Individual Creativity as the Key to Entrepreneurship

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Abstract: With the advancement of technology knowledge and extensive flow of information, our society required skills by the help of which it can go along with the development of science and technology. The aim should be to foster people who can face problems with a creative mind and solve the problems so that they can communicate well with each other and eliminate problems by taking advantage of the collective knowledge and generating new thoughts. Today, people require strengthening creativity to walk toward a prosperous society by creating new thoughts.

Keywords: entrepreneurship, creativity, innovation

INTRODUCTION

The explosive growth of information has given every human being the experience and knowledge that others have no opportunity to gain. Therefore, in today's world one of the keys to success is to circulate information containing knowledge and experience among human beings. No one is capable of realizing actual amount of information in one's mind. This information moves when a strong incentive will release it from mind. At this stage, people are sensitive to each other's destinies, they make effort for each other's growth, and eventually they lead to the flow of knowledge and experience, which will be the precursor to creativity.

History and evolution

Creativity is one of the premier features of human being. Creativity is one of the most important goals in the present age. "To foster innovative and creative learners" and progressive education are of high importance and value since human civilization is the result of the creativity and innovation of human beings. Brainpower has provided human beings with the potential creation and innovation talent. With the help of this talent, cars, airplanes, communications equipment, computers, satellites, etc. are made. With the help of creative talent, we will reach richness, meaning, and vitality, and we will provide the means to reduce the suffering and risks of life [1]. In the past, creativity was considered synonymous with ingenuity. Therefore, wherever creativity was considered, ingenuity concept immediately came to mind. This interpretation dates back two thousand years. In the history of the ancient Greeks, ingenuity had a legendary meaning. Thus, there was no clear definition of ingenuity. Greeks had accepted the term Satan synonymous with ingenuity. From Greeks' point of view, Satan was a guardian spirit who came to the soul and the body of people and made them possess extraordinary abilities and enthusiasm. In fact, in Greek literature, genius was someone with introspective orientation and was more willing to loneliness and solitude than interest in people. Perhaps this factor had made Greeks imagine ingenuity synonymous with mania. In this regard, Aristotle believed that ingenuity is along with madness and does not make sense without it. He knew madness as a spirit sent down from the Lord [2].

Although research on creativity and its constituent elements began by social scientists a century ago, the basic motivation for further research began in 1950 by Guildford who knew creativity synonymous with divergent thinking (achieving new approaches to solve problems) versus convergent thinking (achieving the correct answer) [3].

Ryhammar and Borlin (1999) in an analytical approach to this issue believed that creativity passed three major procedures from 1950 to 1999. The first procedure is related to personality study. They believe that creativity research in 1950s was largely based on the personality of creative people. During this period, investigating personality features and traits of creative people was the subject of most creativity research. The second procedure is concerned with the study of cognition. In the second procedure, studying the perceptual, intellectual, and clever properties of creative
people was relevant. However, a major development occurred at this stage was a changing approach to psychometric creativity, such as what Torrance raised in 1960 and 1970, toward studies leading to knowledge of clever and creative mind in terms of cognitive and smart abilities. The third procedure trains and stimulates creativity seriously. Studies conducted in 1980 and 1990 have a social psychological perspective of creativity. Amabile (1983), the inventor of this view and one of the experts in this field, believes that creativity has a strong relationship with social structures. This view led to consider a special role for organizations and their cultural practices in the process of globalizing creativity. In this regard, Prilletensky (2006) and Dolan and Metcalf (2008) believed that this event incorporated creativity into organizations and did not only lead to increased profits, production, and trade but also improved employee commitment. In fact, social psychological research incorporated creativity into modern organizations in order to move toward growth, to encourage creativity, and to establish an organizational culture in accordance with creativity. Along with the social flow of creativity of systems, higher education in most countries also moved as effective organizations and went forward so that organizations accepted the role and importance of the production of knowledge (scientific creativity) as a distinct functional role [4].

Torrance (1988), Folley & Park (2005), Runco (2007), and Stemberg & Lubrat (1996) believe in an investment pattern in which creativity has six types of sources:

- Intelligence, knowledge, cognitive style, motivation, personality, and environmental context [4].

Dimensions of creativity

Researchers have identified several aspects of creative thinking. This cannot be a complete list, but dimensions of creativity are obvious in it and researchers have paid much attention to it.

- Divergent thinking
- Attitudes and interests
- Personality traits
- Personality profile
- Creative work

Definition of creativity

Torrance (1962), known as a pioneer of environmentalism, considers creative thinking as the process of emptiness and disorder feelings, absent elements, shaping ideas and hypothesizes about them, testing the hypotheses, estimating the results, and interpreting and re-testing these hypotheses. Rogers (1954), a humanist theorists, believed that the concept of creativity could be used only in the field of art works and events or visible phenomena. He believed that creativity ultimately would lead to flourishing human beings. Rogers considered it as the ultimate goal of everyone's progress. Maslow (1968), a humanist, considered creativity as a potential force awarded to all or most people since the beginning of life. This ability gradually fades or its incidence is inhibited during acculturation and growth of people [5]. According to Maslow (1954), ability is the creativity of things anyone has so it could be extended or suppressed. Amable stated creativity components as follows: experience, creative thinking skills, and motivation. While there are differences in various research, the nature of creativity (individual, group, and organizational) should be considered as well. In this research, creativity is defined as problem and used to create new ideas.

Many researchers have pointed out that motivation is a basic prerequisite for creative activity, although motivational force may vary from a creative activity to another. Guildford (1962) suggested that not all creative activities occurred in the form of motivation, but could be broadly divided into two categories: internal and external. This distinction and classification by Amable (1996) was highlighted. Over the past decades, business theorists defined creativity as the development of ideas about products, activities, services, and new procedures that are useful for organizations.

Creativity stem from creating. In Dehkhoda dictionary, creativity means to create something and a creative person is someone who has new ideas. Scientists have defined creativity with a variety of interpretations such that sometimes each definition represents only one important dimension of creativity. For instance, Herbert Foucken believes that “creativity process is any kind of thinking process solving a problem helpfully.” George Seidel also states that ability to link and connect the threads no matter in what field or fields is one of the principles of creative use of the mind. Erich Fromm believed that creativity was ability to see (awareness) and answer. Creativity has intuitive and personal aspect, while the problem is more based on the facts and has an objective and exterior goal. Stephen Robins (1994) defined creativity as thinking in a unique way or establishing an unusual relationship between comments. According to Hitchens, creativity is to provide ideas and new ways of dealing with issues and activities. According to Morhed, creativity is defined as the process of developing innovative and imaginative views on different positions. According to Moqimi, creativity is ability to combine ideas in a unique manner for unusual communication between different ideas [5].

Witting and Williams (1984) stated that creativity requires solving problems, but creative people
create problems or add to their complexity before they solve them. Torrance (1962, 1966, 1998) in a research definition of creativity noted processes such as sensing the problems, gaps in information, missing elements, wrong things, guessing and hypothesizing about these failures, evaluating and testing conjectures and hypotheses, revising and retesting, and finally transferring the results. In a definition dependent on the survival, creativity is defined as coping with difficult situations [1].

Creativity: Providing creativity is to create new ideas that may lead to new products or services [7].

Creativity is the use of mental abilities to create a new idea or concept [6].

Creativity means trying to make a purposive change in social or economic power of organization [8].

Creativity is the use of mental abilities to create a new idea or concept [8].

Creativity is to pass a new way or to walk a new way passed previously in a new manner [8].

Carl Roger (1954) believed there should be a visible thing, a product of creativity so that we realize creativity. He also believed that the product should have a new structure and a sign of the creator [9].

In a full definition of creativity, Sidney Parens (1972) mentions the three S's of creativity: sensitivity, serendipity, and synergy. In his definition, sensitivity can have two meanings: increased awareness of strange features of life, discontinuities, and disparities of people, things, and ideas that are a main part of the world where we live; and increased awareness of processes involved in individual and social interaction between others and us. Serendipity is defined as being lucky to find something. Whenever the total yields of some people, devices, and things lead to results higher than results of each one of them, synergy will happen [9].

Sensitivity is usually more effective in creativity than two other factors. This mostly considers the manner in which objects are; and paying attention to this increases the probability of having good ideas. The final definition of creativity by this researcher using the three concepts is as follows: creativity is ability to make connections between issues apparently irrelevant and unrelated [9].

Various other definitions have been suggested for the term creativity. For example, Robins defined creativity as ability to combine different ideas and depicting the process. In his point of view, creativity is the way of thinking about the problem in various ways. Critner defined creativity as a process using intelligence, imagination, and skills to create or develop a product, purpose, process, or new ideas [10].

The difference between creativity and innovation

Some thinkers and writers distinguish between creativity and innovation. For example, Kuntz introduced innovation as using new ideas and believed that innovation could be new products, new services, or new way of doing something, while creativity is ability and power of creating new and innovative thoughts or ideas. Albrecht has defined creativity, innovation, and the differentiation as follows:

Creativity is a mental and intellectual activity to create a new and innovative idea. However, innovation is to process creativity into practice. He considers innovation as processes and procedures required for the conclusion of a good idea or a new fact. From this point of view, a creative person may not be innovative, i.e. a creative person can have fresh new ideas, but has no ability to process them into innovation. Therefore, the innovator is creative most of the time, but not all creative people are innovative [11].

Factors affecting creativity

Robert J. Sternberg and Linda O’Hara found the following six factors affecting creativity [11]:
1. Knowledge: having basic knowledge in finite fields and gaining expertise over the years,
2. Intellectual ability: ability to present creative ideas through redefinition and communicating issues,
3. Intellectual style: creative people usually take innovative thinking style for the method provided by the organization and senior management,
4. Motivation: creative people generally are motivated to act out their ideas,
5. Personality: creative people generally have personal attributes such as insisting, robustness against external and internal pressures, robustness against temptation, and matching the others, and
6. Environment: creative people generally emerge within supportive environments.

The researchers determined that the main reason for inefficiency of creativity training program is the exclusive emphasis on creative thinking as one of the six sources affecting creativity, where other factors play an important role in the success and failure of creativity training programs. George F. Kneller in The Art and Science of Creativity mentioned four stages of creativity: preparation, incubation, illumination, and verification. From this point of view, creative people first become familiar with a problem or an opportunity. Then, they are involved with the issue or opportunity through gathering information. At a later stage, creative people focus on the issue [11].
Characteristics of creative people

In general, the definition of creativity also found that creativity is a general ability existing more or less in all people and has the following features [1]:
1. Ability to see phenomena in a new manner,
2. Learning from previous experience and transferring this knowledge to new situations,
3. Flexibility in thinking and breaking its limitations,
4. Using new methods to solve problems,
5. Creating something unique or original,
6. Psychological or intellectual process,
7. Creative product can appear in the form of a work, an idea, a solution, a thought, an object, or any other forms, and
8. Creative product and new original fresh phenomenon are of value [1].

Psychologists have tried to determine the characteristics of people who have a high level of creativity. Stease has stated the following factors for creative people [8]:
1. Mental and perceptual health: ability to make a lot of ideas quickly,
2. Flexibility perception: ability to give up a rule and frame of mind,
3. Innovation: ability to create and submit new proposals,
4. Preferring complexity than simplicity: considering new challenges and complex issues, and
5. Independence of thought and judgment: being different from partners in providing feedback and new ideas [8].

Some other classified creative people as follows:

Mental qualities; curiosity; suggesting many ideas about a problem; suggesting unusual ideas; paying attention to details; accuracy and sensitivity to the environment, especially to things that are normal in others' minds; critical spirit; passion for testing and experience; having positive attitude towards inventions; emotional characteristics; comfort and peace of mind; sense of humor; simplicity and unpretentious interest in clothing and various aspects of life; encouragement and hope to the future; ability to communicate deeply and sincerely; self-confidence and self-respect; courage; being initiative in accepting and dealing with issues; accountability and ability to organize various activities; absorbing trust and confidence of others [8].

Platforms required for creativity

One of the main ways to strengthen creativity is recommendations to form innovative character of people:
1. Welcoming satirists and their sense of humor,
2. Motivating ideation morale and being welcomed by the management,
3. Strengthening sense of curious and inquiring,
4. Trying to open up people's thinking and preventing disturbance,
5. Accompanying people in expressing ideas, confirming, and encouraging them to continue their creative activities,
6. Giving greater autonomy to them in the workplace as well as considering free time for them, and
7. Pinpointing goals of employees [12].

In addition, the following ways are recommended to revive creativity [9]:
- Welcome any idea, no matter how good it is. After all, it would lead to other ideas in your mind or others.
- Avoid quick criticism of ideas. Always make sure of better understanding of the idea of others.
- Remember that you have enough knowledge and experience to solve the problem.
- Do not be afraid of humor and childish behavior such as dreaming, imagining, etc.
- Do not forget that the others realize problems in a different way. Consider this as an advantage. You can look at issues from a different angle.
- Always see a mistake or failure as an opportunity to learn rather than as an error. If you forget it, it will be always possible to repeat it [9].

Barriers to creativity

There are many divisions for known barriers to creativity. Here, we mention a division stating four main categories for these obstacles [9]:
- Strategic barriers: Only looking for one single right answer, i.e. inflexibility in thought is one of the factors preventing creative thinking; tendency to rely entirely on past experiences and specific techniques with no desire to change them; and focusing on a narrow range of choices to define the issue or solve the problem are barriers preventing the emergence of sense of curiosity, imagination and sense of humor [9].
- Value barriers: Being affected by individual values is a barrier to bring out new ideas and limits the range of alternatives [9].
- Conceptual barriers: Too much focus on interests and desires occurs due to lack of emotional consciousness at a physical level and leads to lack of awareness of the real world situation.
- Personal imaginations: Low effectiveness because of fear of failure and shyness in expressing ideas are due to lack of confidence. People are reluctant to quest and express their personal feelings. These barriers are one of the biggest constraints that limit the successful implementation of new ideas.

According to above categorizations, there are other divisions from researchers to which we only refer:

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• Perceptual barriers: stereotypes, difficulties in separating the issue, tunnel vision, lack of ability to understand the problem from another angle, failure to use all the senses effectively.
• Emotional barriers: Obsessive passion for safety and discipline, fear of making mistakes, unwillingness to risk, lack of motivation, inability to reflect ideas, trying to solve problems quickly, tend to judge, lack of imagination.
• Cultural barriers: Feeling that problem solving is a very serious task, believing that entertainment and curiosity are just for kids, believing that logic is better than innovation, believing that tradition is better than changes, taboos, organizational taboos, leadership and management style, lack of group support, unwillingness to implement the ideas.
• Environmental barriers: Being sure, monotony, physical and mental discomfort, lack of communication.
• Intelligence and expressive barriers: Adverse selection of problem-solving language, rigid or inefficient use of strategies and problem-solving skills, lack of correct information, inadequate or incorrect meanings [9].

Some other researchers categorize creativity barriers in a different manner. Barriers are usually concrete when driving forces are reduced compared with deterrent forces. In social and human issues, barriers can scarcely be attributed to a particular case and are primarily the result of causes are not easy to distinguish such as natural sciences [13].

The process of creativity, innovation, and entrepreneurship

Creativity process includes the process of forming creative solutions and steps taken in this process. An interesting pattern of creativity has four principle stages: issue supply, preparedness, response, and response proof. In the first stage, motivation is important because motivation is essential to start the creative process. The second stage is preparedness to respond to the solution. Review, search, study, and documentation on the subject are done. Despite popular belief, more information would not necessarily lead to more creativity. Newcomers to a field often offer more creative works than people who have worked a long time in that field. As empirical research shows knowledge is not important but how to pursue knowledge is important¹. The third stage is to quest memory and surroundings to create a solution. In this stage, motivation and creative skills are effective. The fourth stage is to test the possible response against real data and other criteria. In this step, relevant skills are essential to compare the possible response with existing scale and information and to conclude whether the possible solution is successful or the response is not reasonable, it is not possible to produce, and the solution fails completely or the solution could bring us closer to the objective [14].

Relationship between creativity and entrepreneurship

Organizations and companies in a period with different names such as "knowledge age", "post-industrial age", "speed age", "entrepreneurship age", and "the era of creativity and innovation" prepare to manage the rapid changes and profound transformations of the world. Today, innovation and creativity are essential for survival, maintaining, and improving the institutional position. At this critical juncture, there was a controversy for industrial, scientific, and technical supremacy. Prospective organizations and institutions facing these broad developments have quested new procedures. The pace of change has exceeded expectations so that creativity and innovation are essential as an important factor in the survival of the organization and innovation is the most important source of competitive advantage. In such situations, organizations can succeed if they have creative and innovative human capital and, more importantly, managers who can build creative and innovative atmosphere in the organization [15].

David McClelland, a Harvard University psychology professor, who was the first to suggest psychological theory of economic development, believed that economic backwardness factor in

prove a problem for four years until he understood it suddenly. Mathematicians generally pay attention to good mathematical ideas, musicians pay attention to good ideas on music, psychologists to psychology, etc. Creative thinking appears in connection with problems on which we have conducted many investigations. Here comes a contradiction: On one hand, as empirical research show we say knowledge is not important in creativity because we do not think about what we know, on the other hand, (in actors affecting creativity) knowledge is the first factor affecting creativity and no new ideas will come into existence in the field on which we have no knowledge. This contradiction has not been resolved yet.

¹ However, this has another side too: Newton discovered gravity because he was always thinking about it. Einstein tried for years to understand the relationship between mechanical movements with electromagnetic phenomena. Gauss tried to
developing countries was related to lack of understanding. According to him, work ethic could be strengthened with a proper education so that the necessary conditions for the industrialization of societies would be provided. McClelland and his colleagues collected the main features of entrepreneurs. The most important features are: 1) need to succeed, 2) tendency to risk taking, 3) need for independency, 4) entrepreneurs have internal locus, 5) creativity, and tolerance of ambiguity [16].

Kirby (2003), Hisrich et al. (2003), Deakins and Freel (2002), Burns (2001), Kurtko (1999) all referred to creativity as one of the features of entrepreneurs [17].

For example, Timmons’ (1994) analysis of more than 50 studies found a consensus around six general characteristics of entrepreneurs: (1) commitment and determination; (2) leadership; (3) opportunity obsession; (4) tolerance of risk, ambiguity and uncertainty; (5) creativity, self-reliance and ability to adapt; and (6) motivation to excel [17].

On the other hand, creativity can be considered an introduction to entrepreneurship [12]. Schumpeter believed that creativity is the spirit blown into entrepreneurial. Innovation is an entrepreneurship process. Both creativity and innovation are integral components of entrepreneurship. In other words, the relationship between these three elements makes up a chain called entrepreneurship chain [18]

Both innovation and creativity are the components of entrepreneurship. According to Peter Drucker, innovation in entrepreneurship is so essential that we can claim there is no entrepreneurship without it and creativity has no results without creativity [7].

Entrepreneur changes the idea arising from his/her own creativity and combining it with market opportunities into an entrepreneurial opportunity with consistent and continuous efforts and offer objectivity by setting up business [19].

Entrepreneurs are similar to creative people in terms of family background. Research showed that creative people are grown in families respecting for children's independence and self-confidence. In these families, children are given the opportunity to practice independence, self-confidence, initiatives, and construction. Also, it has been shown that authoritarianism-based attitudes are inhibitor and prevent growth and prosperity [20].

Solomon (1989) in a survey of 150 entrepreneurs came to the conclusion that the motivation of entrepreneurs at first was to create something new, different and innovative and not economic profit. In this regard, Shine believed that real entrepreneurs started new jobs due to innovation and creativity rather than economic incentives. Shaver, Williams, & Scott found that those who thought they had the characteristics of entrepreneurs showed higher creativity and achievement motivation. Rissal in a research in Indonesia found one of the traits affecting career choice and entrepreneurship was creativity and innovation. Carland and Stewart also believed that characteristics of entrepreneurs encompassed a set of personality factors and creative innovative performance is just one of them. Perhaps of all the characteristics of entrepreneurship, achievement motivation has the maximum contribution into research. This conception first started by McClelland followed by other researchers. For example, Sexton and Bowman in different studies concluded that although different instruments in different researches were used to measure achievement motivation, achievement motivation was observed on a constant basis in studies on successful entrepreneurs. Arshid In another study found that successful entrepreneurs had internal locus of control, i.e. they attribute their success to factors such as effort, creativity, and individual abilities. In another study, Postigo evaluated the status of entrepreneurship education students in Argentina and stated that in students' view the most important courses for entrepreneurship education were creativity and innovation courses. A recent study on the relationship between entrepreneurial activity and personal characteristics showed that more than half of the respondents had high level of creativity and innovation and about two-thirds of them introduced creativity as a basic grounding in entrepreneurship. However, interviewees claimed that due to lack of familiarity with
innovative management methods they were not able to properly exploit their abilities in the workplace. The results of another study on creative role of entrepreneurs in the survival and growth of organizations indicated that entrepreneurs had no choice but optimal use of creative activities to achieve sustainable competitive force for organization. Interestingly, organizations and individuals who paid more attention to creativity followed business ethic, which had a significant impact on customer satisfaction and growth of the organization [21]. Some researchers considered creativity as the fundamental pillar of entrepreneurship. They believed that entrepreneurship was the focused approach of new opportunities not a focused approach on risk [22]. Most researches emphasize on creativity and new solutions as a part of entrepreneurial process. Researchers concluded that the most important part of entrepreneurship was its novelty (idea) and could affect the market process. Entrepreneurs should enter the market with new ideas about goods and services.

CONCLUSION AND RECOMMENDATIONS
Entrepreneurship has always been associated with creativity and innovation. Drucker believes that creativity and entrepreneurship are so essential to one another that we can say entrepreneurship has no outcome without creativity and innovation. The results of some studies showed that entrepreneurs chose new careers or started businesses and institutions not only for economic reasons, but also due to innovation and creativity within the careers.

1. By identifying people with dynamic and flexible character toward environmental changes and creating an appropriate atmosphere for presenting ideas and foster creativity, it is hoped that people have a more positive attitude towards entrepreneurship. Moreover, making the business of entrepreneurs attractive, people are expected to have more intention for entrepreneurship.

2. All creative people in any field should be provided with educations based on entrepreneurship advantages and should be given information on opportunities in entrepreneurship. In addition, creative people visiting successful businesses and inviting successful entrepreneurs can have a positive impact on the attitudes and intentions of entrepreneurs.

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