



SME Management: (What) Can We Learn from Entrepreneurship Theory?

Jörg Freiling

University of Bremen

Abstract. Small- and medium-sized enterprises (SMEs) are often regarded as entrepreneurship-driven. There are many reasons for this. For example, the entrepreneur as a person plays a much more vital role than in large firms and entrepreneurial spirit is not weakened by hierarchies and can more easily pervade the firm. Facing the peculiarities of SMEs, entrepreneurship theory seems to offer a lot to understand their very nature and to derive managerial implications. At present, entrepreneurship theory is not sufficiently connected with SME management and needs to be refined to respond to managerial challenges in evolutionary contexts. It is the purpose of this paper to strengthen this link. To this end, the paper scrutinizes entrepreneurship research and identifies the entrepreneurial functions as a promising stream to locate managerial challenges and to integrate them into a cohesive approach. The model rests upon the execution of the following functions which respond to particular managerial challenges: (1) the innovation function contributes to system renewal, (2) the coordination function (internally) and the market-making function (externally) make system exploitation possible, and (3) the risk management function allows for system protection. A causal model proposes that the situation-specific mix of the entrepreneurial functions explains the strategic and financial performance of small firms.

Keywords: entrepreneurship theory, entrepreneurial functions, innovation, coordination, market-making, risk management.

1. Introduction

Many contributions from management theory and strategy research remind us to consider the entrepreneurial and creative dimension of management – even in situations where SMEs are confronted with fierce and dynamic competition, complex and turbulent business environments, demanding and powerful customers, and limited resources. In fact, it is not easy for SMEs to find or develop a promising strategic path of organizational development when ordinary business seems to attract almost all available forces of the firm. Nevertheless, the innovative potential and high flexibility due to low formal complexity of the organization, closeness to the customer, independence in terms of being free from outside control, and deep impact of the owner on the business are typical attributes of small business firms – as frequently mentioned in literature (e.g., Stanworth and Curran, 1976; Storey, 1994; Beaver, 2002). It reminds us that SMEs are basically in no way powerless. Instead, there are numerous ways to shape even difficult market constellations. When searching for theoretical frameworks which address voluntarism regarding the relationship between the firm and the external

business environment, we can find some interesting approaches. For example, the resource-based view (Barney, 1991), the dynamic capability perspective (Teece et al., 1997), and the competence movement (Hamel and Prahalad, 1994) emphasize the proactive potential of the firm by referring to certain types of resources and capabilities. Their basic reasoning is well adopted in management research and is already on the way to penetrate small business management (e.g., Shepherd and Wiklund, 2005). More surprisingly, the potential of entrepreneurship theory is not well scrutinized in (small) business research so far, although it offers a rich tradition and is close to the particular challenges SMEs have to cope with. Against the mentioned background, the question arises: What can we learn from entrepreneurship theory?

Entrepreneurship is a term with different meanings. Quite frequently, entrepreneurship refers to the context of start-ups. Accordingly, entrepreneurs are those people who create a new business in uncertain environments (Zimmerer and Scarborough, 2008). Not only in the literature belonging to the stream of the economic classic, entrepreneurship can also refer to pro-active and creative behavior of people (in particular, but not necessarily owners) in any kind of firm as well. Schumpeter (1934) is one important protagonist among others of such a point of view. Henceforth, we understand entrepreneurship in exactly these terms. It belongs to the purpose of this paper to develop a more precise understanding of entrepreneurship. Before we do so, we need a basic understanding about the character of entrepreneurial behavior. Referring to the proactive nature of decision-making, the most important actions that feature entrepreneurship are (1) to go (mentally) beyond the conventional ways on how to do business and create new ones, (2) to constantly look out for ways to improve one's own business, (3) to anticipate and recognize up-and-coming developments in the business environment, (4) to identify the consequences of these developments as early and precisely as possible, (5) to take emerging business opportunities comprehensively and earlier than relevant competitors, and (6) to shape the business and the business environment according to the company's vision instead of adapting to the 'given' circumstances. Such a profile of proactive behavior reveals the creative touch of entrepreneurship. Dell Computer Corp. is a good example for entrepreneurial vision, and action for Dell in 1984 was to be able to run a start-up business in a highly competitive market with lots of strong players. Dell attained market leadership within some 15 years (!) based on a precise understanding of market developments in the near and distant future and on a constant struggle for improving the business. The above-mentioned features and this example should be kept in mind while developing a more precise understanding of entrepreneurship rooted in economic theory particularly relevant to SME management.

The paper is organized as follows: Section 2 is about a brief and structured overview of entrepreneurship theory and its development over the last centuries. The different strands of entrepreneurship research are useful to identify those that

are relevant to SME management (Section 3). This requires the uncovering of the managerial peculiarities of SMEs in more detail to recognize the relevant strands. Section 4 is about developing a refined approach of entrepreneurial functions dedicated to small business management and to position it within the scope of management and organization theory. Finally, in Section 5 a causal model is introduced as the anchor point to derive propositions from the former considerations. The model in connection with the entrepreneurial functions helps to identify priorities in SME management and to summarize the things we can learn from entrepreneurship theory (Section 6).

The *unit of the analysis* of this paper is the *firm level*. This is worth mentioning because the small business is characterized by the owner-manager (personal level), and entrepreneurship theory often deals with the action of the entrepreneur and the impact on the industry level (e.g., Schumpeter, 1934) – but not with corporate action. This paper, however, intends to clarify the managerial foci of a *firm*. Therefore, actions of single agents of the firm have to be taken into account, but they do not represent the primary unit of analysis. With regard to the organizations under scrutiny, SMEs are chosen since we can typically observe *entrepreneurial action as a root of competitiveness and corporate success* in those firms better than in big firms particularly due to the structural peculiarities (see section 3).

2. Entrepreneurship Theory in Overview

Entrepreneurship theory is not a homogenous body. We can find research streams in economic theory and in other disciplines as well (e.g., Baum et al., 2007). Among other issues, *entrepreneurship theory* addresses the question on which *functions* entrepreneurs (and entrepreneurially acting agents) have to perform to survive or to be successful in competition. The term “entrepreneur” was coined in the French language in the 17th Century and disseminated rapidly. In 1725, Cantillon, seeking to understand the very nature of commerce, wrote his seminal work on the entrepreneur as a person willing to take risks and able to manage uncertainty, which was published posthumous (Cantillon, 1755). Many follow-up publications enriched the initial thoughts in the following decades and up to now there is a considerable variety of entrepreneurial functions under discussion (Hébert and Link, 1988). There are static and dynamic functions as well. Hébert and Link (1988) differentiated among three different schools of entrepreneurship which are based on research in different countries:

- The *American School* (Chicago School) referred to the problem of managing *uncertainty* (e.g., Knight, 1921).

- Von Thünen (1826) and Schumpeter (1934) constituted and influenced the *German School*, dealing with the function of *innovation*.
- The *Austrian School* focused on disequilibria in competition, the nature of human action and stressed the need for realizing *arbitrage* profits (von Mises, 1949; Kirzner, 1973).

Although the work in other countries (e.g., U.K.: Smith, Ricardo, Mill; France: Savary, Quesnay, Turgot, Baudeau) had considerable impact on the status of entrepreneurship research and some of the researchers cannot be easily assigned to one of the more or less country-specific schools, the three schools of thought give an almost complete overview of the most important functions of the entrepreneur. The only function missing is *coordination*. In particular, Casson (1982) made important progress in this regard.

What do these and other functions tell us? First, it transpires that management will be poor in terms of performance measures as long as the execution of entrepreneurial functions is neglected or does not take place at all. If firms are confronted with complexity and turbulence and do not consider the management of uncertainty, they are more likely to fail. Second, the functional discussion tells us that it is possible to operationalize and substantiate entrepreneurship as well as entrepreneurial behavior by referring to certain functions to be executed. Third, it seems to be difficult to isolate one and only one function responding to all the challenges of management. The protagonists of entrepreneurship theory considered this problem. Some drew the conclusion to point to a focused function. Others favored a certain compound of entrepreneurial sub-functions that are integrated into a cohesive meta-function. Studying the literature on entrepreneurship theory reveals that the concepts differ significantly by the chosen focus (Freiling, 2006):

- There are *mono-functional approaches* with one function to be executed to be successful. Kirzner's (1973) arbitrage function belongs to this category.
- *Meta-functional approaches* indicate that in case of alertly blending sub-functions, entrepreneurs and their firms are in a position to attain their performance goals. Schumpeter's (1934) innovation function consists of product, process, organization, purchasing, and marketing innovations. Casson (1982) deals with the coordination function and argues that the coordination process is made up of (1) taking the opportunities of coordination, (2) making judgmental decisions, and (3) market-making. It turns out that in both concepts all the assets of a firm can contribute to executing the respective meta-functions.

- *Multi-functional approaches* go one step further and respond to the problems of overloading an entrepreneurial function with (almost) all the managerial challenges – be it a mono-function or a meta-function. Since these approaches did not play any important role in earlier discussions, it is worth the effort to introduce the particular reasoning in more detail.

Schneider (1987) was one of the first protagonists of this research stream and developed a system of different inter-related functions. He argued that the execution of them ensures the organization's competitiveness. It is important to state that performing the functions is by no means restricted to a single person. Instead, it is up to the company as a whole to manage the execution process. Moreover, every person in the firm has at least some discretion to contribute to the execution of entrepreneurial functions. Schneider argued that there is one function which is necessary to set up a firm: the function of entrepreneurs to take other persons' risks of income. Taking and managing risks as a function is not restricted to the start-up of a venture but is important in later phases as well. However, there are two additional functions coming into play to ensure the firm's existence. The arbitrage function, well-known from Kirzner (1973), is required to keep the firm's competitiveness in the outer context (in particular in market processes). To maintain the firm's responsiveness and ability to act, performing another function is important as to the inner context of the firm: the implementation of change in leadership against internal resistance. The latter corresponds to some of the coordination issues raised by Casson (1982).

Such an approach is useful in order to structure and understand the multitude of managerial challenges and stresses the necessity of alignments while executing these functions. Accordingly, a low degree of execution of the functions and a bad alignment explain failure in competition. Entrepreneurship theory in terms of these entrepreneurial functions takes economic development into account and scrutinizes how entrepreneurial decisions form an organizational path. Developments of internal and external conditions are considered so that a co-evolutionary angle is applied. However, to capitalize on the findings the following questions are raised: What do entrepreneurial functions tell us about the management of SMEs? What are the strands of entrepreneurship research which fit to the particular profile of SMEs?

3. Entrepreneurial Functions and SME Management

Considering the fact that about 98% of all companies belong to the small business sector, it is not easy to outline features of the general kind. However, there are indeed some typical characteristics mentioned in literature which are relevant to

describe the nature of SMEs and their peculiarities (e.g., Jennings and Beaver, 1997):

- *Structural peculiarities of coordination.* Due to the smallness of the firm the degree of structural complexity is low. Extensive hierarchies are often not required since the management can often easily overlook and, therefore, control the whole business. The design of the business processes is lean since administrative back-up is only required to a limited extent. Thus, the (structural) flexibility is usually higher compared to larger firms. This high degree of flexibility causes the typical coordination advantages of SMEs.
- *Managerial peculiarities of coordination.* Small business is particularly characterized by the influence of owner-managers. The management process is, therefore, to a large extent personalized (Storey, 1994; Beaver, 2002) and dependent on the entrepreneurs' dominant logic (Prahalad and Bettis, 1986). The low degree of structural complexity allows them to control and steer the whole organization or at least considerable parts of it. Compared to large organizations, formal planning procedures are not so much required. This does not mean that planning does not take place. However, it is practiced more implicitly which is typically more effective in such settings. Facing the considerable impact of the owner-managers on the management process, entrepreneurship is much more dependent on single persons compared to larger companies. As a consequence, many of the findings from those parts of entrepreneurship theory which refer to single persons (e.g., the entrepreneurial traits school, see Low and MacMillan, 1988; Gartner, 1989) can easily be transferred to SMEs. Against this background, owner-managers play a key role in SMEs and, at the same time, have to respond professionally to a broad range of different managerial challenges. This leads not only to managerial bottlenecks but sometimes to a lack of specialized knowledge since the financial constraints do not allow for employing many experts (e.g., in staff divisions). Thus, certain coordination problems seem to be unavoidable in SMEs and might end up in reactive strategies of small companies (Welter, 2003) which is, however, not necessarily so. An example of a strong countervailing effect, among others, is the unity of ownership and leadership which helps to avoid a good deal of conflicts at the interface to the financial markets. The situation that SMEs are in simultaneously fosters the nurturing of strategic assets and a long-term orientation which is sometimes out of reach in case of shareholders expecting short-term profits.

- *Risk-taking peculiarities.* Is the risk situation of SMEs really different from larger companies, as Beaver (2002) argued, and – if so – how far? Following the above train of thoughts, small business is much more personalized. This affects the risk situation as well. The owner-managers usually invest considerable amounts of capital for a long time. These (strategic) investments are reliable and at the same time outline the (financial) restrictions many SMEs are confronted with. Other risk factors are well documented in literature (e.g., Jennings and Beaver, 1997; Beaver, 2002): SMEs usually depend on a rather small customer base, have limited bargaining power and need to specify their assets to a large extent in order to find attractive positions in niche markets. In summary, the vulnerability in case of crises is high and there is a strong necessity to develop a reliable protection belt from the negative consequences of uncertainty.
- *Peculiarities of innovation.* Innovation and renewal in the meaning of Schumpeter (1934) comprise product, process, organization, and market innovations. As for the innovation profile of SMEs, we cannot simply consider SMEs to be generally more innovative than large firms. Nevertheless, there are some important features regarding the input, throughput, and consequently, the output of the innovation process which bring about a favorable position (Gibbons and O'Connor, 2003): There is typically neither a well-equipped R&D department nor specialized R&D personnel in SMEs. However, this does not necessarily imply a negative impact on the output of R & D since the logic and the run of innovation processes is quite different from larger companies. Many employees and owner-managers are involved and rethink the given processes and products more frequently and fundamentally. The reason for this is the limited structural complexity so that they can more easily control major issues that the company is concerned with and start the processes of innovation and renewal. The low degree of structural complexity in case of SMEs is another reason why the innovation processes run smoothly and rapidly compared to large companies. Given these throughput advantages of different kinds of innovation processes, SMEs are in a promising position to achieve high levels of R&D productivity and innovativeness as well. This helps SMEs to make their way even in turbulent environments, although R&D input might be restricted.
- *Peculiarities of the market interfaces.* SMEs are, by definition, characterized by the firm size. This smallness affects the firm's positioning on factor, product, financial, and personnel markets in terms of bargaining power, name recognition, and brand awareness

(Beaver, 2002). SMEs are by no means restricted to a focus on niche markets. However, the size limits market penetration and diversification as well, and goes along with predominantly focused product programs.

If we regard the findings of the SME features which are well documented in literature, it shows that all the peculiarities are connected with certain entrepreneurial functions discussed in the previous section of this paper. Coordination, managing uncertainty (risk management), innovation, and ‘market-making’ refer to the featured areas. This gives rise to the impression that the managerial peculiarities can be best understood and considered in case of multi-functional approaches of entrepreneurship theory, as already introduced above. However, the Schneider (1987) approach (see Section 2) – dealing with a system of three functions that explain the emergence and evolution of the firm – does not seem to cover all the mentioned aspects. Another approach introduced by Barreto (1989), however, seems to address the above-mentioned peculiarities. The next session dwells on the opportunities of multi-functional approaches and the considerations of Schneider (1987) and Barreto (1989) in more detail. The objective is to introduce a multi-functional approach matching the peculiarities of SME management in turbulent business environments.

4. A Multi-functional Entrepreneurship Approach of SME Management

Barreto (1989) analyzed the development of entrepreneurship theory and identified four striking functions: coordination (referring to Say), arbitrage (with reference to Kirzner), innovation (based on Schumpeter), and risk management (according to Cantillon, Hawley, and Knight). These functions can easily be connected with the discussion of the previous section because they directly tie in with the the four peculiarities of SMEs. However, the problem of the Barreto (1989) approach is that the functions under discussion are not aligned the way Schneider (1987) did when explaining the emergence and evolution of firms as institutions. The different functions named by Barreto (1959) are more or less collected from a literature review but not interrelated and aligned within an overarching framework with functional realms explaining the start-up, development and potential downfall of firms. This is a strong argument to consider Schneider’s formal procedure.

Although the Schneider (1987) approach is appealing in many ways, we can ask ourselves whether we consider the risk-taking function constitutive for firms, as Schneider advocates. If we want to understand why firms are founded by entrepreneurs, we arrive at the point that something new has to be created as the starting point of a business and a source of income. Accordingly, innovation appears to be much more basic than bearing uncertainty. Nevertheless, managing

uncertainty is closely connected with any kind of innovation. However, it cannot be regarded as the usual trigger for business venture or business development, respectively.

Therefore, the following considerations focus on developing an approach which is relevant to SME management by addressing the basic features of SMEs as outlined above and by considering the functional catalogue offered by Barreto (1989). This approach should be equipped with the formal rigor of the Schneider (1987) system and thus help to explain organizational evolution in the context of survival in competition. Accordingly, the respective approach should address the formation of firms and how to keep the competitiveness over time. This corresponds with the following functional contexts:

- start-up and (continuous) renewal of the firm as a system,
- (purposeful) exploitation of the firm and its given asset endowment, and
- protection of the firm (often in complex and turbulent environments) from threats of all kinds.

System renewal is a pervasive task, particularly in changing business environments. Most recently, many new markets emerge (e.g., biotechnology, nanotechnology) while other markets melt together (computer and TV markets). Products and assortments have to be adapted to the (anticipated) changes in markets and environments. Processes need to be improved to avoid being outpaced in competition. Organizational structures are typically only effective in a given internal and external context but need to be assessed and maybe adapted, modified, or replaced if any kind of change occurs. It shows that every firm and, in particular, SMEs are challenged to manage system renewal permanently and thoroughly. The system renewal constitutes and modifies organizational structures and strategies.

Another challenge is to tap the full potential of the given organizational structure. *System exploitation* responds to this basic task. This implies that, internally, the given value-added and supporting potentials (in particular structures, systems, and people) are to be activated and allocated to find the most effective applications. Externally, the firm has to initiate and manage transactions for using the potential of the value-added facilities. Thus, system exploitation has an external and internal dimension as well.

Innovating and exploiting the system is principally not enough to withstand the menacing forces of competition. Uncertainty goes along with opportunities to be taken by system renewal and system exploitation. However, uncertainty also implies threats and unfortunate developments since present and future

developments cannot be perfectly overlooked. This comes along with the need for *system protection*.

The stream of entrepreneurship theory which we dwell on here (multi-functional approaches) is chosen because it allows for a balanced view of opportunities and threats. For the purpose of clarification, mono-functional approaches based on innovation or arbitrage on the one side or risk-taking propensities on the other are not able to address the multitude of effects in the light of uncertainty. This is one reason for referring to this part of entrepreneurship theory which we can now introduce in more detail.

Entrepreneurship theory does not rely on a uniform system of basic assumptions. Moreover, the approaches in literature differ considerably as to the grounding in streams of organization theory. Casson (1982) referred in many cases to the New Institutional Economics. Schumpeter's (1934) benchmark is in core parts the market equilibrium whereas Kirzner's (1973) reasoning relies on market process theory. This reminds us to carefully point out the assumptions and the basic reasoning of the multi-functional approach we refer to. The antecedents are typical for market process theory and can be summarized as follows:

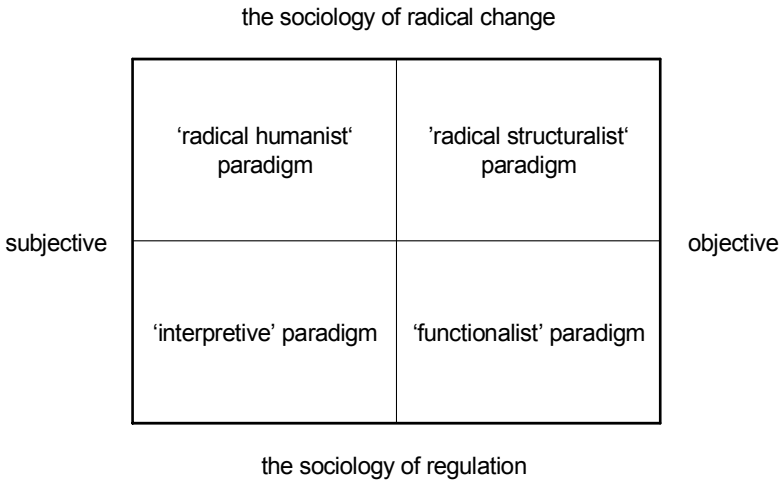
- Agents make their decisions in a world of *uncertainty*. Sometimes agents are better informed than others, and sometimes the opposite is true. Moreover, we have to consider the simple fact that future developments are basically unknown. Shackle (1972) puts it like that: "The history-to-come which will flow from men's decisions is nonexistent until those decisions themselves are made. What does not yet exist cannot now be known" (Shackle 1972: 3).
- The agents' knowledge, skills, and motivations are asymmetrically distributed. This corresponds with the position of *subjectivism*.
- The distribution of knowledge, skills, and motivations is not static but subject to on-going developments. Thus, path relatedness of agents and firms is a pervasive feature of business life. Asset development and asset erosion are the consequences and reveal an *evolutionary perspective*.
- Decision-making intends to follow the typical criteria of *rationality*. However, due to incomplete information, decision-making is nothing else but a process of '*trial and error*', well-known from the tradition of the Austrian Economics (e.g., von Mises, 1949).
- (Entrepreneurial) Agents intend to improve their given situation in terms of economic benefits and do not treat their circumstances as given and unchangeable. The '*homo agens*' notion applies (von Mises,

1949). This model of the acting man is different from the ‘homo oeconomicus’ of other economic theories. In this sense, the agents strive for fostering fortunate and weakening unfortunate developments to attain advantageous positions in the long run.

- The final assumption is that agents are not powerless and have the chance to change their situation at least partly. Dell is one example of a start-up company that accumulated considerable power in the course of events through alert decisions. However, the influence is, by far, not unlimited. There are in fact some restrictions which cannot be modified – at least in the short run (e.g., *de facto* standards in competition). This implies that a position of *moderate voluntarism* is chosen concerning the relationship between firms and the business environment. Such a position responds to the typical understanding of the role of entrepreneurs. Entrepreneurs question the situation and look for new horizons on what the business can be and how it could be done, and at the same time face limitations due to their firm’s embeddedness in the business environment.

In the face of the above-mentioned antecedents, the basic positioning of this stream of entrepreneurship theory in management and organization theory transpires. A *subjectivist* point of view is chosen. Change plays an important role. However, the path dependence of decision-making suggests that radical changes can take place but usually once in a blue moon due to embeddedness reasons. Agents and firms are embedded in a sequence of decisions, in lots of different stakeholder relations of the internal and external kind, and often face high levels of commitment to prior decisions. Radical change is possible but minor (not unimportant) changes are typical for business life. Consequently, the multi-functional approach outlined and advocated here belongs to the so-called “interpretive paradigm” in terms of the taxonomy developed by Burrell and Morgan (1979) who structured the heterogeneous realm of organization theories by four paradigms (cf. Figure 1). It is important to notice that the interpretive paradigm is in many ways far away from common economic theory which predominantly belongs to the functionalist paradigm according to Burrell and Morgan (1979).

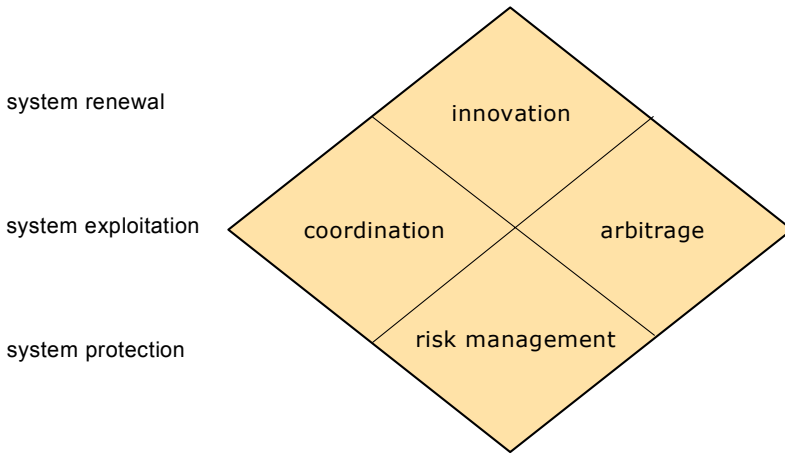
The next step is about how to respond to the functional framework of system renewal, system exploitation, and system protection in the light of entrepreneurial functions that are relevant to the small business sector. The basic idea is to make use of the functional catalogue developed by Barreto (1989) and to categorize the functions the way Schneider (1987) did. The considerations are guided by the consistent set of assumptions mentioned above. These assumptions are in line with the basic reasoning of Schneider and help to avoid eclectic work. The result is introduced below.

Figure 1: The Burrell and Morgan (1979: 22) Taxonomy of Organization Theory

As outlined in Figure 2, system renewal corresponds with the *innovation* function. The function includes product, process, organization, and market-related innovations – all of the major and the minor kind as well. Dell is one example of a start-up with a strong innovative ambition when the decision was made to enter the computer market with a new concept of (direct) selling and build-to-order solutions. More importantly, the different kinds of innovations do not necessarily stand alone but can be well aligned in order to avoid organization/environment misfits in the long run. Dell worked hard to develop product, process, organization, and market innovations and, at the same time, interrelate them. As a consequence of performing the innovation function as a whole, the structures of the firm will be permanently questioned and – if necessary – renewed. The innovation function in this wider understanding according to Schumpeter (1934) provides the firm with a structural context that can be exploited by the other functions which are introduced below. The more the different kinds of innovations are aligned among each other and correspond with external developments, the more the respective SME is in a position to accumulate power and to trigger a process of creative destruction, as Schumpeter (1934) suggested.

The (permanently renewed) structures – consisting particularly of the products and the assortment, the activities, and the asset endowment – provide the firm with a potential to act. This potential is to be exploited internally and externally – the latter regarding any transaction in the markets and the business environment. Internally, the coordination function enables the firm to activate the given potential whereas, externally, the arbitrage function is required to manage the transactions in a profitable way in the long run.

Figure 2: A System of Entrepreneurial Functions



Coordination can be conceptualized in many ways. While Casson (1982) favors a wide understanding of coordination including the management of transactions, we will focus on the issues of internal coordination henceforth. Coordination in this sense not only comprises managing the value-added process which is, in fact, a core part of *internal coordination*. However, one can argue that value-added activities are not exclusively an internal issue facing the fact that customer participation in the value-added process can take place (Lovelock, 2001). This holds particularly true in case of service production. This, nevertheless, can easily be subsumed to internal coordination since it serves the only purpose to come out with customized products in the market. Moreover, internal coordination is about preparing the available assets in such a way that they can unfold their potential and enable both effective and efficient activities. Managing the value-added activities and the basic asset endowment represent the core issues of *organization*. Finally, internal coordination comprises issues of *motivation*. As pointed out earlier, SMEs have a rich potential of motivation due to their structural advantages. Over and above this, SME management in the area of internal coordination goes far beyond structural issues and addresses sense-making in organizations as well. To develop sense-making values and cultural elements that trigger creativity at work is, therefore, a pervasive task of coordination which in SMEs should be fostered and directed by the entrepreneurs. Several family-owned companies, such as the Hilti Corp., Principality of Liechtenstein, gained fame for their system of internal coordination. Hilti developed a visionary and motivating system of energizing people based on strong values. Hilti's value-added activities world-wide stood to benefit from this system.

Whereas internal coordination refers to exploiting the system internally, the *arbitrage* function is about the external issues of system exploitation. In particular by executing the arbitrage function, SMEs intend to bridge the gap between the individual supply conditions of the firm and the requirements of the demand. This requires the *identification of new business transactions* (Kirzner, 1973) and sometimes the proactive *generation and shaping of* such business opportunities (Lachmann, 1984). We can refer to the business of pop music to illustrate how some artists were trend-setters. One example is Madonna who was permanently about to develop new styles of music and entertainment – and to shape markets accordingly.

Having achieved this, arbitrage is about *exploiting* the relevant business opportunity. This requires the negotiation of profitable terms of trade – at least in the long run. Executing the arbitrage function includes screening relevant information, accumulating knowledge and making reasonable decisions based on alertness (Kirzner, 1973). From an SME angle, the search for business opportunities is not restricted to the actual market niches that small business firms might be (or feel) committed to. Instead, arbitrage in the sense of Kirzner (1973) includes being open-minded for any kind of business that entrepreneurs consider useful to fill given gaps between demand and supply by their alert moves. The only criterion that is relevant to consideration is the opportunity to raise arbitrage profits. Due to the flexibility mentioned above, SMEs are in promising positions to open new markets to exploit the firm's conditions more comprehensively.

System renewal and system exploitation are accompanied by system protection. In complex and dynamic, sometimes turbulent business environments, SMEs are well advised to equip the firm with a protective belt. The *risk management* function directly refers to this issue and intends to protect the firm from the negative consequences of uncertainty. This delineation is necessary because the opportunities in connection with uncertainty are already addressed by the other functions mentioned above. Subject to risk management is, first of all, the *recognition of risks* which highlights the pervasive role of knowledge management. With regard to SME management, it turns out that 'radar systems' should be available to ensure that even weak signals of dangerous developments can be identified and interpreted as early as possible for the purpose of preparation. Having identified risks, a *risk assessment* allows the firm to make decisions on *taking or distributing/transferring risks*. It is almost needless to say that this is only possible in case of recognized and evaluated risks. *Ex post* surprises that are possible in case of uncertainty are subject to a more or less 'ad hoc' risk management that often ends up in the management of 'ad hoc crises'. Risk management is about making such situations unlikely although we know that those surprises are, in principle, not completely avoidable. Accordingly, the firm is confronted with taking risks both the planned and the unscheduled way. *Risk-taking* implies finding adequate solutions when negative consequences occur. For SMEs this part of executing the risk management function is difficult as well

since slack resources are usually restricted. More generally, firms such as Chiquita benefitted from integrated risk management systems. Chiquita developed a system solution striving to improve production efficiencies and to limit production risk. They were first-mover as to the development of an overall risk management system that ensures food safety in the fresh product area, which covered all aspects from 'paddock to plate'. At the same time the system took environmental issues into account.

As an interim result, entrepreneurial SME management rests upon the execution of the four entrepreneurial functions introduced above. It is worth mentioning that the single functions should not stand alone. Defined as outlined in this section, they are mutually exclusive and collectively exhaustive, so that they cover the managerial issues SMEs have to cope with. Accordingly, a core task is to execute these functions in such a way that they are internally aligned and well adapted to the situational context that the firm is confronted with. This leads to a debate on dynamic fit (Itami, 1987) which considers the notion of moderate voluntarism: typically, things cannot be shaped completely the way SMEs want to. But there are, in particular in the long run, opportunities to set new standards in competition. These considerations play a role in the next step of this paper when we derive propositions.

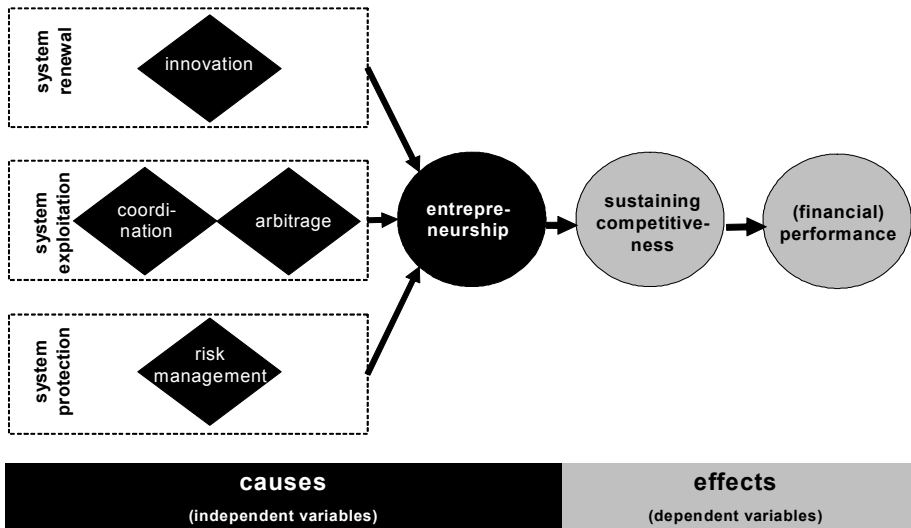
5. Propositions and Causalities

The previous section revealed that entrepreneurship theory can offer a lot for the purpose of (strategic) SME management. To tap this potential, it is useful to sharpen the entrepreneurial functions and develop a system of multiple functions to cover the multitude of managerial challenges in uncertain, complex, and dynamic, sometimes turbulent environments. Empirical work in the past focused on scrutinizing the relationship between single entrepreneurial functions and relevant performance measures. What is still under-researched is the alignment of entrepreneurial functions. This is simultaneously a challenge for on-going empirical research. Accordingly, the following considerations refer to this research gap and intend to prepare follow-up steps in this direction by developing an integrated causal model with research propositions. Moreover, the framework introduced above should be applied to the management of SMEs.

The first consideration in this context is about the observation that neglecting the execution of entrepreneurial functions leads to shrinking competitiveness of the firm. For example, SMEs that do not attend (enough) to innovation for the purpose of organizational renewal find themselves in an outpaced position and in vicious circles of development due to the structural constraints they are confronted with. The same holds true for other functions as well: How can a firm survive when there is no protection from the menacing forces of rivals and business environments as well? Therefore, one proposition is that *the execution*

of single entrepreneurial functions contributes to entrepreneurial behavior and will increase the firm's competitiveness – immediately or later on due to transmission processes (cf. Figure 3). We can develop four respective sub-propositions that address the relationship between the execution of the function and its influence on (increasing) competitiveness via the construct of entrepreneurship. As mentioned above, we can regard these propositions as already confirmed.

Figure 3: Cause and Effect Structures of the Multi-Functional Approach



The second proposition rests upon the notion that the stand-alone management of entrepreneurial functions is not enough to contribute to the firm's competitiveness. Competitiveness can be conceptualized according to Schneider (1997): (a) the capacity to withstand menacing forces of competitors or the business environment and (b) the capacity to prove oneself in transactions with the counterparty (customers or suppliers). The second proposition is about the *internal alignment of the entrepreneurial functions* to be executed. This means, for instance, that innovation is not enough to increase the firm's competitiveness sufficiently. Oppositely, it is possible that an innovative impulse can often deflagrate if there is no accompanying risk management. Moreover, any innovation should be accompanied by an alert management of business transactions and internal coordination issues that makes use of the innovative value-added structure available. Improving the execution of one function is a promising first step but the full potential can only be tapped by finding a new 'balance' among the entrepreneurial functions. As for a proposition in this area,

this means that *an internal alignment of the entrepreneurial functions triggers synergies and enables the firm to increase the competitiveness.*

A third proposition touches on the notion of external alignment as mentioned above. It is simply not useful to “maximize” the efforts regarding the execution of an entrepreneurial function: more is not always at the same time better. Therefore, the external situation has to be taken into account as well – in the long run. There are contexts where innovation plays the most important role and only those SMEs that manage the renewal process comprehensively and fast enough will survive. In other contexts, however, closeness to the customer, achieved by a sound marketing approach, might be the most important success factor and the like. Entrepreneurship theory tells us that key success factors are by no means to be treated as given and unchangeable. New factors can (and should) be permanently created. Moderate voluntarism, however, implies that certain surroundings cannot be modified immediately. Therefore, SME management from an entrepreneurial angle has to take the external conditions into account. The third and last proposition considers this as follows: *External alignment of (integrated) entrepreneurial functions, on the one hand, and the external business environment, on the other, influences the firm's competitiveness.*

In summary, Figure 3 highlights the mentioned cause and effect structures and helps to complete the understanding of entrepreneurship of this paper: *Entrepreneurship means executing the entrepreneurial functions* under consideration. As a construct, entrepreneurship affects the level of competitiveness as conceptualized above (Schneider, 1997). The degree of the firm's competitiveness influences the emergence of competitive advantages (not mentioned in Figure 3) and the financial performance, measured the typical way (ROI, ROCE and the like).

6. Implications

Finally, the initial question is coming up again: What does entrepreneurship tell us about the management of SMEs? Entrepreneurship theory has traditionally been a market theory, not a management theory. The paper points out the potential to contribute to a management theory. Nevertheless, we search for concrete implications. What do they look like?

If we compare new entrants and incumbents in the small business sector, there are striking differences as to the execution of entrepreneurial functions. SMEs entering new markets are typically forced to show an aggressive behavior to overcome external resistance, to access the market, and to increase both market share and awareness. However, new entrants' aggressiveness is, to a large extent, a matter of performing entrepreneurial functions. For example, different kinds of innovations (strategy innovations, business model innovations or simply new products or processes) might enable an attractive positioning of the new entrants

in the market. However, without accompanying aggressive moves in marketing and purchasing (arbitrage) as well as in the value-added processes (coordination), a successful market access will not be possible. In particular, an efficient cost position is a strong asset to withstand counter-attacks of competitors. This, however, can only be achieved in case of professional internal coordination. Risk management is strictly required to protect the (sometimes still vulnerable) firm from dangerous attacks in competition. Besides this, new entrants need a “cutting edge” in their mix of entrepreneurial functions. Incumbents, instead, often execute their entrepreneurial functions the more ‘balanced’ way.

When comparing young and old firms, the situation is similar. Start-ups usually face fiercest asset constraints. Accordingly, they often need to focus their activities. This goes along with focusing on the execution of probably only one function and reveals the threat to neglect important managerial tasks. Over and above this, they typically face the problem of a low degree of professionalism. Inversely, older firms run their system by running proven (but sometimes rigid) routines. These experience-based routines typically help to align the execution of entrepreneurial functions. Almost the same holds true if we compare small and large firms.

There are, in fact, some good reasons to execute entrepreneurial functions intensively – and well adapted to the external conditions. In particular, firms have to be aware of the threat that entrepreneurial action can change the distribution of power in markets and industries. Accordingly, rivals can be deeply affected by entrepreneurial moves and might consider the above-mentioned counter-attacks. From the point of view of firms without considerable power, it might be better to ‘let sleeping dogs lie’ and to circumvent predatory processes in competition as long as the risk management does not yet prepare the firm for absorbing the shocks created by rivals. This, however, leads us back to our basic idea of an aligned management of entrepreneurial functions.

The purpose of this paper was to demonstrate that the theory of the entrepreneurial functions can offer a lot for SME management. It is important in this regard that this stream of entrepreneurship theory is applicable on the macro level (market or industry) and – as shown in this paper – on the micro level (firm) as well. This can be useful in order to understand the competitive impact of the entrepreneurial action of firms more comprehensively. Not many management theories offer this potential.

By now, the character of the considerations is only conceptual. To stimulate more conceptual and even empirical work are another intention. The results of empirical surveys on growth and profitability of SMEs (e.g., Meffert and Klein, 2007) give rise to the impression that the chosen multi-functional approach of entrepreneurship supports (and explains) the findings. This, however, needs substantiation.

References:

- Barney, J. B. (1991), "Firm Resources and Sustained Competitive Advantage", *Journal of Management*, 17: 99-120.
- Barreto, H. (1989), *The Entrepreneur in Microeconomic Theory*. London/New York: Routledge.
- Beaver, G. (2002), *Small Business, Entrepreneurship and Enterprise Development*, Harlow: Pearson.
- Baum, J. R., Frese, M. and Baron, R. A. (Eds.) (2007), *The Psychology of Entrepreneurship*, Mahwah/NJ: Lawrence Erlbaum.
- Burrell, G. and Morgan, G. (1979), *Sociological Paradigms and Organisational Analysis*, London: Ashgate.
- Cantillon, R. (1755), *Essai sur la nature du commerce en général*, Paris: Institut National d'Etudes Démographiques.
- Casson, M. (1982), *The Entrepreneur*, Oxford: Edward Elgar.
- Freiling, J. (2006), *Entrepreneurship*. Munich: Vahlen.
- Gartner, W. B. (1989), "Some Suggestions for Research on Entrepreneurial Traits and Characteristics", *Entrepreneurship Theory and Practice*, 14: 27-37.
- Gibbons, P. T. and O'Connor, T. (2003), "Strategic Posture, Technology Strategy and Performance among Small Firms", *Journal of Enterprising Culture*, 11, 131-146.
- Hamel, G. and Prahalad, C. K. (1994), *Competing for the Future*, Boston/MA: Harvard Business School Press.
- Hébert, R. F. and Link, A. N. (1988), *The Entrepreneur*, New York: Praeger Publ.
- Itami, H. (1987), *Mobilizing Invisible Assets*, Cambridge/MA: Harvard University Press.
- Jennings, P. L. and Beaver, G. (1997), "The Performance and Competitive Advantage of Small Firms. A Managerial Perspective", *International Small Business Journal*, 15 (2): 63-75.
- Kirzner, I. M. (1973), *Competition and Entrepreneurship*, Chicago/IL: Univ. of Chicago Press.
- Knight, F. H. (1921), *Risk, Uncertainty, and Profit*, Boston/MA: Hart, Schaffner & Marx.
- Lachmann, L. M. (1984), *Marktprozess und Erwartungen*, Munich/Vienna: Philosophia.
- Lovelock, C. E. (2001), *Services Marketing*. 4th Ed., Upper Saddle River/NJ: Prentice Hall.
- Low, M. B. and MacMillan, I. C. (1988), "Entrepreneurship", *Journal of Management*, 14: 139-161.
- Meffert, J. and Klein, H. (2007), *DNS der Weltmarktführer*, Heidelberg: Redline Wirtschaft.
- Prahalad, C. K. and Bettis, R. A. (1986), "The Dominant Logic", *Strategic Management Journal*, 7: 485-501.
- Schneider, D. (1987), *Allgemeine Betriebswirtschaftslehre*. 3rd Ed., Munich/Vienna: Oldenbourg.
- Schneider, D. (1997), *Betriebswirtschaftslehre*. Vol. 3: Theorie der Unternehmung, Munich/Vienna: Oldenbourg.
- Schumpeter, J. A. (1934), *The Theory of Economic Development*, Cambridge/MA: Harvard University Press.
- Shackle, G. L. S. (1972), *Epistemics and Economics*. Cambridge: Cambridge University Press.
- Shepherd, D. A. and Wiklund, J. (2005), *Entrepreneurial Small Business*. Cheltenham: Edward Elgar.
- Stanworth, M. J. and Curran, J. (1976), "Growth and the Small Firm", *Journal of Management Studies*, 13 (2): 94-110.
- Storey, D. J. (1994), *Understanding the Small Business Sector*, London: Routledge.
- Teece, D. J., Pisano, G. and Shuen, A. (1997), "Dynamic Capabilities and Strategic Management", *Strategic Management Journal*, 18: 509-533.
- von Mises, L. (1949), *Human Action*, Irvington-on-Hudson: Foundation for Economic Education.
- von Thünen, J. H. (1826), *Der isolierte Staat in Beziehung auf Landwirtschaft und Nationalökonomie*, Rostock: von Wiegand.
- Welter, F. (2003), *Strategien, KMU und Umfeld*. Berlin: Duncker & Humblot.
- Zimmerer, T. W. and Scarborough, N. M. (2008), *Essentials of Entrepreneurship and Small Business Management*, 5th Ed., Upper Saddle River/N.J.: Pearson.

