

# The Creative Mechanism of Humor as an Effective Means for Intellectual Capital Formation

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**Abstract.** The problem of the development of an individual's creativity is analyzed herein for the purposes of creation of an innovation product as the main intellectual capital component. The novelty of the author's approach is realized based on the creative mechanism of humor, possessing the property of self-reinforcement; the consideration of creativity as a process, product and personality characteristic on the basis of fixation of the cognitive-affective nature of humor, which determines the process of assuming a managerial task in the process of innovation activity. Humor is a form of non-material incitement to creative activity on the basis of a number of fundamental factors: humor is a form of reflection of the objective world, generation and perception of humor is an intellectual activity mediating the dynamic perception of reality; the process of cognition on the basis of humor proceeds through the resolution of contradictions and is mediated by intellectual activity, humor ensures a cognitive choice freedom of a personality; quick-wittedness is an inseparable quality of the creative process and features of thinking of a creative personality; humor is manifested through the identification of two or more elements that simultaneously exclude each other, which causes active independent development of the thinking process; humor in terms of generality is analogous to abstract thinking; as a kind of intellectual game, humor contributes to the acquisition of new experience and learning, being thereby an essential component of innovation activity.

## 1. Introduction

Investments in machinery and equipment are not a source of economic growth in the long term. This problem can be solved only on the basis of technological changes. This conclusion is made on the basis of studying the US economy. According to the contemporaries, Robert Solow, possessing a caustic wit, pointed out that he was trying not to take himself too seriously. In response to an appeal to him with a request to write an article for a book about the worldview of the well-known economists, he wrote an essay on "overcoming the problems". In this essay, a Nobel Laureate in economics R. Solow (1987) stressed that he believed more in the importance of group or team movements, compared with the individual achievements. "I think that the most important component of intellectual success is to be a part of a highly motivated group. In my opinion, progress, as a rule, provides the efforts of intellectual communities, rather than individuals. This is the problem of Nobel Prizes and the like"[1].

The creation of new intellectual capital is mediated by an innovative idea. The previously unused solution is proposed. Therefore, the objective is innovative and its solution requires heuristic activities. F. Bacon, quite rightly, argued that the true and legitimate purpose of all sciences is to endow the

human life with new inventions and wealth. At the same time, the outstanding scientist of modern times proclaimed the Intangible Knowledge, the product of intellect, as the Power. Herein intellectual capital is understood as "the ability to transform the knowledge and the intangible assets of an enterprise into the factors, creating wealth through the special effect of "multiplying" the human capital by the structural one, which are the two main components of the intellectual capital" [2].

The "new growth theory" appeared in the 1980s-1990s. The scientific and technological progress was considered as endogenous – the factor of economic growth, generated by internal factors. For the first time in the formalized economic and mathematical models of American economists P. Romer and R. Lucas, a hypothesis on the endogenous nature of the most important technological innovations, based on investments in technological progress and in human capital was put forward. T. Schultz is the founder of the human capital theory.

## **2. Current trends in the definition of the term “intellectual capital”**

At the present stage of the development of science, the term "intellectual capital" is being clarified. The works of such foreign researchers as Stewart [3, 15], Edvinsson, & Malone [4], Brooking [5], Becker [6], Roslender, & Fincham [7], Tees [8], Ruuset al. [9], Edvinsson [10], Joia [11], Halim [12], Petty, & Guthrie [13], Rodov, & Leliaert [14], Stewart [15] and Tobin [16] are well known. Among the domestic researchers of the concept of "intellectual capital", the works of Leontiev [17], Inozemtsev [18], Bagov et al. [19], Makarov [20], Seleznev [21] and many other Russian researchers should be noted. Under the term "intellectual capital", they mean the intellectual wealth of the enterprise, which predetermines its creative possibilities for the creation and implementation of intellectual innovation products. According to Leontiev, intellectual capital reflects the value of the totality of available intellectual assets, including the intellectual property, natural and acquired intellectual abilities and skills of a subject, as well as the knowledge bases and useful relationships with other actors, accumulated by it. It is emphasized by the author that the value of the subject of intellectual capital should be viewed in relation to the actually expected results of his intellectual activity and should be expressed in the appropriate value based on this. "The main function of the intellectual capital is to accelerate significantly the growth of the mass of profit due to the formation and implementation of the necessary knowledge systems of the enterprise, things and relations, which, in turn, ensure its highly efficient economic activity. In particular, the intellectual capital of an enterprise determines the quality of its management system. It is the intellectual capital that sets the pace and nature of the renewal of production technology and its products, which then become the main competitive advantage in the market [22].

## **3. Analysis of the creativity development programs**

To date, significant experience in the creativity development has accumulated in the world practice. The essence of the information approach lies in the search for the economical ways for assimilation of a huge flow of knowledge, divided into blocks of problems and methods (strategies) for their solution. Thus, J.R. Hayes includes in the training program a relatively complete set of heuristic techniques, distributing them according to the respective solution phases. D. Feldman suggests a creative process model, consisting of three interrelated components: reflectivity as the main process that distinguishes humans from animals and allows forming self-consciousness, self-esteem, planning, reflecting and analyzing the world through the language. Purposefulness (intentionality), making it possible to organize the accumulated experience "inside and outside the body"; along with the belief in the possibility of changes for the better, it makes it possible to change the environment actually. The awareness of the ways of transformation offered by culture and causing the individual differences.

Among the works of foreign authors dealing with the development of the creative personality in university students, the work of K. Anderson, aimed at researching talented individuals, as well as developing programs for selection of talented young people for universities, should be particularly distinguished. In numerous studies on the creative teaching of the individual, general work was carried out by Orowan, Thistlethwaite, Taylor, and Wolfer. A number of studies are devoted to the problem of

creating an appropriate creative climate in universities, as well as the influence of the university environment on the development of creativity (Thistlethwaite, Holland, etc.). In the United States, a number of higher education institutions have been training their students and employees for more than a third of the century in improving the creative potential of the individual in solving the invention problems (Taylor, Parnes). The evening classes of creative problem solving have been created and successfully operated since 1948 at the University of Buffalo. The programs for the "Applied Imagination" course are developed there. The course is studied by all interested university students, businessmen, officials, and teachers. According to the data of the research laboratory, after completion of the course, the ability of creative thinking (literally, "development of ideas") increases in the individual by an average of 75%. Based on the experience of the University of Buffalo, Alex Osborne wrote the book "Applied Imagination". Osborne offers a system and principles for developing the ability to solve the problems creatively. To coordinate the development and teaching of technical creativity in the United States, in 1954, the Council for Creative Learning was created, conducting a study of psychological factors associated with teaching technical creativity at the Barnaba College of Columbia University. The Council coordinates the methodology of teaching and promotes the optimization of the process of teaching technical creativity at the Massachusetts Institute of Technology; in such companies as Ford, General Electric, General Motors, United States Steel, IBM, United States Rubber, Chrysler, McCann-Erickson, and others.

In the studies of E. Bono, conducted at Cambridge University, a program for the creativity development based on "lateral thinking" or "thinking in breadth" is proposed. According to the scientist, for "vertical" or logical thinking, the main thing is correctness, while for thinking in breadth the main thing is the abundance of information. Bono believes that for inclusion in lateral thinking it is required to take into account a number of provisions: the awareness of the dominant, or polarizing ideas; the search for different approaches to phenomena; the release from the tight control of template thinking; the use of the chance. M. Smais was also engaged in studying the effective methods of developing the personality creativity. He showed that one of such ways is to put forward the corresponding requirements to students. The subjects under study (50 students) were invited to come up with 10 new technical projects within 2 weeks. Smais analyzes the nature of the proposed improvements. Most of the proposed inventions were intended for personal use (clothing, food), for everyday life (kitchen, bathroom equipment), for transportation, recreation, services.

The creativity development programs, used in the US for training technical creativity, are divided into four groups. The programs, aimed at developing the sensory perception of the inventive objective, are attributed to the first group. Such programs are used at many higher educational institutions of the United States. One of the most famous teachers for the programs of this type is Professor Leo B. Moore. The students of his course visit industrial enterprises to identify the specifics of specific creative objectives. For example, the students of the Harvard Higher School of Commerce in the process of training meet with the industrialists to specify the creative objectives in the course of common problem discussing. The listeners often use the so-called "books of ideas", where the inventive objectives and initial ideas arising in the process of solving them are recorded. The ultimate goal of these programs is to set and to formulate an inventive objective.

From our point of view, the existing programs can be combined into the following two large blocks: 1) creation of conditions, promoting the development of personal creativity, and 2) direct creative activity training. The method of invention training program can be considered as an example of direct creative activity training programs. For example, according to the estimates of American specialists, the method of invention training program, used in training specialists in one of the divisions of General Motors, is one of the best in the country. The draft program was developed by J.A. Anderson; later the program was improved by R. Harris.

The method of invention training program of the company "General Electric" has been used for more than a third of a century. According to E.K. Fange, the training program is constructed in accordance with the following scheme of the inventor's process: problem statement and determination of the direction of the search for its solution; search for solutions; evaluation of the decision methods

under consideration; generalization of the results of the assessment of methods; selection of the optimal method for solving the problem; finding the principal solutions; finalization of the decisions, testing and evaluation of the results; summarizing the results; selection of the final optimal solution. The course lasts a year and a half. The first six months of study are focused on the study of philosophical and psychological theories of creativity and the development of technical abilities of the trainees. The program also includes the familiarization with new discoveries, newest scientific concepts, materials and processes, as well as the consideration of issues related to human relations. By the end of the first half of the course, the trainee must develop a project containing an original creative idea, to draw up competently a draft design and to produce an operating model of the proposed facility. The second half of the course is focused on the transformation of the initial draft project into a product, the full development of the project taking into account technical, aesthetic and economic requirements. Training is conducted by the engineering and technical personnel. The employees, who attended the course of training, put on average three times more patents than the employees, who did not pass training on this course.

In the domestic science, the creativity development models are developed through provision of incentives for invention creativity on the basis of Altshuller's Theory of Inventive Problem Solving (TIPS). The basis for the training programs using TIPS as a basic model is the conclusion, formulated by Altshuller, decisive for the methodology of invention: there are the objective laws of technical systems development, these laws can be learned and used to solve consciously the inventive problems.

#### **4. Humor-based creativity development to create an innovative product**

Golichenko made a significant contribution to the development of the basic principles of the Russian national innovation system. According to him, modern education; the knowledge production and the knowledge producing environment; the entrepreneurial environment focused on innovation are required to create an innovative system. The initiated and self-sustaining processes for knowledge and intellectual property transfer through cooperation, partnership and sale in production: diffusion of technologies; venture capitalism, are required [23]. In this connection, the objective arises of development of the creativity of the individual with the goal of creating an innovative product as the main component of intellectual capital. The novelty of the author's approach is realized on the basis of the creative mechanism of humor.

The novelty of the objective is a set of criteria: a consistent understanding of the creative mechanism of humor, possessing the property of self-reinforcement; the consideration of creativity as a process, product and personal characteristics on the basis of fixation of the cognitive-affective nature of humor, which determines the process of taking the managerial objective in the process of innovation; the comprehension of humor as a form of non-material incitement to creative activity on the basis of a number of fundamental factors: humor is a form of reflection of the objective world, the generation and perception of humor is an intellectual activity mediating the dynamic perception of reality; the process of cognition on the basis of humor proceeds through resolution of contradictions and is mediated by intellectual activity, humor provides freedom of cognitive choice of personality; wit is an inseparable quality of the creative process and features of the thinking of creative individuals; humor is manifested through the identification of two or more components that simultaneously exclude each other, which causes active independent development of the thinking process; humor in terms of generality is analogous to abstract thinking; humor as a kind of intellectual game contributes to the acquisition of new experience and learning, being thereby the most important component of the innovation activity [24].

#### **5. Factors for the development of creativity as the intellectual capital**

The novelty of the author's approach to the problem of creativity development as intellectual capital consists of a number of factors: 1) the organizational provision of the creative direction of the training process, that is, building the training as a systematic identification and solution of creative objectives; 2) the content support of the process of mastering various strategies for solving creative problems and

their modifications in a humorous way; 3) the provision of emotional acceptance of creative activity through dialogic training based on creative and communicative mechanisms of humor.

The creative mechanism of humor is understood by the authors as the process of generation of a new, implicit meaning in the course of perception of a humorous text, based on the layout of the text, with a high degree of contrast (duality and/or polysemy). This can be asserted on the basis of a number of provisions: the generation of a new meaning is mediated by the change of sustainable semantic links (the destruction of semantic stereotypes) and the emergence of different levels of generalization (comprehension) of situations, with the purpose of revealing the essential characteristics, in the appropriate context; the humorous form, as the basis of semantic perception, generates the transformation of the content through understanding of meanings that express an implicit meaning; the creation of alternative values available through the emergence of a new meaning, generated by significant deviations from normative structural expectations; the prediction of the consequences, by simulation of making certain decisions and choosing the optimal solution in accordance with the specified management criteria using the lingvo-humorous models [25]. The understanding of the implicit meaning as a creative mechanism of humor is based on: generation of a new meaning in the appropriate context; a humorous form of generation of a meaningful content transformation; creation of the values, alternative to the available ones, by deviating from normative expectations; the choice of the optimal solution based on the anticipation of the consequences of decision-making.

## 6. Conclusion

Thus, the novelty of the proposed system of heuristic objectives, based on the creative mechanism of humor, is that the objectives meet simultaneously the requirements of the cognitive goals and are perceived as emotionally attractive in terms of content. The emotional attractiveness of the objective contributes to its adoption for the solution. The search for ways of the efficient development of the creativity in the individual, in the process of innovation, led us to the problem of the unity of the emotional and cognitive in the process of cognition. At the same time, efficient development is understood by the authors as the process of obtaining planned training outcomes with minimal time. The result is understood as the sustainable procedural properties of creative abilities (flexibility, fluency, originality of thinking) manifested in the initiative, high efficiency and self-organization, high speed of identification and solution, various non-standard objectives. As a result, the innovation is created as the basis of the intellectual capital. At present, a knowledge-based company, the main principle of which is the dissemination and use of knowledge to ensure its growth and development, can be competitive. The innovations based on the use of intellectual potential become the main source of economic growth, development and establishment of both Russian and foreign companies.

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