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**FORMATION OF A SOCIOTECHNICAL THOUGHT THE**  
**FUTURE MANAGERS**

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*Abstract*

The future managers' sociotechnical thought formation problem, interpreted as the ability and willingness on the social action subject to understanding the objective world processes and the ways of transformation thereof within the social theory has been considered.

It is substantiated that a future managers' sociotechnical thought is implemented not only in the professional sphere but also in the life organization. Based on the results of a sociological study the development of abilities, characteristic for a sociotechnical thought, including conceptuality; problematization; purposefulness; scientifically grounded productivity; projectivity and predictability in students, future managers, has been evaluated.

The analysis gives a reason to believe that the problem of a future managers' sociotechnical thought formation needs a comprehensive solution. By nature, it comes to the development of skills for situation control in the professional sphere and the sphere of life organization based on competency assessment thereof, prognosis of development and application of science-based procedures and operations. The tasks of future managers' sociotechnical thought formation have been determined.

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**Keywords:** Social technology, sociotechnical culture, a sociotechnical thought.



## 1. Introduction

Unstable social environment, close to the state of non-equilibrium turbulent chaos (Prigozhin, 1986) causes many risks and multiply increases of managerial errors cost. Therefore, the quality of management at all social organization levels becomes particularly important, which, in turn, is focused on the competence of the specialists. The competence concept evolves; the social and engineering component in its structure becomes more priority oriented, being expressed in the ability and readiness to solve various problems using social technologies, being procedures of the social reality transformation in the interests of people, groups, or the whole society built on a single algorithm. It fully meets the modern concept of social engineering as a chain of "interconnected sequential procedures, aimed at transforming of social facilities for their perfection" (Urzha, 2017).

The most typical characteristics of these procedures are feasibility; ordering and conformity to plan; disjointedness and differentiation of actions; rationality; reflexivity.

Most would agree that sociotechnical culture and a sociotechnical thought should be the essential qualities of a successful manager of the XXI century. That is why the problems of social technologies and sociotechnical culture draw more attention in modern science (Lang, 2014; Kohnen, 2017; Nord, 2015)

The process of future managers training in universities should be based on a sociotechnical thought (Bikson, 2009; Jacobs, 2016; Ludovico, 2016). The issues of researching social changes from the perspective of a risk society occupy a special place in the study of social processes (Sluijs, 2008; Sawyer, 2011; Williams, 2006).

The purpose of this article is to analyse the specifics of students- future managers thought, and on this basis – to identify the prospects for formation thereof. The empirical basis of the development is sociological studies, conducted in universities in Belgorod Oblast in 2012-2014 (700 students - future managers have been interviewed through questionnaires by the cluster sampling method, 200 teachers have been interviewed by the quota sampling method, where the quotas are an institution of higher education, work experience, and academic degree, and 30 research experts, having publications on problems of social engineering), and the study results of authors engaged in future managers training at the National Research University "Belgorod State University" from year 2012 to year 2017.

The basis of the study is the idea of a sociotechnical thought as the ability and readiness of the social action subject to the understanding of the objective world processes and the transformation ways under the social theory.

## 2. Problem Statement

The author's approach to future managers' sociotechnical thought formation problem is based on two statements:

First, a manager sociotechnical thought is implemented not only in the professional sphere but also in the life organization; while most of the students recognize the social technologies value with respect to the first sphere; as of the second – they see the role of social technology quite problematic, which is due to the specifics of Russian cultural tradition;

Second, the modern Russian reality, both on the macro-, and the micro-level is lacking prerequisites, which can form the future managers' intention to the formation and development of a

sociotechnical thought. This is due to the fact that the public space of Russia, weirdly, combines hypertrophied (formal) rationality and irrationalism.

### **3. Research Questions**

The prospects for the formation of a sociotechnical thought among future managers depend on the extent to which the social action subjects recognize the necessity thereof. In its turn, awareness is determined, on the one hand, by the cultural and historical tradition where socialization takes place. A sociotechnical thought is primarily required in the cultural and civilization community, where the relationship between humans has the rational and pragmatic basis. On the other hand, the actual social situation challenges stimulate it. According to K. Popper, the systemic definition is typical for open communities and is not typical for the closed communities (Popper, 2013)

### **4. Purpose of the Study**

Both these prerequisites are underrepresented in the Russian sociocultural space with strongly expressed irrational threshold. The negative perception of the rational self-organization can be seen until now, despite the trend to westernization of life, associated with distribution of values previously organic for (conditionally) "western" culture in the mass consciousness. Traditional irrationalism fits well into the specifics of the socio-political reality of modern-day Russia, characterized by the limited use of legal practices, incomplete model of civic participation and by the sociotechnical reverse, meaning the extensive use of retro-technologies against innovative.

### **5. Research Methods**

Thus, the model of successful life, prevailing in the public space, does not include the use of social technologies. 52% of students confirmed that in the course of the study. Most students associate success with family happiness (63%), and only 49% - with career, indirectly proving the importance of social technologies for respondents in the organization of everyday life being of a much lower priority than in the future professional activities.

The study also confirmed the mismatch of the social reality development, dominating among the students with the sociotechnical thought parameters.

First, a sociotechnical thought is conceptual. It requires an ability to give a rigorous (preferably scientific) definition to phenomena and processes with which a specialist manager deals every time justifying his or her position. Meanwhile, most modern students cannot operationalize the simplest concepts; moreover, they are not able to reflect the effects of such ability deficit. It is significant though, that only half of the students managed to give a definition of social technologies and, most importantly, only 12% were able to explain their position.

Second, problematization and deproblematization features a sociotechnical thought. These characteristics enable identification of the unresolved contradictions, wording the essence of problems, occurring on their basis, and decision-making. However, the study results show that the students' absolute majority identify a life problem with a life task. Further to the survey, only 26% of respondents highly praised own skills for analysis of problematic situations in general. In addition, the most important point

is that the students consider the life situation analysis to be the second complex life-organization procedure (the first one is futurism - 27%).

Third, a sociotechnical thought is always object-oriented. At first glance, this feature resides in almost all students (only 1% of respondents did not manage to formulate their life goals). However, we know that sometimes setting goals is less important than correct assessment of the opportunities for goals achieving and the barriers at that. The students believe that the basic conditions for the life goals achievement are personal efforts, activity (73%); knowledge, education (49%); purposefulness (47%). These perceptions form a sociotechnical thought, and we can say, that the future managers' thought in this specific case is most relevant to the sociotechnical type.

Fourth, a sociotechnical thought must be scientifically justified and at the same time - productive, that is - directed not only on the present reality perception but also on the change thereof for human benefit. It would seem that students, by virtue of their status, have a strict commitment to the development of scientific knowledge and practice. However, paradoxically, while recognizing the importance of knowledge to accomplish life purposes, respondents rarely put them into practice. In particular, while planning their lives, students rely mainly on common sense (49%), current interests and needs (36%) and applicability (25%). Only 2% of respondents follow recommendations of scientists and specialists. Consequently, scientific knowledge, including expertise in social technologies, rarely comes into practical use. The commitment of national education mainly to theory, which is not overcome until now, partly explains it. However, future managers estimate teaching of social technologies critically. Somewhat over half of the respondents were satisfied with the way of the social technologies theory teaching. At that, only 33% answered: fully satisfied. Even fewer respondents were satisfied with the practice of social technologies. Only 23% of students were satisfied with this component in whole; 28% - in part.

Fifth, a sociotechnical thought is always projective and predictable. It assumes the commitment to future, to the application of technological, economic and other knowledge for execution of projects on transforming social relations. However, as noted above, forecasting is the most difficult for students, regardless of whether it comes to the professional sphere or life organization. However, that is life organization, where students face the most significant challenges in determining the image of their future. This is partly due to the complexity of making forecasts in a risk society (Beck, 2000). However, it is obvious that the problem of forecasting is one of the most difficult in the management theory and practice, mastering of which is associated with difficulties, especially for people, the behaviour of which is oriented to a specific situation, who think purely situationally.

## **6. Findings**

Under the accepted conceptual focus, we can say that problems of the future managers' sociotechnical thought formation have three main sources, varying in the degree of controllability. The first, as already noted, is associated with the domestic cultural tradition, which does not contain a significant sociotechnical potential. This source is rated as a virtually uncontrollable variable. However, its effect on the young people consciousness is spiralling down due to globalization and westernization of Russian reality.

The second source is the actual social situation. It can be related to partly controllable variables, as even social institutions at regional level, including universities, can purposefully create demand in professionals with a high level of sociotechnical competence. This work involves standardization and regulation of the control process, stimulation of technologically competent practices, and the introduction of result-oriented and - especially - project management.

The third source is the educational process organisation. Now, it is poorly focused on forming of the sociotechnical thought skills and behaviour. In addition, the lecturers note that fact and most of them (72%) agree that sociotechnical training should become an independent element of the future managers' education. However, 56% of them reasonably emphasize, "Considering the sphere of managers activity".

Most lecturers (51%) believe that inclusion of elements of sociotechnical training to the educational process would aid acquiring knowledge and skills in the field of social technologies by students. 34% speak for attraction of thriving managers to participate in the educational process; 29% - for the formation of students' belief in the need of sociotechnical culture; 28% - for the strengthening of the practical focus of education.

At that, lecturers are very careful at evaluation of the both possibilities in this respect, provided by educational standards, and motivation of students to learning the social technologies. However, despite the critical assessment of the level of students' motivation for sociotechnical training, lecturers still tend to see the sources of problems arising in the course of sociotechnical education in the specifics of the educational process, but not in the nature of young people's attitude towards social technologies.

## 7. Conclusion

The analysis gives a reason to believe that the problem of a future managers' sociotechnical thought formation needs a comprehensive solution. By nature, it comes to the development of skills for situation control in the professional sphere and the sphere of life organization based on competency assessment thereof, prognosis of development and application of science-based procedures and operations. At that, the decisions are based on the processing of bulk information, analysis and self-reflection.

The tasks of future managers' sociotechnical thought formation within the educational space are:

- formation of the need for the personal qualities development, meeting venture (oriented to self-activity, the foresight of results and the future management) type of sociotechnical culture;
- formation of priorities of terminal and instrumental value professionals orientations in the field of management, complementary to the style of "creative" life organization in technologically identity;
- formation of a system block of life goals and determination of adequate methods for achieving thereof;
- formation of a future specialist effective motivation to professional activity as of management;
- formation of a relevant necessary and sufficient knowledge complex as the content and capabilities of social technologies;
- formation of operating skills for practical application of social technologies by a manager.

Solution of tasks related to creation of a management system for the formation of the social and technological thought of future managers (and, broadly speaking, for professionals of any profile) requires a government-funded order for the development and implementation of a social technologies system in the management process. Only in this case the educational institutions will rebuild the education in management, rather than imitate this process, which is quite logical in the situation of high demand for managerial education in Russia. At that, the formation of such an order cannot be only a matter of state, associations of employers and institutions of civil society should participate in this process.

The existing system of education of managers in universities has some weak points, as it is still oriented towards a paradigm of knowledge. The transition to a sign-contextual (contextual), competence-based model of vocational training is mostly formal. At least, this refers to the formation of the sociotechnical culture and the sociotechnical thought. Meanwhile, the education of students- future managers should model the professional activity based on of its subject -technological (specifying the subject context) and social (social context) components. And this modelling is necessary, first of all, in sociotechnical education, since it requires a high level of rationalization of educational and subsequent practical activities, which is not typical for the majority of Russian students and working managers.

It is imperative to develop and implement a competence model of sociotechnical education of a modern manager. It should be focused on the development of five professional and three personal competencies. Professional competencies include:

- forecasting competence;
- solution competence;
- organizational competence;
- analytical competence;
- resource competence.
- Personal (vital) competencies include:
  - life-determining competence;
  - regulatory competence;
  - representative competence.

These competences definition and development will allow the managers' education optimizing both the professional activity and the life strategy of a future specialist.

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