

**BUILDING THE CAPABILITIES FOR MANAGING UNCERTAINTY IN  
ENTREPRENEURIAL CONTEXTS: A SENSEMAKING APPROACH**

**Dr. Hande KARADAĞ<sup>1</sup>**

**ABSTRACT**

How entrepreneurs act upon the uncertainties from the initiation to the finalization of the entrepreneurial venture creation process is an area where the amount of conceptual and empirical research studies is significantly limited. In this study, a novel approach to entrepreneurial cognition is introduced for filling this gap in the literature, by employing the elements of sensemaking theory to entrepreneurial cognition, proposing that entrepreneurs engage in a purposed sensemaking process during their entrepreneurial experience. As individual entrepreneurs develop certain skills and capabilities for succeeding in their entrepreneurial acts, the study further argues that entrepreneurial sensemaking can be regarded as an important capability which can be improved to carry the individual entrepreneur from chaos towards a more organized condition. With its unique approach to how high levels of uncertainty are perceived and acted upon by the entrepreneurs, the study is expected to make a significant contribution to both sensemaking and entrepreneurship literature.

**Keywords:** Entrepreneurship, Sensemaking Theory, Entrepreneurial Sensemaking, Entrepreneurial Capabilities.

---

<sup>1</sup> MEF Üniversitesi İİSBF, [hande.karadag@mef.edu.tr](mailto:hande.karadag@mef.edu.tr)

## INTRODUCTION

Entrepreneurs are the individuals who recognize and exploit new business opportunities by founding new ventures in environmental contexts “where others see chaos, contradiction, and confusion” (Kuratko & Audretsch, 2009; Shane and Ventakamaram, 2000). The judgments about whether an idea is an opportunity or not, are made under conditions of high uncertainty and complexity (Baron, 2008; Keh, et. al., 2002). However, due to time pressures and facing chaotic, rapidly changing contexts, entrepreneurs seldom possess clear-cut scripts to follow (Baron, 1998; Mitchell, 2000).

With the aim of investigating the core research questions of “Why and how some people become entrepreneurs?”, two major approaches became dominant in the fast-growing entrepreneurship literature, where the initial “traits” line of research eventually evolved into the recent “entrepreneurial cognition” approach, due to the general acceptance among entrepreneurship scholars that the latter explained entrepreneurial behaviors and perceptions better (Keh, et. al., 2002). As the research field developed further, various research studies were conducted, approaching the topic of entrepreneurial cognition from different perspectives, such as the impact of learning (Baron & Ensley, 2006; Holcomb, et. al., 2009; Minniti & Bygrave, 2001; Morris, et. al., 2012), affect (Baron, 2008; Foo, et al., 2009; Hayton & Cholakova, 2012), passion (Breugst, et.al, 2012; Murnieks, et. al., 2012), self-confidence (Hayward, et. al., 2010; Koellinger, et. al., 2007) and intuition (Kickul, et al., 2009; Mitchel & Friga, 2005) on opportunity recognition and exploitation processes of entrepreneurs. In these studies and particularly in entrepreneurial learning research, entrepreneurial ventures were generally regarded as the end results or outcomes of a linear learning process that led the individual entrepreneurs towards creating new ventures. However, as implied by later studies, cognitive processes of entrepreneurs are much more complex and less rational and planned than initially anticipated, as these individuals are in continuous interaction with their chaotic and turbulent environments while feeling severe emotional pressures, during their entrepreneurial experience. Due to these complications, a multi-disciplinary approach is both helpful and valuable, as contributions from different fields have the potential to provide great insights into the investigation of the multi-faceted cognitive processes of entrepreneurs. In this paper, entrepreneurial cognition is analyzed from the recent "sensemaking theory" perspective.

While the term "sensemaking" is defined by a number of scholars, sensemaking in organizations is a fresh phenomenon introduced to the literature by Weick (1995). As Ancona (2011, p.4) quoted, sensemaking is "the process of structuring the unknown by placing stimuli into some kind of framework that enables us to comprehend, understand, explain, attribute, extrapolate and predict" (Waterman, 1990; Starbuck & Milliken, 1988), which as implied by this definition, has significant convergence points with entrepreneurship concept and literature. With its novel approach to chaos and uncertainty, the theory of sensemaking gained considerable interest from scholars of various disciplines. However, despite the general acceptance about the chaotic and turbulent operating environments of entrepreneurs, interestingly, no study to date approached the entrepreneurial cognition process from a "sensemaking theory" viewpoint to date and the current study mainly aims to fill this gap in the literature. Throughout the paper, elements of sensemaking are introduced as different phases of entrepreneurial cognition framework, which is a novel approach to understanding the new venture creation process. Within the course of the study, a new process model is introduced, which, unlike the previous process models, approaches entrepreneurial cognition as a nonlinear loop, with the core elements of the sensemaking theory, namely "exploring the wider system, creating a map/story of the situation and act to change the system to learn from it", rather than a linear and purely rational sequence of entrepreneurial decisions and actions.

The paper then discusses the "entrepreneurial sensemaking" term as both a key entrepreneurial capability for entrepreneurs and as well as a competitive advantage for entrepreneurial entities, as both entrepreneurial capabilities and developing of competitive advantages are essential for the emergence, growth and, survival of newly created ventures in complex and rapidly changing environments.

## **1. SENSEMAKING THEORY**

Since the introduction of the term by Weick (Ancona, 2011), the sensemaking theory has attracted a large interest from scholars with its novel approach to understanding and acting within complex, even chaotic situations. Sensemaking theory basically analyzes the series of activities where individuals and groups turn novel and ambiguous situations into comprehensible words and actions (Stigliani & Ravasi, 2001; Weick, 1995). It aims to combat the unknown by forming a framework which makes it understandable, as well as predictable (Ancona, 2011; Starbuck & Milliken, 1988; Waterman, 1990). Sensemaking theory discusses the embracing of chaos and rapid change by the formation of the ability to move from simple to complex by the collection of new information and taking of new actions and then go back to simple again (Ancona, 2011). In order for sensemaking to occur, the current state of the world should be perceived to be different from the expected, which happens when people are faced with an ongoing, unknowable, unpredictable stream of experiences (Weick, et.al., 2005). Thus, sensemaking is needed often in times of rapid changes and uncertainty, where the understanding of the world becomes unintelligible in some way. The methodology of making sense, according to Weick, is similar to cartography, where hope, confidence, and the means to move from anxiety to action are provided by maps, when facing unfamiliar situations (Ancona, 2011; Weick, 2001).

As sensemaking theory evolved, retrospective and prospective approaches to sensemaking emerged in the literature. While retrospective sensemaking models focused on interpretation attempts of individuals to unexpected occurrences experienced in the past (Stigliani & Ravasi, 2012; Weick, 1993, 1985) prospective or future-oriented sensemaking line of inquiry targeted to explain the circumstances where individuals and groups dealt with novel and complex situations by engaging in forward-looking thinking that would enable them to reach a desired future state (Gioia & Mehra, 1996; Stigliani & Ravasi, 2012). Both approaches were welcomed by researchers working in various disciplines, including organizational theory, leadership, strategic management, innovation and marketing due to their bringing of comprehensiveness, uniqueness, and freshness to the conventional schools of thought in these areas. Despite that, very few studies attempted to apply the "abstract" sensemaking the theory to the "concrete" entrepreneurship concept, although, "to make sense is to connect abstract with the concrete" (Weick, et.al, 2005). Another important contribution of sensemaking theory is its "acting with thinking" focus, which constitutes one of the most integral commonalities that tie the two fields together. The novel and the unique introduction of the concept "entrepreneurial sensemaking", thus, is therefore proposed as an interesting and useful device which can have significant implications for both theoreticians and practitioners working on the field of entrepreneurship, in the current study.

## **2. ENTREPRENEURIAL SENSEMAKING**

### **2.1. Defining the Concept**

Various definitions of sensemaking and entrepreneurship exist in the literature, however, a working definition of "entrepreneurial sensemaking" has not been introduced, to date. A common and comprehensive definition of entrepreneurship is "the activity that involves the discovery, evaluation and exploitation of opportunities to introduce new goods and services, ways of organizing, markets, process, and raw materials through organizing

efforts that previously had not existed” (Shane & Ventakamaran, 2000), whereas the term “entrepreneurial” refers to the “attitudes, skills and behaviors” of entrepreneurs” (Volkman, et.al., 2009). By combining these definitions with the previously mentioned definitions of sensemaking, the term entrepreneurial sensemaking can be proposed as “the process where entrepreneurs attempt to structure and interpret novel and ambiguous situations by transforming uncertainties into opportunities, through the introduction of new products, services or methods of organizing”. Albeit seemingly simple, this definition grasps both the acting thoughtfully and coping with uncertainty dimensions of sensemaking from an entrepreneurial point of view, which also introduces a new and fresh approach to the entrepreneurial cognition field that has been dominated first by the mainstream of entrepreneurial learning and more recently emotions and affects dimensions.

In entrepreneurial cognition discussion, entrepreneurial learning was the leading line of research, particularly after Minniti & Bygrave's description of entrepreneurship as "a process of learning" (Minniti & Bygrave, 2001). This view was supported by a large number of academics and practitioners, as well as formal bodies related to entrepreneurial education, as stated by Drucker "Most of what you hear about entrepreneurship is all wrong. It's not magic; it's not mysterious, and it has nothing to do with genes. It's a discipline and, like any discipline, it can be learned" (Drucker,1985). Following these footsteps, scholars began to develop new models regarding how learning impacts the creation of entrepreneurial ventures. In this research area "the ability to learn from experience" was initially regarded as the main indicator of entrepreneurial success (Cox & Jennings, 1995), followed by the introduction of models which all explained the cognitive process of entrepreneurs through the lenses of learning and experience (Holcomb, et. al, 2009; Morris, et. al, 2012; Politis 2005). These researchers approached the entrepreneurial learning concept as a "linear" process, in which knowledge accumulation through personal experience and other resources, acted as the "means" and emergence of entrepreneurial structures were presented as the "ends". Although these models highlighted the important role of knowledge and learning in the cognitive processes of entrepreneurs, it can be argued that they were lacking some elements in their linking of entrepreneurial purposes with end-results, or the cognitive processes of entrepreneurial learning with entrepreneurial acts, for a number of reasons. First of all, the linearity of an entrepreneurial process can be the question of a huge debate, as there are several elements that work interrelatedly and continuously during an entrepreneurial experience rather than purely rational and sequential steps that have to be followed. In addition, entrepreneurs, despite their purpose of creating something new, do not look for an "accurate" result, but they rather act in a way that is "reasonable" and "plausible" to them under the complex and uncertain conditions. This, however, contradicts the traditional line of thinking which advocated that entrepreneurs employ strategic and rational thinking, as they target end results, most commonly in the form of high performing ventures. Finally, the act to change the environment by creating a new venture may not happen as the natural or expected result of sufficient knowledge accumulation as suggested by these models. The acceptance that some individuals take the life-changing decision of becoming an entrepreneur or in other words "their own boss" at a certain point in time when they only believe to have gained a sufficient amount of knowledge and are thereby feel ready for such a change, can be an oversimplification of the complex cognitive and emotional process that entrepreneurs go through before acting upon the opportunities they see within the uncertainties and unknowns. On the contrary, these processes involve continuous attempts to attribute meanings to what is actually happening in the environment and trying to interpret and move through these highly ambiguous situations by creating new mental frameworks such as mind maps, while at the same time, socially interacting with others. Creating a venture in this regard is a learning experience itself, not the "outcome of a cognitive process" (Cornelissen & Clarke, 2010).

As the previous approaches and models attempted to explain the complex cognitive processes of entrepreneurs when faced with situations of high uncertainty with the help of traditional models and concepts, contemporary and multi-disciplinary approaches surfaced for providing more depth and comprehensiveness to the ongoing discussion and carrying the entrepreneurial cognition research to new dimensions. The current study can be regarded as a representative of this recent wave, proposing that, the fresh theory of sensemaking can make important contributions to our current understanding of entrepreneurial process with its novel approach towards individual and collective cognition in ambiguous and complex situations. As stated by the literature, sensemaking process involves "being thrown into an ongoing, unknowable, unpredictable streaming of experience" (Weick, et. al., 2005), thereby this concept has a natural potential to be a significantly useful mechanism to explain the entrepreneurial experience, which is "largely unscripted, unpredictable, and uncontrollable" (Schindehutte, et.al, 2006). Going one step further, both retrospective and prospective lines of sensemaking inquiry can present strong linkages to the concepts of entrepreneurship, as entrepreneurs aim to create a desired, unknown and uncontrollable future situation by attributing new meanings to their accumulated knowledge. Morris, et. al. (2012) explain this as "the individual is engaged in an ongoing process of assigning meaning to events, streams, and stocks of experiences that occur as a business idea is conceptualized and implemented" (Morris, et. al., 2012).

As sensemaking theory's popularity continued to rise among researchers from various fields, entrepreneurship scholars attempted to combine the concepts of sensemaking with different aspects of entrepreneurship research. McAdam & Marlow's (2011) study on discussing the role of incubator advisors as sense-makers in high-tech entrepreneurial ventures, Bettiol, et.al.'s (2012) analysis of marketing in Italian SME's with regard to entrepreneurial sensemaking, Cardon, et.al.'s (2011) study on failure of entrepreneurial ventures from a cultural sensemaking viewpoint, and Hill & Levenhagen's (1995) study on using of metaphors and mental models of sensemaking and sense giving in innovative and entrepreneurial activities are the leading examples of these initial studies. In the recent model introduced by Cornelissen & Clarke (2010), the scholars illustrated how inductive reasoning through analogies or metaphors can be central to entrepreneurs' envisioning an opportunity for the novel venture. Within this process model, entrepreneurs are argued to go through the linear process of prior experience, followed by inductive reasoning, which eventually leads to the formation of a basic image of the venture, similar to the path models of former entrepreneurial learning studies.

While these analyses employed different features of sensemaking for focusing on separate dimensions of entrepreneurial activities, a conceptual model which from a broader angle and with a "seeing the big picture" approach attempted explain the cyclical links and relations between the elements of entrepreneurial cognition process with a fresh entrepreneurial sensemaking perspective has not been presented, to date.

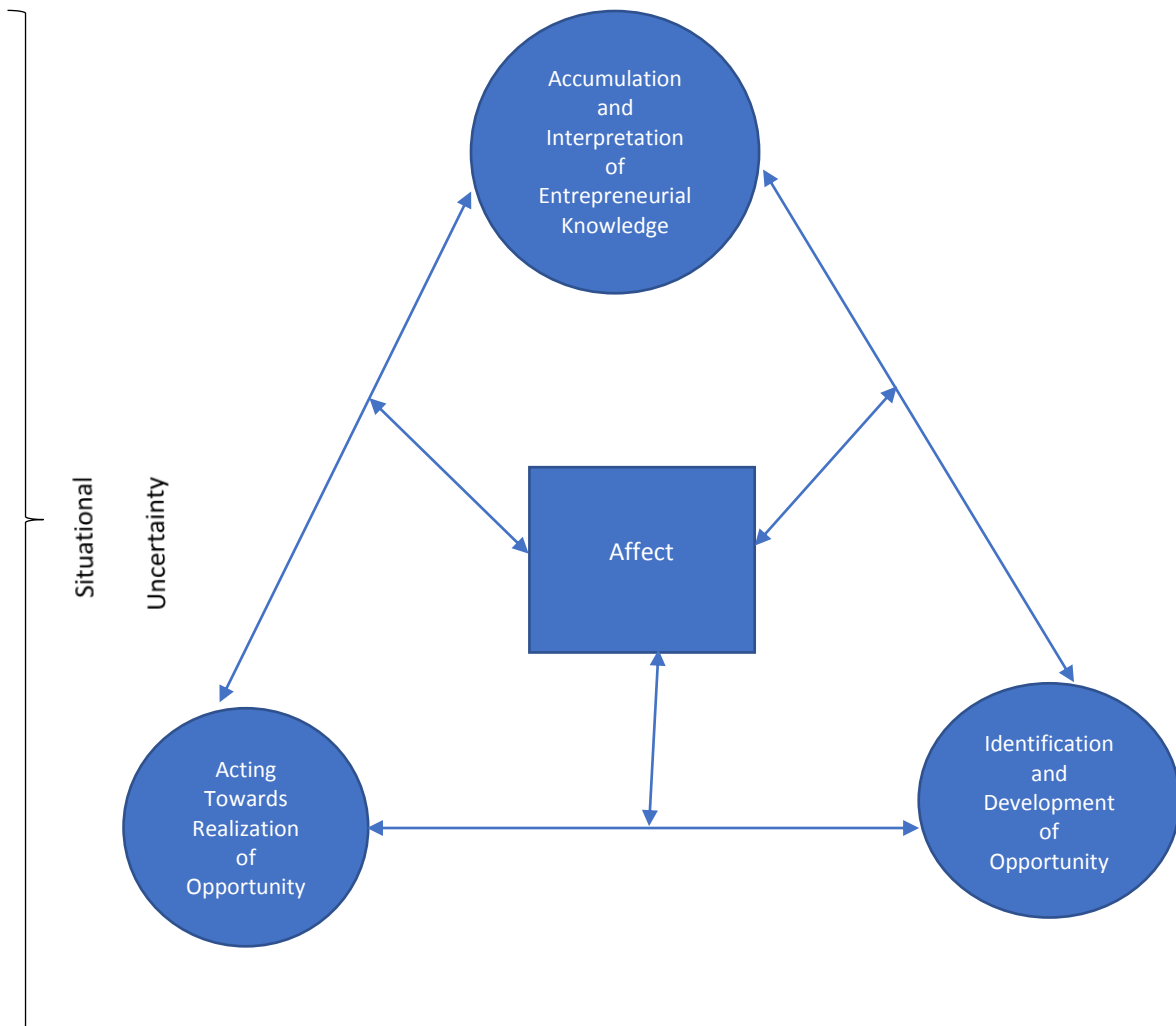
## **2.2. Introducing a New Model of Entrepreneurial Sensemaking**

In this paper, we propose a new process model of "entrepreneurial sensemaking" operating continuously and cyclically, where we use sensemaking theory our base theoretical framework, which is illustrated in Figure 1. Within our model, we aim to explain the complex cognitive processes of entrepreneurs by using the three steps sensemaking methodology of exploring the wider system, creating a map of the current situation and acting to change the system to learn more about it (Ancona, 2011). Interestingly, these steps are the exact routes entrepreneurs follow in their founding of new ventures. Therefore, it can be said that, entrepreneurs go through a purposed sensemaking process, which consists of gathering necessary information by using previous experience and scanning of the environment,

conversion of the related information to knowledge, deriving meanings from this stock of knowledge through assimilation and interpretation, acting for understanding their surroundings by creating a new ventures, and learning from the whole experience through these acts, thus making sense of the whole experience. These steps do not necessarily follow a linear route, in contrast to previous entrepreneurial cognition models, as they can happen interactively and continuously at any given point in time. Deriving from the theory of sensemaking, no predictable target to be reached exists in the model as well, as the future is unknown and uncontrollable. Entrepreneurs gather information through a filter of “purpose” of creating a venture, act accordingly and learn from the results of their acts, thereby reducing the discomfort of being totally unaware of the environment surrounding them. As there is not a “specific target” to be hit, or an “accurate destination” to be reached which can and should be pre-determined from the start, then there is no “right” or “wrong” in their actions. Entrepreneurs then can be argued to act because their acts are the only plausible ways that will serve them in times of turbulence and rapid change. Their purpose of founding a new venture, therefore serves as both a “map” which provides “hope and confidence and the means to move from anxiety to action” (Ancona, 2011) and also a “cognitive filter” towards selecting and accumulating of more useful and relevant information, as individuals are boundedly rational and have limits to their capacity of gathering and processing information, making the whole entrepreneurial experience a "purposed" sensemaking process.

Another contribution of the model is that, the sensemaking model of entrepreneurship looks at the entrepreneurial cognition as a ‘social’ rather than ‘individual’ process as it involves the significant but lacking element of the previous linear and rational cognitive models by comprehending the “organizing through communication” factor (Weick, et.al., 2005). Weick, et.al. (2005) define organizing as "the social dimension in sensemaking", which, in entrepreneurial sensemaking process, is the collection of social activities entrepreneurs conduct when building a new structure, such as interacting with potential partners, financiers, employees and also constructing a network to identify and properly execute which dots will be connected and how (Baron, 2006) in their mapping of the unknown. The final contribution of the model is it's regarding entrepreneurial opportunities as being "created", not "discovered". While the traditional "discovery of opportunities" approach enforces that opportunities are "objective, exogenous" and "entrepreneurs engage in the processes of systematic search and discovery" (Bettiol, et.al, 2011; Alvarez & Barney; 2007) critical views in recent studies opposed to this old school of thought, advocating that opportunities are the result of entrepreneurial action, thus created by it and entrepreneurs can be argued to act proactively to form these opportunities through their activities and enactment of the external environment, rather than “waiting by them to be formed by recognizable shocks in the environment” (Alvarez and Barney, 2007; Bettiol, et al, 2011).

Knowledge accumulation and assimilation has been presented as the starting point of entrepreneurial learning in previous models (Halcomb, et. al., 2009), reflecting how the information gathered by the entrepreneurs is transformed into categorically- based knowledge, which has to be realized due to the complexity and the novelty of the environmental context (Colville et.al, 2011). This factor also is regarded as the first element in our sensemaking model where we propose that the wider system is explored through observation and other data sources such as experiential knowledge, in the entrepreneurial sensemaking process. As Corbett (2005) and Baron (2004) stated, the things we think, say and do are impacted by our method of acquisition, storage, transformation and utilization of information and there are individualistic differences with regard to these methods that affect entrepreneurial abilities (Baron, 2004; Corbett, 2005).

**Figure 1: The Process Model of Entrepreneurial Sensemaking**

As Minniti and Bygrave (2001) commented, the knowledge component determines the entrepreneur's selection of the most appropriate course of action in any specific uncertain environment (Minniti & Bygrave, 2001). Knowledge acquisition "is the process of extracting and structuring information and channeling it to processes that accumulate new knowledge" (Holcomb et. al., 2009) and can be acquired through direct experience, observation of the actions and consequences of others, and by explicit codified sources such as books, papers, etc. (Holcomb, et al., 2009). Entrepreneurs can be discussed to gather knowledge through the same resources, however, evaluate this accumulation of knowledge after passing it through a cognitive entrepreneurial filter. For interpreting and attributing meaning to their acquired knowledge, entrepreneurs use an entrepreneurial framework, which focuses on the purpose of turning knowledge in uncertain situations, into entrepreneurial action. This mindful and purposed outlook is also a necessity of sensemaking. In the entrepreneurial sensemaking, however, this sub-process specifically involves the collection of data from various resources in order to reduce or eliminate prior biases which can interfere with perceptions, which is crucial for creativity. In our model, this process also involves a thorough analysis of the environment through detailed observation for the understanding of the surroundings as well as risk factors, such as competition or macroeconomic developments.

The accumulation and assimilation of entrepreneurial knowledge is closely interrelated with the second element of entrepreneurial sensemaking, the "map creation" of entrepreneurs, where the individual entrepreneur starts to build a framework in his/her mind for reducing the level of ambiguity and uncertainty of the situation, as well as coping the emotional distress caused by it. Weick likens sensemaking to cartography, as maps can "provide hope, confidence and the means to move from anxiety to action" where "some of the fear of the unknown can be abated by mapping an unfamiliar situation" (Ancona, 2011). Here, the "filtered and assimilated" information serves as the "cognitive guides" for the mind- maps of entrepreneurs, which can remain as mental models or can be turned into material sensemaking tools, which would take the form of business plans and models in the entrepreneurial process. The aim of the entrepreneur is to make these models or plans not "accurate", as stated by the traditional perspective, but "plausible" as sensemaking itself. Due to the high level of uncertainty, to have the end result of being accurate does not motivate an entrepreneur at the very beginning of a new venture creation process as it is impossible to define what is accurate and what is not, at that point. As Weick stated, "Plausibility gets people into action, which is helpful when accuracy is a moving target" (Weick, et.al., 2005). This phase is the identification or development of an opportunity, where through interpretations of the entrepreneurial knowledge, entrepreneurs create their opportunities in terms of entrepreneurial ideas, which also means being both proactive and visionary in terms of entrepreneurial capabilities.

The third element of the entrepreneurial sensemaking starts with the question "What do I do now?" which implies the learning by acting step of sensemaking. According to Weick "people learn about situations by acting in them and then seeing what happens" (Weick, 1985). Within that respect, the actions towards realizing an entrepreneurial opportunity, in order to learn from them, are significant tools of entrepreneurial sensemaking. This "acting thoughtfully" dimension of entrepreneurial sensemaking reflects that entrepreneurs simultaneously interpret and test old and new frameworks, both "honoring and rejecting the past" (Weick, et.al., 2005). The acting need not follow the learning phase, as it was stated as the second phase of the entrepreneurial process in past models of entrepreneurial cognition. Instead, these two elements operate separately but interactively, as "action is always a tiny bit ahead of cognition, meaning we act our way into belated understanding" (Weick, et.al., 2005). Acting itself can serve as a way towards learning, therefore the entrepreneurial cognition processes do not have work in a purely rational linear continuum. People can "learn through regularized and repetitive activity as well as more nonlinear, discrete events" (Costello, 1996; Reuber & Fischer, 1999), which supports our proposal why entrepreneurial sensemaking should be a non-linear and interactive process. In the acting phase, entrepreneurs organize their entrepreneurial ideas through communicating, where they build a new venture by putting human, financial and informational resources together, while socially interacting with the society. Organizing and communicating are among the main elements of sensemaking methodology and this novel approach of executing an entrepreneurial idea through organizing and communicating is another distinction from the previous entrepreneurial learning models, which treated the entrepreneurial experience as an individual instead of social process.

The moderating influence of emotions or effect on processes of entrepreneurial sensemaking is another important discussion, which should not be overlooked. As Weick noted, analysis of emotions in organizations is crucial "to clear up the questions such as whether intra-organizational institutions are better portrayed as cold cognitive scripts built around rules or as hot emotional attitudes built around values" (Elsbach, 2002; Weick, et.al., 2005). With regard to entrepreneurial ventures, the role of affect in creation process of entrepreneurial ventures is a topic recently attracting great interest from academics,



particularly after the highly-cited work of Baron (Baron, 2008) which advocated that mainly due to the high levels of ambiguity and lack of sufficient information during the start-up processes, effect of entrepreneurs can have various impacts on core aspects of the entrepreneurial process, including “opportunity recognition, acquisition of financial and human resources, development of broad social networks, capacity to respond effectively to highly dynamic environments, tolerance for intense levels of stress” (Baron, 2008). Following that study, several other scholars focused on the impact of affect and emotions on cognitions of entrepreneurs (Breugst, et.al., 2012; Foo, et.al., 2009; Foo, 2011; Hayton & Cholakova, 2011; Murnieks, et. al., 2014; Podoyntsyna, et. al., 2012; Welpe, et.al., 2012). In our model, the effect of entrepreneurs is taken as a moderating variable as regarded to have the potential to impact the interactions between sub-processes.

### 3. ENTREPRENEURIAL SENSEMAKING AS A CAPABILITY

Entrepreneurs have to possess certain skills and capabilities in order to succeed in their venture creation processes. In existing ventures, entrepreneurial capability (EC) “enables a company’s transformation through sensing and shaping of opportunities as well as providing specific heuristics to evaluate, select and exploit them” (Bingham, et.al., 2007; Teece, 2007; Zahra & Wright, 2011). Interestingly, while different categorizations of organizational EC’s in companies exist in the literature, such as sensing, selecting, shaping and synchronizing (Zahra & Wright, 2011), the capabilities and skills entrepreneurs have to develop as individuals while founding new ventures is a concept which has not attracted significant attention from scholars. One reason for this lack of interest can be associated with the shift of entrepreneurship research from “traits ” to “cognitive” approach, mainly due to arguments about the lack of empirical evidence for the studies on traits of entrepreneurs and the general acceptance that traits approach had a “limited success in explaining entrepreneurial behaviors and perceptions” (Foo, 2011, Keh, et. al, 2002), which then led to the emergence of cognition approach in entrepreneurship research. Nevertheless, entrepreneurs possess certain capabilities such as creativeness, alertness, and being visionary and proactive in order to envision and articulate the creation of opportunities, while development of organizational, communicative and risk analysis skills for realizing these opportunities in the most effective and efficient ways is crucial. Besides existing ones, new capabilities are also required for continuous improvement and growth. Taking Weick's note that "increased skill at sensemaking should occur when people are socialized to make do, be resilient, treat constraints as self-imposed, strive for plausibility, keep showing up, use retrospect to get a sense of direction, and articulate descriptions that energize” (Weick, et. al., 2005), we propose that entrepreneurial sensemaking is an important skill in entrepreneurship and it can be learned, taught and developed.

As entrepreneurial sensemaking is the building of the comprehensive framework which illustrates how the entrepreneurs combine their creativity and envisioning skills to shape their future by introducing new products, new services or new ways of doing to their environments through their interpretation of existing and obtained knowledge using business models and plans as mental models, it can be viewed as an architectural skill which combines all the other entrepreneurial skills together and in a proper manner. In that sense, the framework of entrepreneurial sensemaking should involve a creativity dimension, which requires "looking at the world with new eyes" (Ancona, 2011) and purposed search, which is the gathering of all sorts of data about the current situation in order to grasp and understand the big picture better, without being biased by previous presumptions. This novel framework would facilitate the proactive and thoughtful acting of entrepreneurs, enabling them to understand and act upon future trends and waves before they are detected and acted upon by others.

Similar to a roadmap in times of chaos and ambiguity, entrepreneurs form mind maps for articulating their new business models, which also help them to cope with mixed emotions of fear, hope, desperation, and anger very likely to be encountered through the tough entrepreneurial experience. Here, the framework of entrepreneurial sensemaking would help realize that these turbulent emotional and cognitive processes are in fact analyzable, comprehensible and manageable through roadmaps in shapes of business plans and models, which would reduce the uncertainty of the situation and ease the discomfort to a significant extent. Therefore, it can be proposed that initially any business plan could be helpful for a representation of the possibilities of action and explanations of the current and desired situation, thus serving as a guide that does not have to be “accurate” but “plausible”. Paying attention to external cues from the environment and incorporating new information would turn this initial business plan into a useful entrepreneurial sensemaking device (Ancona, 2011; Weick, 1995). This, of course, does not mean that it is not vital for the entrepreneurs to form their business plans in the most comprehensive way as possible. On the contrary, getting advice and know-how from business development professionals would also be recommendable at this phase, as the preparation of business plans is an area of expertise, requiring significant amounts of technical knowledge.

In both sensemaking theory and the proposed entrepreneurial sensemaking model, organizing through communicating for acting towards change plays a very important role. In terms of new venture foundation processes, this could be interpreted as to mean that entrepreneurs have to pay close attention to the organization of resources, as well as methods of communicating their vision, both verbally and in written forms, to third parties. Whilst the start point is always the individual vision of the entrepreneur, the following entrepreneurial processes are all about social interaction, from building the teams that would work together in the newly founded entrepreneurial entities to attracting the interest of venture capital companies. As sense giving is closely related to sensemaking, entrepreneurs that develop presentation skills would comparably be more convincing in the eyes of the financiers about the “plausibility” of their entrepreneurial ideas. Involving others in their entrepreneurial sensemaking processes also helps in terms of testing and modifying their mental models (Ancona, 2011), as divergent views and various analytical perspectives are clearly needed in entrepreneurial sensemaking.

## CONCLUSION

This study advocates that, through entrepreneurial sensemaking, entrepreneurs have a better understanding of what is going on in the world and the entrepreneurial sensemaking framework can be an extremely useful tool for entrepreneurs. Thinking and acting in terms of entrepreneurial sensemaking elements can provide significant motivation to entrepreneurs. Building plausible maps would encourage the individual entrepreneur to engage in thoughtful acting, thus help to realize the entrepreneurial ideas in the most effective ways possible. One of the most crucial contributions of the framework of entrepreneurial sensemaking is its taking of “acting for making change possible” to the core, as no change can occur without action. In that regard, entrepreneurial sensemaking celebrates the “courageous acts” of entrepreneurs, who “try new out things but also try to understand their impact on the system, as they try to change it” (Weick, et. al., 2005).

Entrepreneurial capabilities can constitute novel competitive advantages for entrepreneurial firms, as these capabilities, they are hard to be developed and imitated by the competitors. In a chaotic and rapidly changing business environment, entrepreneurial sensemaking capability therefore can be a key competitive advantage for any entrepreneurial enterprise, with its comprehensive, dynamic and adaptive nature, such as combining creativity and flexibility features together and involving the continuous conduct of thoughtful acts, by

following cues from the environment and the formation of mind-maps. Thus, a higher degree of entrepreneurial sensemaking capability can have the potential to differentiate one entrepreneurial enterprise from another, even impact their growth or survival.

All sensemaking processes start with the exploration of the wider system. Entrepreneurial sensemaking involves the creation and realization of opportunities and entrepreneurs attempt to understand the current situation by gathering data from multiple sources. Here, the entrepreneurial sensemaking framework proposes that accumulation of the maximum amount of knowledge would be more positive rather than depending solely on the intuition of the entrepreneur. In sensemaking, small actions can result in huge consequences, thus capturing and acting upon seemingly unimportant details can largely impact new venture creation processes.

However, there are some factors which can work against the formation of an effective entrepreneurial sensemaking process. Throughout the complex new venture creation process, taking the continuous cues from the environment is as important as having an initial plan, thus strong commitment to the first plan might harm the building and actions within the entrepreneurial sensemaking framework. Weick states this as "The dark side of commitment is that it produces blind spots. Once a person becomes committed to an action and then builds an explanation that justifies that action, the explanation tends to persist and become transformed into an assumption that is taken for granted" (Weick, 1985). As discussed by Ancona (2011), this concept of blind commitment is closely related to the cognitive bias where entrepreneurs can be constrained by the environments that they have created themselves. In addition to that, entrepreneurial sensemaking is not a one-shot process but an ongoing course of a learning-acting-learning loop, where detections, bounce backs and, modifications happen continuously and interactively and are turned into specific acts. Within this regard, entrepreneurial sensemaking can be viewed as a structural system which turns chaos into entrepreneurial organizations, through the creation of products, services, and methods that have not existed before. Flexibility in adapting to sudden changes and dynamic environments and composure, in terms of keeping calm and serene in turbulent situations and analyzing the situation as it is without the interference of emotional disturbances, are also important elements of an effective entrepreneurial sensemaking process. Allowing the taking over of negative emotions, such as panic and despair, could lead the entrepreneurs to erratic behavior which could drive them far away from their desired future situations. Being mindful of the process of entrepreneurial sensemaking and developing this as a capability would, therefore, help individual entrepreneurs to understand and interpret the emotional and cognitive phases they are going through.

### **IMPLICATIONS FOR FUTURE RESEARCH**

As entrepreneurial cognition is a newly developing research area, future analyses on relationships and interactions between the processes of entrepreneurial sensemaking and emotions could provide new insights.

## REFERENCES

- Alvarez, S. A., & Barney, J. B. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic entrepreneurship journal*, 1(1-2), 11-26.
- Ancona, D. (2011). "Sense-making: Framing and Acting in the Unknown." *The Handbook for Teaching Leadership*. Ed. Nitin Nohria, Rakesh Khurana, and Scott Snook. Sage Publications, Inc, 2011, 3-20.
- Baron, R. (2004). The cognitive perspective: A valuable tool for answering entrepreneurship's basic "why" questions. *Journal of Business Venturing*, 19(2), 169–172.
- Baron, R. A. (2006). Opportunity recognition as pattern recognition: How entrepreneurs "connect the dots" to identify new business opportunities. *The Academy of Management Perspectives*, 20(1), 104-119.
- Baron, R. A. (2008). The role of affect in the entrepreneurial process. *Academy of management Review*, 33(2), 328-340.
- Baron, R. A., & Ensley, M. D. (2006). Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs. *Management science*, 52(9), 1331-1344.
- Bettiol, M., Di Maria, E., & Finotto, V. (2012). Marketing in SMEs: the role of entrepreneurial sensemaking. *International Entrepreneurship and Management Journal*, 8(2), 223-248.
- Bingham, C. B., Eisenhardt, K. M., & Furr, N. R. (2007). What makes a process a capability? Heuristics, strategy, and effective capture of opportunities. *Strategic Entrepreneurship Journal*, 1(1-2), 27-47.
- Breugst, N., Domurath, A., Patzelt, H., & Klaukien, A. (2012). Perceptions of entrepreneurial passion and employees' commitment to entrepreneurial ventures. *Entrepreneurship Theory and Practice*, 36(1), 171-192.
- Cardon, M. S., Stevens, C. E., & Potter, D. R. (2011). Misfortunes or mistakes?: Cultural sensemaking of entrepreneurial failure. *Journal of Business Venturing*, 26(1), 79-92.
- Colville, I., Brown, A. D., & Pye, A. (2012). Simplicity: Sensemaking, organizing and storytelling for our time. *Human Relations*, 65(1), 5-15.
- Corbett, A. C. (2005). Experiential learning within the process of opportunity identification and exploitation. *Entrepreneurship Theory and Practice*, 29(4), 473-491.
- Cornelissen, J. P., & Clarke, J. S. (2010). Imagining and rationalizing opportunities: inductive reasoning and the creation and justification of new ventures. *Academy of Management Review*, 35(4), 539.
- Costello, N. (1996). Learning and routines in high-tech SMEs: analyzing rich case study material. *Journal of Economic Issues*, 30(2), 591-597.
- Cox, C., & Jennings, R. (1995). The foundations of success: the development and characteristics of British entrepreneurs and intrapreneurs. *Leadership & Organization Development Journal*, 16(7), 4-9.
- Drucker, P. F. (1985). *Entrepreneurial strategies, innovation and entrepreneurship practice and principles*.
- Elsbach, K. D. (2002). *Intraorganizational institutions. The Blackwell companion to organizations*, 37-57.

Foo, M. D. (2011). Emotions and entrepreneurial opportunity evaluation. *Entrepreneurship Theory and Practice*, 35(2), 375-393.

Foo, M. D., Uy, M. A., & Baron, R. A. (2009). How do feelings influence effort? An empirical study of entrepreneurs' affect and venture effort. *Journal of Applied Psychology*, 94(4), 1086.

Gioia, D. A., & Mehra, A. (1996). Sensemaking in organizations. *Academy of Management. The Academy of Management Review*, 21(4), 1226.

Hayward, M. L., Forster, W. R., Sarasvathy, S. D., & Fredrickson, B. L. (2010). Beyond hubris: How highly confident entrepreneurs rebound to venture again. *Journal of Business Venturing*, 25(6), 569-578.

Hayton, J. C., & Cholakova, M. (2012). The role of affect in the creation and intentional pursuit of entrepreneurial ideas. *Entrepreneurship Theory and Practice*, 36(1), 41-68.

Hill, R. C., & Levenhagen, M. (1995). Metaphors and mental models: Sensemaking and sensegiving in innovative and entrepreneurial activities. *Journal of Management*, 21(6), 1057-1074.

Holcomb, T. R., Ireland, R. D., Holmes Jr, R. M., & Hitt, M. A. (2009). Architecture of entrepreneurial learning: Exploring the link among heuristics, knowledge, and action. *Entrepreneurship Theory and Practice*, 33(1), 167-192.

Keh, H. T., Foo, M. D., & Lim, B. C. (2002). Opportunity evaluation under risky conditions: The cognitive processes of entrepreneurs. *Entrepreneurship theory and practice*, 27(2), 125-148.

Kickul, J., Gundry, L. K., Barbosa, S. D., & Whitcanack, L. (2009). Intuition versus analysis? Testing differential models of cognitive style on entrepreneurial self-efficacy and the new venture creation process. *Entrepreneurship Theory and Practice*, 33(2), 439-453.

Koellinger, P., Minniti, M., & Schade, C. (2007). "I think I can, I think I can": Overconfidence and entrepreneurial behavior. *Journal of economic psychology*, 28(4), 502-527.

Kuratko, D. F., & Audretsch, D. B. (2009). Strategic entrepreneurship: exploring different perspectives of an emerging concept. *Entrepreneurship Theory and Practice*, 33(1), 1-17.

McAdam, M., & Marlow, S. (2011). Sense and sensibility: The role of business incubator client advisors in assisting high-technology entrepreneurs to make sense of investment readiness status. *Entrepreneurship & Regional Development*, 23(7-8), 449-468.

Minniti, M., & Bygrave, W. (2001). A dynamic model of entrepreneurial learning. *Entrepreneurship Theory and Practice*, 25(3), 5-16.

Mitchell, J. R., Friga, P. N., & Mitchell, R. K. (2005). Untangling the intuition mess: Intuition as a construct in entrepreneurship research. *Entrepreneurship Theory and Practice*, 29(6), 653-679.

Morris, M. H., Kuratko, D. F., Schindehutte, M., & Spivack, A. J. (2012). Framing the entrepreneurial experience. *Entrepreneurship Theory and Practice*, 36(1), 11-40.

Murnieks, C. Y., Mosakowski, E., & Cardon, M. S. (2014). Pathways of Passion Identity Centrality, Passion, and Behavior Among Entrepreneurs. *Journal of Management*, 40(6), 1583-1606.

Podoyntsina, K., Van der Bij, H., & Song, M. (2012). The role of mixed emotions in the risk perception of novice and serial entrepreneurs. *Entrepreneurship Theory and Practice*, 36(1), 115-140.

Politis, D. (2005). The process of entrepreneurial learning: A conceptual framework. *Entrepreneurship theory and practice*, 29(4), 399-424.

Reuber, A. R., & Fischer, E. (1999). Understanding the consequences of founders' experience. *Journal of Small Business Management*, 37(2), 30.

Schindehutte, M., Morris, M., & Allen, J. (2006). Beyond achievement: Entrepreneurship as extreme experience. *Small Business Economics*, 27(4-5), 349-368.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review*, 25(1), 217-226.

Starbuck, W. H., & Milliken, F. J. (1988). Executives' perceptual filters: What they notice and how they make sense. *The executive effect: Concepts and methods for studying top managers*, 35- 65.

Stigliani, I., & Ravasi, D. (2012). Organizing thoughts and connecting brains: Material practices and the transition from individual to group-level prospective sensemaking. *Academy of Management Journal*, 55(5), 1232-1259.

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic management journal*, 28(13), 1319-1350.

Volkman, C., Wilson, K. E., Marlotti, S., Rabuzzi, D., Vyakarnam, S., & Sepulveda, A. (2009). Educating the Next Wave of Entrepreneurs-Unlocking entrepreneurial capabilities to meet the global challenges of the 21st Century. A Report of the Global Education Initiative.

Waterman, R. H. (1990). *Adhocracy: The power to change*. WW Norton & Company.

Welp, I. M., Spörrle, M., Grichnik, D., Michl, T., & Audretsch, D. B. (2012). Emotions and opportunities: The interplay of opportunity evaluation, fear, joy, and anger as antecedent of entrepreneurial exploitation. *Entrepreneurship Theory and Practice*, 36(1), 69-96.

Weick, K. E. (1985). Cosmos vs. chaos: Sense and nonsense in electronic contexts. *Organizational Dynamics*, 14(2), 51-64.

Weick, K. E. (1993). The collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative Science Quarterly*, 38, 628-652.

Weick, K. E. (1995). *Sensemaking in organizations*. Thousand Oaks, CA: Sage.

Weick, K. E. (2001). *Making sense of the organization*. Oxford: Blackwell.

Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly*, 38, 357-381.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking and organizing. *Organization Science*, 16(4), 409-421.

Weick, K. E., & Sutcliffe, K. M. (2007). *Managing the unexpected* (2nd ed). San Francisco, CA: Jossey-Bass.

Zahra, S. A., & Wright, M. (2011). Entrepreneurship's next act. *The Academy of Management Perspectives*, 25(4), 67-83.