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Research of the Managerial Specialities Student's Priorities in the Process of Education in the Conditions of Industry 4.0

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***Abstract*— The rapid development of digitalization processes in various areas of society has necessitated improving the quality of education, the search for innovative approaches to training, providing a balance of professional, "soft" and digital skills. The article analyzes the results of a study conducted in educational institutions. The authors revealed the attitude of students to the distance learning format, digital literacy, involvement in digital content. The majority of respondents use the gadgets and have basic digital skills, they have less creative skills for working in digital services, or not possess them at all. The ability to work with information- to collect, structure, verify, store and protect data activates the need for self-development and self-realization. Meanwhile, it was noted the lack of serious attitude of students to independent work, lack of motivation or regular training sessions. At the same time, the education system in order to maintain its role, needs to respond to the new challenges of the external environment. The management policy in higher education institutions, should be aimed at creating conditions for the formation and development of creative personnel, they should support experimental educational initiatives that promote the learning process in modern formats (lab, IT support, databases) that meet the challenges of the digital economy and the 4th industrial revolution.**

Keywords: digitalization processes, management 4.0, managerial competencies in digital economy, educational methods

I. INTRODUCTION

Traditional approaches to organization and personnel management, such as brand management, labor productivity management were created in the era of industrialization, when organizations were mostly local, and value was created by mass production and its scale.

Subsequently, the focus in management technologies shifted to the accumulation and management of knowledge, so the next era can be called "the era of expertise". Focus on efficiency, quality control,

knowledge accumulation has evolved into verticalization, specification and knowledge management [1].

The culture of traditional organizations was formed under the influence of the above mentioned approaches – they are characterized by the creation of information repositories, low labor cooperation, internal competition, and universal management approaches.

Digital transformation has created a new way of thinking, has become a driver for the development of such competencies as flexibility, innovation, strategic thinking, focus on the future.

At the end of the 20th century, the term "VUCA world" appeared: V- Volatility, U- Uncertainty, C- Complexity, A- Ambiguity, which generates new factors of competitiveness of organizations: flexible ways of organizing work, cross-functional teams, creation and exchange of knowledge, design thinking.

Thus, we can say that in a post-industrial society, knowledge, information and its carriers become the main resources [2].

For the purpose of implementation of the Russian Federation President's Decree , May 7, 2018 No. 204

"About the national purposes and strategic tasks of development of the Russian Federation for the period till 2024» [3] in particular, in order to solve the problem of ensuring the accelerated introduction of digital technologies in the economy and social sphere, the Government of the Russian Federation on the basis of the program "Digital economy of the Russian Federation" formed the National program "Digital economy of the Russian Federation" [4] approved by the minutes of the meeting of the Presidium of the presidential Council for strategic development and national projects, June 4, 2019 № 7. Within this program the "Personnel and education" direction is being implemented, one of the goals of which is to develop educational and professional regulatory documents, requirements for describing the competencies of the digital economy, and their testing.

It is necessary to determine which competencies are necessary for an employee in the digital economy. Some authors believe that the main value will be the ability of the "information worker", who shares the system of corporate values, to select the necessary information and create a new one.

L. V. Shmelkova believes that in the digital economy personnel should have the following necessary competencies:

- Digital competencies- the confident and effective use of information and communication technologies (ICT) for work, leisure and communication.
- Initiative and entrepreneurial competencies-the ability to turn ideas into action through creativity, innovation and risk assessment, as well as the ability to plan and manage projects.
- Soft skills- the ability to build intercultural network communication (social and professional), learn and improve, etc. [5]

It should be noted that along with digital skills, soft skills are valued, the composition of which varies somewhat, according to different authors – adaptability, ability to learn quickly new things, teamwork, emotional intelligence and developed analytical thinking [6].

Most of the above mentioned competencies can be formed only in educational institutions. But are they ready for new challenges? Before changing the curriculum, it is necessary to make significant changes:

- develop educational and professional regulations and requirements for describing the competencies of the digital economy;

- to form a system of mechanisms for selecting promising areas of research and development in the field of digital technologies;

- develop and implement a program of training, continuous professional development of teachers, which will ensure their readiness to implement modern models of the educational process taking into account the requirements of the digital economy;

- to significantly increase the share of the teaching staff of educational institutions, retrained to teach the competencies of the digital economy [7].

Often neither teachers nor students are ready to change approaches to learning.

In connection with the foregoing, a group of scientific and pedagogical stuff of the Department of “Labor economics and personnel management” of the “Academy of labor and social relations” decided to make a research of managerial specialties student’s priorities of using digital technologies in the process of education.

The situation of chronic dissatisfaction of population’s needs leads to deterioration of social well-being of citizens, which can be one of the prerequisites for the emergence of social tension [8].

II. Research Hypothesis

The higher school is not quite ready to train management specialists with key competencies in the field of digital economy.

The purpose of the research was to assess the readiness of higher education to train specialists in the field of management with the new age demanded competencies, as well as to determine the motivation of students to study using the wider range of information technologies.

III. Research Methodology

Full-time and online survey [9] of undergraduate students (73% of respondents), as well as undergraduates (27%) enrolled in the areas of "Management", "personnel Management" and "State and municipal management" was conducted. A total of 234 students took part in the study. Statistical and analytical methods were used in the processing of the results.

IV. The Results of the Survey

57% of respondents were women. The age of the respondents is shown in Fig.1.

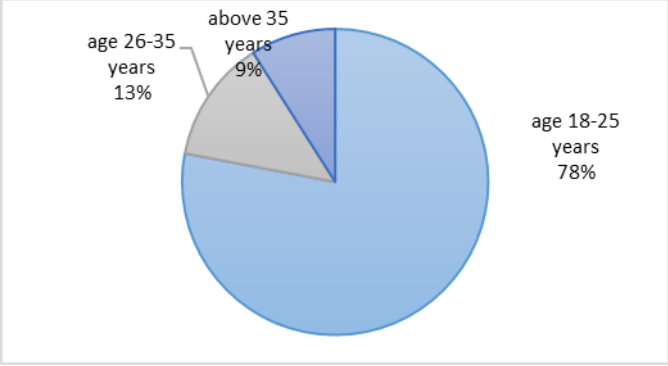

Fig.1. The distribution of respondents by the age, %

The majority of students are aged 18-25 years (78%), as a significant proportion of respondents were full-time students of undergraduate.

In order to determine the desire of students to study remotely, the appropriate question was asked (Fig.2).

In general, respondents answered this question as negative. Among those who responded positively, a significant proportion was undergraduate students, because they have to combine work with studies.

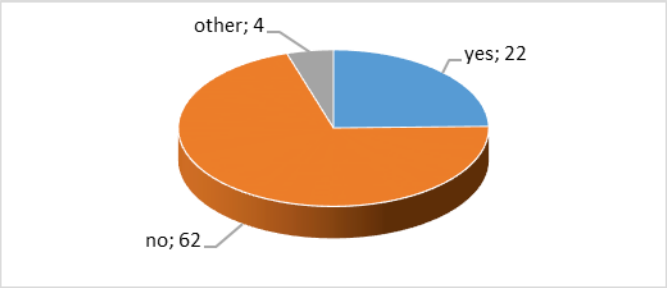

Fig.2. Answers to the question " Would you like to learn more with distance learning technologies (webinars, Skype)? " , %

Almost 96% of respondents use Internet materials to obtain information needed to perform training tasks. While only 4% of respondents use materials from the library, including the electronic library system (ELS).

98.7% of the surveyed students noted that it is really important to them to communicate directly with the teacher in the learning process.

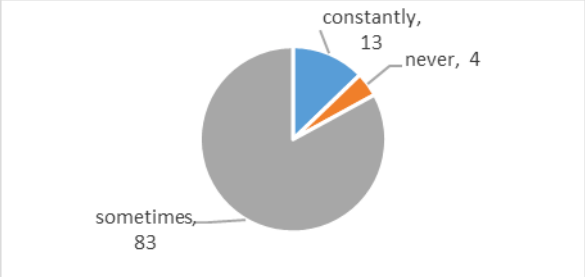

Fig.3. Answers to the question "How often do you have boredom (reduced interest) in the subjects studied with the traditional presentation of the material (lectures, seminars)? ", %

As a result of answering this question 83.0% of respondents sometimes feel a reduced interest in the subjects studied due to traditional forms of presentation, and 12.8% feel this constantly (Fig.3).

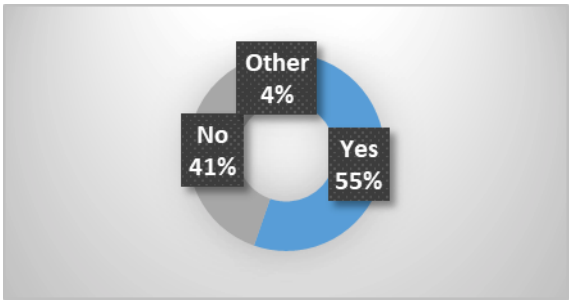

Fig.4.Answers to the question " Do You feel that you do not have enough digital skills (analysis of data sets, working with data processing applications)? ", %

Slightly more than half of the respondents (55%) believe that they do not have enough digital skills, another 4% - do not yet feel, but would like to improve their skills in this aspect (Fig.4).

87.2% of students would like to use other forms of education instead of traditional ones, aimed at the development of creative and analytical abilities (business games, discussions, essay writing, video cases), while 12.8% are in favor of preserving traditional forms of education.

As we can see in fig. 5 all students somehow use gadgets in the learning process. These are mainly smartphones – 179 people out of 234 respondents use them, but many use 2-3 gadgets at the same time – a laptop and/or a desktop PC and a tablet.

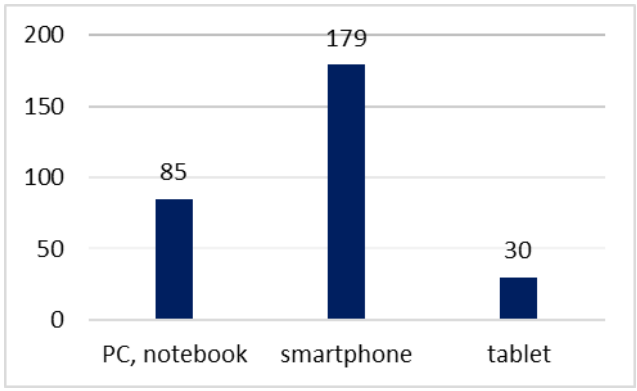

Fig.5 Devices that students use for technical support of training, (the number of responses)

Students were also asked to identify those competencies that, in their opinion, are important for the manager in the era of industrial revolution 4.0. It was suggested to choose from a list of 4-5 key competencies (Fig. 6).

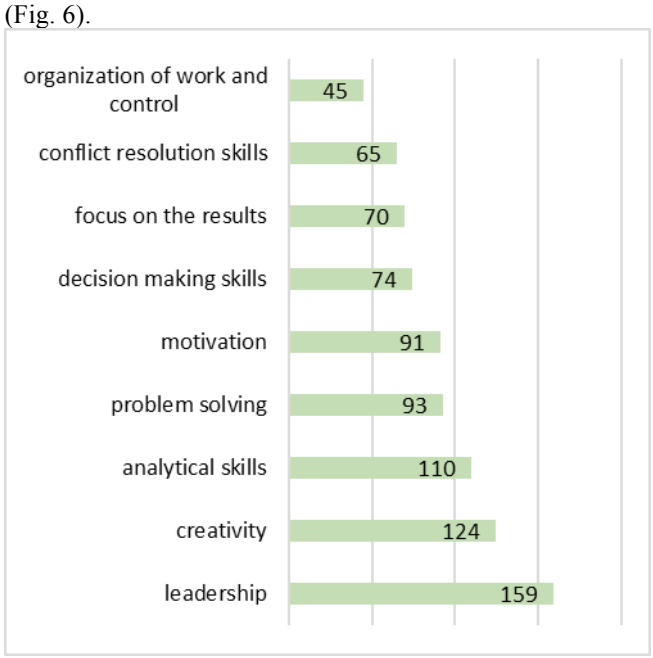

Fig.6. Answers to the question "What competencies, in your opinion, are necessary for a Manager in the era of digital transformation of the economy?", number of responses

Leadership allocated 159 people out of 234, in second place - creativity (124 responses), then – analytical skills (110 responses). Competencies that were in demand in the traditional economy-organization and control, the ability to resolve conflict situations and focus on the result scored the least votes.

However, to the question "does education at the University form (or develop) any of these competencies?" the majority of students found it difficult to answer (64% of respondents), 21% answered in the negative. Those who answered this question positively (15%) believe that training forms such competencies as creativity, decision-making skills, focus on the result.

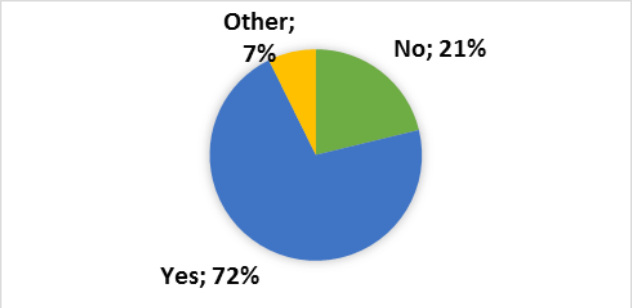

Fig.7. Answers to the question " Are you generally satisfied with the process of learning in the digital economy? "

The majority of respondents are generally satisfied with the process of their education (72%), 21% - not satisfied, another 7% - undecided (some also believe that it is too early to talk about the digital economy in Russia) (Fig. 7).

At the same time, only 13% of students believe that their character (personal qualities) does not correspond to their chosen specialty.

V. Conclusion

The authors' point of view is that the digital transformation of the economy is not only its technological renewal. It cannot be considered as the main goal on which management strategies, plans and prospects are focused. Man remains an important element in the digital economy, but it forces him to develop the new competencies. The skills and abilities to manage changes, to interpersonal interaction in various projects, within cross-functional groups, the willingness to experiment and quickly introduce technical, technological and managerial innovations remains in demand. However, there is an urgent need in decision-making to use analytical data obtained by computers, to take into account many factors that were not previously available for interpretation in a short period of time.

The ability to use information and knowledge in innovative processes changes the system of personal motives, activates the need for self-development and self-realization. The development of these needs in the individual increases his competitiveness, as well as the chances of success. Meanwhile, we note the lack of serious attitude of students to self-dependent work, lack of motivation for regular training sessions, which is now a labor process for them. And this was and still remains a necessary condition for the development of a harmonious, socialized personality.

At the same time, the education system, like any social system, remains inert and conservative for some time, as part of the resources spent on maintaining the industrial paradigm. In the current socio-economic conditions in Russia, the labor market is not yet able to offer a sufficient number of innovative jobs, and some young people remain to work in traditional sectors of the economy.

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