goes for opportunities — a proactive approach implies that one anticipates potential opportunities and is prepared to take advantage of them when they appear. Both preparatory as well as preventive activities are stimulated by a proactive planning process (Hacker, 1998). Therefore, the proactiveness dimension and the time dimension are highly related — the more owners’ mental simulations reach into the future, the more proactive is their approach. People who are focused on the long term also tend to develop more elaborate plans because there are more potential issues and signals to be considered. Therefore, the scope of anticipation is working to increase both the detailedness and the proactiveness of planning. Action theory argued and empirically demonstrated that very good employees (from blue collar worker

to software developers) showed higher performance as a result of their proactive and elaborate planning (Hacker, 1992).

Elaborate and proactive plans are based on a broad and deep mental model of the tasks to be done which includes a large inventory of potential signals (Hacker, 1992). Signals tell the actor whether it is useful to implement a plan, and they also indicate future difficulties and opportunities. For example, the owner anticipates potential errors and, therefore, develops back-up plans in case something goes wrong. Elaborate planning does *not* mean, however, that *all* important parameters are planned out in detail; rather it implies that several important parameters of reaching the goal are, at least briefly, considered. The advantages of elaborate and proactive planning are that these plans proactively structure the situation, lead to good knowledge of important environmental signals and feedback, help to interpret the situation adequately, and thus prepare the owner in case unexpected problems arise. However, elaborate planning also entails costs. Planning takes time, and the psychological investments in planning may increase the tendency to stick to plans developed earlier even if they are no longer adequate.

Action theory suggests and experimental research showed that elaborate and proactive planning helps people to be successful, because plans increases the likelihood that people get started by translating their goals into actions and by mobilizing extra effort (Gollwitzer, 1996), by amplifying persistence or decreasing distraction (Diefendorff and Lord, 2004), by reducing load during actions because some parts of the actions have been planned beforehand (actions will, therefore, run more smoothly), by motivating people to deal with additional problems, and preparing them to have a ready-made answer if something goes wrong. Elaborate and proactive planning allows the person to cope with the inherent insecurities of being a business owner by making good use of scarce resources. Planning helps a person to stay on track and ensures that the goal is not lost or forgotten (Locke and Latham, 2002) and makes the premature triggering of an action less likely (Kuhl and Kazen, 1999). In addition, the proactiveness of the plan increases exploration and allows the person to learn better (Bruner, 1966) which improves the mental model of the situation and one's own

action possibilities. A proactive plan produces better knowledge on contingency conditions and time allocation to tasks, and leads to a clearer focus on priorities (Tripoli, 1998); and it also allows the people to explore new strategies and to quickly retract if things do not work out; consequently, knowledge of boundary conditions of one's explanatory concepts is enhanced.

The opposite side of the dimension of proactive and elaborate planning implies that actions are not regulated by elaborate plans but only by a very general idea of how to act; therefore, actions are regulated on the spot during the course of acting; this leads to a higher reliance on external conditions and signals which determine the action to a much higher extent than when there is a well-developed plan of action — thus, people react to the situation rather than act upon the situation. Therefore, we call this end of the dimension “reactive.” Owners with reactive approaches are driven by the immediate situational demands; they are dependent on others; this may mean that owners copy their competitors' products that they follow a consultant's advice word by word or that they wait for their suppliers, customers, or distributors to tell them what to do next. If people are reactive and non-planning, they do not change conditions. Empirically, studies show that a reactive approach contributes negatively to entrepreneurial success (Frese et al., 2000; Van Gelderen et al., 2000). At the level of the firm, reactive companies reach the market too late (Lieberman and Montgomery, 1998).

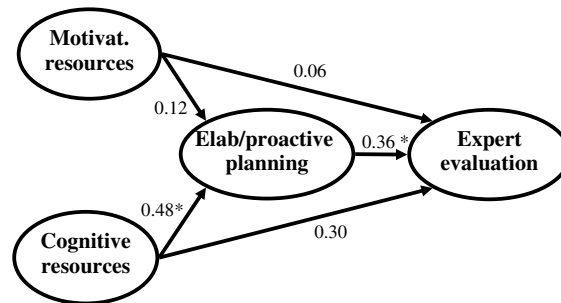
Action theory and resource allocation theory argue that resources of energy, motivation, knowledge, and working memory are needed to develop elaborate and proactive plans (Kanfer and Ackerman, 1989). Motivational (self-efficacy, internal locus of control, achievement motivation, and self-reported personal initiative) and cognitive resources (cognitive ability and knowledge) are related to success via proactive and elaborate plans as mediators. In addition, *cognitive ability* is related to working memory Kyllonen and Christal (1990). Elaborate and proactive conscious planning is complex and complexity increases the need for cognitive resources (Kanfer and Ackerman, 1989). Given high complexity, high cognitive resources contribute to better planning, including thinking about more relevant issues and about the

relationships between these issues. The opposite to elaborate and proactive planning — a reactive approach — does not require holding many concepts in working memory because the relevant action cues are taken directly from the environment. The same arguments as for cognitive ability also hold for *human capital* (skills and knowledge). A high degree of skills implies that a person has ready-made routinized responses available (Frese and Zapf, 1994) and, therefore, needs less processing capacity (Kahneman, 1973). This frees up cognitive resources that are then available to develop elaborate and proactive plans to achieve goals.

Elaborate and proactive planning requires energy and direction which are related to feasibility and desirability. People have to know that they are able to achieve something and that they want to achieve something before they invest in elaborate and proactive planning. Therefore, those motivational traits (Kanfer and Heggstad, 1997) be related to entrepreneurial success, such as internal locus of control, self-efficacy, achievement motivation, and proactive personality (Rauch and Frese, 2000, 2007) should also be related to elaborate and proactive planning. *Internal locus of control* (Rotter, 1972) implies that people think of themselves to be masters of their own fate and that they are able to achieve desired outcomes. An internal locus of control should lead to more elaborate and proactive planning because it makes sense to be proactive and to plan one's actions, if one is the master of one's fate (Skinner, 1997). An internal locus of control should lead to higher entrepreneurial performance because entrepreneurship requires to be self-motivated and not to wait for others to tell what one should do. *Self-efficacy* refers to the belief that one is able to competently perform actions (Bandura, 1997). The feeling of competence makes it more useful to develop elaborate and proactive plans (or lack of competence leads to less elaborate and proactive planning, because one does not have control over one's own actions). Self-efficacy has been shown to contribute to performance in various domains (Stajkovic and Luthans, 1998). Achievement motivation and proactive personality relate to the desire to develop proactive plans not suggested by others and to change the environment. *Achievement motivation* implies that people want to have an impact and that they do not give up easily (McClelland, 1961) and, therefore, develop proactive plans. It is a resource that guards a

person from switching tasks. *Proactive personality* makes proactive and elaborate planning desirable; moreover, proactive personality is related to entrepreneurial success (Crant, 1995).

Results tend to support the theory — for example, in three African samples (Frese et al., 2007) and various others studies (Frese et al., 2000; Keyser et al., 2000; van Steekelenburg et al., 2000). These results are schematically shown in Figure 5.2 (data taken from Frese, 2007). In this case, we used so-called hive managers to estimate how successful the firms would be. Hive managers are managers of a large set of “garages” which are rented out to micro and small business owners in South Africa. The hive managers usually know quite well, whether the individual firms are doing well or not. Therefore, this is a meaningful dependent variable in a setting in which very few owners keep adequate books on their profitability. The results also show that elaborate and proactive planning is a mediator between the cognitive resources (cognitive ability and qualifications); motivational resources (proactive personality, self-efficacy, need for achievement, internal locus of control) were not significantly related to either the dependent variable (hive managers’ estimate of success) or the mediator variables (elaborate and proactive planning). However, other studies tend to find motivational components to be important factors of success (Baum and Locke, 2004; Baum et al., 2001); therefore, I suggest keeping such variables in the equation.



Based on Frese et al. (2007)

Fig. 5.2 Elaborate and proactive planning as mediator: Results form South Africa (dependent variable expert evaluation).

Two studies have examined the issues around proactive planning within a longitudinal design (Escher et al., 2002; Krauss et al., 2009, in preparation; Van Gelderen et al., 2000). The overall results showed that proactive and elaborate planning is related to success. This is true of Western countries, such as Germany (Utsch and Rauch, 2000; Zempel, 1999), in the Netherlands (Van Gelderen et al., 2000), as well as in various African countries (Frese et al., 2007). Moreover, active planning is a mediator between cognitive capacity and human capital on the one hand and success on the other hand (Frese et al., 2007).

5.4 Effectuation, Improvization, and Experimentation

In entrepreneurship research to be active is often equated with experimentation — that is the attempt to try things out and keep what works and this is often contrasted with structured processes, particularly planning. At times, some authors even equate trial and error with experimentation (e.g., Piero Formica, the Dean, International Entrepreneurship Academy and Professor of Economics, International Business School, Jönköping University, Sweden <http://www.paradiso-fp7.eu/documents/PieroFormica.pdf>). Nothing could be more wrong — trial and error means, as the name implies, trying anything and then keeping what gets reinforced by the outside world. However, successful entrepreneurs do not randomly try anything, in contrast, they do the opposite of trial and errors, namely purposeful and goal directed experimentation. This means that they develop hypotheses on potential action paths (what might work?), they try them out hopefully in an environment, in which it is safe to fail (Sitkin, 1992). They know what constitutes success in an experiment and what constitutes failure only because they had thought about the experiment beforehand. The process of thinking things through is planning in the sense discussed above. Without planning entrepreneurs would not know whether they had been successful or not, because they would not know what constitutes success. In detailed studies, we found that trial and error leads to much lower learning than when people had considered what they would explore (van der Linden et al., 2003a, 2001). Thinking and developing reasonable hypotheses is, therefore, a prerequisite

before one can explore a situation well and do experiments on them. Any experimental scientist knows that a lot of planning goes into experimentation. However, any experimental scientist also knows that it is necessary to develop new procedure when a first experiment did not work out — thus, experimentation is done when the outcome of the experiment is not certain. Entrepreneurs often do not know the exact outcome of their actions beforehand; therefore, experimentation is necessary and requires planning for it.

One way to think of experimentation is the concept of effectuation by Sarasvathy (2001). Effectuation implies that a would-entrepreneur attempts to achieve the best combination of what one has available (skills, money, material, access to market, and other resources). Once he or she perceives some success in the market, further steps are done to accomplish further market success. In many ways, this is an active process of “shaping” whereby in contrast to the behaviorist (Skinner, 1953) concept of shaping, it is not the active environment that shapes the behavior, but the person actively explores to find better and better ways to accessing markets for potential new products, services, etc. that are within the realm of possibilities of the entrepreneur (Dew et al., 2009). I think of this concept to constitute a highly useful addition to the more traditional concept of having a clear product or service goal in mind which is then pursued. Clearly, effectuation is also an active process; effectuation does not mean that there are no goals, standards, and plans. Again, entrepreneurs need some kind of ideas of what they want to achieve, some standards and goals by which they determine that they are achieving something, etc. Thus, the same nomenclature of the action theory above applies here.

A somewhat similar concept is bricolage (Baker et al., 2003) — “a construct frequently used to describe the resource set invoked by improvisation” (p. 256). The description of bricolage implies that there were happy circumstances — a certain degree of wanting to change jobs and some opportunities appearing — that were taken as the starting point of founding a firm (Baker et al., 2003). Thus, in such a case, the start-up process is opportunistic — a quick change of jobs in which the environment (customers, old company, etc.) seemed to suggest that founding was the best option. Founding was usually done within a few

weeks rather than as an extended period of time that one has in mind when thinking of the start-up process. There was clearly not a long rang planning process happening at the point of founding the firm, but that does not mean that the behavior was accidental or by trial and error. Rather, the founders already had well-developed strategies.

The debate on whether planning is useful rages also in strategy research (Bhide, 1994; Mintzberg, 1991). This may be surprising given the fact that meta-analytic evidence supports business planning to be clearly related to success (Miller and Cardinal, 1994). However, unlike the small entrepreneurship studies that examined informal planning done by the entrepreneurs themselves, strategic planning is often done on the firm level and in larger firms; specific staff members have the task to determine the “right” strategy and the “right” approach for the whole company. Since these formal and well-developed business plans are then pushed into the company with bureaucratic means, they can be described as antidotes to exploration and experimenting because local adaptation in the company is not allowed within this framework.

Business plan are also developed by small-scale business owners. They are needed to get financing from banks and business angels (and in this way, producing one leads to higher business success than not producing any) but its function may not be directly related to success (Honig, 2004). Writing a business plan is often even outsourced and consultants may develop one for the business owner. The process view favored by psychology can help here: rather than just examining the business plan as a product, the behaviors of the actors involved need to be examined. A detailed behavioral analysis of the business owners’ planning is probably much better to understand the functionality of the business plan than the business plan itself. Planning behavior may be of particularly importance for business owners; however, the owner should not stick to the formal business plan no matter what or assume that because so much time and work went into planning that no more experimentation has to be done. Planning can lead to procrastination and, thus, a very high degree of planning can be counterproductive. In contrast, having planned things out once may help the owner to develop a better understanding of the issue that needs to be taken care

of and produce a better exploration of the environment. In the normal business environment, there are very few business people who plan for too many eventualities, because the tasks of the business owner is so varied that people quickly stop overplanning if they ever had a tendency to do that. When it comes to real behavior of existing business people, I maintain that behavioral planning is necessary for success, and more than that, planning is necessary for experimenting.

Obviously behavioral planning does not mean that owners should spend a high amount of time before they can start to act. For example, owners who use elaborate and proactive planning do not need a complete blueprint mapped out in their heads (or on paper) before they start to act. The process is much less structured than that (cf. Frese and Zapf, 1994): People often redevelop plans because some actions did not work out; they often develop plans on the spot, and often people change their well-developed plans as a result of feedback. Planning helps the owners to prepare their actions, to quickly realize whether they are on the wrong track, to have alternative ideas on hand (plan B) when things do not work out, and finally, to interpret feedback better because they have a notion of what feedback to expect. An additional reason for combining planning with action orientation and experimentation is the fact that planning can sometimes be used as a tool to procrastinate and to avoid actions (van Eerde, 2000). Thus, it is well possible that owners plan too much and too long. What most scholars who attack planning as too cumbersome mean, however, is much more related to the issue of how to deal with errors — this will be discussed in Section 5.6.

5.5 Active Social Strategy for Networking

The same reasoning that I have used for active action planning also applies for active social strategies for networking. There is a large literature that suggests that entrepreneurial success is increased by better and larger social networks (Hoang and Antoncic, 2003; Johannisson, 2002). Social networks can mean many things, such as network quality, network structure, etc. One of the more robust indicators of networks

is network size as the number of people whom the business owners know. Entrepreneurs, as active agents, will also develop their networks if they find the networks to be useful in their endeavors (Batjargal, 2006; Johannisson, 2002).

In a recent study (Zhao et al., 2009, in press), we developed as a central concept comprehensive social competency, which consists of three variables: social skills, actively enhancing and broadening networks and manipulating the social environment in one's interests (proactive and elaborate social strategies), and overcoming difficulties when there are problems to achieve social goals (relational perseverance). Comprehensive social competency was then related to network size and to entrepreneurial success. We performed this study in China, because social relations are of particular importance in China, as is suggested by the concept of *Guanxi* (which is a special relationship between people in China). Social networks are important in collectivistic societies and China is high in collectivism (Gelfand et al., 2004); they are also important in societies in which institutions are not yet well developed (Xin and Pearce, 1996).

The empirical results demonstrate that, indeed, *guanxi* (operationalized as network size) is an effective mediator between comprehensive social competency and entrepreneurial success. The central concept for comprehensive social competency is proactvitiy, vigor in pursuing social networks and in overcoming barriers. However, the effects were related only to *guanxi* toward government officials; additionally, the effects of *guanxi* are more important in a smaller rural area than in metropolitan Beijing. The most important finding for the context of our theoretical description of entrepreneurship here is the relationship between an active approach to developing networks (proactive and elaborate social strategies and relational perseverance) with the success of the owners' firms. The relationships were between $r = 0.24$ and 0.36 in Beijing and between $r = 0.25$ and 0.65 in the rural area. These high relationships are reproduced in regression analyses as well, in which a number of control variables were added. Thus, active task performance and active social approaches are both useful for entrepreneurs in the quest for success.

5.6 Active Feedback Seeking and Active Approach to Mistakes

One prerequisite of active performance is a positive or neutral attitude toward errors. The more one deals with the environment in an active way, the more there is some likelihood that one also makes some errors. Those who anticipate errors and are very much afraid of them, are often stifled in an active performance approach. Errors are the results of non-intended actions that contribute to not achieving a goal. Thus, error feedback is negative feedback *par excellence*. Errors appear more frequently in complex environment; entrepreneurship is done in complex environment, partly because there is no complete preparation for entrepreneurship and partly because entrepreneurship deals with new products, services, etc. in an uncertain context. Therefore, one cannot completely prepare for entrepreneurship and entrepreneurs are bound to make many errors. The more the active owners are, the more errors they will make. Thus, error learning should be important for entrepreneurs.

Active goal setting, active approach to understanding the situation, active planning, and finally active feedback seeking are parts of an active action sequence. Active feedback seeking has been shown to be important for performance in various domains Ashford and Black (1996). Active feedback seeking of managers has also been shown to be related to organizational performance Daft et al. (1988). Thus, it follows from action theory to develop an active way to deal with errors.

The usual approach to errors is to attempt to prevent them. However, in a complex environment, attempting to prevent errors may not be the most effective or efficient approach because it may lead to procrastination. Attempting to prevent all errors beforehand, reduces the chances to be active because too much time is lost deliberating. An alternative and a complement to error prevention is the strategy of error management (Frese, 1991; van Dyck et al., 2005). In error management, people expect that errors can occur. Once they appear, one deals with them in such a way that negative error consequences are minimized. Moreover, since errors are ubiquitous, an error management strategy is needed, at least as a complement to error prevention

(Frese, 1991; Keith and Frese, 2008). Indeed, a pure error prevention approach may reduce active performance. Empirical data show that error management strategies produce more active performance than purely error preventing approaches (Frese et al., in preparation).

Similarly, the way entrepreneurs perceive errors and how they deal with them is related to their firms' performance. Individual learning orientation (learning from errors, being competent to deal with errors, action orientation when confronted with errors) was related to entrepreneurial success in a Germany study (Goebel, 1998). There is more evidence on an organizational culture level. Mid-sized companies in Germany and in the Netherlands that had a culture of error management culture clearly showed a higher degree of organizational performance (van Dyck et al., 2005). In another study, the relationship between error management culture and organizational innovativeness was shown (Frese et al., 2009).

Why do we think of error management orientation to be an active form of dealing with feedback? In a set of further studies, we have examined how people learn from errors. One factor that appears consistently in the studies is that people have to be encouraged to learn actively from the error (Keith and Frese, 2008). Thus, error management training produces a higher degree of metacognition so that people develop hypotheses of how they can deal with the errors and learn from testing these ideas (Keith and Frese, 2005; van der Linden et al., 2001). In addition, empirical research has shown that the error management training is effective because it enhances active emotional control of negative emotions that often accompany errors (Keith and Frese, 2005). Dealing with these emotions is related to protecting the action steps of active performance as described in Table 3.1. Thus, action theory suggests an active form of dealing with errors rather than using a trial and error procedure or becoming helpless toward the errors.

5.7 Active Approach to Learning (Deliberate Practice)

I already talked about an active approach to learning from errors in the last paragraph. Generalizing from these remarks, we can ask the question, how an active approach to learning is structured and whether it

has a positive effect on entrepreneurial success. The concept of deliberate practice can help here. Deliberate practice consists of individualized self-regulated and effortful activities aimed at improving one's current performance level — this implies that there is a high degree of effort and that a person attempts to deeply think and deeply practice those aspects of skills that are particularly important for high expertise (Ericsson et al., 1993; Unger et al., 2009b). Empirical work on entrepreneurs in South Africa and Germany have shown that deliberate practice is, indeed, predictive of entrepreneurial success (Unger et al., 2009a,b).

5.8 Active Approach in Personality

Figure 5.1 includes personality factors (and human capital factors — the latter I shall not discuss here; they are just mentioned for completeness). Some personality factors are more active than others. I have only included the most active forms of personality in Figure 5.1. The personality approach to entrepreneurship has been criticized in the entrepreneurship literature with the following arguments (Aldrich and Widenmayer, 1993; Gartner, 1989): Entrepreneurship requires a high variety of behaviors; therefore, specific personality traits are not related to entrepreneurial success; personality traits are not strongly enough related to entrepreneurship to warrant further studies; and alternative views, such as ecological approaches have been proposed that concentrate on environmental accounts. These arguments were quite effective and led to the dominant position in entrepreneurship research that work on personality traits should be discontinued (Low and MacMillan, 1988).

A meta-analysis was performed on the most frequently suggested personality factors in entrepreneurship research (Rauch and Frese, 2007). Some active personality factors displayed in Figure 5.1 have been studied frequently in entrepreneurship research. Thus, the meta-analysis was able to test these factors. The study by Rauch and Frese (2007) also asked entrepreneurship researchers on their hypotheses which personality factors would be related to entrepreneurial success. The study found that those traits most frequently mentioned were also the ones that were the most active ones (such as self-efficacy,

proactive personality, tenacity, need for achievement, stress tolerance). The highest correlations to starting an organization and organizational success were with the personality factors of (generalized) self-efficacy, proactive personality, innovativeness, need for achievement: internal locus of control and stress tolerance were also important to some extent. Risk taking was less highly correlated with starting an organization or with entrepreneurial success than the other personality factors. There are also some personality factors that could not be included in the meta-analyses because they have not been studied often enough — these newer concepts, such as passion for work, are also related to active performance (Baum and Locke, 2004).

6

Interventions: Training

The real proof of our theory is whether field interventions that produce a higher degree of active performance leads to improved chances of entrepreneurial success in the market. As long as most of the empirical work rests on cross-sectional studies, only a true experimental field study can convince the skeptic that active performance is a central variable for entrepreneurship.

Therefore interventions are needed that change entrepreneurs' performance to become more active; this should have positive long-term effects on firms' success. Active performance is one instance of personal initiative (Frese and Fay, 2001); therefore, we developed personal initiative trainings for business owners. Such a training is the "proof of the pudding", because if we can change personal initiative (active performance) in the entrepreneurs and this leads to changes in success, we have better evidence for such an approach.

In our earlier studies, we developed a broad-band training that was used to intervene. This type of training was highly successful in producing improved success in the business owners after the intervention (Frese et al., 2009, submitted for publication). However, these studies were not real field experiments because no randomized control

group was used (rather these two trainings were compared to with non-random assigned control groups). Thus, there is always the alternative hypothesis that those entrepreneurs who have a good trajectory to higher success also are the ones who participate in the training more frequently.

Fortunately, researchers have recently improved the intervention method and the methodological approach. Glaub et al. (2009) zeroed in on personal initiative and trained only active performance approaches; the theory for the intervention was essentially based on what I have described in this chapter. An example is that people were trained to develop active goal setting, active information search, active planning, and active feedback seeking (along the lines of Table 3.1). Moreover, the study was a true randomized controlled experiment. This research showed the best results up of all of our studies: The 3-day training course changed the personal initiative of the Africa entrepreneurs significantly and the training group became much more successful than the control group (Glaub et al., 2009). In addition, personal initiative was the effective mediator — thus, showing that the theoretically developed construct of active performance is responsible for the improvement of the success of the firms of the participants in the training.

7

Conclusion

In this monograph we have suggested an action theory approach to entrepreneurship. Since actions are central to entrepreneurship, it pays off to develop a theory of action for entrepreneurship. We think that the following points are useful conclusions that may also help future research in the psychology of entrepreneurship:

- (1) The cognitive approach in entrepreneurship has been very useful; it certainly has introduced the important literature of cognitive judgments into entrepreneurship literature (including the literature on biases); however, the implicit assumption is that the entrepreneur is making judgments. I do not deny that the entrepreneur makes judgment, but I argue for the idea that the entrepreneur is acting after he or she has made a judgment. The difference between judgment and acting is that there is additional feedback and that feedback produces learning and correction into the action (and, thus, a strong degree of realism is produced again after feedback is received). This is only true, of course, if the environment provides feedback (and correct feedback) or if the entrepreneur

actively produces feedback, where there is little natural feedback (e.g., in the service industry).

- (2) One of the central tenets of an action theory is that active performance is a central factor. It follows that it should be also important for the success of business owners. Entrepreneurs are not just cognizing individuals who weigh pros and cons in their decisions — they are active performers who change their environment through their actions. However, that does not mean that cognitive factors are unimportant — they are highly important and action theory shows that they are. Cognitive factors contribute to active performance as described in Figure 5.1.
- (3) Often the literature on experimentation, bricolage, etc. has been pitted against the literature on planning. The action theory approach may explain why these concepts are not in opposition. A plan of action (i.e., a set of steps to reach a goal) is necessary to understand what is happening when experimenting and when trying out things. As a matter of fact, action theory has shown that people cannot learn at all from blind trial and error. People need a certain understanding of what they are doing which is related to planning (or in neuroscience terms “executive functions” — that is planning) in order to be able to learn (van der Linden and Eling, 2006; van der Linden et al., 2003b).
- (4) Entrepreneurship research often pits intuition against thoughtful approaches and argues that these are two different approaches that are in contrast to each other. Action theory shows that these develop from each other. When there is a certain regularity of the situation, people start to automatize their actions, and the perception of the situation becomes prototypical. Experts are usually characterized in this way. Thus, lower level regulation takes over after a certain skill has been practiced often enough. However, if a person is confronted with a new situation or if there are problems and errors in the situation, a higher degree of consciousness of regulation is useful again. Thus, there is nothing mysterious

about intuition but it is also not a better processing strategy in every area (Kahneman and Klein, 2009).

- (5) Action theory suggests that it is active performance that differentiates entrepreneurship from others and that are important predictors of success in entrepreneurship. The most important active performance characteristics are active goals, entrepreneurial orientation as a psychological entity, active action planning, active social strategy for networking, effectuation and experimentation, active feedback seeking and an active approach to mistakes and an active approach to learning.
- (6) Empirical work has by and large supported the conclusions from our action theory approach to entrepreneurship. Importantly, changing people's approach from a more passive to a more active performance approach leads to entrepreneurial success within a year (Glaub et al., 2009).

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