

Creativity and Entrepreneurship: Potential Partners or Distant Cousins?

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Creativity and entrepreneurship, like innovation, have been recognized as important contributors to a nation's economic growth. Creativity plays an important role in the fuzzy front end of a firm's innovation process and also in corporate venturing processes, but the relationship between creativity and entrepreneurship to a large extent has not explicitly been examined. This exploratory conceptual paper briefly reviews the separate bodies of research on creativity and entrepreneurship, identifying similarities and differences in constructs and applications and identifying implications for business and for management education. We then propose some research propositions and directions for future research to investigate potential synergies of creativity and entrepreneurship and to progress the distinctness of each notion in landscapes of innovative firms.

Research into notions of creativity and entrepreneurship has often originated from different worldviews and disciplines, such as psychology (Guildford 1950, Sternberg 1995) and economics (Schumpeter 1998) and has been influenced by opposing views and contrasting understandings. However potential linkages between creativity and entrepreneurship have not been explicitly investigated. Both notions are independently thought to be productive and both fields have been the focus of government programs in many countries as they are considered to contribute and stimulate economic growth (DTI 2005). Both notions are often also associated with innovation. This paper explicitly omits references to research that directly focus on innovation and instead will focus on the two distinct notions in the innovation arena.

The research question we are investigating is: what is the relationship between creativity and entrepreneurship? Each of the notions of creativity and entrepreneurship has multiple contested definitions and distinct ongoing programs of research. We begin by investigating creativity and entrepreneurship separately, developing definitions and identifying challenges and then suggest future possibilities. First we review research into creativity and provide reviews of current thinking about this notion. Second we present an overview of entrepreneurship and the multiple strands apparent in research. Third we compare and contrast identifying common fields and distinctive strands. Finally we conclude with some possible developments and present some directions for future research.

Our contribution includes a tight presentation of research into two related yet distinct notions, and a distillation of their similarities and differences. We contend that research into both notions may extend current understandings and open new avenues for managers and entrepreneurs: we suggest some modifications for management education and propose some preliminary steps towards a research agenda.

RESEARCH ON CREATIVITY

Many researchers note that creativity research was largely stimulated by Guilford's address to the American Psychological Association in 1950, which pointed out the absence of research into creativity (Kabanoff & Bottger, 2001; Lubart, 2000). Since that time a number of journals devoted to research on creativity such as *Journal of Creative Behavior*, *Creativity Research Journal*, *Creativity and Innovation Management* were established. At the same time research on creativity and management also appeared in management journals in the last couple of decades (Amabile 1996; Ford 1996; Unsworth 2001).

There have been many debates over definitions of creativity, its forms, its possible effects, its relation to the firm and development and discussion of methods to increase creativity. It is generally accepted that creativity describes ideas that are novel and of value. The definition we have chosen is "creativity as the capacity to produce novel or original work that fits with task constraints" (Lubart 1994) or the development of appropriate and novel solutions (Ward, Finke & Smith 1995).

Models of creativity

Early research on creativity focused on the characteristics or traits of individuals (Kirton, 1976; Koestler 1969) and further development of individual profiles added extra dimensions over time (Basadur, 2004; Puccio et al. 2007; Sternberg, 1995).

Confluence theories of creativity are multi-factor models that argue several separate but interacting components that must come together to yield original and productive outcomes. For example, creativity can be expressed as the intersection between three separate components, namely task motivation, domain-relevant skills and creativity relevant skills (Amabile, 1996, 1998) as illustrated in Figure 1. See Figure 1

Creativity was initially understood as a generic process and the notion of creativity as a domain specific process has led to a systemic view of creativity which recognises the importance of context and situation as important ingredients and perhaps drivers or shapers of creativity (Csikzenmihalyi, 1996), where components of creativity are illustrated in Figure 2.

Creativity has been also described as a combination of 6 elements. Sternberg's 'investment theory of creativity' describes the nature of creativity as a confluence of 6 distinct but interrelated resources - intellectual abilities, knowledge, styles of thinking, personality, motivation and environment. Sternberg (1995) suggests that the intellectual skills required for

creativity include 3 particular skills: a synthetic skill to see problems in a new way and to escape the bounds of conventional thinking; an analytical skill to recognize which of one's ideas is worth pursuing; and practical-contextual skill of how to persuade others of the value of one's ideas.

Creativity as a process

In parallel with research in the characteristics of individuals found to be creative, creative thinking processes have been identified. Creative problem solving as a process was described (Wallis 1926, 1945) as a four stage process of preparation, incubation, illumination and verification. Guilford (1950) challenged this as a superficial approach which did not articulate any of the mental processes such as sensitivity to problems, capacity to produce many ideas, capacity to change one's mental set, ability to reorganize, ability to deal with complexity and an ability to evaluate the ideas generated. As a result of this call to research, creativity has come to mean divergent thinking in some circles.

Creativity has been described as problem finding, problem formulation and problem redefinition (Runco, 1994) and the synthesis or combination of information such as Koestler's (1969) elaboration of the process of bisociation or the combination of previously unrelated frames of reference, often found in situations of humour.

Creative problem solving

Creativity training usually includes some training in techniques which promote divergent thinking. The Creative Problem Solving (CPS) program, sometimes called the Parnes-Osborn model was developed by Parnes and colleagues. It consists of six stages of creative problem solving: mess finding, problem finding; idea finding; solution finding and action planning.

Most researchers agree that ongoing creativity requires more than individual idea generation. The idea selection process, idea evaluation and implementation are critical to success commonly used in studies of innovation in firms. Other variations include idea combination, idea aggregation, idea selection and transformation of the everyday. A review of creative problem solving training in the workplace indicates that training in creative problem solving enhances organizational performance (Puccio et al. 2006).

Work Environments and Creativity

An extension of Amabile's work on individual creativity was the investigation of the relationships between creativity and work environments (Amabile et al. 1996). These researchers found that stimulants to creativity include challenging work, work group supports, organizational encouragement, supervisory encouragement, freedom and sufficient resources.

They also identified that obstacles to creativity include workload pressure and organizational impediments (Amabile et al 1996).

A popular example of a firm which implements creativity processes to generate new ideas, using customer insights is IDEO. This well-known successful design and product development firm has a well developed methodology based on creative problem solving with a strong focus on empathic design using depth of knowledge of the market, the client, the technology and the perceived constraints on the problem, detailed observations of potential customers, visualization and evaluation and rapid prototyping followed by commercialization. In summary, creativity has been characterised as being about person, process, product, press (situation), persuasion and potential (Runco, 2007: 384). The paradox of creativity is that it builds on previous knowledge and may be a combination of existing knowledge or may be able to move past barriers of existing knowledge to generate and explore new ideas and solutions (Ward, Finke & Smith 1995).

ENTREPRENEURSHIP RESEARCH

Although entrepreneurship research has grown in the last decades, much of it is represented in specialist entrepreneurship journals such as the major entrepreneurship journals of *Entrepreneurship Theory and Practice* (ETP), *Journal of Business Venturing* (JBV), *Small Business Economics* (SBE), *Entrepreneurship and Regional Development* (ERD) and little has been published in mainstream management journals (Cooper 2006). This pattern may be changing with recent work linking entrepreneurship research with dynamic capabilities (Zahra et al 2006).

An early initial focus of entrepreneurship research was on the unique characteristics of individual entrepreneurs. However the 42 characteristics of living entrepreneurs identified by Hornaday's research (1982) were also found in managers who did not chose to be self-employed and hence did not differentiate the entrepreneurs. Recent work confirms that "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" (Davidsson 2006: 1). Indeed Davisson suggests "the research based evidence suggests that people faced with an opportunity that suits them, and in interaction with people with complementary skills, most people would be able to pursue a successful career as entrepreneurs" (Davidsson 2006: 2).

Levels of analysis in entrepreneurial research

An investigation of the different levels of analysis used in entrepreneurship research (Davidsson & Wiklund 2001) identified levels of individual, the firm, the region and the nation. Historically much of early research described the common traits of entrepreneurs and the firm then became the unit of analysis, and the importance of context in terms of regional influences as well as national characteristics were also investigated. There appears a tendency for more firm level analysis, with little research into team entrepreneurship although the firm often may begin as a team as a distinct from an individual process.

Entrepreneurship as a process

Gartner's (1988) description that "entrepreneurship is what entrepreneurs do" moved the focus to entrepreneurship as a process, understanding that entrepreneurship involves a number of behaviours that entrepreneurs have to perform sequentially over time. These processes include all the cognitive and behavioural steps from initial conception of rough business idea or realization of business activity until either terminated or has resulted in running a business venture with regular sales (Davidsson 2006: 4).

Entrepreneurial processes include the wish to start a business or the specific business idea that was being pursued. Such business ideas may be externally stimulated decisions, a desire to start a business, or an internal search for business opportunities. The development of a solution from the experience of a problem solving and the knowledge that others have the same problem and are happy to pay for a solution may provide opportunities to apply the new skill in a particular problem solving activity and also generate a potential business opportunities.

Entrepreneurship can be influenced by focusing on internal or external factors (Bhave 1994). Shane & Venkataranam (2000) identified up to 23 different gestation behaviours and argue that it is conceptually possible to discern into two related sub-processes, discovery and exploitation. Davidsson (2006) explains that *discovery* is itself a process, and is thought to include idea generation, opportunity identification, opportunity detection, opportunity development and opportunity refinement. A venture idea is usually not formed as a complete and changeable entity as a sudden flash of insight. The discovery process usually includes: ideas about value creation; ideas about value appropriation; development of commitment to and identification with the start-up on part of key actors; and activities such as planning, making projections and gathering and analysis of information.

Davidsson (2006) also describes the second identified process of entrepreneurship, *exploitation*, as the action side of venture development where ideas are implemented. Specific behaviours for exploitation include: efforts to legitimize the start-up, efforts to acquire resources, efforts to combine and coordinate these resources through the creation of a functioning organization, and efforts to generate demand through marketing and contacts with prospective customers. While the processes of discovery and exploitation are discussed separately, in fact there may occur in parallel or even iteratively.

Types of entrepreneurial processes

Much of the literature on entrepreneurship discussed the importance of planning in enterprise development. Sarasvarthy (2001) argues that entrepreneurship rather than being a causation process is a more emergent process relevant to the attributes of the individual. She named this emergent and interactive process an effectuation process. The four principles of the effectuation model (summarized by Davidsson 2006) are:

- focus on affordable loss rather than expected returns
- Strategic alliances rather than competitive analysis
- Exploitation of contingencies rather than preexisting knowledge
- Control of an unpredictable future rather than predicting of an uncertain one. P 9.

Nascent entrepreneurship

While many studies of entrepreneurs have studied existing entrepreneurial firms, some authors contend that the selection of such firms may introduce success bias and perhaps a more useful approach would be to study individuals with a propensity to entrepreneurship or nascent entrepreneurs. Criteria for selection in such studies may include individuals who initiate at least one gestation activity directly related to the formation of a new business, such as conducting a market survey, producing a prototype, or obtaining legal rights (Carter, Gartner & Reynolds 1996). Honig & Davidsson (2001) argue that this focus on individuals who have recently made a declaration or decision to begin a new enterprise provides an opportunity to examine the resource requirements, activities, and environmental constraints and supports provided in the activity.

Previous start-up experience is identified as a good predictor of individuals likely to become a nascent entrepreneur among the general population (Davidsson & Wiklund 2001). Nascent entrepreneurship studies found that variables that were consistently strong and statistically significant across the 18 month time span of the study were “previous start up experience” and “being a member of a business network”. This organizational networking variable was the strongest coefficient in each of the three time periods, suggesting that the importance of

organizational network relations is a constant factor in successful nascent emergence (Davisson & Wiklund 2001).

Other factors of importance included some indication that having a start up team appeared to be more important only in the latter stages of activity, during the months six through 18 and having close friends in business also appeared to be more important at latter stages of gestation activity (Davisson & Wiklund 2001).

The challenge is to match the process to the characteristics of the idea, the environment and the person (Davidsson 2001). The fit between processes and other elements of entrepreneurship and the higher the degree of uncertainty inherent 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 considering the business idea and the way to implement it until a concept that truly works has been found.

There is no singular winning recipe but an ability to evaluate venture ideas and environments in order to assess whether systematic and planned process applies, where a systematic search for ideas related to their prior knowledge, experiences and interests is carried out or a more iterative and flexible approach is called for (Davidsson 2006). Networks and their effects on entrepreneurship remain an important area of contemporary research, particularly in areas of network content, governance and structure and their emerging patterns over time (Hoang & Antoncic 2003).

COMPARING AND CONTRASTING CREATIVITY AND ENTREPRENEURSHIP

Common attributes

Some of the common attributes of creativity and entrepreneurship are found in the agency of the individual or group which produces novelty and value. Creativity concerns the creation of novelty and value. Entrepreneurship is concerned with novelty in business, new business ideas and the reality of achieving positive returns in market and in existing and new business models. Both creativity and entrepreneurship have followed similar trajectories in terms of the focus on the person and the process. Some of the common attributes of creativity and entrepreneurship are found in the agency of the individual or group which produces novelty and value in both creativity and entrepreneurship.

The creation of something new may include sometimes finding opportunities in existing fields, sometimes establishing new fields or new market opportunities. Early stages of

generating new ideas may be characterized by divergent thinking in both entrepreneurship and creativity, and may be the result of a dynamic process, or fluid and changing pattern of activities.

Both entrepreneurship and creativity benefit from depth of knowledge or expertise and both are not limited by this existing knowledge, and challenge and extend previous expertise in developing new ideas, processes and application. Agents in both creativity and entrepreneurship require skills of persuasion to influence others within the firm and often outside the firm to support or invest in new ideas. Table 1 summarises and compares some of the developments in creativity research and entrepreneurship research.

Small firms were considered as the nurseries of creativity in business (Marshall 1926) who argues of the importance of such firms gathered in districts. The importance of business networks for entrepreneurship has been identified in prior research (Aldrich & Zimmer 1986) and recent nascent entrepreneur research (Davidsson & Wiklund 2001).

Research into the ‘entrepreneurial orientation’ of a firm discusses notions of innovativeness, proactiveness, autonomy, competitive aggressiveness and risk-taking (Dess & Lumpkin 2007) which has some overlap with creativity and its role in innovative firms.

Well known examples of firms which use principles of creativity and entrepreneurship are found in large firms which develop ideas for new enterprises. For example the Harvard Business School Case of Corporate Ventures at Proctor and Gamble explicitly used Amabile’s Keys to Creativity Scale to investigate creativity processes used in generating new ideas for products and corporate venture development (Whitney 1997).

Creativity and Entrepreneurship is not a new linkage, although it has not been well articulated. Nystrom’s (1993) suggests entrepreneurship can be defined as management of radical change; “an agent who creates a vision whose main function is to create and exploit new opportunities by active experimentation and experiential learning with major skills in recognizing and mobilizing the inventive capacity of others” (Nystrom 1993: 237).

Organizational conditions can be enhancers and /or barriers to entrepreneurship and creativity. Barriers to creativity included workload pressure and perceived organizational impediments (Amabile et al. 1996). Barriers to entrepreneurship may include attitudes, mindset, lack of past business experience, lack of networks, lack of entrepreneurial intention by founders and lack of entrepreneurial orientation by firm and insights into these processes may be identified in research on nascent entrepreneurs.

The notion of problem finding or problem definition in the creativity literature has some similarities with the notion of opportunity finding or opportunity recognition in the entrepreneurship literature. In summary, we find that entrepreneurship has also been characterized as being about person, process, product, press (situation), persuasion and potential.

Differences

There are also distinct areas of difference, where creativity is largely an input and a process and entrepreneurship largely a process and an outcome. Differences at the level of analysis also can act as barriers in comparative work. Much of the research in creativity and creative thinking processes is now at the level of the team and there is some indication that this may well be an area of future focus in entrepreneurship research, particularly in the nascent entrepreneurship studies. Networks as sources of knowledge, information and influence have been more thoroughly investigated in entrepreneurship studies.

From this literature we develop propositions that will be investigated in future research.

It is well known that creativity or the generation and exploration of new ideas is often an early a component of innovation Hence we suggest:

Proposition 1: Entrepreneurship or the creation of new enterprises benefits from the use of creative thinking techniques regarding generating new ideas, exploring new ideas for products and services and new business models.

Proposition 2: Both creativity and entrepreneurship can be characterised as being about person, process, product, press (situation), persuasion and potential.

Proposition 3: Entrepreneurs apply creative processes in the development of new enterprises, in the connection between their knowledge, experience and interests, in obtaining access to resources and relationships with customers.

Implications for Business. Bringing together entrepreneurship and creativity is a reminder of a firm's need to refresh its approaches to generating and exploring ideas at multiple levels of the enterprise to ensure ongoing value creation and capture.

IMPLICATIONS FOR MANAGEMENT EDUCATION

The purpose of investigating creativity and entrepreneurship is to identify ways in which firms create value, directly and indirectly for themselves and their customers. Capturing value in the business world is related to business models which rethink or reframe within a paradigm as well as business which break paradigms and create new business models. Explicit examination of entrepreneurship processes of discovery and exploitation will be

enhanced through better articulation of creative processes involved and may lead to new ideas, new ways of working, and new forms of value creation enterprises.

Multiple perspectives of creativity and creative thinking are currently utilized in programs and courses on creative problem solving, creating new enterprises, and managing innovation and entrepreneurship. To a large extent these programs are conceptualized as distinct though related courses. Our findings of some common characteristics between these concepts and their contributions to innovation suggest that a tighter coupling may be useful to develop a multidimensional analysis of the dynamic capabilities of the firm.

CONCLUSIONS AND IMPLICATIONS FOR RESEARCH

This brief comparative overview of research on creativity and entrepreneurship has identified some potential areas of commonality. Both areas demonstrate the importance of attitudes, mindset, motivation and orientation. Individual and firm level processes are important for both creativity and entrepreneurship and imagination, determination, motivation, knowledge and skills as well as environmental factors will play a variety of roles, both divergent and convergent for successful firms. However there are also distinct areas of differences related to the ongoing application of idea generation processes and modification.

More detailed studies of the entrepreneurship process particularly at the nascent entrepreneurship stage, may identify multiple creative thinking processes that informs the initiation and development of the new enterprise, as well as its business model, customer relationships and evolution over time and Figure 3 suggests some extensions of the model of how components of entrepreneurship fit together (Davidsson 2006). Figure 4 illustrates some of the relationships to be further examined.

FUTURE RESEARCH

The fields of entrepreneurship and creativity are dynamic and changing. Current research on nascent entrepreneurship may extend previous understandings and provide insights into the impact of groups and teams and particular forms of information and knowledge resources and their combinations within the internal and external networks of the new enterprise. Creativity and creative problem formulation are developing in terms of the application of technologies to existing practices and the development of new technologies and new creative problem solving processes. Both fields have much to contribute and further research will target the development of the dynamic capabilities and entrepreneurial capacity of firms and the input and impact of creativity and creative thinking processes at multiple levels of enterprise development.

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Table1. Themes in Creativity and Entrepreneurship Research

THEME/ FOCUS	CREATIVITY	ENTREPRENEURSHIP
Characteristics of Person / Individual	Adaptors or Innovators (Kirton 1976) Domain expertise/experience, creative thinking skills, motivation (Amabile 1996) Confluence - intellectual abilities, knowledge, styles of thinking, personality, motivation and environment (Sternberg et al.)	Trait approach (Hornaday 1982) but characteristics were not found to be definitive of entrepreneurs Entrepreneurial intention of firm founders Successful entrepreneurs found to have past start-up experience
Group/ Team	Hot groups Skunk works	Not a lot of research on team approach
Characteristics of Firm or organization	“an environment that is supportive and rewarding of one’s ideas” Sternberg Creative leadership (Puccio et al 2006)	Entrepreneurial Orientation-(innovativeness, proactiveness, autonomy, competitive aggressiveness, risk taking) Dess & Lumpkin,2007) Member of business network and later close business friends (Davidsson, 2006)
Process	<i>Seeing a problem in a new way</i> Idea generation, idea selection, Problem finding, Creative Problem Solving, Solution Selection Creative Problem Solving (CPS): Mess finding, Problem finding; Idea finding; Solution finding and Action Planning.	Discovery: includes idea generation, opportunity identification, opportunity detection, opportunity development and opportunity refinement; Also ideas about value creation; value appropriation; development of commitment to and identification with the start-up on part of key actors; and activities such as planning, making projections and gathering and analysis of information (Davidsson 2006) Exploitation: efforts to legitimize the start-up, to acquire resources, to combine and coordinate resources in a functioning organization, to generate demand through marketing and contacts with prospective customers Causation and/or effectuation
Product/ Outcome	New product development Multiple examples including IDEO examples (Kelley, 2001); learning	New enterprise which can appropriate value; New business models which appropriate value
Situation/ Environment	Creative organizations produce novel and valuable ideas;	Rich background knowledge, connectedness with business network; professional networks
Potential	“Everyone has creative potential” (Runco 2004)	Person plus suitable opportunity, plus interaction with people with complementary skills = potential most people as entrepreneurs (Davidsson 2006: 2)
Persuasion	Ability to sell new idea	Ability to sell new idea – investor

Figure 1. Components of Creativity (Amabile 1998: 78)

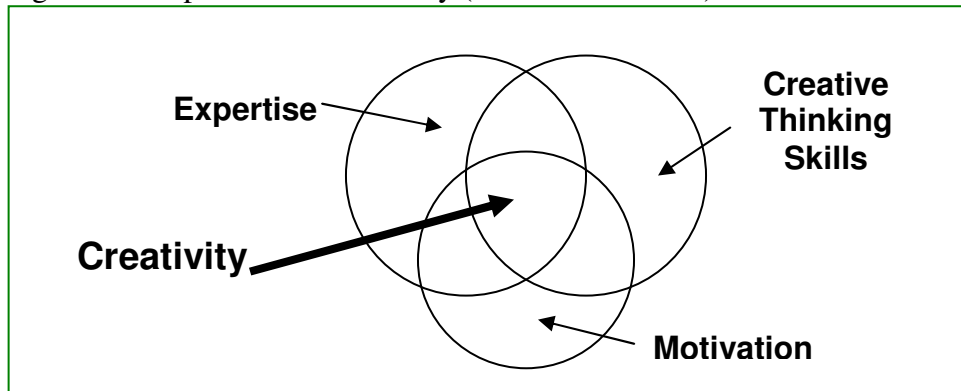


Figure 2. Systems View of Creativity Csikszentmihalyi, 1999

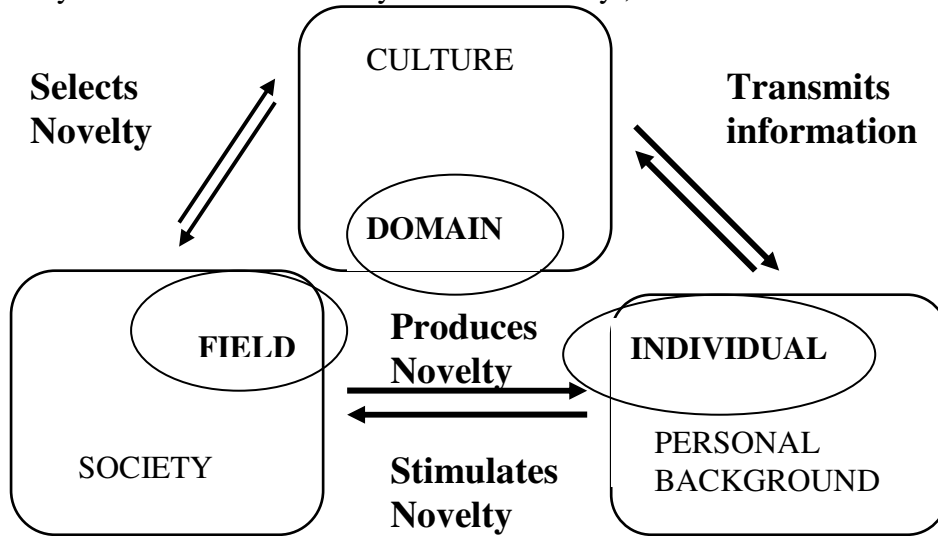


Figure 3. Potential Intersections of Entrepreneurship and Creativity (From Davidsson 2006:13)

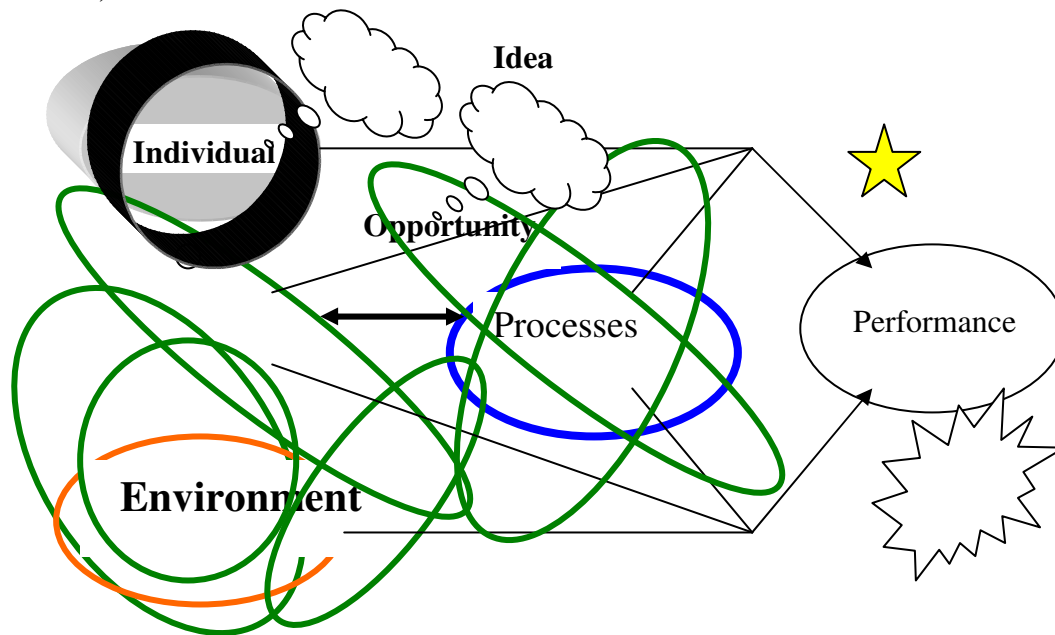


Figure 4. Proposed model

