



The Types and Contextual Fit of Entrepreneurial Processes

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Abstract.

Keywords:

1. The Need For a Process Perspective on Entrepreneurship for Entrepreneurship Education

Early entrepreneurship research devoted almost all its attention to *the entrepreneur*. The implicit or explicit assumption underlying this research was that the explanation for entrepreneurial behavior and success was to be found in the unique characteristics of the individuals who undertook such endeavors (Brockhaus, 1982; Carland, Hoy, & Carland, 1988; Delmar, 2000; Stanworth, Blythe, Granger, & Stanworth, 1989). This line of research, had it been successful, held little promise for entrepreneurship education. The best one could hope for was perhaps a selection mechanism for advising students: “You’re the right stuff; good for you!” vs. “Sorry, I think you should try some other career instead.”

However, while some valid generalizations can be made concerning the average psychological and socio-demographic characteristics of business founders compared to other groups, the main take away from this research is that on the whole, business founders seem to be as heterogeneous as any other group of people. It is not possible to profile the “typical” entrepreneur. No psychological or sociological characteristics have been found, which predict with high accuracy that someone will become an entrepreneur or excel at entrepreneurship. Likewise, no such characteristics have been distilled that definitely exclude people from a successful entrepreneurial career. For two different reasons this is actually a very positive result for entrepreneurship education. First, the fact that entrepreneurial tendencies are not inborn suggests that the idea of trying to teach entrepreneurship is not futile. Second, it is of direct inspirational value in the entrepreneurship

education context to be able to say that the research-based evidence suggests that faced with an opportunity that suits them, and in interaction with other people with complementary skills, most people would be able to pursue a successful career as entrepreneurs.

Partly as a reaction to the disappointingly weak results in individual-level research, researchers in the 1990's increasingly turned "from traits to rates" (Aldrich & Wiedenmayer, 1993). That is, the reasons for differences in entrepreneurial activity on aggregate levels were sought among the structural and cultural characteristics of nations, regions, industries, science parks, or organizations (Acs & Audretsch, 1990; Acs, Carlsson, & Karlsson, 1999; Braunerhjelm, Carlsson, Cetindamar, & Johansson, 2000; Davidsson & Henreksson, 2002; Reynolds, Bygrave, & Autio, 2003; Reynolds, Storey, & Westhead, 1994; Stevenson, 1984; Stevenson & Jarillo, 1990; Zahra, 1993; Zahra, 1993). This approach has been relatively more successful. For example, when researchers in six European countries and the US set out to study what regional characteristics lead to higher frequencies of new business start-ups, it was found that around 70 percent of the regional variation in start-up rates could be explained by a few structural factors (Reynolds et al, 1994)

This type of knowledge may be very valuable for policy-making purposes or – as regards the corporate entrepreneurship literature – for managers of large, established firms. However, these insights are of relatively limited value for giving advice to students or other people who are about to set up their own businesses, and who want to do so where they happen to live, whatever the general attractiveness of that place might be. For example, learning that Jukkasjärvi (a small and remote community up in the far north of Sweden) is a very unfavorable place for entrepreneurship would not have provided Yngve Bergkvist with the inspiration or knowledge necessary to create the highly successful *Ice Hotel* (see www.icehotel.com), which is an excellent example of turning the existing environmental conditions, whatever they may be, into advantages. Neither would attempting to establish the Ice Hotel in Silicon Valley or some other entrepreneurship hot spot be a very bright idea.

Thus, what aspiring entrepreneurs need to learn is not so much what kind of person they ought to be, because that does not seem to be critically important in itself and could not easily be changed even if it were. Neither are they much helped by knowledge about what kind of environments are conducive of business start-ups in general, because in most cases people choose the place they live in for other reasons and because these generally favorable conditions may be totally irrelevant for the particular kind of business a particular aspiring entrepreneur is considering. A much more fruitful line of research for education purposes concerns *how* to do it, i.e., entrepreneurial behavior (Gartner, 1988). Further, a new business does not go from non-existence to existence in one step, as the result of a single behavior. Rather, entrepreneurship involves a number of behaviors

entrepreneurs have to perform sequentially over time. This calls for a *process* view of entrepreneurship.

The purpose of this article is to highlight and discuss some key insights from recent conceptual and empirical work on the entrepreneurial process. After first defining the key term “entrepreneurship”, the next subsection will deepen the conceptualization of the entrepreneurial process and its two sub-processes, *discovery* and *exploitation*. The then following section will deal with two previously suggested categorizations of different types of processes, namely Bhavé’s (1994) distinction between internally and externally triggered processes and Sarasvathy’s (2001) contrasting of causation vs. effectuation. It seems indisputable that these different types of processes are descriptively valid, i.e., real world entrepreneurs actually use them. For the purpose of entrepreneurial education, however, we need normatively valid results. The empirical co-existence of different process types makes it a plausible assumption that their applicability is contingent on the context. While no systematic “acid test” of the relative performance of the processes discussed by Bhavé and Sarasvathy has been made, it is possible to use theoretical deduction and various empirical results to arrive at conclusions about under what conditions which type of process is more commendable. Therefore, the second half of this article will develop a model of how characteristics of the individual(s), the venture idea and the environment interact with the type of entrepreneurial process in determining the outcomes of the process.

2. Entrepreneurship and Entrepreneurial Process Defined

As different researchers and other authors who write on this topic tend to assign many different meanings to the term “entrepreneurship”, let us first make clear that it is here defined as *the creation of economic activity that is new to the market* (see Davidsson, 2003, 2004, for an elaborate background on entrepreneurship definitions and rationales for this particular one). This includes the launching of product, service or business model innovations, but also imitative entry, i.e., the appearance of a new competitor, as this also gives buyers new choice alternatives and hence pose a threat to incumbent firms. This entrepreneurship concept thus includes all independent business start-ups, imitative as well as innovative. The definition includes more, namely established firms’ introduction of product and service innovations, as well as their expansion into new markets. Although “independent” as well as “corporate” entrepreneurship are acknowledged, relatively more weight will in the exposition below be given to entrepreneurship understood as the start-up of new, independent businesses.

By *entrepreneurial process* is meant all cognitive and behavioral steps from the initial conception of a rough business idea, or first behavior towards the realization of a new business activity, until the process is either terminated or has

lead to an up and running business venture with regular sales. Due to the extreme variability across cases a more precise definition of the start- and end-points than this is arguably not possible (cf. Klofsten, 1994; Shaver, Carter, Gartner, & Reynolds, 2001) and for our current purposes it is hardly necessary. To give an idea of what specific steps may be involved Table A1 (appendix) displays 48 steps regarding 23 different “gestation behaviors” included in the *Panel Study on Entrepreneurial Dynamics* (Davidsson & Honig, 2003; Gartner & Carter, 2003; Gartner, Shaver, Carter, & Reynolds, 2004).

Although it may not always be possible to uniquely attribute each step in Table A1 to either of the two, it is conceptually useful to further subdivide the entrepreneurial process into two interrelated sub-processes, discovery and exploitation (Shane & Venkataraman, 2000). *Discovery* refers to the conceptual side of venture development, from an initial idea to a fully developed business concept where many specific aspects of the operation are worked out in great detail. While the term “discovery” may seem to suggest that they somehow exist “out there”, ready to be discovered, this is not the view purported here. Thus, the term includes not only what is elsewhere called “idea generation”, “opportunity identification” and “opportunity detection”, but also “opportunity formation”, “opportunity development” and “opportunity refinement” (Bhave, 1994; de Koning, 1999, 2003; Gaglio, 1997). Importantly, discovery is in itself a *process* – the venture idea is usually *not* formed as a complete and unchangeable entity at a sudden flash of insight (Davidsson, Hunter, & Klofsten, 2004; de Koning, 1999; Hmieleski & Ensley, 2004). Some key elements of the discovery process are:

- Ideas about *value creation*, i.e., how and for whom value is to be created in terms of product, market, production and organization (cf. Alvarez & Barney, 2004; Klofsten, 1994).
- Ideas about *value appropriation*, i.e., how a significant share of the created value is to be appropriated by the emerging firm rather than by customers, competitors or the Government (Amit & Zott, 2001; de Koning, 1999; McGrath, 2002).
- The development of *commitment* to and identification with the start-up on the part of key actors (Klofsten, 1994).
- Activities such as planning, making projections, and the gathering and analysis of information, to the extent these activities concern the development and evaluation of ideas rather than their (attempted) realization.

Exploitation refers to the action side of venture development. It is in the present context a neutral term, denoting the decision to act upon a perceived

opportunity, and the behaviors that are undertaken to achieve its realization. The negative connotations the term “exploitation” has in some other contexts do not apply here. Exploitation thus simply means the attempted realization, or implementation, of ideas. Like discovery, exploitation is a process that may or may not lead to the attainment of profit or other goals. The following categorizations represent a way of trying to make abstracted sense of the many specific behaviors undertaken in the exploitation process (cf. Delmar & Shane, 2004; Sarasvathy, 1999; Shane & Eckhardt, 2003; Van de Ven, 1996):

- Efforts to *legitimize* the start-up, e.g., creating a legal entity; obtaining permits and licenses; developing a prototype of the product, and developing trustful relations with various stakeholders.
- Efforts to *acquire resources*, such as knowledge, financial capital, intellectual property, and various inputs.
- Efforts to *combine and coordinate* these resources through the creation of a functioning organization.
- Efforts to *generate demand* through marketing and contacts with prospective customers.

While all of the above are important, it may be argued that for the long term success of an independent start-up the most critical aspect of the exploitation process is to obtain resources and resource combinations that are *valuable, rare* and *imperfectly imitable* (Barney, 1997), thus providing some “isolating mechanism” (Rumelt, 1984).

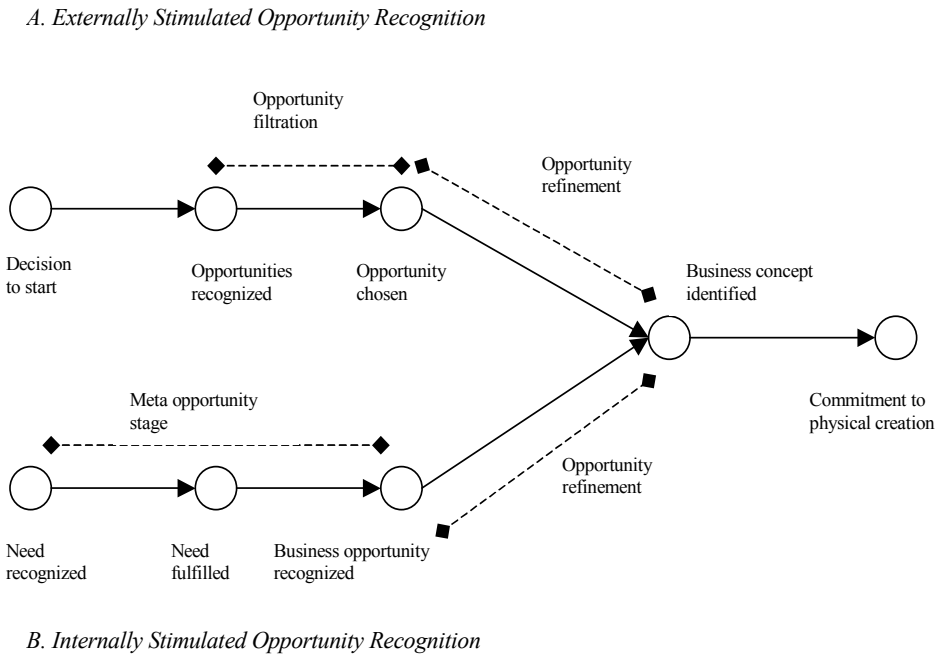
It is tempting to think of the entrepreneurial process as linear: first you discover and then you exploit your discovery (cf. Shane, 2003; Shane & Eckhardt, 2003). However, the empirical evidence suggests that the processes of discovery and exploitation are interrelated and that the behaviors in Table A1 can be undertaken in almost any sequence, including having sales before thinking about starting a business (Carter, Gartner, & Reynolds, 1996; Gartner & Carter, 2003). The questions then are: is it possible to bring some order to this mess, i.e., can we identify a limited number of “typical” start-up processes? If so, under what conditions are different process types relatively more suitable? These are the questions to be dealt with in the remainder of this manuscript.

3. Types of Entrepreneurial Processes

Based on close-up study of 27 start-up processes, Bhawe (1994) suggested they could be categorized into two main types depending on which came first: the wish

to start a business, or the specific business idea that was being pursued. This is illustrated in Figure 1.

Figure 1: Bhave’s Two Types of Entrepreneurial Processes (First Stages)



The first type, which Bhave calls “externally stimulated”, is the more textbook-like process. It starts with a decision or desire to start a new business. The entrepreneur(s) therefore actively searches for business opportunities. Typically several different preliminary ideas are considered and evaluated (“opportunity filtration”) before one is chosen. This preliminary idea is then elaborated and adapted. Finally, a relatively complete business idea that is judged viable has been developed by the entrepreneur, who then commits to “going for it”.

The other type of process is less textbook-like, but probably about as common as the first. In this case, the individual has initially no particular intention to start a business. Instead, entrepreneurs involved in this type of process experience a problem related to their work, hobbies, or perhaps in their role as consumers. If they find a solution to the problem they may learn that others also have the same problem, and are willing to pay to get it fixed. Bhave exemplifies how one of the entrepreneurs in his sample started a violin repair business:

I couldn't find anyone I had enough faith in to repair violins I was playing, so I started repairing myself, and the word got out that I would do that. So I started doing that. After a while it got to be a burden to do it for free, and I started charging people for it. (Bhave, 1994, p. 230)

At some point people involved in this type of process realize that their skill is a business opportunity ("business opportunity identified"), and if demand is high enough they are forced to make a conscious decision whether to "go for it" or not. It is tempting to believe that the latter type of process is typical for part-time or single-person businesses only. This is not the case. For example, Carin Lindahl, the inventor of the sports bra, was a workout and jogging freak in her upper teens. Slender but bosomy, she experienced that no bra on the market provided effective enough support for her breasts when working out. Neither were taping or bandaging convenient and effective solutions to the problem. When she several years later found the solution – a fabric that expanded in one direction while being completely stiff in the other – she sewed herself a couple of sports bras. Seeing the interest other women showed in her bra, and being unable to convince anyone to produce such bras, she decided to found her own firm. Although much larger competitors have captured most of the world market after Carin proved its existence, she still runs *Stay In Place* as a healthy small business, holding a significant share of the Swedish market for sports bras and related products (Davidsson, 2000). Many other firms providing sports- and hobby-related products and services are founded in the same manner.

A more spectacular success story exemplifying an internally stimulated process is the Swedish software company *Hogia AB* (Hogsved, 1996). The origin of this business was that Bert-Inge Hogsved helped his wife, who was a chartered accountant, with some computer programming for a very early PC so that she could get rid of some of the most tedious and repetitive parts of her job. Predictably, some of her colleagues got the word and wanted the same solution. From this humble beginning, Hogia has grown with the computer software market and through related diversification to become a medium- to large-sized business group and one of the most significant players on the Swedish software market.

Figure 1 actually captures only the first part of Bhave's model, which he calls the opportunity stage, similar to what has above been denoted the discovery process. This is followed by the *technology setup & organization stage*, and the *exchange stage*. As these latter stages involve the tangible actions needed for the creation of an organization, a production technology, a product (if that is what the firm is selling) as well as customer contacts and first sales, they coincide with what has above been called the *exploitation process*. Although Bhave calls the different parts of his models "stages" – as if they followed after one another – he is careful to point out that the customer contacts provide feedback that makes the entrepreneur(s) reconsider and adapt the business concept (strategic feedback) as well as the specific ways in which it is being realized (operational feedback).

Thus, there is interplay between discovery and exploitation; in part they evolve in parallel rather than sequentially. According to Bhavé's (1994) conceptualization, then, we can distinguish between two types of process. The most important difference between them is that the externally stimulated process begins with a decision to start, and involves the consideration of several different business ideas. The internally stimulated process starts with the recognition and solution of a self-experienced problem, which proves to be the potential basis for a business. In the latter stages the two types of process converge. Both involve further refinement of the original idea to a more fully-fledged business concept, commitment to actually realizing this idea, and the carrying out of this realization. Bhavé (1994) does not discuss differences between the two types of process in the latter stages.

Sarasvathy (2001) suggests another – although partly overlapping – division into two types of process. Again, the first variety – the *causation* process – is the more textbook-like of the two. A process that follows the causation logic takes a particular effect (or goal) as given and focuses on selecting the best means to achieve that effect. By contrast, a process that follows the alternative *effectuation* logic takes a set of means as given and focuses on selection between possible effects that can be achieved with these means. Sarasvathy illustrates the difference with two approaches to cooking dinner. If you follow the causation logic, you start by deciding on the menu, which determines what ingredients have to be obtained, and how they should be prepared and combined. If you follow the effectuation logic, you take the ingredients that happen to be available as given, and create whatever menu these ingredients can be used for.

In a business context, the causation model is compatible with the analysis-planning-implementation-control sequence that is implicitly or explicitly professed in most normative accounts of business processes. When applying this type of process, the entrepreneur would first carefully analyze the market and decide on a well-defined business concept. This business concept would then be implemented according to the plan, which is later on followed-up. Deviations between plan and outcome would typically lead to corrective action.

According to Sarasvathy's empirical research on successful entrepreneurs, the above does not adequately describe how they actually behave (Sarasvathy, 1999). Instead of starting from an analysis of the entire potential market, the entrepreneurs typically started out at their home turf by looking at what skills, resources and contacts they had (i.e., Who am I? What do I know? Whom do I know?). Rather than first developing a complete concept, which was then implemented according to plan, the process was typically much more iterative and interactive, and could take off in any new direction as a result of early feedback from customers. That is, their behavior was typically more in line with the inherently iterative and interactive effectuation model. This model is characterized by the following four principles:

1. Focus on affordable loss rather than expected returns. It is more important to limit the damage if unsuccessful, than to get the highest possible return if successful.
2. Strategic alliances rather than competitive analysis. Rather than thinking “Who do I have to beat?” the entrepreneur thinks, “With whom do I have to ally in order to be able to take this business one step further?”
3. Exploitation of contingencies rather than preexisting knowledge. The entrepreneur is sensitive to what comes up along the road, and prepared to turn these contingencies into business strengths.
4. Control of an unpredictable future, rather than prediction of an uncertain one. Causation logic assumes one can predict the future; effectuation logic suggests that if one can create the future one does not have to predict it.

Sarasvathy (2001) gives additional vivid illustration of the two processes with the hypothetical example of a start-up of an Indian fast food restaurant, *Curry in a Hurry*. In the causation model, this start up would begin with careful, formal (and costly) market research concerning in what city and location the restaurant (likely to be regarded the first in a chain) should be established, what type of customers should be targeted, as well as choices of menu, opening hours, décor, etc. All this analysis would lead to a careful plan to guide the launch and further operation, which would then be implemented. An effectuation version of the same start-up would begin, for example, with a person with an interest and skill in cooking Indian food. In order to make a living, this person may start a simple catering operation by talking her way into the lunchrooms of employers of her friends and family. If this start seems promising, it may then develop to a somewhat larger and more structured catering operation supplemented with an Indian fast food corner in rented space at some other, established restaurant. In the next step, a first own restaurant may be established, which then evolves into a chain, probably with the second and third units run by relatives or friends in the cities they happen to live. Importantly, however, the business may also take off in other directions. In Sarasvathy's own words:

[A]fter a few weeks of trying to build the lunch business she might discover that the people who said they enjoyed her food did not really enjoy it so much as they did her quirky personality and conversation, particularly her rather unusual life perceptions. Our imaginary entrepreneur might now decide to give up the lunch business and start writing a book, going on the lecture circuit and eventually building a business in the motivational consulting industry! (Sarasvathy, 2001, p. 247)

Sarasvathy also describes several other directions this start-up could slide into. The point is that the original idea does not imply any one single strategic alternative. If whatever happens along the route suggests the given means can be used more effectively by pursuing some other (related) idea, the entrepreneur will and should do so.

4. Is There a “Best Process”?

It should be pointed out that the two pairs of contrasted process types above probably represent endpoints on continua. Most start-up processes in the real world are likely to fall somewhere in-between and display a mix of behaviors across the prototypical ideals. Further, the contrasted types of process reflect a tension between the *planned, analytical and linear* on the one hand, and the *emergent, creative and iterative* on the other. This leads to the question: Is one type of process generally recommendable over the other(s)?

Neither Bhavé's nor Sarasvathy's process types have so far been put to an acid test as regards the outcomes they lead to, so any evidence on the matter is tentative and/or indirect at best. Bhavé (1994) does not speculate about the relative merits of the two processes he identifies. However, it may be argued that Bhavé's “internally stimulated” process has two distinctive disadvantages, namely questionable commitment to entrepreneurship on the part of the individual, and consideration of but one business opportunity rather than choosing the most promising out of several. These may or may not be outweighed by the advantage that there is by definition a strong link between the business concept and the specific skills and interests of the entrepreneur(s). Other research has indicated that this fit between person and idea (or “opportunity”) is very important (Shane, 2000). Another advantage is that there is proof of at least some level of demand. In fact, it is in these cases proven demand that makes the entrepreneurs see their “private” problem solutions as business opportunities. Third, because these processes typically start on a small scale, they typically do not end with a very big crash in those cases when they eventually turn out not to be viable.

Sarasvathy (2001) is careful to point out that the effectuation process, while more descriptively valid in many cases, is not necessarily more normatively valid. That is, the effectuation model may sometimes describe better what entrepreneurs do, but this does not prove that these are right in doing so. They might have been more successful with a different approach. However, the fact that the effectuation model is modeled on the behavior of highly successful entrepreneurs indicates it has some normative merit. As Sarasvathy's conceptualization overlaps with Bhavé's the specific potential advantages are largely the same as those just described: fit with person, proven demand (before big investments), and limited damages if the effort fails.

The systematic empirical evidence that is available does not present a direct test of the process types described above, but it does cast light on planned, analytical and linear vs. emergent, creative and iterative. Delmar and Shane (2003b) interviewed 17 Swedish “expert entrepreneurs” about what they thought was the proper sequencing of start-up activities. The resulting “average” sequence is displayed below.

1. To write a business plan
2. To gather information about customers
3. To talk to customers
4. To project financial statements
5. To establish legal entity
6. To obtain permits and licenses (sig. diff. from 1)
7. To secure intellectual property (ditto 1, 5)
8. To seek financing (ditto 1, 3, 4, 5)
9. To initiate marketing (ditto 1-5)
10. To acquire inputs (ditto 1-5)

While the differences are small for the first five behaviors, we can at least conclude that the experts hold that planning should be done before the five activities at the bottom of the list. Overall, the sequencing seems more in line with a planned, analytical and linear than with the alternative. Further, when testing the sequencing suggested by the experts on the data from the Swedish version of the *Panel Study on Entrepreneurial Dynamics*, Delmar and Shane (2003b) could confirm that start-ups that adhered to this pattern were more likely to be successful. Based on a slightly different analysis of the same data the same authors have suggested that early planning specifically increases the probability of success (Delmar & Shane, 2003a).

Further support for a systematic rather than emergent approach can be found in research focusing specifically on the discovery process. Fiet and Migliore (2001) established that students following a systematic search strategy within a consideration set made more and better discoveries than those who merely tried to stay alert to business opportunities. In the context of internal venturing in young, owner-managed firms, Chandler, Dahlqvist, and Davidsson (2003) found that initiatives discovered through proactive search were implemented more rapidly than those discovered through reactive search or fortuitous discovery.

After 18 months there was no significant difference in survival, but initiatives discovered through proactive search had achieved significantly higher levels of sales and returns than the other two groups.

However, although Delmar and Shane's is arguable the most comprehensive effort to date to test the sequencing of the process on a representative sample their research is not without limitations. Their sample of experts was very limited and so is therefore the generalizability of their favored sequence. Feedback loops and later adaptations of earlier behaviors cannot be captured by the design they used. In addition, their sample of start-ups was dominated by imitative rather than innovative ventures (Samuelsson, 2001, 2004), presumably involving less environmental uncertainty. Further, Delmar and Shane's research suggests that advance planning is beneficial, but this does not necessarily mean that sticking to the plan is a good strategy. The business plan has several potential roles or uses:

1. It can be an *analysis tool* used to internally go through the strengths and weaknesses of the venture as well as the threats and opportunities potential customers, competitors and other environmental conditions present.
2. It can be a *communication tool* that explains the logic and goals of the business to other parties, such as banks, venture capital firms, and government agencies that issue required licenses and permits.
3. Writing a plan may increase the entrepreneur(s) own *commitment* to the realization of the project (Cialdini, 1988).
4. Finally, the plan can be used as a blueprint; as a detailed *guide to action*. First you plan; then you do what the plan says.

Delmar and Shane (2004) associate the positive effect they found in their research mainly with the second point, arguing that the existence of a written business plan increases the legitimacy of the new venture in the eyes of others. The plan may make it easier to get customers and investors to accept the business concept – although it may have to undergo radical changes after their initial acceptance. In the light of Bhavé's (1994) and Sarasvathy's (1999; 2001) research, the questionable part of the planning emphasis is (blind) use of the plan as guide to action.

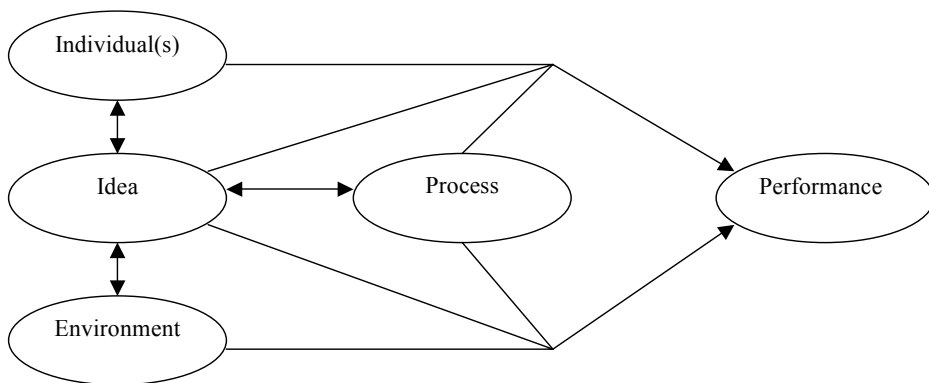
Further, based on data very similar to those used by Delmar and Shane, other researchers have arrived at conclusions more skeptic towards the value of extensive early planning (Carter et al., 1996; Honig & Karlsson, 2004; Samuelsson, 2004). Carter et al (1996) interpret their results as suggesting that for success in entrepreneurial endeavors one should engage in tangible and visible start-up behaviors that prove to others as well as to the entrepreneur that s/he is serious about the start-up. They do not see planning as one of those behaviors.

In summary, there seems to be advantages and disadvantages associated with all the process types we have discussed so far. Whether the advantages outweigh the disadvantages or not is likely to depend on the fit between the type of process and the other key factors – the individual(s) and the environment (as discussed above) as well as the characteristics of the business idea (“opportunity”). This brings us to the next section.

5. The Entrepreneurial Process as a Matching Problem

The model in Figure 2 aims at putting the entrepreneurial process into context, and to illustrate how the different components of entrepreneurship – individual(s), environment, idea, and process – interact in determining the performance of entrepreneurial ventures. A main point in the model is that there is no direct effect of process (type) on performance. Instead, it is assumed that the relative success of a particular process approach is contingent upon its fit with characteristics of the individual(s), the venture idea (or “opportunity”) and the environment. However, if “it depends” were all we could say not much would have been achieved. Fortunately, logic and empirical bits and pieces from different types of research arguable allow us to reach much farther than that.

Figure 2: How the Components of Entrepreneurship Fit Together



As regards *Individual(s) * Idea * Process* the literature strongly suggests that prospective entrepreneurs look not for business opportunities with maximum commercial potential for any entrepreneur, but for ideas where they can leverage their own unique interests and skills. This has been pointed out by influential authors who base their conclusions mainly on close-up familiarity with

entrepreneurship practice (Vesper, 1991; Timmons, 1999) and recurs in systematic empirical research. Shane (2000) compellingly demonstrated that different ventures based on the same basic innovation had vastly different commercial potential – but also that on the basis of prior knowledge each team possessed an ability to discover and/or exploit their particular idea but none of the others. Bhavé's (1994) “internally stimulated” process and Sarasvathy's (2001) “effectuation” both emphasize or imply fit between person and idea. While in many cases ideas leading to such processes were more or less stumbled over there is no strong empirical basis in the literature for suggesting that systematic search would not be possible, i.e., as regards fortuitous discovery one should not equate empirical ubiquity with normative validity. We noted above that Fiet's research (Fiet, 2002; Fiet & Migliore, 2001) showed more success for those who searched systematically within their idiosyncratic “consideration sets” (or “opportunity spaces”). Somewhat egocentric systematic search, then, seems to be the general recommendation that emerges from the literature as far as discovery goes (cf. Chandler et al, 2003; Dahlqvist et al, 2004).

When it comes to the exploitation process additional considerations complicate the picture. Gustafsson (2004), who derived her hypotheses from progress made within cognitive psychology, did not consider process explicitly in her design, but she tested one important aspect of how individual differences, namely expert vs. novice status, interacts with characteristics of the venture idea. Theory suggests – and Gustafsson's results largely confirm – that expert entrepreneurs will be able to alternate between analytical, heuristics-based and intuitive modes of decision making depending on the inherent degree of uncertainty of the task. Because experts display this type of behavior it is also assumed that this pattern of adaptations leads to better results. That part of the theory, however, has not been thoroughly tested in a systematic fashion.

It is here useful to think of low uncertainty ideas as what Sarasvathy, Dew, Velamuri, and Venkataraman (2003) call “opportunity recognition” – a situation where both supply and demand are essentially known; for example an imitative start-up or the opening of yet another outlet in a franchising chain. The other extreme is exemplified by what Sarasvathy et al (2003) call “opportunity creation” – potential breakthrough ideas for which neither supply nor demand are essentially known. Samuelsson (2001; 2004) has clearly established that the process and its success factors are different for innovative and imitative venture ideas, respectively. Gustafsson's theory and results suggest an expert entrepreneur would rely on analysis in the low uncertainty type of situation. In the high uncertainty situation the expert would rely on intuitive decision making, presumably implying less of a planned and linear process, because there is not enough reliable information to analyze. This makes sense because under conditions of high uncertainty, the fundamental problem with a planning approach is that there may be many things that cannot be planned in advance as a desk assignment. The most important parts of the analysis may not be possible to

carry out until one has received feedback from customers, and potential competitors' possible countermoves may make retaining flexibility more important than collecting and analyzing all available information in advance.

To complete the picture we should note that in medium uncertainty situations the expert may prefer a heuristics-based mode of making decisions. Further, it should be noted that "intuition" here does not imply some mystical, inborn quality but is based on the experts' experience, although the experts themselves may not be able to account for exactly on what basis they arrive at their decisions.

Characteristic for novices is that they are not able to discriminate between situations and therefore apply the same analytical or heuristics-based approach regardless of the degree of uncertainty involved. One conclusion that emerges from this is that expert entrepreneurs can engage themselves in any type of venture idea and rely on their ability to adapt the way the approach its realization to what the situation calls for. As regards novices one could of course try to teach them to adapt their behavior in a similar way. The problem is that they do not have the experience it takes to make sound, intuitive decisions. Therefore the inescapable conclusion seems to be that novices should go for low uncertainty ideas and implement them in a planned and orderly fashion, so as to make use of the analytical approach that is within reach for them. This means avoiding attempts to succeed with radically innovative ideas until they have gained more experience as entrepreneurs. If, however, that is the nature of the idea they are considering the advice would be to seek the alliance of more experienced partners and let them navigate through the process in the hope of getting a substantial fraction of a success rather than sole ownership of a failure.

Disregarding individual differences for a moment there are additional *Idea * Process* interactions, based on logical reasoning, which deserve some discussion. For example, the more the idea's implementation requires heavy investments to create the very first saleable unit, the less it lends itself to iterative and flexible process. Arguably, this is even more the case if the unit value to the customer is low; if it is very high a prospective customer can be brought in as partner and co-finance the project. For example, while a company like *Starbuck's* can grow organically from very humble beginnings it would not have been possible to start *USA Today* or *Federal Express* as a small business in one city. Sarasvathy's (2001) effectuation strategy is arguable most likely to be successful when short series are economical and value per unit is low. In such situations both producers and customers can afford to experiment without much risk, and that makes it easier for a new actor to get established without much fanfare. When short series are economical while unit value is high a low key, incremental strategy may be difficult to implement successfully because the customer may not want to take the risk of dealing with a small, unknown seller. In addition, if the high unit value also means high margins the incrementally acting start-up may easily be outrun by slower starters that take bolder action. In other words the liabilities of newness

and smallness (Aldrich & Auster, 1986) hit harder when the venture idea has these characteristics.

Turning now to the environment we noted early in this article that the idea of the *Ice Hotel* would be unlikely to emerge, and almost certain not to be successfully implemented, in environments characterized by high general levels of entrepreneurial activity and by what is generally thought of as a favorable climate. This demonstrates an *Environment * Idea* interaction that is important to consider both for individual entrepreneurs and for, e.g., policy makers and others engaged in issues of regional development. The importance of fit between idea and individual(s) has been emphasized above, and fit between characteristics of venture ideas and the unique resources of the firm is a central theme in Resource-based Theory (Barney, 1991; Wernerfelt, 1984, 1995). By essentially the same logic, regional development efforts ought to be directed towards identifying and utilizing the region's unique resources.

Our main focus here, however, is on the *Environment * Process* interaction. In line with the uncertainty arguments put forward above it may be assumed that causation processes, planning, and the early carving out of a narrowly defined business idea are relatively less commendable practices in dynamic and uncertain environments. In line with this reasoning, praise of improvisation, learning-by-doing, etc., is frequent in the literatures on dynamic capabilities and organizational learning (see Zahra, Sapienza, & Davidsson, forthcoming). A recent example of research within the entrepreneurship domain, which strongly supports the notion that more dynamic environments require incremental and flexible approaches to the process is a study by Hmieleski and Ensley (2004). In fact, their study can be said to capture the entire *Individual * Idea * Environment * Process* package, as they include degree of change of the venture idea (idea/process), proclivity for improvisation (individual/process) and environmental dynamism as their predictors of new venture performance. For our current purposes the most important aspects of their results are the following. First, they found that under conditions of high environmental dynamism a high degree of change of the original business idea lead to performance advantages in terms of sales revenue and growth. Second, proclivity for improvisation likewise led to superior performance under high environmental dynamism. Third, under conditions of low dynamism there was no or negative payoff to improvisation and degree of change of the business idea. Again, then, we find support for the non-existence of a generally preferable approach to the entrepreneurial process, and instead support that what really matters is the matching of the process to the characteristics of the idea, the environment and the individual(s).

6. Conclusion

This article has argued that entrepreneurship consists of an array of decisions and actions, and therefore is best conceived of as a behavioral *process* that unfolds over time. Such a perspective is particularly useful for educational purposes. The process can be further subdivided into *discovery* – the idea development – and *exploitation* – the actual behaviors undertaken in order to realize the idea. Importantly, these two sub-processes are best conceived of not as sequential, but parallel and interrelated. The discovery and exploitation processes feed back on one another.

Contrasting pairs of entrepreneurial processes have been discussed above: Bhavé's (1994) internally vs. externally stimulated processes and Sarasvathy's (2001) causation and effectuation processes. It is on the basis of current, research-based knowledge not possible to say that one type of process is generally superior to any other. However, it definitely seems to be the case that rationalistic and linear process descriptions often do not match well with what practicing entrepreneurs actually do. There are also indications that they may sometimes be wise in deviating from such models. The most important issues appear to be the *fit* between the process and the other key elements of entrepreneurship: the individual(s), the environment, and the idea. It is reasonable to believe that the higher the degree of uncertainty involved in the process, the more important it is to take small, trial steps forward at as small a cost as possible, and to remain open to reconsidering the business idea and the way to implement it until a concept that truly works has been found.

For entrepreneurship education the obvious implication of the themes discussed in this article is caution against singular focus on one winning recipe. While the above analysis suggests recommending students to search systematically for ideas related to their prior knowledge, experience and interests is sound advice, no equally general advice can be given as regards the approach to exploitation of ideas. Given the ubiquity of analytical and rationalistic business planning approaches to the teaching of entrepreneurship it is particularly important to emphasize that the entrepreneurial process implied by such an approach is unlikely to be the most successful way to exploit venture ideas with high inherent uncertainty, or to exercise entrepreneurship in highly dynamic environments. Emphasis on the business plan as a blueprint to action is especially questionable; its importance as a communication tool is much less questioned in the literature, if at all.

However, a systematic and planned approach may fit well with the low uncertainty ideas that suit relatively inexperienced prospective entrepreneurs better as first attempts to set up a new economic activity on one's own initiative. Therefore, it is equally important to point out that a singular focus on flexible and improvised ways to implement highly uncertain venture ideas is no more commendable as a general recipe. This may be particularly important to bear in

mind when the audience is made up of undergraduate students. In short, what the literature suggest needs to be transferred to students is not a single recipe, but an ability to evaluate venture ideas and environments in order to assess whether systematic and planned process applies, or a more iterative and flexible approach is called for.

For future research the implication is that the design should be more sophisticated than assuming direct, additive and universal effects across heterogeneous samples of ventures. Instead, the design should either explicitly focus on interactions between key variables with respect to outcomes, or concentrate on relatively narrow empirical contexts (e.g., more homogeneous samples of ventures) and restrict the generalizations to that specific type of context. An inspiring example of the former strategy is the Hmieleski and Ensley (2004) study referred to above. As regards the latter strategy the study by Baum and Locke (2004) is an excellent role model.

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Table A1: 23 Gestation Behaviors and 48 Gestation Sequence Questions

<i>Gestation Activity</i>	<i>Question</i>
1 Business Plan	Have you prepared a business plan?
1 Business Plan	Is your plan written, (includes informally for internal use)?
1 Business Plan	Is your plan written formally for external use?
2 Development of product/service	At what stage of development is the product or service that will be provided to the customers?
3 Development of product/service	Idea or concept
3 Development of product/service	Initial development
3 Development of product/service	Tested on customers
3 Development of product/service	Ready for sale or delivery
4 Marketing	Have you started any marketing or promotional efforts?
4 Patent/copyright	Have you applied for a patent, copyright, or trademark?
4 Patent/copyright	Has the patent, copyright, or trademark been granted?
5 Raw material	Have you purchased any raw materials, inventory, supplies, or components?
6 Equipment	Have you purchased, leased, or rented any major items like equipment, facilities or property?
7 Gathering information	Have you gathered any information to estimate potential sales or revenues, such as sales forecasts or information on competition, customers, and pricing?
7 Gathering information	Have you discussed the company's product or service with any potential customers yet?
8 Finance	Have you asked others or financial institutions for funds?
8 Finance	Has this activity been completed (successfully or not)?
8 Finance	Have you developed projected financial statements such as income and cash flow statements, break-even analysis?
9 Saved money	Have you saved money in order to start this business?
10 Credit with supplier	Have you established credit with a supplier?
11 Household help	Have you arranged childcare or household help to allow yourself time to work on the business?
12 Team organized	Have you organized a team who start the business together?
13 Workforce	Are you presently devoting full time to the business, 35 or more hours per week?
13 Workforce	Do you have any part time employees working for the new company?
13 Workforce	How many employees are working full time for the new company? One?
13 Workforce	How many employees are working full time for the new company? Two?
13 Workforce	How many employees are working full time for the new company? Three or more?
14 Non-owners hired	Have you hired any employees or managers for pay, those that would not share ownership?
15 Education	Have you taken any classes or workshops on starting a business?
15 Education	How many classes or workshops have you taken part in? One only
15 Education	How many classes or workshops have you taken part in? Two only
15 Education	How many classes or workshops have you taken part in? Three or more
16 Contact information	Does the company have its own phone number?
16 Contact information	Does the company have its own mail address?
16 Contact information	Does anyone in the team have a mobile mainly used for the bus?
16 Contact information	Does the company have its own visiting address?
16 Contact information	Does the company have its own fax number?
16 Contact information	Is there an e-mail or internet address for this new business?

Table A1: (continued)

16 Contact information	Has a web page or homepage been established for this business?
17 Support agency contact	Have you contacted any support agency about this start-up?
18 Gestation Marketing	Have you started any marketing or promotional efforts?
18 Gestation income	Do the monthly expenses include owner/manager salary in the computation of monthly expenses?
19 Obtained licenses	Has the new business obtained any business licenses or operating permits from any local, county, or state government agencies?
20 Legal form	Has the new business paid any federal social security taxes?
21 Legal form	Has the company received a company tax certificate?
22 Start-up benefits	Have you applied for start-up benefits? (cf. U.K. 'enterprise allowance scheme')
22 Start-up benefits	Has the application (the answer) regarding start up benefits been completed?
23 Tax certificate	Has the new business received a company tax certificate?
