

The Role of Entrepreneurial Creativity in Entrepreneurial Processes

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Abstract—This study discusses how entrepreneurial creativity process among entrepreneurial processes in high-technology startups. This research aims to contribute to this literature by focusing on two issues that are relatively neglected: (1) the entrepreneurial creativity definition (2) and individual-level relationship under different entrepreneurial process stages. Our research provides the foundation for straightforward but powerful managerial and theoretical guidelines without the possibly misleading oversimplifications and without compromising the richness of the contextual setting.

Index Terms—Entrepreneurial creativity, entrepreneurial processes stages.

I. INTRODUCTION

Reference [1] proposes that creativity is an important driver for entrepreneur to discover new business opportunity, and highlights the key role of innovation and of the entrepreneur as the sources of economic growth. [2] point out that creativity is clearly part and parcel of the entrepreneurial skills required to successfully start a venture and the origin of the entrepreneurial process. Creativity is the source of innovation, and it can lead to generate new business and improve products to enable enterprises possess more competitive capability [3] Creativity is not only important for enterprises, but also, or to play an important role when entrepreneurs make strategic decisions throughout entire business creation process [3], [4] In brief, creativity is a start point and achieve success main factor for create new business [2]

Therefore, we can know that entrepreneurs during business creation process should have considerable creativity. However, many past entrepreneurship studies often focus on how entrepreneur identifies opportunities recognition. [5] point out opportunity recognition is often cited as the key to entrepreneurship as well as being the first step of the entrepreneurial process. It's worth noting that we can't guarantee future success by identifying opportunities recognition nowadays, but we can analysis it good or bad for business after creation venture. [6] point out all entrepreneurs may be cut from the same basic cloth, but how they interact can be highly idiosyncratic. Hence, only understanding opportunities recognition can't immediately

help for business success. Therefore, entrepreneurs must through their personal creativity to win the business game in such competitive environment.

II. THEORETICAL BACKGROUND AND HYPOTHESES

Past studies are less discussion about entrepreneurial creativity definition, so that most study didn't provide rigorous definition with this construct. After literature review, there are only two studies give entrepreneurial creativity definitions. First, [7] argues entrepreneurial creativity refers to "the desire to create new businesses of their own by developing new products or new services, or by building up a new and completely different organization." Second, [8] argue that entrepreneurial creativity is "individuals need to create something on their own by developing or building a new venture, or by starting a business of their own." Summarized above can know prior tend to explain as new business creation, and this study will explain as entrepreneur personal creativity creation. This study defines entrepreneurial creativity as "entrepreneurs employ their idea create new firms, and continue this idea develop new products and services for market need".

Understand each startup stages will help to clarify each stage characteristics and promote entrepreneurial creativity foster. But former studies have various classifications with startup stage (e.g., [9], [10]) [11] point out most of the studies that focus on stage in the start-up an enterprise are variations on study theme. According to innovation theorists, they often describe the innovation process as being composed of two main phases: initiation and implementation [12], [13]. The initiation stage can see as initiation of an idea or proposal in start process [14], and aware of the innovation, forms an attitude towards it, and identify knowledge that meets those needs, that evaluates the new product and feasibility [12]. The research and development department function may be viewed as focusing on the initiation stage (Kim, 1980). The implementation stage can see as adoption idea or proposal follow-up [14]. [13] argue that this stage is best characterized as a period of experimentation through which innovative ideas are incrementally translated into good practices. In other word, [15] state that implementation stage consists of all events that follow the initiation stage, including the initial utilization as well as the continued use of the innovation.

[16] argues that to more fully understand creativity it is necessary to consider both interactions between personal and contextual characteristics and interactions among different contextual characteristics. [17] argue that creativity, an individual-level construct, is the generation of

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novel and appropriate ideas, products, processes, or solutions. [18] argue that as firms move through various stages of growth, the problems that must be addressed change. This results in a need for different skills, priorities, and structural configurations. Therefore, this study considers entrepreneurial creativity will change with the external factor influence. So, this study examines the entrepreneurial creativity separately in each initiation stage and implementation stage, and explores whether entrepreneurial creativity transformation in different entrepreneurial stage.

A. Individual Level Factors: Social Network

[12] point out the interaction, in terms of frequency and richness, between members of a social network can also enhance the speed and rate of innovation adoption. Based on the innovation adoption must rely on creativity. Therefore, this study considers it maybe affect the individual's creativity when individual have rich social network. Further, [3] (2007) found that Chinese managers obtained information from individuals in their social networks. [19] argue entrepreneurs can enlarge their networks to get crucial information and other resources from knowledgeable others. Likewise, [20] state that the information needed to start a business is passed to the small business owner through an existing social network of friends and acquaintances.

Other studies consider entrepreneur will more dependent on informal social network (such as friend or family members) in early entrepreneurial stage. (e.g., [21], [22]), in addition they have a direct effect on individuals' creative [23]. Therefore, communication and interactions can increase creativity in different people [17], [24]. Nevertheless, [17] found that weaker ties are generally beneficial for creativity, whereas stronger ties have neutral effects. That is show social network effect on individual's creativity, but the creativity maybe changes result from ties weak or strong. In addition, [19] find that entrepreneurs build networks that systematically vary by the phase of entrepreneurship, analyzing number of their discussion partners and the time spent networking. [25] state that in the initiation stage, managers not only should encourage creative behavior and the development of ideas, but also by setting examples with their own actions. Thus, social network have a different effects in each entrepreneurial stage. This study considers different social network will not alike effect in each stage. Therefore, this study proposes that:

Proposition 1: Social network influences on entrepreneurial creativity in the initiation stage; otherwise, social network influences on entrepreneurial creativity in the implementation stage.

B. Individual Level Factors: Expertise

[26] argue that if problems are complex requiring multiple different forms of expertise and their expertise is used to identify emerging new trends and their implications for the organization. In the other hand, [27] according previous studying while previous management experience as well as years of work experience seem to have weak or uncertain influence on the propensity to nascent entrepreneurship. In the other hand, entrepreneur relying on a small set of

technological cumulative expertise is may not be sufficient, must have some level of background knowledge [28]. Thus, the knowledge make expertise become more firmly, further entrepreneurs can use expertise resolve questions, so the creativity is building on expertise [29]. General, entrepreneurs often use prior knowledge assessment of the situation on the market. For example, [30] point out prior knowledge are important to the process of entrepreneurial discovery prior knowledge of markets, prior knowledge of ways to serve markets, and prior knowledge of customer problems, and entrepreneur's ability to recognize an opportunity in a new technology might be enhanced by prior knowledge about how the new technology could be used to create a product or service. Further, [16] point out at the individual level, having depth and breadth of knowledge also has been linked to creativity. Thus, in the high tech industry, if managers have technological knowledge then can create and maintain the creativity [31], [32]. However, in the entrepreneurial initiation stage the first resources (e.g., education, experience, knowledge of the industry) often from entrepreneurs themselves [33]. [34] points out absent prior entrepreneurial experience, gaining competency in the set of skills necessary for successful enactment will be more challenging when role novelty is high. However, entrepreneur expertise is possible promote cause of entrepreneurial self-learning. Further, [35] state that business may survive and grow during the early stages of its life on the basis of the entrepreneur's technical expertise and his ability to generate innovative ideas. Therefore, this study proposes that:

Proposition 2: Expertise influences on entrepreneurial creativity in the initiation stage; otherwise, expertise influences on entrepreneurial creativity in the implementation stage.

C. Individual Level Factors: Positive Affect

[36] found that some popular literature has often described affective dysfunction as an ingredient of creativity. [37] point out most of the psychological literature demonstrating that affect can influence creativity has relied on the manipulation of short-term affective states or moods (e.g., [38]). In the other hand, [36] point out little is known about how naturally occurring affective experiences in the flow of people's daily work lives might relate to their creative thinking on the job, and there is a dearth of research on the affect-creativity relationship over time. There have some theories of affect suggest that creativity may be particularly susceptible to affective influence, because the positive affect leads to the sort of cognitive variation that stimulates creativity [39]. In the Isen's research found positive mood has been induced by a number of different stimuli, including an event or a film clip. The most consistent finding of these experiments has been that induced positive mood leads to higher levels of performance on dimensions relating to creativity [36]. Nevertheless, [40] argue that so until recently, a degree of uncertainty remained concerning the generality of the positive affect—creativity link.

According to [41] study, they point out people use their current mood as an informational cue, if people with positive feeling signaling that all is well, on the other hand

if people feel negative mood signaling that something is amiss in the situation. The result of this assessment can mean that people will stop working on tasks when they experience positive affect but will continue to be motivated on tasks when they experience negative effect. Likewise, [42] found that positive affect serves as a cue that good progress has been made or that objectives have been achieved, whereas negative affect signals that more needs to be done[43]. [44] point out since a clear link between creativity and reward is often lacking in new ventures, and he suggest positive affect is more likely than negative affect to facilitate creativity. Therefore, this study proposes that:

Proposition 3: Positive affect will have significantly positive effect on entrepreneurial creativity in the initiation stage; otherwise, positive affect will have significantly positive effect on entrepreneurial creativity in the implementation stage.

III. CONCLUSIONS AND DISCUSSIONS

Understand each startup stages will help to clarify each stage characteristics and promote entrepreneurial creativity foster. But former studies have various classifications with startup stage (e.g., [10]). [11] points out most of the studies that focus on stage in the start-up an enterprise are variations on study theme. Short time frame studies are simple to design and easier to execute but clearly lack the richness on insight that results from studying a phenomenon over a longer time period. In general, each study is non-compliance and can't be generated for comparative. Therefore, only wide time frame studies will allow us to study the development problems faced by new firms and to pursue the objective of causal inference. According to innovation theorists, they often describe the innovation process as being composed of two main phases: initiation and implementation [13], [45].

Therefore, this study divided startup process stage into initiation stage and implementation stage and examine entrepreneurial creativity in both stages. Therefore, this study proposes the first stage in the startup process on behalf of the "initiation stage", and in this phrase the concept of entrepreneurial creativity is meaning that entrepreneurs base on their creativity successful launch new enterprises; the second stage in the startup process on behalf of the "implementation stage", and in this phrase the concept of entrepreneurial creativity is meaning that restructures all new products and service for implementation in future development need.

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