

CRITICAL AND CREATIVE THINKING

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Abstract: *The intermediate results of this study supplement the rather narrow research in the field, which has sought, based on theoretical and practical approaches, to contribute to shedding light on the mechanisms of modern practices in managers' creative thinking and the related principles and values. As we are nowadays heading towards a liberal knowledge-based economy in which the role and significance of scientific and technological knowledge for economic activity has changed radically, there are increasingly more opinions supporting the need to redefine theoretically the concept of creative thinking and place it within a more complex system than the traditional one. Creative thinking is essentially a complex mental activity that results in a particular product, it is the mental capacity of the human individual to achieve new things, in different forms: theoretical, scientific, technical, social, etc., to reveal unknown facts about reality, to develop original approaches and solutions to solve problems and to express them in unique personal forms. The research conducted as part of the present study has identified a current need for creative practices, highlighting the personal capacity to identify and manage effectively one's own skills, abilities, and qualities in relation to one's personal goals (career, family, education, etc.). The approach ranges from the conceptual to the methodological dimensions to explore the experimental field, which includes: information, comparative analyses, inductive and deductive testing of the ideas and interpretations supported by real situations. This study of great topicality and originality can be considered a concrete support for researchers, academics and managers in what is an interesting field of economy.*

Keywords: *professional training, creativity, manager, skills, innovation potential*

JEL classification: *L20, M51, O30, O31, O32*

Introduction

Thinking is the highest triumph of the spirit. Everything we are is the result of what we have thought. The mind is everything. We become what we think. We build the world with our thoughts. The progress of mankind is not possible without people's creative activity and thinking, theoretical and practical. For this reason, it is natural for creative activity and creative thinking to be considered the highest forms of human activity. In light of this, creative thinking has become recently a skill that is increasingly in demand by all companies in Romania. "Being creative" refers to the investment in collecting information and becoming more professional that individuals make in their field of reference and is not based on genetics. The ultimate responsibility lies at the level of the individual, who must know their field of activity and the skills that stimulate thinking in order to generate effective solutions. It is known that skills are not creative in themselves, but become so as they are activated and put to use through creative motives and attitudes. Not every

psychological feature is a skill, rather only those that favour above average results in a particular activity. Skill levels differentiate individuals, employees, managers, with the main element being quantitative and qualitative performance. In general, the term creative thinking refers to the ability and intellectual strength of employees and managers to find new ideas. In a prestigious firm, these ideas can refer to the design of new products or services or to modern ways to provide services.

We may argue that imagination and creative thinking are important features of a manager's activities. Indeed, the absence of creativity causes not only a stall in development, but in time it can even lead to disaster for the firm. In a market economy, specific to Romania, maintaining competitiveness requires constant creativity, innovation and originality to develop new, sophisticated, refined and individually nuanced products and services. Innovative, original and creative activities do not reside in advertising campaigns, and no manager has consistent support to plan for precise deadlines for designing innovation and creation. Furthermore, s/he can not anticipate or expect immediate return on the investment of energy, money and time to experiment and launch new products and services.

Creative thinking requires managers to reassess periodically the size of the market segments where they are positioned, to carefully analyse their products and services to remove from their offer those products, services, or processes for which returns are dwindling fast. As part of these concerns, it is a priority to examine the status of obsolete products so that they do not act to the detriment of the firm.

The manager's decision to restrict the range of products and services will become operational only if the business has a portfolio of new substitute offers, highlighting the need to focus on the creativity process and creative thinking distinctly. Creative thinking brings benefits to all the areas and activities of a company's management. Problems that require creative thinking are always problems with "open solutions", that is, issues for which there is not just one solution. In creative thinking, one must put aside one's personal beliefs and sometimes try the impossible. Through a series of steps, one can indeed move from impossible to possible.

The current state of exploration of the matter and the purpose of the research

The shift to a market economy involves the emergence of a new, creative type of management and its implementation at both micro and macroeconomic level. Therefore, variety, flexibility, dynamism, creative thinking and efficiency nowadays become key attributes of business management. These attributes require a new type of management: creative - innovative management. [14, p. 145] Taking this into account, the present research aims at substantiating the theoretical and practical bases of creative thinking, based on the comparative critical analyses of data from the international and domestic literature. Given that nowadays we are moving towards a knowledge-based economy, in which the role and significance for business of specific and technical knowledge has radically changed, there are ever more calls supporting the need to redefine the creative thinking vector and to place it in a more complex system than the traditional one.

In the literature in the field, creative thinking is defined as the process of establishing a relationship between things or ideas, between which there was no connection before. Creative thinking requires imagination and involves several possible ideas or

answers, whereas analytical thinking is logical and leads to a single answer or a small number of solutions. Although different, the two types of reasoning complement each other. This is obvious in creative thinking, where the many ideas suggested must then be analysed by the manager to identify the few ones that can be applied in practice. Thus, analytical thinking succeeds in consolidating practical ideas and solutions, yet if progress is to be made, they need to be followed by creative leaps [18; p. 171].

Figure 1 illustrates four terms very commonly used in the management field: convergent, divergent, vertical and lateral.

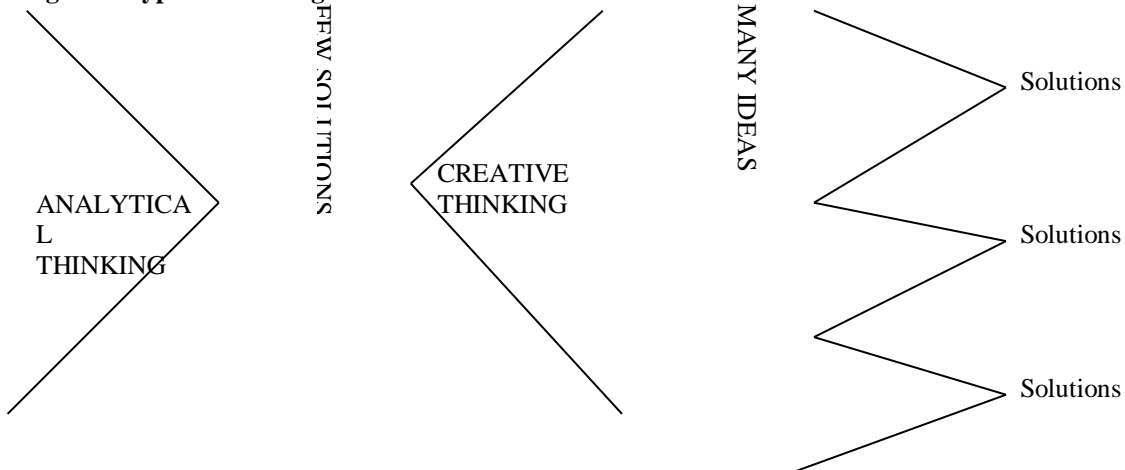
ANALYTICAL Logic Single answer or few solutions CONVERGENT VERTICAL	CREATIVE Imagination Multiple possible solutions or ideas DIVERGENT LATERAL
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Source: Data processed by author

Analytical thinking is convergent, as its scope narrows to a single solution or a small number of ideas that can then be analysed and applied in practice by the manager. Creative thinking has a divergent character, starting with stating the problem and expanding its scope to offer as many answers or ways to solve it as possible. Analytical thinking provides solutions, while the creative thinking produces ideas - a great number of ideas from which the best solution can be chosen. The terms convergent and divergent occur more frequently in the literature devoted to creative thinking and management research. The other two terms, vertical and lateral, are less commonly used, but no less applicable in the context of analytical and creative thinking. In Figure 1, we have illustrated the relationship between the convergent (analytical) and divergent (creative) types of thinking and the number of solutions and ideas. In any business in Romania, the process can be repeated indefinitely, creative reasoning focusing on each solution or idea.

Figure no. 2, presented below, has two shortcomings however. First of all, the perspective, suggesting that people think creatively rather than analytically. Secondly, a deliberate distinction is made between the creative and the analytical elements, and this separation does not correspond to reality.

Figure 2 Types of thinking



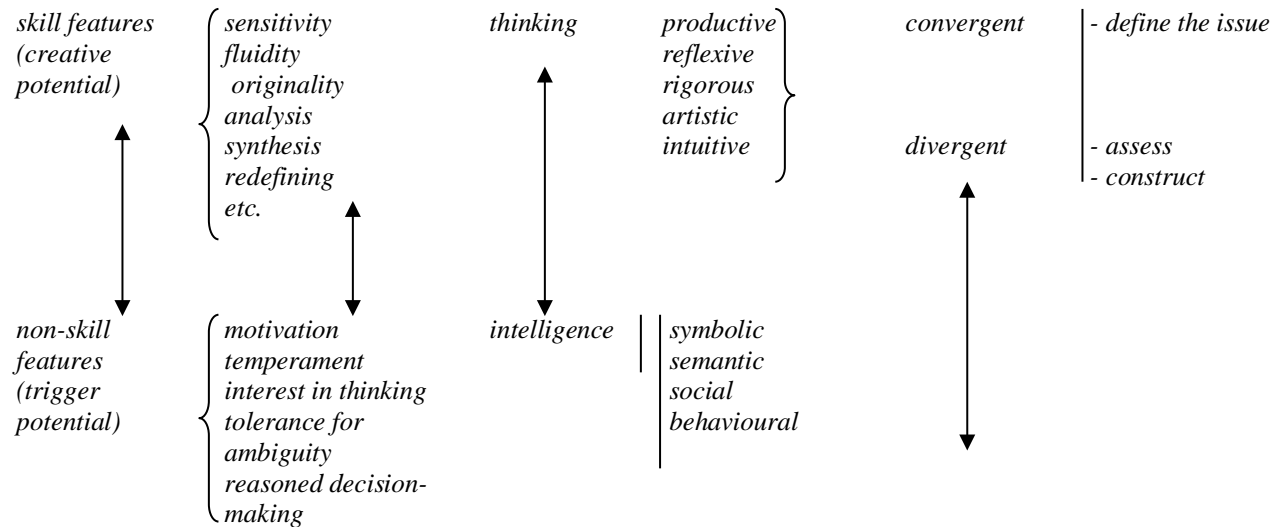
Source: Data processed by authors

Generally, any employee who works in a company has some creative skills. Unfortunately, however, these are not sufficiently utilised in analytical thinking and this tends to destroy inventiveness. It has been shown that there are various barriers that block the thinking of managers operating in a company, the most important being the following [6; p.497]:

- self-imposed barriers;
- patterns or single response;
- conformity;
- doubting something obvious;
- hasty assessments;
- fear of ridicule.

In order to overcome these obstacles, managers must bear in mind the fact that “two heads think better than one and three heads think better than two”. Therefore, fostering team spirit is absolutely necessary to boost creativity and innovation. In a community, all such barriers must be permanently removed, to generate an engaging atmosphere, characterised by freedom of thought, in which all ideas are accepted. The literature in the field recognises that skills are not in themselves creative, but become so as they are activated and utilised through creative motives and attitudes. Not every psychological attribute is a skill, but only those that favour above average results in an activity. Skill levels differentiate individuals, the employees among them, with the main element being creative and qualitative performance (as an example, we present in Figure 3 the characteristics of creative potential and trigger potential in a construction company).

Figure no. 3: Features of creative potential and trigger potential



Source: Data processed by authors

Applied methods and materials

The following methods were used in the research: quantitative and qualitative research methods, including bibliographic documentation, induction, deduction, systemic method, statistical methods, method of comparison, defining the scope of the problem,

correlation, evaluation, etc. The article is based on systemic, complex and problem-focused approaches and seeks to examine the mechanisms of managers' creative thinking values.

The research was expanded to present methods and techniques developed to utilise and develop creative thinking. Thus, most of the techniques currently used in the field of creativity emerged in the 20th century, their role being to free up thought and favour the formation of new ideas. Generally, techniques to stimulate creative thinking are based on group interaction, while others focus on stimulating initiatives by individuals within a company. How do we develop creative thinking? There are many techniques that managers can apply. We will summarise two of the most common creative thinking techniques that give effective and immediate results: brainstorming and "synectics". All of these methods favour communication, constructive critical spirit, independence in thought and action, finding creative, bold ideas to solve the tasks of managers.

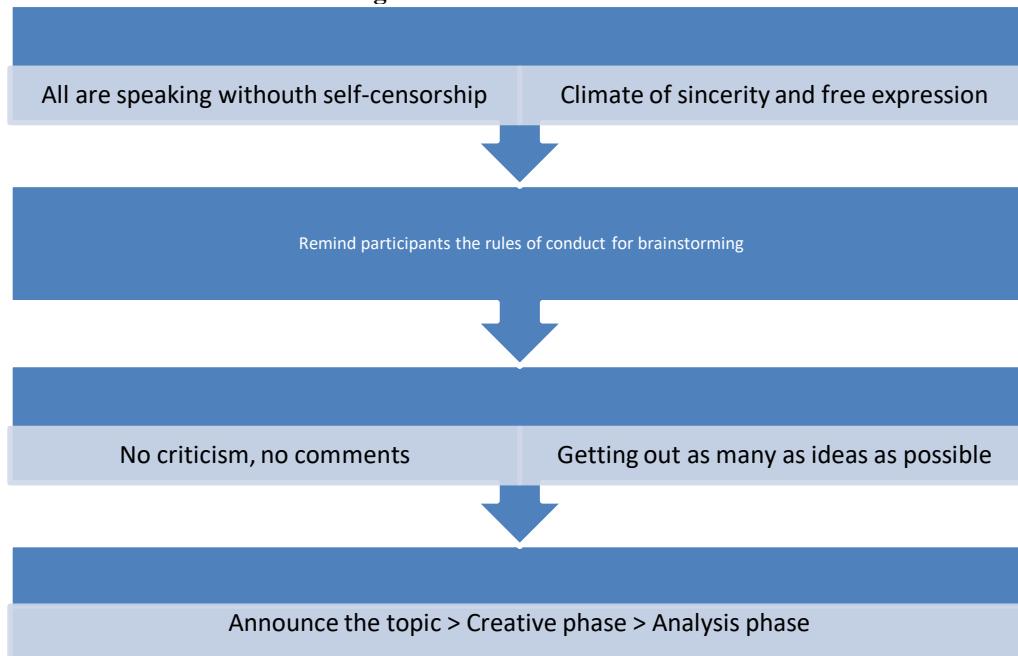
Results and Discussions

The brainstorming technique, a widespread worldwide to facilitate creative thinking, was developed by Alex F. Osborn, the "father of brainstorming". The purpose of this technique is to find, via group debates, solutions to solve the specific problems faced by the company. The conditions for group debates were established by Osborn and relate to the following issues:

1. Participants in the debate will withhold criticism of new ideas.
2. The more radical an idea, the better it is to be examined and debated.
3. "Production" of new ideas is limited to the topic of group discussions.
4. Completing, qualifying and refining the idea is encouraged.

The structure of a "brainstorming" meeting, taking place in a Romanian firm, is shown in Figure 4.

Figure 4: Structure of a brainstorming session



It follows then that the brainstorming technique is based on collective, group thinking. This technique has followers, but equally opponents. The latter are supporters of individual creative thinking and argue that a person who acts individually can formulate and convey their ideas better if working alone than when participating in a group debate. On the contrary, brainstorming proponents claim that in the sphere of the service economy, each member of the brainstorming group has gained some experience in service delivery processes and as such can make a greater contribution to the creative work of refining new ideas. An essential argument in favour of this technique is the fact the degree of acceptance by the group is higher for a decision developed by a group than if the idea emanates from a single person [12; p. 21].

Synectics

Synectics was originally labelled as the Gordon technique (after its creator William J. J. Gordon), but over time it underwent several changes. In this technique, when examining a specific situation requiring a new idea, the members of the panel who participate in the debates are carefully selected based on whether they belong to various working groups and on their work experience in the group interested in solving problems. The group leader plays the vital role in the success of the debates. In order to not influence the group to adopt premature opinions, the group leader must not state at the outset the purpose of the discussions; s/he will seek to direct the debates in such a way that the most pressing issues for the smooth running of the firm appear to have been formulated by the participants themselves. In other words, the rationale of the technique is not to constrain the debates within the limits of a previously known topic. This avoids the risk that the members of the group are influenced, consciously or not, to address only one aspect of the issue at hand. If the leader of the group properly manages the discussions along the complex group interactions, most of the time the debates result in the design of a new product or service.

Although brainstorming and synectic techniques can provide creative ideas, it would be incorrect to appreciate that such creativity can only emerge from group activities. Many economic analysts argue that group discussions can also have adverse effects and may lead to inhibiting creative thinking. The arguments of the group technique opponents are numerous, and among these the following are worth highlighting:

- members of a group may become fascinated by a new idea, but may neglect or exclude other alternative solutions;
- some persons participating in group debates may have reservations in expressing their opinions, for fear of being ridiculed by other members of the group;
- lower-ranked managers may be inhibited in expressing their ideas in front of higher-ranked managers, out of a fear of being misunderstood (or viewed as out of line) if their solution is not accepted;
- there may also be camouflaged pressures on the part of the group, which discourage the expression of ideas viewed as deviant or inconsistent with the opinion expressed by the group;
- the need to align with the prevailing ideas of the group may be stronger than the need to explore other alternatives to solve a problem or alternatives that might be seen as unpopular by the group;

- Finally, the urgency imposed to find a solution could lead to the acceptance of the very first new alternative without continuing the search efforts and other solutions that might ultimately prove more relevant to the foreseen decision.

Characteristics of creative thinking

Creative thinking is a multidimensional concept that can be manifested in many areas. The concept of creative thinking can be defined from the perspective of different disciplines, such as: sociology, cognitive sciences, arts, artificial intelligence, philosophy, economics, management, etc. and thus at many distinct levels: cognitive, intellectual, social, economic, artistic, literary, etc. Creative, innovative people have many distinct features/traits that differentiate them significantly from less creative or even noncreative individuals. In 1999, Garry A. Davis “inventoried” over 200 personality traits and attributes of the creative attitude as found in the literature on creativity and divided them into positive, socially desirable features and negative, potentially offensive features. Among these, in order of importance: imagination, problem sensitivity, curiosity, intuition, discovery of ideas, tolerance for ambiguity, independence (autonomy), originality, enthusiasm, perseverance, risk-taking, etc.

Independence (autonomy). Creative people tend to be independent, non-conformist in thought and action, and relatively not influenced by others. Autonomy is a feature that encompasses other social traits: introversion, intrinsic motivation, self-confidence, desire for solitude, dissatisfaction with status-quo. Imagination is an important skill and is based on certain hereditary predispositions, enabling the creation of new images or ideas. Creative imagination denotes an individual's ability to perform a creative activity, often generalised to all inventing capacity [11; p.89]. Developing imagination however requires a lot of work in the creative process. Sensitivity to problems. It is an essential feature for problem-solving. The creative person has the ability to perceive that which is unusual and different, to see potential unrealised in given situations, to observe similarities and analogies in different experiences. Intuition - is a sudden discovery, a revelation of a truth, a solution to a problem, etc. during “learning” through trial and error. An intuitive personality perceives relationships, implications and has increased sensitivity to details and patterns. Originality. The creative person exhibits originality in thought and ideas, and sees things in new ways. Originality is also expressed in the ability to leave aside firmly structured and established systems, to dismantle existing syntheses and to use elements and concepts outside their original contexts to create new combinations and new systems of relationships. Stimulating the creative thinking of employees is an important factor in the management of any Romanian company, their creation process generally displaying certain specific characteristics, which can be grouped into four categories as follows:

First of all, creativity always involves imaginative thinking or behaviour. Imaginative activity is a process of generating something original: offering an alternative to that which is conventional, expected or routine.

Secondly, in general, the imaginative activity has a definite purpose: i.e., it is directed towards achieving a particular objective or solving a central problem. Sometimes the goal changes when new ideas and possibilities emerge: for example, in inventions or discoveries new goals are identified when the original product or idea has emerged.

Third, these processes must generate something original. Originality may be individual (relative to a person's previous result), relative (relative to the group) or historical (the result is original in relation to any previous achievement in the specific field). Fourthly, the result must be valuable in relation to the goal. "Value" is here an assessment of a certain property of the result. There are many possible ratings of value, depending on the field of activity: effectiveness, usefulness, agreeableness, validity, durability (sustainability).

Trends in stimulating creative thinking

Trends in stimulating creative thinking, existing in Romanian companies, are summarised in Table 1, the range of effects generated by these tendencies are presented in Table 2

Table 1: Trends in creativity

Algorithmisation	Fuzzification	Invention machine	Globalisation of thinking	e-creation
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Source: Vitalie Belusov, Gheorghe Doncean – "Curs de creativitate tehnică", Editura Performantica, Iași, 2010, p. 6, ISBN 978-973-730-697-32, (412 pages).

Table 2: Range of effects

Group		
A	B	C
Psychological	Mathematical	Biological
Social	Physical	Environmental
Economic	Chemical	Extra-effects

Source: Vitalie Belusov, Gheorghe Doncean – "Curs de creativitate tehnică", Editura Performantica, Iași, 2010, p. 6, ISBN 978-973-730-697-32, (412 pages).

Research has demonstrated that there are at least three aspects of creative thinking, which have attracted the attention of economics researchers, namely:

- The creative process, which has received the most attention, focuses in particular on the mechanisms and phases that are part of the creative act.
- The second aspect is the creative person, his/her personality traits. The atmosphere and influence of the socio-cultural environment / system are related to the creative situation and can determine the level and frequency of creative behaviour.
- The third aspect is given by the characteristics of the creative products. This aspect is of particular importance as it forms the basis of any assessment of the performance of creative thinking in the real world and can open a "window" on other aspects of creativity in general.

Conclusions

The new, knowledge-based economy that will emerge in the future society integrates the objectives of sustainable development, based on social justice and equal opportunities, environmental protection, freedom, cultural diversity and innovation development, industry and business restructuring. It also represents a new stage in human

civilisation that allows broad access to information, new way of workings and knowledge, expanding the possibilities of economic globalisation and increasing social cohesion. Nowadays, when fewer people devote themselves to thought, thinking creatively means raising oneself to a higher level and drawing on that infinite energy resource from which the universe was created. The creative drive knows no obstacles.

The modernisation of Romanian companies and their alignment with the standards of developed countries, by increasing the degree of comfort, requires upgrades in the entire infrastructure. In any business at any level, there is a rich, but still undiscovered, range of useful ideas. The creative thinking technique tends to discover this resource and exploit it for the benefit of businesses and society as a whole. However, it takes a sustained effort, not just to overcome scepticism and lack of confidence, but also to follow the subsequent stages of the brainstorming session, namely, to properly evaluate and apply the ideas in practice. The effective way of thinking and creative techniques can be easily adopted, and managers can abandon on analytical procedures and biases. Style, as the author Lucian Blaga wrote, leaves a mark on the creations of a people, a country, a nation, and expresses its strong and authentic identity. The man of today needs to restore culture within his own being, since from its origins, the human nature being creative. We conclude this study with a quote by Thomas Jefferson, who was one of the most influential “founding fathers” of the United States: “Nothing can stop people with positive thinking. Nothing can help those with the thought, the wrong mentality.”

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