

ENTREPRENEURSHIP AS A PROCESS: TOWARD HARMONIZING MULTIPLE PERSPECTIVES

ABSTRACT

The objective of this paper is to discover what is both generic and distinct to the entrepreneurial process. Our approach to this task is to evaluate extant models of entrepreneurial process to discover what entrepreneurs do and how they do it; in essence, to investigate the key commonalities associated with the phenomenon. It is in our analytical judgment that current models of entrepreneurial process are insufficient for establishing an infrastructure upon which to synthesize and focus key works to date. Insights gained are packaged into suggestions for future research stressing the importance of an attempt to develop a unified model of entrepreneurial process.

INTRODUCTION

What is both generic and distinct about entrepreneurship as a process? This is the ‘double-barreled’ question which Hindle (2007, 2010) believes may hold the key to resolving many contentious issues about the nature of entrepreneurship as a field of both practice and theory. To determine whether entrepreneurship is genuinely different from any other extant and well studied phenomenon (thinking particularly of management) this question penetrates many layers of interest, meaning and approach to understanding the nature of entrepreneurship by seeking to determine what *always* happens in every set of activities classifiable as constituting an ‘entrepreneurial’ process that *never* happens in any other type of process. Unless what we call ‘entrepreneurship’ involves a process that has at its core something simultaneously generic and distinct, we are either talking about an eclectic set of processes

that have no mutual coherence or a coherently connected set of activities that could just as well be classified with another label.

With this question as its principal driver, the purpose of this paper is to examine the extant set of entrepreneurial process models to discover whether there are any generic core factors and relationships strongly supported by evidence and/or strongly believed by researchers to be first, significant to the entrepreneurial process (this does not require that they be distinct) and second, which, if any of these factors, is distinct to entrepreneurship.

In other words, in this paper, we strive to find common denominators within the extant literature that may serve as foundation to understanding the entrepreneurial process in a systematic and comprehensive way that is useful to scholars *and* practitioners. We focus particularly on diagrammatically illustrated models of entrepreneurial process rather than verbally described models because the former are deemed more likely to exhibit the qualities pertaining to good theory (generality, accuracy and simplicity) as well as qualities that are aligned with practical outcomes, (functionality, utility and transferability) both pedagogical and professional (McKelvey 2004). By adopting an epistemology of process for examining the field, we effectively narrow the focus of our study to the 'how' of entrepreneurship, the critical factors that impinge upon agents who 'do' and the socio-spatial contexts in which entrepreneurship is done. Secondary to this task, we seek to identify patterns that may provide insight into several pressing questions relevant to the domain of entrepreneurship research. We assess the problem of balance between theory and practice against several of the challenges that currently beleaguer the progression of the field.

ENTREPRENEURSHIP RESEARCH: HARMONY, DISCHORD OR UNCOMFORTABLE TRUCES?

Two closely linked and highly provocative questions in the field of entrepreneurship research are: “what exactly do entrepreneurs do that is distinct from managerial functions” and specifically, “how do they do it”? (Leibenstein 1968; Busenitz and Barney 1997) Review of the literature conveys a multitude of perspectives that share common roots but have emerged as theories that demonstrate a wide range of variance. A third interrelated, but less explored question is whether or not there is a growing disconnect between scholarly theory development and empirical theorizing from the study of the practice of entrepreneurship (Aldrich and Baker 1997; Hoy 1997; Davidsson 2000). It is our assertion that the latter may be used to inform the first two questions by investigating what scholars believe to be the essence of the phenomenon and by which means they use to study it. In his lament for the future of the entrepreneurship paradigm, Bygrave (2006) emphasizes his great concern with trends that show little balance in the use of theory and induction. He goes on to suggest several prescriptions, such as abandoning reductionism, relying more on frameworks deduced from observation, a return to excellence in routine research, cumulative field work and less emphasis on complex statistical models, revolutionary theories or creative methodologies. This perceived impasse between philosophy and method is evidenced by a sizeable corpus of literature that explores the growth and trajectory of entrepreneurship research. Its significance and implications extend across several other areas pertaining to the field that involve issues of legitimacy, purpose and differentiation (Gartner 1990; MacMillan 1991; Venkataraman 1997; Shane and Venkataraman 2000; Davidsson, Low et al. 2001; Gartner 2001; Phan 2004; Cornelius, Landström et al. 2006; Schildt, Shaker et al. 2006).

For example, there is considerable disagreement between scholars as to the nature of entrepreneurship as an academic discipline: is it better suited as an applied management field which research objectives should accordingly be driven by a problem solving agenda that consists of practice based theorizing and pedagogy, or should the rules of social (or even natural) science govern research mandates with emphasis on exploratory theory building (Whitley 1984; Katz 2003; Phan 2004)? Should there be a push for greater conceptual convergence (or even a unified theory), or is their strength to be derived from an interdisciplinary, novelty driven approach that incorporates theory from other fields (Amit, Glosten et al. 1993; Shane and Venkataraman 2000; Grégoire, Martin et al. 2006)? Is there a need to differentiate entrepreneurship research from other closely related domains in the management sciences, such as strategic management or is there fruitful cross-fertilization that may be achieved (Hitt, Ireland et al. 2001; Shane and Venkataraman 2001; Zahra and Dess 2001)?

Several authors suggest that the study of process, although not prominently employed by researchers in the field, is at the epicenter of the debate on the nature of entrepreneurship; having much unexplored potential for understanding, if not unifying a highly disparate research domain (Low and MacMillan 1988; Ucbasaran, Westhead et al. 2001; Bygrave 2006; Zahra 2007). We argue that there is both merit and opportunity for balancing pure theory development with practice based theorizing and adopt an epistemological approach that employs a process based worldview to examine the phenomenon of entrepreneurship (Whitehead 1929). It is our position that researchers must re-engage efforts in laying a proper foundation upon which extant conceptual frameworks may be successfully integrated (Van De Ven 1993; Steyaert 2007). This position aligns with several other scholars who view theory as a continuum rather than a competitive and dichotomous form of scientific evolution (Runkel and Runkel 1984; Van Maanen, Sörensen et al. 2007). It allows for

thorough evaluation, use and synthesis of what Weick (1995) refers to as the “interim struggles” that are considered as valuable contributions, even if they exist only as approximations of theory (Staw and Ross 1987).

Our approach entails a review of authors who view the phenomenon of entrepreneurship through a focus on process: what entrepreneurs actually do and how they do it. The use of process theory to indirectly frame the academic examination of entrepreneurial activities has produced several insightful observations and informs several researched themes and issues prominently related to entrepreneurship, such as the study of planning and design (March and Simon 1958; Merton 1968; Weick 1978), organizational evolution (Aldrich 1979; Nelson and Winter 1982; Gersick and Hackman 1990), life cycle theory (Schumpeter 1934; Kimberly 1980; Burgelman and Sayles 1986) and conflict based reasoning or dialectics (Blau 1964; Lindblom 1965). Therefore, the task at hand is to compile an extant set of conceptually and empirically derived models of entrepreneurial process for the purpose of comparison and contrast.

We then examine the issues raised by asking the following questions:

- 1) is process theory well suited for the exploration of the phenomenon of entrepreneurship?
- 2) do the extant models of entrepreneurial process suggest a convergence in identifying what entrepreneurs do and how they do it,?
- 3) are extant entrepreneurial process models of entrepreneurship conceptually or empirically derived?
- 4) how do they contribute to both theory and practice?
- 5) do any of the extant models attempt to answer or provide some insight into answering our focal question ‘what is both generic and distinct about the phenomenon of

entrepreneurship' in a way that may add clarity and focus to entrepreneurship as a field of both practice and research.

These questions constitute the research problem addressed in this paper.

The rationale for our approach starts with the fact that, at least nominally, if not substantively, the allusion to and study of entrepreneurial process is pervasive throughout the literature (Low and MacMillan 1988; Steyaert 2007). Often, processual models of entrepreneurship appear without explicit reference to their theoretical underpinning (Ucbasaran, Westhead et al. 2001). Consequently, they are infused with and informed by a multitude of different perspectives which are often not easy to identify or trace. Thus, over time, repetition without reflection often takes hold. Meanwhile parts of the process problem may be examined in the absence of consideration of the whole and many specific concepts or frameworks have appeared and are now accepted by most scholars as fundamental to the entrepreneurial process. These include: the establishment and usage of social networks (Birley 1985; Johannisson, Alexanderson et al. 1994; Jack and Anderson 2002); the concept of opportunity (Shane and Venkataraman 2000; Davidsson, Low et al. 2001; Shane and Venkataraman 2001; Eckhardt and Shane 2003; Van de Ven and Engleman 2004); the cognitive processes and routines of successful entrepreneurs (Baron and Ward 2004; Mitchell, Busenitz et al. 2004; Sarasvathy 2006) and the study of environmental or contextual factors (Gartner 1985; Gnyawali and Fogel 1994) that constrain or support the facilitation of entrepreneurial agents (Leibenstein 1968). One uniting theme throughout all of these emerging perspectives – which might otherwise be considered as insulated from one another – is that the authors of these studies all implicitly or explicitly believe that there *is* such a thing as entrepreneurial process. They may only deal with part of it but they believe a whole exists.

To get a stronger understanding of the whole of entrepreneurial process, if such a thing does exist, this paper is structured as follows. First, we examine reasons why the study of process is directly relevant to entrepreneurship. We suggest that it is well suited for both theoretical examination and for practical application to pedagogy and professionalism. Second, we examine how a perspective stressing entrepreneurial process as the core unit of analysis (rather than, say, the entrepreneur or the entrepreneurial venture) has been used to study entrepreneurship and we evaluate several works by authors who have employed this emphasis. We formulate this review into a set of criteria for analyzing extant models of entrepreneurial process. Third, we set up a methodology that defines the parameters for identifying ‘acceptable’ models of entrepreneurial process. A taxonomical framework for primary categorization is also presented. Fourth, a literature search is conducted based upon the guidelines set out in the methodology. We have attempted to be comprehensive in our study by examining all illustrated models of entrepreneurial process that fall within our parameters. Those models that appear to offer at least a partial answer the question: “what is both generic and distinct to the entrepreneurial process?”, are then evaluated to determine if any may serve as a theoretical platform with characteristics that make it amenable to focusing and harmonizing a multitude of varying research streams in the entrepreneurship field. Fifth we discuss our findings and offer our view of potential limitations to the study. The implications that flow from this research are discussed: particularly the need for a new, overarching generic model of entrepreneurial process capable of synthesizing the best features of what turns out to be an eclectic and fragmented set of no-comprehensive models. Last, a conclusion is presented and insights gained from the study are enumerated to help guide further research efforts.

A PROCESS BASED VIEW OF ENTREPRENEURSHIP

The language of change, action and novelty are hallmarks of a process orientation while events are framed by terms like flow, creation and 'becoming' (Van de Ven and Poole 1989; Aldrich and Martinez 2001; Steyaert 2007). This perspective is argued to comport well with the study of entrepreneurship; which is fundamentally an *action based* phenomenon that involves a highly interrelated set of creative, strategic and organizing processes. Therefore, this section seeks to provide a general understanding of process theory and discuss its potential for empirically investigating questions central to entrepreneurship research.

Process Theory

Process theory is founded upon a worldview that conceptualizes processes, rather than objects as the basic building blocks of how we understand the world around us. This fundamental philosophical viewpoint is shared by scholars including Henri Bergson, Alfred North Whitehead and Martin Heidegger who argue in their various ways that the world can be understood through a series of input/output relationships and that all complex states arise from simpler states. Through process theory, reality is interpreted as a continuous string of changing states of existence categorized into sets of 'occasions of experience' that can then be classified into distinct processes (Whitehead 1929). Researchers guided by the study of process are thus critically interested in change focused through the question of the 'how' of a particular outcome. The questions concerning what, why, when and who are a second order consideration used in support of the first. The outcome studied can be as varied as how one becomes an alcoholic, or how to catch a trout, making it applicable to all realms of science and practice. Researchers who study process are interested in the recursive properties attached to creation, success and performance, making the concept applicable across many academic disciplines in the social sciences.

Aldrich (2001) distinguishes between two major perspectives of process theory relevant to management studies: event based and outcome based processes. Outcome driven research presents two problems: 1) explanations are built backwards upon the selection of a dependent variable, introducing the potential for research bias and 2) events are only observable at one point in time, regardless of whether the event extends to all individuals or organizations under study. In contrast to outcomes based explanations, event driven explanations are built forward and are observed over time (yet inexorably linked to historical perspectives). As the causal processes sought in an event driven explanation are to be discovered through the methods selected, they must be well guided by theory or observation. Several authors have argued for an event based approach, citing the problems and limitations of the outcomes based approach (Low and MacMillan 1988; Van de Ven 1992; Shane and Venkataraman 2000; Davidsson and Wiklund 2001). Yet there are several constraints facing researchers looking to empirically test event based explanations of entrepreneurial phenomena. Chandler and Lyon (2001) provide empirical evidence that support this assumption. They find that 80 percent of studies published in the entrepreneurship literature reflect empirical outcomes based research while only 20 percent are event driven, with even a smaller grouping of studies using longitudinal methods. These patterns are explained by: 1) a lack of access or support for longitudinal research, 2) fewer management trained scholars with event driven methods training 3) the commitment of time and resources required to conduct in depth discovery of process events, and 4) little understanding of what constitutes good theory, methods, and practice (Langley 1999; Van de Ven and Engleman 2004). We also commit the observation that the field of entrepreneurship research is driven by pockets of elite scholars have varying perspectives, backgrounds and are subject to very

little overarching leadership. This combination of factors makes it difficult to establish well directed research efforts that encompass researchers from across the field¹.

Variance and Process: The Two Major Streams of Process Study

While Aldrich grouped the study of processes by classifying them into events and outcomes, several authors have concentrated upon the methods involved to establish two divergent streams of process theory that are based upon fundamentally different ontological and epistemological assumptions of change that are incompatible with one another (Bruner 1991). Mohr (1982) splits the study of process into two divergent theories that operate on radically different procedures for verification: process (narrative) and variance (causal) theories (Abell 1987). While Mohr's (1982) stance on variance and process theory is explicitly dichotomous, Langley (1999) holds a more differentiated view of process that suggests both narrative and variance perspectives are required to fill gaps and detect blind spots generated by varying epistemological approaches and methods (Hindle, 2004). Because narrative is particularly sensitive to the temporal dimension of human existence, it pays special attention to the sequence in which actions and events occur, although 'sequence' may be 'knotted' in recursive and/or highly interrelated and complex movements (Polkinghorne 1988). Thus a drawing together of both approaches can strengthen theory development and create a higher order of meaning that discloses relationships among states of affairs that may be amplified through a deeper understanding of causality (McKelvey 2004). The next section discusses the implications of variance based and narrative based approaches to the study of entrepreneurial process.

¹ Many of the key conferences in entrepreneurship, such as Babson's Frontiers of Entrepreneurship Research, The Academy of Management Entrepreneurship Division, and USASBE have not insisted on focusing research efforts, but instead appeal to interest based researchers through asking for submissions across a wide range of themes and categories.

Entrepreneurial Process

To guide the initial discovery of our study, we initially and tentatively adopt William Bygrave's definition of the entrepreneurial process as involving "all the functions, activities, and actions associated with perceiving opportunities and creating organizations to pursue them" (Bygrave 2004). We have inferred from what Bygrave states that much of the variance around explaining success will ultimately reside with the entrepreneurial capacities of each individual, and of course, a host of other specific factors that limit, constrain or contextually frame the activity (Bygrave 2006). But the true inspiration that emerges from Bygrave's words resonate in his argument that through development and practical application of good theory, there is great potential for making students *better entrepreneurs*. We assess whether or not this balance is being sought.

Studies show that there is a prevailing quantitative methodological bias in entrepreneurship research (McDonald, Gan et al. 2004). Indeed, "researchers have thus far explained entrepreneurship not as the creation of artifacts by imaginative actors fashioning purpose and meaning out of contingent endowments and endeavors, but as the inevitable outcome of mindless 'forces', stochastic processes, or environmental selection" (Sarasvathy 2001). Furthermore, "entrepreneurship begins with a disjointed, discontinuous, non-linear (and usually unique) event that cannot be studied with the methods developed for studying smooth, continuous, and linear (and often repeatable) processes" (Bygrave 1989). In a paper of significant importance to entrepreneurship researchers, Gartner (1985) provides a framework for describing new venture creation. It classifies the factors significant to any new venture process into four key areas: individual(s), organization, environment, and process. Gartner argues that his framework effectively integrates the field of entrepreneurship research into a necessary set of dimensions that are essential to understanding the processes fundamental to the outcomes of all entrepreneurship: the creation

of new firms. By articulating the complexity of the processes acting through this framework within a kaleidoscope metaphor, it is inferred that studying any one of the variables in isolation from the others would potentially weaken its scholarly contribution; and that to better learn about how new ventures are formed requires in depth description of the interactions of variables within each dimension (McKelvey 1982). Rigorous comparison and contrast of these variables would be necessary to create patterns that could then be tested. Although there may be disagreement with respect to the definition of entrepreneurship used by Gartner, (Kirzner 1997; Shane and Venkataraman 2000) it is taken from his thesis that the study of process in the field of entrepreneurship is vastly under used.

But would a general, accurate and relatively simple model of entrepreneurial process ever be capable of embracing the diversity of activity and guiding research in a complex field? Could it also embrace and build upon extant concepts and theories believed to be significant to the entrepreneurial process, such as intentions (Krueger, Reilly et al. 2000), bricolage (Baker and Nelson 2005), opportunity discovery (Kirzner 1997) effectuation (Sarasvathy 2001), counterfactual thinking (Gaglio 2004) and innovation (Drucker 1985) across several interrelated and variable-laden domains? (Gartner 1985) Some scholars argue the impossibility of building theoretical models of complex social behavior that are also general, simple and accurate (Thorngate 1976). The challenge of human complexity makes it less likely that a singular theory will be sufficiently *embracing* and *general* to explain an action based phenomenon such as entrepreneurship in a highly useful manner in a wide variety of circumstances. Nevertheless, we propose an examination of extant entrepreneurial process models by employing a test aimed at assessing, distinctness (i.e. the process applies to entrepreneurship in particular not management in general), generality (some variant of this process is observable in every case capable of being labeled 'entrepreneurship'), accuracy (there is an evidential basis for the process claim) and simplicity (the totality of the model is

not so complex that it borders on impracticality as a guide for practitioners and researchers). Evaluating extant models of entrepreneurial process for what they suggest is both generic and distinct about the entrepreneurial process may also turn out to be a point of differentiation that is potentially paradigmatic for the field and foundationally important to the evolution and balancing of theory and practice.

METHODOLOGY

In this section we review literature on theory, model building and theorizing from process to devise a framework for evaluating an extant set of illustrated models of entrepreneurial process.

A Structure for Examining the Extant Models of Entrepreneurial Process

Our task is to assemble the extant set of works that use illustrated models in theory development to determine how researchers in the field conceptualize the phenomenon of entrepreneurship specifically from a process perspective. We are interested in evaluating this set across several categories: 1) epistemology, 2) method used, 3) purpose, 4) the primary framework of the model, 5) the factors deemed significant to the function of the model 6) explanatory power, 7) level of analysis, and 8) whether or not the model presents a clear, parsimonious and accurate depiction of the entrepreneurial process that may be insightful to determining what is both generic and distinct to the phenomenon.

At this point we will clarify what we mean by the term ‘model’. Models, especially illustrative models are not automatically synonymous with theory. But they can be, especially if they explain a phenomenon and demonstrate the qualities of generality, accuracy and simplicity. Second, we draw upon Bacharach (1989) for a brief summation of what theory is: “A theory is a statement of relations among concepts within a set of boundary assumptions and constraints. It is no more than a linguistic device used to organize a complex

empirical world.” To determine if a model is actually a theory, Merton provides an articulate set of criteria or rules for evaluating if an alleged theory is actually only an approximation of theory:

- 1) general orientations in which broad frameworks specify types of variables people should take into account without any specification of relationships among these variables*
- 2) analysis of concepts in which concepts are specified, clarified, and defined but not interrelated*
- 3) post factum interpretation in which ad hoc hypotheses are derived from a single observation, with no effort to explore alternative explanations or new observations*
- 4) empirical generalization in which an isolated proposition summarizes the relationship between two variables but further interrelations are not attempted. (Merton 1967)*

Taking into account these guidelines, we construct an approach to evaluating models of entrepreneurial process.

Epistemology and Methods Used

We are interested in the theories and concepts that are used to guide the development of the models studied, and whether they are using one of several theories important to the study of process. Steyaert (2007) presents a comprehensive enumeration of the theories used in process based studies of entrepreneurship culminating in his observation of eight epistemological approaches: equilibrium-based, order creation, interpretive and phenomenological, social constructionist, pragmatist, relational materialist, social ontology of becoming. Each of these approaches has implications for theory and practice. They also may have implications for methods used. The theories or concepts used to ground the model, whether the author states there are implications for theory or practice, and methods used are also enumerated.

Four Distinct Types of Process Model

Models of process may be grouped into 4 general classifications (Van de Ven 1992; Phan 2005), each with a specific purpose (see Table 1) that may overlap with general methods used. They are often associated with certain epistemological or methodological approaches. Primary frameworks are evaluated by assessing the key components, events, or stages while factors deemed significant may be any mediating or moderating variables that are presented within the model. Enumeration, as well as comparison and contrast of the stages and factors may help to discover patterns across the sample.

Insert table 1 here.

Unit of Analysis, Explanatory Power, Generality and Distinctness

The unit of analysis of any model may be focused on the individual (IND), a group or team (GI), an organization or firm (ORG), the meso-environment (MES), community, region, etc., where the environment and entrepreneur may interact and influence one another or the macro environment (MAC), exogenous to the entrepreneurial process where there is little influence by the entrepreneur on the environment at large. Models that use more than two levels of analysis are categorized as multiple. Models are also rated on whether they are contextually focused on the phenomenon of entrepreneurship: narrowly specific (one event), broadly specific (a certain type of event, theme, or industry), mixed general (applies to entrepreneurship and other management processes), general (specifically applied to entrepreneurship in very broad and potentially ambiguous terms), generic and distinct (applies specifically to all forms of entrepreneurship and elaborates upon what is distinct to the entrepreneurial process). The explanatory power of the model is judged by specificity of assumptions regarding processes/events, the relationship to each other, scope and predictive accuracy (Bacharach 1989) and is thus ranked in ordinal fashion to reflect these criteria as

low (no specific explanation of factors), medium (definition and/or potential significance of factors to process) or high (interrelationships between factors and process).

Study Parameters, Data Collection and Taxonomic Methods

The parameters of our data search were to examine all peer-reviewed journal publications and scholarly books published in the last forty years that presented an illustrated process model that was specifically defined, conceptualized or focused upon the phenomenon of entrepreneurship. Educational models from textbooks that did not cite either a conceptual or empirical foundation were omitted. Databases such as Google books, Google scholar, EBSCO host and ABI/Inform were searched using multiple paired sets of keywords: 1) entrepreneurship, new venture creation, opportunity, and 2) process, models, sequence, events. The search culminated in over 100 papers or books that were then pared down to 27 works by using simple criteria that eliminated redundancy and employed the use of the following question: “does the model focus specifically on the process of entrepreneurship?” The models were first classified using a taxonomic matrix composed of the headings previously discussed (table 2). Analytical comparison of the models then produced a simple statistical overview of the canon of academic entrepreneurial process models summarized in table 3.

Insert table 2 here.

Insert table 3 here.

FINDINGS

Twenty seven formally illustrated models of entrepreneurial process were discovered, and classified. The majority were of a static framework (does not capture sequence of dynamics) or stage model (a priori stages major tasks or phases) design. Process dynamic models were fewer in number with only one quantification sequence study found. The key

components/events/stages category demonstrated little uniformity other than patterns forming around typical life cycle stages (such as pre-venture, birth, growth, death), or a focus on stages or events based on the concept of opportunity or cognitive phases that involved decision making. Variables/factors/actions were also highly diverse and at times, overlapped with the key components/events/stages category. Of the 27 models, 17 were conceptual constructs and 10 were based on empirical evidence. Of the empirical studies, 3 used both qualitative and quantitative methods. The individual unit of analysis – i.e. the entrepreneur – was the most focused upon, while organizations were the second most used unit of analysis and 12 models encompassed multiple units of analysis. Strongly confirming Bygrave's (2006) contention that entrepreneurship research is becoming more and more aloof from any nexus with practical utility, only 6 of the models explicitly stated practical implications for the research conducted. Of the models classified as general (12 studies), only 3 were found to have a 'high' explanatory power. Those that were specific or broadly specific were limited in their findings to either a single case (1) or to a specific theme that consisted overwhelmingly of corporate entrepreneurship (7). Only 4 of the 27 models, works by Gartner, (1985), Sarasvathy (2006), Shane, (2003) and Bruyat and Julienne, (2000) were considered as an attempt to address the key issue of defining and explaining entrepreneurship by what was simultaneously generic and distinct about the process. These four models are further scrutinized below.

Analysis of Models: The 'Generic and Distinct' Nature of Entrepreneurial Process

The first model considered is Gartner's (1985). Gartner's intention for the model is to provide a general framework upon which the variance associated with the new venture creation process (each process being unique) can be adequately compared and contrasted in order to focus upon the differences between entrepreneurs and the organizations they create, rather than the differences between entrepreneurs and non-entrepreneurs. Although it is

explicitly stated that a specific developmental model of new venture creation is not conveyed by the framework, Gartner does present an account of six process components observed by scholars as being commonly shared (or generic to the entrepreneurial process): 1) they locate business opportunities, 2) they accumulate resources 3) they market products and services 4) they produce products 5) they build organizations, and 6) they respond to government and society. Unfortunately, none of these process components can survive the test of describing behavior that is distinct to the entrepreneurial process. On their own, each of these processes may be carried out by actors who would not be considered as engaging in entrepreneurial activities. However, Gartner implicitly points to what he believes is a process distinct to entrepreneurs through the framework developed: the entrepreneur is involved in a multi-dimensional process of organizational *emergence* that is focused upon the creation of a new venture that is independent, profit oriented and driven by individual expertise. The *newness* attached to this process is linked to products, processes, markets or technologies where the firm is considered a new entrant or supplier to a market. Furthermore, the conceptualization does not limit where the new venture may emerge from (such as a corporation spinning out a new venture through an independently structured company, for example), as long as the criteria of independence, profit motive and individual expertise are met. In other words, if there is no new venture (emergence), there is no entrepreneurship, and only entrepreneurs start new ventures.

Insert figure 1 here.

This model is at first extremely appealing due to the apparent simplicity, explanatory power and clarity of the model as presented and defined. Unfortunately, there are several issues that may be seized upon as problematic when evaluating the perspective of emergence in regard to what is both generic and distinct to the entrepreneurial process. First, it is not clear whether or not the intention to start a new venture is inclusive of the distinctness conveyed

through this concept. If an individual engages in the process of emergence as outlined above, but for some reason does not complete the process, sells the idea, fails, or succeeds but does not satisfy the principles of profit, independence, or individual “expertise” associated with the new venture creation process, can it still be considered entrepreneurship? Second, the aspect of profit oriented goals as a foundational element upon which to conceptualize what is generic to all entrepreneurship is subject to debate. There are currently several definitions of entrepreneurship that encompass a social perspective that define the entrepreneur as an agent who engages in transformative and value creating activities that does not involve a focus on personal or stakeholder wealth (Austin, Howard et al. 2006). As well, there is growing agreement among scholars that profit motivation alone cannot explain the behaviors of entrepreneurs (Lazear 2005). Third, while the issue of newness is raised (with technology expertise being one of the individual drivers), it is ambiguous, especially from the perspective of innovation. As there is common agreement that entrepreneurship and innovation are highly interrelated (Schumpeter 1934; Drucker 1985), the concept of emergence would be better served by accounting for innovation within the scope of “what is novel about a new venture”. Thus the process of new venture emergence in Gartner’s model may be associated with non-innovative outcomes that may generate profits, but would not be considered by many scholars as creating new “innovative” value, that is generic to all entrepreneurial processes (van Praag 1999; Parker 2004). We will continue our evaluation of other models before making a final judgment on the question of distinctness.

The second model selected for detailed scrutiny resides within a paper by Bruyat and Julienne (2000). In this study, the state of entrepreneurship research is examined with an eye to discovering and synthesizing a non-deterministic functional definition that best epitomizes the field of work to date. They review the foundational work of early scholars to emphasize two competing positions: 1) that the entrepreneur is a person differentiated from risk taking

capitalists, who creates a business of any kind through the organization of production factors to create value (a position held by Turgot and Say), and 2) that the entrepreneur is a risk taking innovator and through this exceptional talent may affect the economy in some way in order to appropriate profits (a synthesis of Cantillon and Schumpeter). They stress the importance of definition as a construct that is only useful as a tool when it may 1) enhance the effectiveness and quality of empirical research; 2) is accepted by a majority of researchers, and 3) that facilitates an understanding of the phenomenon of new value creation to ably predict levels of performance.

Insert figure 2 here.

Adopting a social constructionist approach, a review of the literature points them to the individual(s) pursuit of new value creation as being what is both general and distinct to the entrepreneurial process and is used as the basis of their model of process. Unlike Gartner, Bruyat and Julienne do not limit entrepreneurship to the emergence of a new firm, and also consider the issue of temporality (that is a functional characteristic of all process theory). They pose the question: “does intent to start a new business make one an entrepreneur”? Their interpretation is a resounding “no”. They suggest that individuals at this stage would be considered a “developing entrepreneur”, but not an entrepreneur, per se. Only when the individual commits to the project of creation does the process formally become dialogically engaged: the individual as entrepreneur defined by the event but with duality intact. Although the model incorporates Gartner’s (1985) four dimensions, the key difference is the dialogic between entrepreneur and event (object) which thus becomes the distinct area of examination that is ultimately important to the domain of entrepreneurship research.

Bruyat and Julienne do note two conceptual challenges to this model: 1) new value creation is often originated by several individuals or a team, where leadership is a defining principle of

entrepreneurship (where others only play supporting roles) or where the absence of one member of a team could be rationally argued to wipe out the dynamic substance of the individual – new value creation dialogic, and 2) that the notion of new value creation is open to considerable debate from many different perspectives. Therefore they conclude that value must be visible within the aspic of market sector transactions (that include profit, non-profit and public sector entities) that are defined by the sale, exchange or trade of products or services. This conceptualization of new value creation also emphasizes that entrepreneurs may be involved in non-market exchanges (direct or indirect spillovers) that enrich the more extensive and visible (accountable/measurable) market exchanges. The rationalization of these two difficulties improves upon Gartner's conceptualization in that the profit motivation is subsumed within a broader definition of new value creation, more clearly and logically aligning entrepreneurship with the concept of innovation, while the importance of individual organizing is stressed over that of the organization itself. In other words, it is the creative organizing individual that should be the focus of entrepreneurship research, with the innovative organizations that emerge as a secondary, yet highly interrelated and important domain. Returning to Schumpeter, the scope of new value creation and the heterogeneity of the phenomenon is also considered and illustrated by a secondary four quadrant model that represents varying iterations of the Individual-New Value Creation dialogic: 1) entrepreneurial reproduction (little NVC, usually no innovation, few individual-environmental changes), 2) entrepreneurial imitation (no significant new value creation, but large changes in know-how that present uncertainty and risk), 3) entrepreneurial valorization (innovation and creation of significant new value, engaged through previously formulated structures, relationships and markets that take shape through a new project) and 4) entrepreneurial ventures (rare case of radical change in environment/individual that is

innovative and has significant new value creation, sometimes establishing a new market sector). These dimensional quadrants are reproduced below (see figure 3).

Insert figure 3 here.

Although improvement's over Gartner's model are made by incorporating temporal issues that simplify/refocus the entrepreneurial process back to the individual/event duality through the individual-new venture creation dialogic offered, the offering suffers from a theoretical shortcoming in the explanation of the actual process itself: i.e., "how do entrepreneurs create new value?" Since the objective of Bruyat and Julienne's research was limited to defining and hopefully redirecting focus upon the black box, but not looking into or attempting to explain the black box itself, the model suffers from over simplicity, making the task of determining what is distinct to the entrepreneurial process difficult (Bacharach 1989; Weick 1999). Another weakness of the model is that in its attempt to cast the entrepreneurial process as that of an individual new value creation dialogic, it fails to accommodate the observations of early economists that entrepreneurship, by its very nature is both creative and destructive (Schumpeter 1934). The outcome of any entrepreneurial process may be either positive, zero or negative sum in terms of value creation (Venkataraman, 1997). They also do not clarify the relationships between those who create and capture the new value. Therefore, an entrepreneur may create new value that is wholly captured by himself/herself (shareholders) in the process of creating a greater amount of negative value for other stakeholders (customers). Thus determining whether the represents what is generic to all entrepreneurial processes is again difficult. Lastly, while the linkage between innovation and individual/environmental change provides a solid overview of the scope and weighting of processes that may be viewed to be "entrepreneurial", it fails to effectively distinguish entrepreneurship as a distinct process from other managerial functions. This is evidenced by the entrepreneurial reproduction quadrant where innovation is not a requisite for classifying a

process as entrepreneurial. Yet, this may be overlooked due to the aspect of continuum used within this conceptualization. Again, we move onto the next model before offering final judgment.

The third model that has potential for offering insight into what is both generic and distinct to the entrepreneurial process is Sarasvathy's conceptualization (2001;2008) of what makes entrepreneurs "experts" at what they do by understanding how they do it. Therefore, her work is notably focused through the question: "What are the teachable and learnable elements of entrepreneurial expertise?" The theoretical stance taken by Sarasvathy can be considered as "beyond teleology" or "pragmatist", in comparison with Gartner's interpretive and Bruyat and Julienne's social constructionist approaches to understanding the entrepreneurial process (Steyaert 2007). Attentive to problems associated with various philosophical viewpoints of inductive reasoning, Sarasvathy addresses the temporal issues of the dynamic, change-based nature of entrepreneurship by considering the differences between parts of the entrepreneurial process. Like Gartner, her approach addresses the differences between entrepreneurs. Unlike Gartner, she expands her theorizing to differentiate between types of entrepreneurs and non-entrepreneurs through the development of a concept that she terms as "effectuation". Effectual logic encompasses a non-causal approach to decision making where entrepreneurs assess themselves instead of the opportunity, invest only what they can afford to lose, engage in networking rather than competitive analysis, expect and relish surprises rather than fearing and seeking to avoid them, and create new ventures (and markets) through enactment of imagination instead of reaction to environmental information (see figure 4 below). She associates a higher use of effectuation with greater entrepreneurial expertise and a higher probability of success, while highlighting the complexity of the concepts of success/failure within the entrepreneurial domain.

Insert figure 4 here.

Furthermore to her attempt to differentiate between novice entrepreneurs and expert entrepreneurs, Sarasvathy's work also seek to differentiate expert entrepreneurs from managers through the concept of effectual logic. This task converges toward an interest in discovering what is *distinct* to the entrepreneurial process. Like Bruyat and Julienne, she emphasizes the dualism between firm and entrepreneur (firms fail, entrepreneurs do not), but also moves toward a continuum based worldview of the entrepreneurial process that accounts for individual change as the process is engaged. Within this continuum, the overlap between entrepreneurial functions and managerial functions is hinted at through the inability of some expert entrepreneurs to bridge the gap between the process of starting up (the pre-firm) and the process of growing and managing a large firm (effectively making them serial entrepreneurs as they leave the growing firm to start another). In this way, she differentiates between the terms 'effectual logic' and 'predictive logic' and their usage through the entire new venture process. Effectual logic is weighted heavily in the pre-firm and nascent stages, while predictive logic becomes more necessary as the firm grows into a large organization, yet neither is ever entirely absent from the process. Our interpretation of effectual logic is that it attempts to embrace the major tenets underpinning scholarly thinking on entrepreneurship in that risk, innovation and opportunity are captured through the transformative processes attached to enactment, creativity and focus upon changes that can be made in sharp contradiction to the causal logic approach which emphasizes the importance of trying to predict what cannot be changed. Thus innovative and risk bearing opportunities are subjectively brought into existence.

The greatest challenge with any evaluation of effectual logic is Sarasvathy's lack of clarity when she hedges her bets. There is a largely successful attempt to define effectuation in dichotomous contrast to causal or predictive logic while at the same time there is a largely unsuccessful attempt to convey that effectual and causal logic are cognitive tools that co-exist

within the entrepreneur and are used in various proportions in various cases and situations. Her interpretation of causality is thus contradictory, especially when Aristotelian aspects of cause (material, final, formal, and efficient) are not properly accounted (for greater elaboration, please see McKelvey 2004). The second problem is that there appears to be ontological confusion with respect to the nature of effectual opportunities in that they may be subjectively formed but objectively evaluated against current resources. This viewpoint places the roots of effectual logic within an equilibrium-based perspective that is not well suited for the exploration of the entrepreneurial process as a mechanism capable of producing profound changes (such as Schumpeterian creative destruction). Effectuation seems to us to make too little of the requirement for purposeful human action – in the sense of setting and seeking to achieve goals - in an entrepreneurial process. A necessary and sufficient component of any purposive entrepreneurial process is that of planning, even if the act of planning (a process that includes both imaginative and predictive elements) resides only in a cognitive construct (and not a formally articulated business plan). Effectual logic also stands in contrast to human agency based perspectives of entrepreneurship that presume the co-evolution of causes (Chiles, Gupta et al. 2009). In other words, causal exchange between agent and environment, whether or not the agent actively seeks information or knowledge about the world around her cannot be ignored: imagination is ultimately paired with what is perceived to be conceivable, framed by the knowledge of the world as it is (the agent and perceived capabilities being a part of that world). Due to its complexity, theoretical evolution (retrospectively applied) and contradictory nature, it would appear that effectuation may be more divisive than unifying in theoretical terms. In terms of our deep concern for the combination of what is generic and distinct about entrepreneurship as a process, we find it hard to rate the effectuation argument until some of the apparent inconsistencies noted above are clarified.

The last model reviewed is also found to demonstrate properties that converge toward denoting what is both generic and distinct to the entrepreneurial process. This model is Shane's (2003) attempt to construct a unifying theoretical framework for studying entrepreneurship based upon the nexus of individual and opportunity. Shane is motivated by what he describes as the lack of a coherent conceptual framework for entrepreneurship due to the tendency of researchers to concentrate on only one part of the entrepreneurial process without formal consideration of the relationships between all parts. His division of the field is narrowed down into two camps: either an individual centric or environmental centric viewpoint. As an attempt to mend this division, Shane sets out some necessary conditions for a framework that he believes has potential for unifying the field: 1) the existence of profit based (objective) opportunities that may be exploited through the application of new means end relationships, 2) a variation among people in their willingness and ability to act, 3) a need to embrace uncertainty/risk bearing, 4) requires organizing, 5) a requirement for some form of innovation. He also states what is not assumed in his model: 1) organizing efforts do not require the creation of a new firm to exploit opportunities, 2) implementation does not have to be undertaken by a solo entrepreneur, 3) successful outcomes are not a necessary condition of entrepreneurship, 4) factors that explain one part of the entrepreneurial process do not have to explain others. The model presented below (figure 5) thus highlights what Shane believes to be generic to the entrepreneurial process through a series of potentially overlapping and recursive stages: the existence of opportunities, the discovery of opportunities, and the exploitation of opportunities (leading to resource acquisition, strategy, organizing and eventually performance). The model also strategically incorporates the moderating and mediating affects of the individual and the environment.

Insert figure 5 here.

Given this comprehensive background we turn to Shane's definition of an entrepreneurial opportunity to apply the test of whether his approach answers the question about what is both generic and distinct to the entrepreneurial process. He states that entrepreneurship "involves the nexus of entrepreneurial opportunities and enterprising individuals... where a situation in which a person can create a new means-ends framework for recombining resources that the entrepreneur believes will yield a profit" (Shane, 2003:18). He goes on to clarify by contrasting new means-ends frameworks against simply optimizing within an old framework. In this way Shane implicitly aligns his conceptualization of entrepreneurship with innovation. Furthermore, he states that entrepreneurial opportunities are not necessarily profitable and thus should not be equated with economic rents: the perception of the entrepreneur that an opportunity is potentially profitable may not accord with actual outcomes. But can the pursuit of perceived profitable opportunities through new means-ends relationships pass the test of what is distinct only to the entrepreneurial process? The discovery, evaluation and exploitation of opportunities are not confined only to the entrepreneurial process. Managers, scientists and even gardeners may engage in this trinity of activities. However, when the pursuit of opportunities that are perceived to be profitable or valuable is coupled with the mandate to create a new means-ends relationship for exploiting them, a much stronger claim for the distinctiveness of entrepreneurial process does emerge. As in the other models, weaknesses in the Shanian conception are attributable to the difficulties inherent in subjective/objective interpretation of what is considered "new". Depending on how one views the concept of opportunity (Schumpeter 1934; Kirzner 1997), there is either an element of creativity attached (that requires new information) or the opportunity is limited to discovery (that does not require new information, is more common and is equilibrating), making the evaluation of novelty much more complex. Shane addresses this through his stance on 'existence', and that the objectivity/subjectivity debate is moot. As a whole, it is

very difficult to falsify the distinctness of the opportunity process to entrepreneurship as described by Shane. Yet, when broken down into its component parts: discovery/creation, evaluation, exploitation, it is possible to envision scenarios where an entrepreneur may be involved in the first half of the process (discovering the new means-ends relationship and evaluating whether or not it presents a potential opportunity for making profits) but where it would be feasible for the entrepreneur to pass off (or sell) the opportunity to a manager to successfully exploit it. In other words, what is distinct to entrepreneurship within the opportunity process involves only the discovery of the opportunity where successful evaluation allows for effective articulation of the inherent value identified within the means-ends relationship. Although all parts of Shane's opportunity process model of entrepreneurship may be carried out by entrepreneurs, it is only the skillful evaluation of a discovered, profitable new means-ends relationship that may be considered distinct.

A summary of the four models is provided in table 4 below.

Insert table 4 here.

Although each of these models provides some insights into what may be both generic and distinct about an entrepreneurial process viz a viz every other kind of process, none of them unequivocally passes the acid test of the double-barreled question fueling our investigation. In other words, none of these models provides an adequate description of entrepreneurial process, let alone possessing the capacity to provide the capacity to act as theoretical framework for a wide range of research or the practical basis for pedagogy or practitioner action.

While Gartner's model was found to be useful for classifying and generalizing, the utility of the concept of emergence was weakened by an inability to successfully incorporate innovation and temporality and limited by the necessity of outcomes being attached to the

creation of a profit oriented new venture. Bruyat and Julienne's process model did address issues of temporality, but the model itself was over simplistic, and only partially accommodated the concept of innovation. The concept of effectuation contained several ontological difficulties but was the only one of the models that presented a direct practical focus. Last, as part of a unified theory of entrepreneurship, Shane's model ties the profit orientation to a potential perceived by the entrepreneur and differentiates between what managers and entrepreneurs do through the concept of innovation (new means ends relationships versus optimizing). The remaining sections discuss the contributions of this study, some of the implications that may be derived, the limitations of the approach and methodology and discuss how the insights gained from this paper may be developed.

THE GOOD, THE BAD AND THE UGLY (TASK AT HAND)

The most important result of this research is that no extant model of entrepreneurial process passed the test of being both generic (covering a broad array of entrepreneurial contexts and activities) and distinct (genuinely focused on activities that could be demonstrated to be uniquely the province of entrepreneurial process as distinct from any other process). Furthermore, not one of the models by itself was amenable to accommodating multiple perspectives of entrepreneurial theory. Each model demands that its users adhere, a priori to a limited or highly prescribed perspective of what entrepreneurship is all about. For instance, an advocate of the Shanian perspective cannot without massive dissembling claim that this processual view of the world encompasses effectuation and vice versa. This study thus formally confirms the fragmented nature of academic thought on entrepreneurial process. It examined the patterns, divergences and convergences of 27 models and then gave detailed scrutiny to the four with strongest claims to offering a description of entrepreneurship as process that could be classified as both generic and distinct.

The heterogeneity of researchers' notions of the 'entrepreneurial process' is so diffuse that, if split into two components, each of the models reviewed could fairly be said to have more about it that was unique to itself than it had in common with any of the other 26 process models. The only thing they really share is their authors' broad belief in the importance of a process-based approach to understanding the phenomenon of entrepreneurship. When it comes to detail, model differences outweigh commonalities.

In terms of their derivation, only 9 of the 27 process models were based on or compared with empirical studies. The majority of them can be fairly described as artifacts unsupported by systematic evidence. So the state of our knowledge of the process of entrepreneurship as distinct from our lip service paid to the importance of such knowledge is poor indeed and is made worse by the fact that, there is virtually no work, prior to this study, focusing on an attempt to synthesize a more comprehensive entrepreneurial process model from the most well-evidenced and least controversial components of the disparate cluster of extant offerings. Work conducted over the last 40 years in this, a clearly vital area at the heart of the nature of entrepreneurship as a discipline – if it is a discipline – shows no evidence of cumulative effects. Every entrepreneurial process model is its own, *sui generis* artifact, virtually unrelated to any other 'contender' for scholars' attention. For all the superficial use of the phrase 'entrepreneurial process' all we really have, to date is a hodge-podge of different perspectives, using a variety of different multi-disciplinary theories that investigate entrepreneurship in narrowly themed contexts.

There is plenty of bad news. The findings of this study starkly illuminate the many divergences and issues that openly challenge any quest for a unified model of entrepreneurial process. First, the models reviewed demonstrate the emergence of four competing perspectives of the entrepreneurial process: the emergence perspective, the value creation perspective, the creative process perspective and the discovery perspective. While the

emergence perspective is the product of influence from other fields of management study, such as organizational behavior and strategic management, the central focus moves away from the organization to incorporate other domains important to emergence. Yet it mandates that the outcome of any entrepreneurial function should be aligned with the formation of a 'type' of new venture, whether it is optimizing or transformative. The new value creation perspective is guided by economic theory in an attempt to account for the endogenous aspects of the individual-innovation construct but fails to differentiate between the transformative functions of entrepreneurial action and managerial functions. It also is rather vague with respect to the actual "how" of the entrepreneurial process, providing few concrete clues as to what about the process makes it both generic and distinct. The creative process perspective (or effectuation) and the discovery perspective (causation/opportunity) are potentially dichotomous in that they represent two different sides of a coin in terms of objectivity/subjectivity, predictive/non-predictive, and equilibrating/non-equilibrating philosophical viewpoints. Both stand in contrast to the emergence perspective in that creativity is favored over organizing, and the individual opportunity nexus is favored over that of emergence.

There is some good news. This study indicates that despite the fragmented nature of the existing set of entrepreneurial process models there are enough points of convergence in what these scholars believe to be the core or essence of entrepreneurship to make the act of critical synthesis worthwhile. The four models reserved for more detailed scrutiny, above, show that there is agreement on the significance of: the individual (or the multiple protagonists) who initiate entrepreneurship; the relationship between individuals and opportunities; the need to critically assess the transformative and disruptive value of knowledge. There is an emphasis on entrepreneurial creation being about ways of creating value for stakeholders (the use of innovative means for creating new business models in contrast to optimizing existing

business models) and the importance of temporality, action (or commitment to action) and context. The creative and transformative properties of new value creation appear to better explain what is generic to all entrepreneurial processes than a simplistic appeal to 'the profit motive'.

The ugly: the overwhelming conclusion of this study cannot be disguised or avoided. The field of entrepreneurship needs a new, comprehensive, evidence based model of entrepreneurial process that embraces both what is generic and distinct to the process and allows for the extant works thus far to be harmonized within it. A key question for developing such a model is whether anything can be salvaged from the fragmented array of often mutually contradictory extant models.

CONCLUSION

This paper demonstrates that there is an urgent need to synthesize what can be harmonized from the extant body of entrepreneurial process models as one component of a concerted attempt to derive and test what might be called a unified model of entrepreneurial process. Until there is greater clarity and scholarly agreement about the absolutely fundamental issues about what goes in, what comes out and how the transformation takes place it is a delusion to think that entrepreneurship qualifies as a research field.

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APPENDIX

Table 1: Taxonomy of Entrepreneurial Process Models

Stage Model: divide into a priori stages major tasks or phases; One major weakness is that they tend to narrow the scope of investigation and that temporal orders of events do not fit the proposed stages and/or often overlap.
Static Framework: characterizes the overall process of venture creation without examining the sequence of activities, consists of a limited set of variables connected by speculative causal links (Ex: Gartner 1985); process oriented but do not capture sequence of dynamics
Process Dynamics: employs qualitative methods to examine how and why variations in context and process shape outcomes; often interpretive, temporal and change oriented
Quantification Sequences: is a historical sequence based approach of the new venture creation process; this approach does not allow researchers to understand the dynamics of how antecedent conditions shape the present and the emergent future within the process (EX: Carter (1996) identified 3 broad activity profiles: up and running, still trying and given up.
Other: Any models that do not fit within the definitional parameters of the above 4 models.

Table 2. An overview of extant models of entrepreneurial process

Year	Author	Model Class	Key Components/ Events/Stages/Domains	Variables/Factors/Actions	Approach/Method	Level of Generality/ EP	Unit of Analysis
2003	Ardichivili, A. Cardozo, R. Ray, S.	Static frame work	Perception, discovery, creation; development, evaluation, venture formation	Personality traits (creativity optimism), social networks, prior knowledge (special interest, industry knowledge) entrepreneurial alertness, type of opportunity	Theory: proposes theory of opp ident process EMP: conceptual	General: opportunity ident EP: Med	IND: GI:
1995	Badguerahanian, L. Abetti, P.	Process dynamic	Prelaunch (acquisition, technological change; loss of competitiveness; Launch and rise (entrepreneur, tech innovation; new market creation) Apogee (strategic fit, divestiture, growth, resource acquisition); Decline	Technology; Market; Social and Industrial Environment; Strategy; Financing; Structure; Role of Entrepreneur	Theory: does not draw on, test or develop theory EMP: Qualitative (longitudinal case study)	Broadly Specific: Corporate Entrepreneurship EP: Medium	ORG: (established failing firm)

			and Fall (Sale, ent departs, closure)				
2005	Baker, Nelson	Stage Model (6)	Environment, Approach to one or more sets of challenges, Counteracts limitations and generates something from nothing; Mutually reinforcing; Enacts limitations; Outcomes	Bricolage, resource seeking, avoiding new challenges, creativity, improvisation, combinative capabilities, tolerance for ambiguity, social skills/ networks, regulatory/institutional/customers; permissive community of practice & identity, routinization, broader, richer, more demanding markets, growth (or no growth)	Theory: open systems theory, exploratory Practice: indirect EMP: qualitative (field study)	General/mixed: resource poor environments EP: high	MULT
2007	Baron, R.	Stage model (3)	Pre-Launch phase; Launch Phase; Post-Launch phase.	1) Opportunity identification, evaluation; intentions to proceed; resource assembly 2) choosing structural form; product/service establishment; initial marketing plans; strategy 3) handling conflict; negotiations; motivating others; attracting employees; management functions; plan exits	Theory: development of measurement techniques EMP: conceptual (lit review)	General: opportunity process EP: High	MULT
1994	Bhave, M.	Stage Model (3)	Opportunity; technology set up/organizing; exchange stage; Separate opportunity process: dual 1) External: decision to start, opp recognized, opp chosen, opp refinement, concept identified, commitment; 2) Internal: need recognized, need fulfilled, bus opp recognized, opp refinement, commitment	Business concept (internal or external), commitment to venture; organization created; production of technology; product; supply and demand boundary, customer; market; operational feedback; strategic feedback	Theory: identifies emerging issues EMP: Qual (interview techniques)	Broadly Specific: Technological Entrepreneurship EP: Medium	ORG: Firm IND: Opp
2000	Bruyat, C., Julien, P.A.	Process dynamic	Individual, new value creation (innovation)	Environment, time	Theory: dialogic; defining the field of Ent Research EMP: conceptual lit review	General and distinct? (new value creation) EP: Low	MULT
1983	Burgelman, R.	Process dynamic	Levels of management (group leader, NVD manager, Corporate Management), Core processes (definition, impetus), Overlaying processes (strategic context, structural context)	Technical and need linking, product championing, strategic forcing, coaching stewardship, strategic building, organizational championing, gatekeeping, authorizing, selecting, rationalizing, negotiating, structuring, questioning	Theory: grounded (no theory tested, but findings extended to context) EMP: Qual (long study of six ongoing ICV projects)	Broadly Specific: Corporate Entrepreneurship EP: Medium	GI (levels of management) ORG: FIRM
1996	Busenitz, L., Lau, C.M.	Static Framework	Social context; Cultural values; Personal variables; Cognitive Schema; Cognitive Heuristics; Entrepreneurial Startup Intention; Venture Creation Decision	Social mobility, network, ecological niche, market conditions; Individualism, uncertainty avoidance, power distance, masculinity, time orientation; Risk taking, locus of control, achievement motivation; Risks, control, startup opportunity, benefits; Availability, representation, overconfidence, anchoring	Theory: Cognition (propositions offered and tested oby use of example) EMP: Conceptual	General: (process does not move past venture creation decision) EP: Med	IND: cognitive
2006	Bygrave, W.	Stage Model (4)	Innovation, Triggering Event, Implementation, Growth	Personal, sociological, environment, organizational	Theory: (based on Moore 1986 model); implications for practice EMP: Conceptual	General: NVC EP: Med	MULT
1996	Carter, N., Gartner, B., Reynolds, P.	Quant ification sequ ence	Up and running, Still trying; Given up	Bought equipment, got financial support, developed prototypes, organized startup team, devoted full time, asked for funding, invested own money, looked for facilities, equipment, applied license/patent, saved money to invest, prepared plan, formed legal entity, hire employees, rented facilities /equipment, had sales, positive cash flow, credit listing, EI, FICA, filed tax	Theory: organizing; contributes to theory on enactment Practice: potential diagnostic tool; EMP: Quant & Qual (studied 71 entrepreneurs)	General: nascent ent activities EP: Medium	IND ORG
2005	Corbett	Stage Model	Discovery, formation	Preparation (deliberate, unintended), Incubation, Insight (eureka, problem solved, idea shared), Evaluation (recursive), Elaboration	Theory: exp learning Practice: team building EMP: conceptual	General: opportunity EP: Med	IND
1991	Covin, J., Slevin, D.	Static Framework	Entrepreneurial Posture; External Variables; Strategic Variables; Internal Variables, Firm Performance	Technological sophistication, dynamism, hostility, industry life cycle stage, mission strategy, business practices and competitive tactics; top management values, organizational resources and competencies, organizational culture, organizational structure	Theory: Theory of the firm (propositions offered, and findings drawn to extend org theory) EMP: conceptual	Broadly specific: established firms EP: high	ORG
2007	Cuneen, G.J., Mankelaw, D.J.	Stage Model (4)	Opportunity recognition; opportunity evaluation; opportunity development; opportunity commercialization	Creative activity, innovative activity, strategic activity; Preliminary evaluation (personal, commercial), detailed situational analysis, formulation of mission and objectives, entry strategy, feasibility analysis, and BP, resources search, operational plans, implementation plans, secure funding.	Theory: behavioural view of growth ent; Practice: curriculum development EMP: qualitative (pedagogical experimentation)	General: opportunity process EP: Med	IND: action
2007	Fayolle, A.	Stage Model (2)	TRIGGER PHASE Act of NVC not perceived, perceived, considered, desired, COMMITMENT PHASE started, completed, perceived, refused.	Displacements, perceptions of desirability (culture, family peers, colleagues, mentors), perceptions of feasibility (financial support, other support, demonstration effect, models, mentors, partners), commitment; resource acquisition, integrating networks, structuring emerging organizations	Theory: systems theory; theory of commitment Practice: pedagogy EMP: conceptual (literature review)	General: Cognitive process; EP: High	MULT
1985	Gartner, W.	Static Framework	Individual, Organizational, Environment, Process	Need for achievement, locus of control, risk taking propensity, work experience, entrepreneurial parents, age, education; locates opportunity, accumulates resources, market products, produces product, builds organization, responds to government and society; venture capital availability, presence of exp ents, skilled labor force, suppliers, customers, government influences, universities, land, transportation, culture, supporting services, living conditions; Type of firm, presence of partners, strategic choice variables	Theory: search for key variables; contribution to theory development EMP: conceptual	General and distinct: NVC EP: Medium	MULT
1994	Gersick, W.	Process dynamic	time based pacing; temporal milestones	marketing of first product; strategy for attaining liquidity, consultation with financial analysis; joint venture for third product; marketing strategy	Theory: org theory; development of pacing concept. Emp: qual (grounded theory)	Specific: Med tech - VC relationship EP: High	MULT

Table 1. continued

Year	Author	Model Class	Key Components/ Events/Stages	Variables	Empirical or Conceptual	Level of Generality	Level of Analysis
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1988	Greenberg, D., Sexton, D.	Static Framework	Vision, Personality, Control Desired, Saliency of events, Self perceptions, Social support, control possessed, decision to initiate	identify an opportunity, believe they can manage a firm, possess expertise, developed a product or process for which niche can be found, believe other opportunities limited	Theory: Leadership; EMP: Conceptual: un-validated model.	General: (venture creation decision) EP: Med	IND MES
1993	Hornsby, Naffziger, Kuratko, Montagnon	Stage Model (6)	Organizational Characteristics, Precipitating event, Individual Characteristics; Decision to Act Intrapreneurially, Business planning/ feasibility; Resource Availability, Idea implementation, Ability to overcome barriers	Management support, Autonomy/ work discretion, Rewards/reinforcement, Time availability, Organizational boundaries	Theory: theoretical framework for intrapreneurship EMP: Conceptual	Broadly Specific: Intrapreneurship EP: Med	MULT
2003	Ireland, D. Hitt, M. Sirmon, D.	Static Framework	Entrepreneurial Mindset, Entrepreneurial culture and leadership; Managing Resources Strategically, Applying Creativity and Developing Innovation; Competitive Advantage, Wealth Creation	Recognizing ent opps, ent alertness, real options logic, ent, oppy register; Nourish ent capability, protect innovations, sensemaking, question dominant logic, revisit simple questions, link ent to strategic mant; Financial, human & social capital; Structure resource portfolio, building resources, leveraging capabilities; Creativity and biosociation; disruptive and sustaining innovations.	Theory: RBV, social capital, organizational learning, human capital, creative cognition; SE construct EMP: conceptual	Broadly Specific: Strategic Entrepreneurship EP: Med	IND ORG
2005	Jones, M., Coviello, N.	Stage Model	Entrepreneurial event, Internationalisation event, firm performance, Feedback loop (continuous/radical change)	Entrepreneur (level of innovativeness, risk tolerance, managerial competence); Firm (organizational structure), Intl Behavior (fingerprint patterns, profiles), Performance (financial and non-financial measures: or learn)	Theory: converge ent and intl bus lit EMP: conceptual	Broadly Specific: Intl Ent EP: Med	MULT
1999	Russell, R.	Static Framework	Culture Map; Structure Map	Precipitating event, opp recog, project development, implementation, performance, ent posture, resource allocation, slack resources, champion norms, open mindedness, tolerance for failure, creativity norms, value for innovation, external search	Conceptual: cognitive mapping approach (attempt to conceptualize corp ent) EMP: no testing	Broadly Specific: Corporate Entship EP: Med	MULT
2006	Sarasvathy, S.	Process dynamic	INPUTS, EFFECTUAL STRATEGY: OUTPUTS:	What I know, who I am, whom I know, environment, constraints, expectations Design, Means, Partnership, Affordable loss, Leverage contingencies, Can, Financial performance, Product, firm, or market artefacts created, Increase in social welfare, Change in the process by which things are done	Theory: grounded (development of theory on ent's expertise) Practical: development of toolboxes EMP: Qual (grounded theory) moving to validate with Quant	General and distinct?: ent's use effectual logic EP: Med	MULT
2003	Shane, S.	Static Framework	Entrepreneurial opportunities, discovery, exploitation, execution (resource assembly organizational design, strategy)	Individual attributes (psychological factors, demographic factors), Environment (industry, Macro environment)	Theory: development of overarching framework for ent research EMP: several quant and qual studies	General and distinct?: new means-end framework EP: Med	MULT
2008	Spinelli Jr, S. Neck, H. M. Timmons, J.	Static Framework	Opportunity, Resources, Entrepreneurial Team	Creativity, Communication, Leadership, Founder, Business plan (fits and gaps)	Theory: economic and psychological theory Practice: applied to family business EMP: Conceptual	General: high growth ventures (creating something with value) EP: Med	MULT
1993	Vander Werf, P. A.	Static Framework	Product, Industry	Firms in industry, competition, ability to compete, market expansion, financial rewards, technical support, functional capabilities, positive publicity, industry attractiveness, pool of potential entrants	Theory: hyp non fingo, EMP: conceptual	General: product innovation EP: Med	ORG MAC
1976	Webster, F. A.	Stage Model / Process dynamic	Pre venture: Hard Work; Financial Jeopardy; Product introduction; Rapacity; Payoff	Ent, search, evaluation, negotiation, networks, inventor (prototyping, R&D, Fincial stress), manufacturer, distributor, venture organization, power play between subordinates and inventors, vulnerability, critical moment, renegotiation, knothole, success, OR retaliation venture failure.	Theory: life cycle model EMP: conceptual	General: firm EP: Med	IND ORG
2009	Yu,	Process dynamic	Interpretation, Learning, Experimentation, Error Elimination	Stock of knowledge, problem solving tools; ADAPTIVE RESPONSE: incoming (new or repeated) events, success (profit) or: set back (use old method, errors, complete failure or adopt new methods, error elimination, successful transformation CREATIVE RESPONSE: action, error of anticipation, experimentation, double loop learning, encounter failure (discard) encounter success (retention: rule of thumb)	Theory: Human Agency (phenomenology) combines theory Practice: Indirect but useful to pedagogy EMP: conceptual	General: Human agency EP: high	IND MACRO

Table 3. Statistical overview of the models reviewed

Model Class	#	Empirical or Conceptual	#	Level of Generality	Level of Analysis	#
Stage Models	10	Conceptual	18	Specific to context	1 Individual	23
Static Frameworks	10	Empirical	9	Broadly specific	7 Group or Team	3
Process Dynamic	6	9	8	General but mixed:	1 Organization	21
Quantification Sequence	1	Quantitative	3	General:	14 Meso environment	6
Other	0	Both	3	General and distinct	4 Macro environmental	2
Total	27	Practical	6		Multiple	13

Figure 1. Gartner's static framework model of new venture emergence

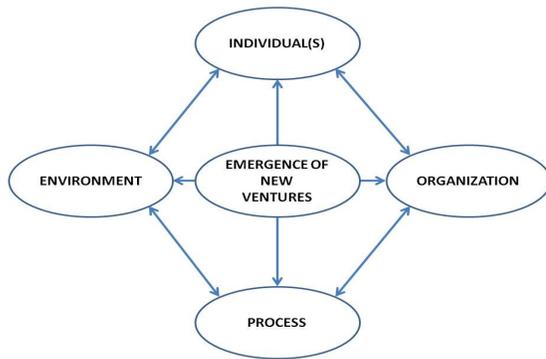


Figure 2. Bruyat and Julienne's model of the entrepreneurial process

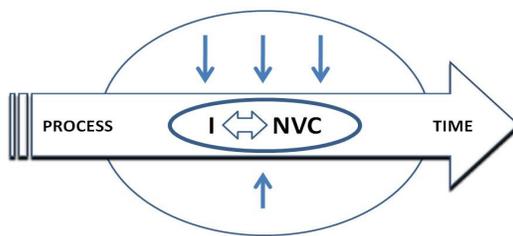


Figure 3. Entrepreneurship as a heterogeneous field

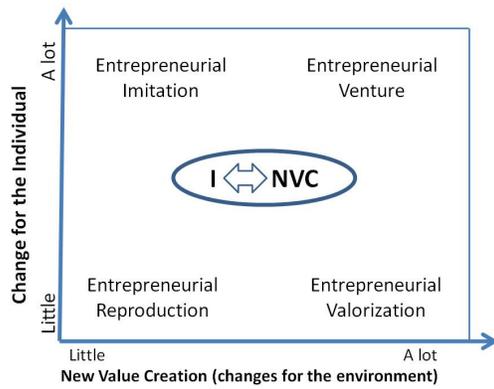


Figure 4. Sarasvathy’s dynamic model of effectuation

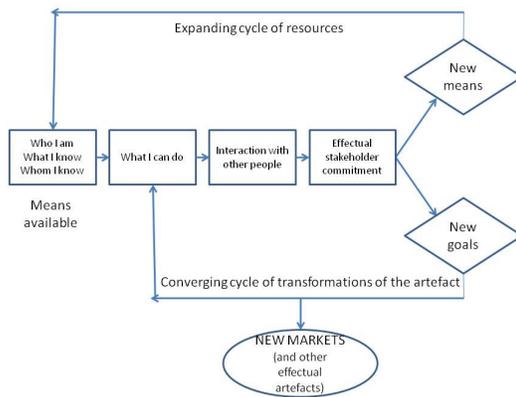


Figure 5. Shane’s model of the entrepreneurial process

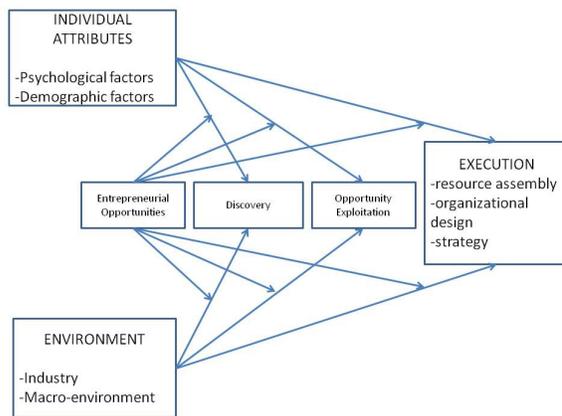


Table 4. Evaluation of Models

	Emergence (Gartner, 1985)	New Value Creation (Bryat and Julienne, 2001)	Effectuation (Sarasvathy, 2006)	Opportunity driven new means-ends frameworks (Shane, 2003)
New venture created	Yes	Unspecified	Yes	No
Profit oriented	Yes	Market based	Performance	Yes
Individual	Yes	Yes	Yes	Yes
Temporality	No	Yes	Yes	Yes
Opportunity	Yes	Yes	constructing	Yes
Innovation	No	Partially	Creativity (inferred)	Yes
Risk/uncertainty	Yes	Yes	Yes	Yes
Epistemological approach	Interpretive/ Phenomenological	Social Constructionist	Pragmatist	Teleological
Implications for theory	Retrospective framework for generalizing theory	Extant focus on issues important to theory development	Challenges economic theory (endogeneity)	Basis for unifying theory
Implications for practice	Indirect	Indirect	Direct	Indirect
Generic and distinct?	No: innovation/falsifiable	No: innovation and function unclear	No: Contradictory, over complex	No: Whole but not parts/falsifiable