

Digitalization as a way to reduce the possibility of deviant behavior in higher education

Vlasova N. Yu.

Ural State University of Economics
Yekaterinburg, Russia
nat-vlasova@yandex.ru

Molokova E.L.

Ural State University of Economics
Yekaterinburg, Russia
Elmo.sm@mail.ru

Kulikova E.S.

Ural State University of Economics
Yekaterinburg, Russia
e.s.kulikova@inbox.ru

Abstract — The relevance of the research is due to the high intensity of the development of scientific ideas about the development of digitalization processes with an almost complete absence of researches of these processes in the field of solving the problem of deviant behavior in higher education. The hypothesis of the study is the statement about the capability of the digitalization of the educational space to reduce the intensity of deviant behavior of higher education actors. The objective of the study is to develop a methodology for using the mechanisms of the digital economy to influence the deviant behavior of higher education stakeholders. Research is positioned at the intersection of theories of the digital economy and the institutional approach. The object of research is Russian higher education in the context of digital evolution. Based on the analysis of scientific approaches to understanding digitalization processes, the article clarifies the concept of specified process in higher education. Conventional directions of digitalization are identified, as well as their capability to influence the level of deviant behavior in higher education.

Keywords — *digitalization of higher education, deviant behavior, digital economy.*

I. INTRODUCTION

Today we are witnessing a fundamental restructuring of the educational field of higher education. In the era of digitalization, the principles of implementing educational programs of higher education are changing actively. At all stages of the implementation of educational activities, the introduction and adaptation of digital technologies can be observed. Specified processes bear both new opportunities and a certain set of risks. It is undoubted, that digital technologies introduced the latest tools and mechanisms of coordination of stakeholders, that can influence the existing patterns and form a new culture of thinking, into social relations. Formalization of the evolution of social relations in the digital age is implemented through an extensive series of legal acts and strategic documents. In the terms of instability of the institutional environment of higher education, which intensified deviant behavior, specified opportunities can be considered as a way to reduce the risk of its occurrence. This

article focuses on the capabilities of digitalization in reducing the intensity of deviant behavior in higher education field.

II. RESEARCH METHODOLOGY

This research is implemented through the integration of several theories.

In the study of the digitalization of the educational space as an interdisciplinary category, an analysis of various scientific approaches is carried out with the aim of forming ideas about the definition and key characteristics of the digital model of higher education.

Assessment of theoretical approaches to understanding digitalization (Table 1) allowed to identify a number of very important conclusions, which were the basis of the approach to understanding digitalization in higher education.

Digitalization in higher education field in this research will be considered as a gradual process, the beginning of which can be dated to the eighties of the last century. The studied phenomenon occurs against the backdrop of the general digitalization of the economy, it cannot be suspended or canceled, despite the designed risks [6], the main of which is the risk of to be left on the periphery of the global educational environment.

The scientific idea of the research is implemented in assessing the possibilities of the process of digitalization of the educational space in eliminating the conditions of the formation of deviant behavior of actors in Russian higher education.

To characterize deviant behavior, we used a set of theories, that have the greatest epistemological potential in the framework of the sociological and economic direction of scientific thought.

TABLE I. THEORETICAL APPROACHES TO THE CONCEPT OF DIGITALIZATION OF HIGHER EDUCATION

Name of the author	Main points
Elkina E.E.	characterizes a new level of use of IT in economy and education [1]
Blinov V.I., Dulinov M.V., Yesenina E.Y., Sergeev I.S.	counter transformation of the educational process and its elements, on the one hand, and digital technologies and tools, used in the educational process, on the other [2, p. 5]
Archakova S.Y.	digital transformation of all processes - socio-economic, scientific-technological, innovative, etc. [3, p. 19]
Yudina T.N., Tushkanov I.M.	a change in the nature of production or economic relations, a change in their subject-object orientation [4, p. 197]
Marey A.	a paradigm shift in how we think, how we act, how we communicate with the environment and with each other. And technology here is more a tool, than a goal [5]

The study is positioned in the field of an institutional research program.

III. RESULTS OF THE RESEARCH

In the State Program "Digital Economy of the Russian Federation", education is named the key institution for creating the conditions of the development of the digital economy. Based on the Information Society Development Strategy for 2017–2030, the role of training for the digital economy is assigned to higher education. It should be noted, that in the field of higher education, digitalization processes are implemented to a greater extent not with IT, but with the expansion of the sphere and methods of their use.

Based on the methodology, proposed by Elkina E.E. [1], the evolution of the use of IT technologies in higher education can be conditionally tracked (table 2).

At the same time, the intensity of the digitalization of the educational space is increasing, therefore, the response of educational institutions of higher education to its accelerating pace should be adequate and timely.

The institutionalization of the digitalization processes of the educational space is performed through the adoption of a number of government decisions. In particular, the definition of e-learning and distance learning technologies is given in Art. 16 of Federal Law "On Education in the Russian Federation". The strategic directions of the development of digitalization are confirmed in the Priority project "Modern digital educational environment in the Russian Federation" within the framework of which a set of indicators should be achieved, that can ensure the proper level of digitalization of the educational space.

TABLE II. CONDITIONAL STAGEIZATION OF THE EVOLUTION OF IT TECHNOLOGIES IN HIGHER EDUCATION

IT application stage	Stage content	General characteristics of the stage	Achievements of the stage in the field of HE	Stage problems
Automation in 1980s	The beginning of the computerization of universities	Development of methods for teaching computer science	The beginning of the use of personal computers and projectors in the development and demonstration of lecture materials	Insufficient financing for the acquisition of equipment
Informatization 2000s	The introduction of information tools, based on microprocessor technology into educational institutions, as well as information products and pedagogical technologies, based on these tools [7]	Internetization electronic communications	Access to Internet the generation of a network of educational portals, the beginning of the development of applications for education field	Low-quality Internet, lack of a sufficient number of workplaces
Digitalization 2010s	The use of digital technologies in educational organizational and administrative processes, processes of interaction of actors	Digital platforms	Online courses Electronic distance education Digitalization of administrative and educational processes	Inadequate qualification and methodological literacy of employees of educational organizations

Thus, an assessment of emerging trends, taking into account state regulation, demonstrates a rather active entry of the Russian higher education system into the digital age [8]. In science, it is noted, that digitalization processes bear a large number of advantages for the higher education system. Among these promising opportunities, the digitalization potential in the sphere of influence on the deviant behavior of higher education actors should be noted. Deviant behavior in the article is considered as behavior, that does not coincide with the prescribed social norms. Nowadays, the continuing reforms of higher education, provoking instability of the institutional environment, led to the emergence of a whole bunch of types of deviant behavior (table 3).

TABLE III. CHARACTERIZATION OF TYPES OF DEVIANT BEHAVIOR

Type of deviant behavior	Characteristic of type of deviant behavior
Unconscious deviation from new norms due to the rooting of alternative practices (routines) (1)	An unintentional action, that violates the current norms, due to the contradiction of new norms to established routines.
Different interpretations of the norms, due to the impossibility of accurately detecting all acceptable options of their compliance (2)	Unintended action due to incorrect interpretations of the norm, due to the blurring and ambiguity of the new rules
Creative behavior, creative specification of primary institutions, innovativeness (3)	Deliberate action due to institutional innovation, justifying the creation of its own rules contrary to existing ones
Rejection of new norms, that contradict previous values and stereotypes of thinking (4)	Deliberate action, based on the contradiction of new norms to established stereotypes of thinking
Evasion from obligations due to inability, impossibility to fulfill new requirements (5)	Deliberate action due to the understanding of the actor of the inefficiency of the new coordination model in the context of reform
Opportunism (6)	Deliberate action, due to the actor's inclination to form his own set of rules, that ensure unilateral distribution of benefits (rights) in his own interests to the prejudice of third parties

The main process, that produces deviant behavior in higher education, is the instability of the institutional environment, in conditions of which individuals lose the feeling of belonging to a particular group, while developing their own (deviant) norms of behavior. Obviously, not all set of the above types of deviant behavior of actors of higher education is realized

intentionally and to the prejudice of public relations. A number of types, namely (1), (2) and (3) are realized unconsciously or with positive intent. The foregoing indicates, that measures to level these types of deviant behavior should not be sanctioned. Moreover, types (4) and (5) are also due to institutional conditions rather than the tendency of individuals to violate generally accepted norms. Thus, the most acceptable and effective way to “fight” deviant behavior should be the activities to eliminate conditions, that produce deviations, and not impose sanctions for it.

The digitalization of the educational space can change the institutional field, by eliminating (or at least reducing) the influence of such conditions on the emergence of deviant behavior. At the same time, the possibilities of digital technologies in the context of the above are not limited and in-demand. The taxonomy of the digitalization directions of the educational environment does not have unambiguous approaches in science. In particular, a number of authors speak about digitalization of the content side of the educational process [6], others about the organizational [9]. In this research, digitalization is defined as a complex process of introduction and use of an open set of information technologies for the implementation of various tasks, accompanied by a paradigm shift in higher education. Thus, the author's understanding of the studied process is wider than in the indicated scientific approaches. Moreover, the digitalization direction of higher education can be conditionally generalized into five groups (figure 1).

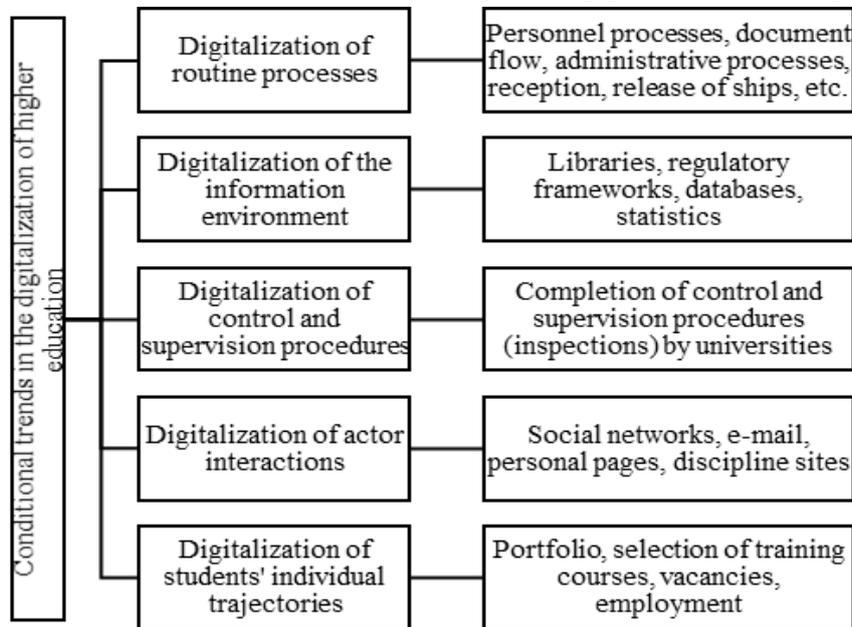


Fig. 1. Characterization of conditional direction of digitalization of higher education

The potential of the digitalization processes of higher education has not yet been realized, its key areas as a mechanism to reduce the prevalence of deviant behavior subject to identification and comprehension.

It should be noted, that a stable institutional environment with clear rules, as well as the presence of processes for

institutionalization of new rules with cultural and value guidelines, acceptable to actors, are important for deviating from new norms as a result of the anchoring of alternative practices (routines) or in cases of rejection of new norms, contradicting previous values and stereotypes thinking In this case, the digitalization processes can create the conditions for the formation of prerequisites for the transition to a digital society with common patterns for higher education

stakeholders. Digitalization of organizational and administrative processes, increasing the accessibility of the information environment will contribute to the adaptation and adoption of new standards, formed in the conditions of institutional transformation of the educational space, reducing the tendency to deviate from them or to form their own norms.

Improving the quality of the information space, digital technologies and platforms, that contribute to a deeper comprehension of the new rules will reduce cases of different interpretations of the norms due to the impossibility to accurately determine all the valid options for their observance.

New technologies of the transfer of information, the intensification of information exchange will contribute to the fast dissemination of innovations (technical, social and pedagogical), their comprehension and acceptance by actors of higher education, which will increase the importance of creative behavior and creative specification of the initial institutions by converting such behavior to acceptable and encouraged, eliminating, thus excluding its interpretation as a deviation.

Increasing information transparency, the dynamics of all administrative and organizational processes will accelerate empirical testing of new norms, identifying the impossible and ineffective ones.

In the context of the passage of universities to the digital age, educational organizations and the state are paying sufficient attention to the professional advancement of teachers, thereby reducing the number of employees, who are unable to meet new requirements.

The digitalization of control and supervision activities, the administrative process eliminates the conditions for opportunistic behavior. In particular, the automation of decision-making on the results of testing and other control activities, plagiarism assessment and other routine processes reduces the possibility of subjective decision-making. Automation of flow of documents (delivery of control works, term papers and final qualification works) makes student works available for the expert community.

Also, the basis for reducing the spread of opportunistic behavior is the elimination of information asymmetry due to providing of availability and expansion of information about educational programs, employment of graduates, and the quality of education.

The possibility to create a portfolio and an individual educational path can reduce the opportunism of employers, introducing additional selective barriers for graduates of universities.

Digitalization of state accreditation and audits will reduce the possibility of subjective decision-making and manipulation of universities, by increasing the transparency and availability of information.

IV. DISCUSSION OF RESULTS

Let agree with Popov E.V., Semyachkov K.A., Fayruzova D.Y., that digitalization processes, in the broad sense, are the driver of the switchover to the digital economy through the socio-economic models of behavior, formed on their basis [10, p. 9]. It can be assumed, that the formation of a new model can take place with a meaningful attitude to the quality of the institutional environment, taking into account the use of the potential of digitalization as a means of reducing the possibility of deviating behavior in the field of higher education, which provides a fairly great toolkit. For each type of deviant behavior highlighted in the research, it is possible to use a whole set of tools and methods for its leveling.

To demonstrate the proposed approach, present a conventional set of tools, combined with the type of deviant behavior on which they are able to influence (table 4).

V. CONCLUSION

It should be noted that, along with an avalanche-growing arsenal of directions of using digital technologies, there is a demand for identification, systematization and description of digitalization mechanisms, that can reduce the possibility of deviant behavior in higher education. The foregoing determined the choice of the subject of this work. The following theoretical and practical results were the result of the research.

Firstly, the terminological apparatus was clarified, in particular, the definitions of digitalization of the educational space and opportunistic behavior were proposed.

Secondly, the evolution of the use of IT technologies in higher education is characterized.

Thirdly, the taxonomy of types of deviant behavior is synthesized, their characteristic is given.

TABLE IV. CONVENTIONAL SET OF DIGITALIZATION TOOLS, COMBINED WITH THE TYPE OF DEVIANT BEHAVIOR, ON WHICH THEY ARE ABLE TO INFLUENCE

Type of deviant behavior	Digitalization directions,	Mechanism
Unconscious deviation from new norms due to the rooting of alternative practices (routines) (1)	Digitalization of routine processes	Formation of understandability and simplicity of new rules
	Digitalization of the information environment	Completeness and availability of information on the new rules
Different interpretations of the norms, due to the impossibility of accurately detecting all acceptable options of their compliance (2)	Digitalization of routine processes	Formation of understandability and simplicity of new rules
	Digitalization of the information environment	Interpretation, comprehension, availability of information on new rules
Creative behavior, creative specification of primary institutions, innovativeness (3)	Digitalization of the information environment	The spread of innovation
	Digitalization of actor interactions	Well-established communication channels, formalization of interaction
Rejection of new norms, that contradict previous values and stereotypes of thinking	Digitalization of routine processes	Formation of understandability and simplicity of new rules
	Digitalization of the information environment	Completeness and availability of information on the new rules

(4)	environment	
	Digitalization of actor interactions	Well-established communication channels, formalization of interaction
Evasion from obligations due to inability, impossibility to fulfill new requirements (5)	Digitalization of routine processes	Formation of understandability and simplicity of new rules
	Digitalization of the information environment	Completeness and availability of information on the new rules
Opportunism (6)	Digitalization of control and supervise procedures	Transparency of the control of meeting the norms
	Digitalization of routine processes	Transparency of all processes, that impedes subjective actions
	Digitalization of the information environment	Transparency and availability of information
	Digitalization of control and supervise procedures	Transparency and functionality of control of meeting the norms, exclusion of intermediaries
	Digitalization of actor interactions	Transparency and formalization of communication channels
	Digitalization of the individual path of students	Transparency of information, formalization of requirements, competitiveness of the graduate, competition of employers

Fourth, the conventional directions of digitalization of higher education are identified, their characteristics is given.

Fifthly, a methodological approach for using certain directions of digitalization to reduce the possibility of deviant behavior is proposed.

Thus, the theoretical significance of the research is due to the practical absence of developments in science at the junction of the theory of deviant behavior and theoretical directions in the field of the digital economy.

The practical significance is realized in the possibility of using the proposed approach in research and development of specific directions to reduce the possibility of deviant behavior in higher education.

References

- [1] El'kina E.E. Tsifrovaya kul'tura kak oblast' mezhdistsiplinarykh issledovaniy: metodologicheskie podkhody i tendentsii razvitiya // International Journal of Open Information Technologies. 2018. №12. URL: <https://cyberleninka.ru/article/n/tsifrovaya-kultura-kak-oblast-mezhdistsiplinarykh-issledovaniy-metodologicheskie-podhody-i-tendentsii-razvitiya>
- [2] Blinov V.I., Dulinov M.V., Esenina E.Yu., Sergeev I.S. Proekt didakticheskoy kontseptsii tsifrovogo professional'nogo obrazovaniya i obucheniya. – M.: Izdatel'stvo «Pero», 2019. – 72 s.
- [3] Archakova S.Yu. Upravlenie innovatsionnoy sredoy v usloviyakh tsifrovoy ekonomiki [Elektronnyy resurs]: dissertatsiya na soiskanie uchenoj stepeni kandidata ekonomicheskikh nauk. Voronezh. 2019. S. – 185. Access mode: <https://cchgeu.ru/upload/staff/dissovet/>
- [4] Yudina T.N., Tushkanov I.M. Tsifrovaya ekonomika skvoz' prizmu filosofii khozyaystva i politicheskoy ekonomii // Filosofiya khozyaystva. 2017. № 1.
- [5] Marey A. Tsifrovizatsiya kak izmenenie paradigmy [Elektronnyy resurs]. URL: <https://www.bcg.com/ru-ru/about/bcg-review/digitalization.aspx>
- [6] Ustyuzhanina E.V. Evsyukov S.G. Tsifrovizatsiya obrazovatel'noy sredy: vozmozhnosti i ugrozy // Vestnik REA im. G.V. Plekhanova. 2018. №1 (97). URL: <https://cyberleninka.ru/article/n/tsifrovizatsiya-obrazovatel'noy-sredy-vozmozhnosti-i-ugrozy>
- [7] Informatizatsiya obrazovaniya [Elektronnyy resurs] // Rossiyskaya pedagogicheskaya entsiklopediya. — Rezhim dostupa: <https://pedagogicheskaya.academic.ru/1241/>
- [8] Kiryakova A.V., Kolga V.V., Yalunina E.N., Chudnovskiy A.D., Korenko Yu.M., Leifa A.V.

University development based on the resource approach // Man in India. 2017. V. 97. № 14. S. 227-239.

- [9] Ofitsial'nyy sayt Ministerstva nauki i vysshego obrazovaniya Rossiyskoy Federatsii https://minobrnauki.gov.ru/common/upload/library/2019/07/Perspektivy_razvitiya.pdf
- [10] Popov E.V., Semyachkov K.A., Fayruzova D.Yu. Sotsiotekhnologicheskie drayvery razvitiya tsifrovoy ekonomiki // Vestnik UrFU. Seriya ekonomika i upravlenie. 2019. Tom 18. № 1. S. 8–26