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# Leading Provisions of the Digitalization, Law, and Science

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**Abstract** This paper analyses the digital economy, digital science, and the digital criteria for measuring scientific results, as well as their importance in the fight against corruption. Dialectical methods of paired categories are used: essences and manifestations, content and form, transfer quantity to quality, unity and the struggle of opposites, etc. The term "digital economy" contains a dialectical contradiction. On the one hand, the economy demands freedom of development and tends towards liberal-market methods, avoids administrative methods. On the other hand, the transition to the digital economy is a managed process, contributing to the country's transition to the new technological order. The purpose of the article is to analyse this contradiction and emerging problems. The fight against corruption by the methods of the digital economy involves the process of embedding the digital economy in public administration and, conversely, the embedding of public administration in the digital economy. This means a cardinal, revolutionary renewal of the relationship between the government and the people. It is necessary to determine the legal status of the subjects of the digital economy, as well as the legal regime of the relations objects arising in the digital economy. A federal law should be adopted, this law should regulate. Togliatti State University is a perfect example of the scientific work of teachers and is also a leader in distance education (primarily the Institute of Law).

***Keywords:*** *digitalization, law, science, leadership, digital criteria, corruption*

## 1 Introduction

Contemporary reality is characterized by a digitalization boom, a truly digital revolution, also called the Fourth Industrial Revolution (Bell 2004), new Industrial revolution (Schwab 2016). Indeed, the information and telecommunications transformations of recent decades are impressive, revolutionary, as a result, the very relationship between people about material and intangible values is digitally shaped (Drucker and Maciariello 2008; Pugh et al. 2007) and this is reflected in law-making and law enforcement processes.

Bazhutin considers the prerequisites, according to his conception, of already the seventh technological (industrial) way of life, that become ripe in the bowels of the fifth and sixth technological paradigms, namely, moving away from material production into the field of scientific knowledge and virtual technologies (Bazhutin and Bazhutina 2019). This idea is discussed by scientists in the form of attempts to create terminology, characterizing a new paradigm of social development: information society, knowledge-based economy, Digital economy, etc. Countries that create and export innovative technology and management technologies, "set the tone" for other countries, predetermine the socio-economic development of the world. It is in the "brain" part of the industrial process, according to Bayer, New York Times columnist: "The high profitability is concentrated, because in the 21st century to be a manufacturer of goods is a losing position due to the fact that "gradually production is becoming more unprofitable" (Bayer 2017, p 17). Already now, the leading factor of economic development is scientific knowledge, management technologies.

Only with the help of new management methods, according to Bazhutin, "you can create the industrial core of the 7$^{th}$ hybrid technological paradigm (2050-2090) because industrial science "Management" is designed to translate the ideas of academic science from laboratories into production language and reproduce in industrial volumes. (…) in the course of historical development, science becomes a productive force and takes on a material form with profitability in some cases from 1000% and above" (Bazhutin and Bazhutina 2019, 73 p.).

 

Such a question involves singling out science into the single important branch of the economy. Unfortunately, in the 1990s, Russia lost this colossal economic impact: experts estimate that between 1989 and 1992 about 10% of scientists (about 75 000 people) left Russia (Avdokuchin 1999) and Russia's annual direct losses as a result of the "brain drain" were estimated at "at least 3 Billion $ USD., and total, taking into account the lost profits, – 50-60 Billions USD. In other words, the country loses the equivalent of one third of its external debt each year" (Bazhutin and Bazhutina 2019, pp. 72-73). At the same time, "…the USA receives additional $80-100 billion a year from the import of scientists and highly skilled professionals (not only from Russia)" (Avdokuchin 1999, 164 p.). Western countries have saved on emigration of domestic scientists "at least a trillion (!) USD, that they would have to spend on training at a similar level" (Avdokuchin 1999, pp. 164-165). However, the leadership of Russian science and higher education not only did not overcome the mistakes of the 1990-s, but also makes new mistakes, harmful to science and education.

At present, almost all legal scientists in one way or another "sickened by digitalization", so it's just unrealistic to list all the authors.

Digitalization cannot but have a huge impact on all legal activities, including legal science. However, there are not only pros, but also disadvantages, more precisely, the costs of falsely understood digitization of the results of scientific activity.

This paper focuses on the pros and cons of digitization in relation to scientific activities and criteria for evaluating the results of scientific activity (Measurement Science), pros and cons of digitalization in the fight against corruption, Overcoming the barriers of Russia's entry into new technological paradigms.

## 2. Narrow and broad concepts of digitalization

The very notion of "digitization" has a narrow and broad meaning. In a narrow sense, digitalization means the transformation of any information into a digital form by the "language of the binary calculus system", that opens up "unlimited information processing capabilities (search, receive, process, store and disseminate information) and bring it to users in real time" (Nevinskiy 2019, 27 p.).

But there is a wider meaning of the concept of digitalization, implying a certain global trend of modern and qualitatively new development of economic and social processes, a trend that assumes a new quality of life and the face of the world in which traditional state borders are being erased.

## 3. The scope of digital technology implementation in law

Zorkin notes that "digitalization of social life has led to the emergence of previously unknown so-called digital rights. Digital rights mean people's rights to access, use, create and publish digital works, access and use computers and other electronic devices, as well as communication systems, particularly on the Internet" (Zorkin 2018). As a result, scientists talked about the "digital rights" of human beings, which in turn are related to both freedom of speech in the Internet space and digital technologies to realize all other rights, and with "e-democracy": selective technologies, Internet voting, and discussion of draft regulations.

According to the current regulations, public discussion of draft regulations in the digital democracy mode is supposed. Dzidzoev rightly points out as a disadvantage the fact, that presidential decrees "are effectively excluded from public consultation, although most of them have legal and regulatory nature" (Dzidzoev 2019, 21 p.). It is impossible not to agree with Professor Dzidzoev that it is necessary to adopt a federal law "On public discussion of draft laws and other regulations" (Dzidzoev 2019, 22 p.). Let's add only that similar regional laws should be adopted in the subjects of the Russian Federation.

Until now, this most important institution of democracy has not acquired proper development, remaining as if in reserve, for now, it is provided by a little-known and insignificant regulation. The feedback in the functioning of this institution and the measure of public opinion in the process of adopting the relevant regulations of the executive bodies of the state authorities is completely unclear.

## 4. Criteria for evaluating the scientific activities of universities

On 10 December, 2013, Ministry of Education and Science of the Russian Federation adopted the Order, in our opinion and in the opinion of many scientists, university professors, not only the rights of professors and University teachers, but also Russia's national interests, for according to these criteria, it is not the articles and even monographs published in Russia that are valued, but the publications in the Scopus and Web of Science. The university gets higher scores for the number of foreign scientists who are counted even part-time, who may not even work, only receive money and report articles published abroad, etc. Like mushrooms after the rain, there were a lot of firms specializing in this "near-scientific" business of mediation in publishing articles abroad or the direct sale of articles by someone. There are processes that kill the very essence of science (Bobrova 2019).

19 November 2019 Supreme Court of the Russian Federation (the Court) the rejection of the case No. AKPI 19-725 on the lawsuit of Professors Oseichuk and Bobrova regarding recognition of sub- paragraphs 2.1, 2.2, 2.4, 2.5 paragraphs 2, approved by the Ministry of Education and Science Russian Federation as invalid. The applicants filed an appeal with the Administrative Affairs Board Court. The hearing is scheduled for March 6, 2020, and in the light of the provisions made in the Address of the President of the Russian Federation to the Federal Assembly of the Russian Federation on January 15, 2020, this appeal has a chance to be satisfied.

The court's decision ignored the claimants' arguments, citing violations of the Russian Government's Decree dated 13.08.1997 No 1009 “On the approval of the Regulations for the Preparation of Federal Executive Regulations and Their State Registration”.

According to the paragraph 4.1 of these Regulations “in order to enable independent anti-corruption review of draft regulations (…) the developer of the draft legislation during the working day corresponding to the day of submission to the legal service of this federal executive authority, places the draft regulation on the website of the regulation.gov.ru in the Internet Information and Telecommunications Network, created to post information on the preparation of drafts legislations by the federal executive authorities and the results of their public discussion, showing the dates of the beginning and end of the findings on the results of the independent anti-corruption examination”.

The draft order has been published twice on the Internet: first time in April and the second time on July 4, 2013, 11 July is the deadline for submitting reports of independent examination and feedbacks. It seems that the teachers related draft was specially published in July, when they take vacations. Naturally, no comments were received on the draft. The court ignored the following gross violations:

1) publishing Order Options on Different web-sites;
2) the emergence of odious criteria for assessing the scientific activity of universities and teaching staff in the second version of the Order, which was not in the first version, and this gives the impression of intentional "dragging" criteria that would never have passed in a normal public discussion;
3) the impossibility of preparing conclusions and responses to a regulation of more than a hundred pages in just a week.

Paragraph 5 of the Regulations: “In the process of working on the draft legislation, the relevant scientific literature and the materials of the periodical press on the subject should be studied (...), as well as data from sociological and other studies”. Nothing like this has been done in the course of the work on the Order. The order dealt a blow to Russian science, Russian higher education, Russian scientific journals, which suddenly began to be judged much lower than foreign ones. There was even the concept of “junk magazines” and “junk articles”, which includes 95% of domestic publications, which undermines the prestige of Russian science.

Hirsch Index System, Scopus, Web of Science assumes “information and communication technology, creation, development, modernization, information systems and information and communication infrastructure (…), are subject to submission to the Ministry of Digital Development, Communications and Mass Communications of the Russian Federation for a conclusion assessing the feasibility of information activities and/or their financing. A draft report sent for assessment the feasibility of information and/or funding activities, an enclosed financial-economic and/or feasibility study containing the necessary calculations, justifications, description of the expected final results of information activities”. However, there is no conclusion on the assessment of the feasibility of carrying out measures on the digitalization of scientific activities of universities, on informatization and/or financing of universities in connection with the information criteria for assessing their scientific activities.

The order ignored the scientific differences between the mechanical and mathematical sciences and the humanities. The Hirsch Index was invented in 2004 for mathematical sciences and cannot be used for the humanities. It is not used at all in any sciences in most countries of the world (Germany, France, Italy, Belarus, etc.). It is also unclear which structural unit of the Ministry of Education and Science lobbied for the introduction of the Hirsch Index in Russia, causing irreparable damage to Russia's national interests and sovereignty (paragraph 4 of the Regulations: “The draft legislation is assigned to one or more of the federal executive branch' structural units, taking into account their functions and competences”).

The court's decision refers to the fact that the Order complies with higher regulations. Meanwhile, by order of the Russian Government of 29 October 2012 No 20005-p the Actions Plan was adopted for the Development of Leading Universities, which provides for increasing their competitiveness among the world's leading scientific and educational centres. Paragraph 12 of the plan required the Russian Ministry of Education and Science to implement measures to include Russian referenced scientific journals in the Databases of Scopus and Web of Science until December 2013. However, the Ministry of Education and Science Russian Federation has done nothing, and his successor, the Ministry of Science and Higher Education of the Russian Federation.

Representative of the Russian Ministry of Science and Higher Education (Successor) promised in her speech at the trial that the Order would be revised, thus acknowledging its imperfection.

The Chairman of the Committee on Science and Education of the State Duma of the Russian Federation Nikonov generally proposes to cancel extra payments to teachers for publishing activity (Nikonov 2019). However, that's the other extreme. However, a full man can't understand a hungry man. Revenues of State Duma deputies, who also have the right to work on television, are ten times higher than the income of university teachers. It turns out, deep-pocketed deputy proposes to deprive low-income teachers of allowances for scientific activities.

Hence, we described just one example of the lack of public discussion in the adoption of executive regulations. But even in the process of implementing imperfect regulations there are, even more problems like a snowball. For example, scientists are beginning to adapt to the new criteria and for money publish their articles in Mexican and other "prestigious" journals in an unthinkable co-authorship of five to seven people, for it is easier to pool money (for the required amounts (article in foreign magazines, related to Scopus and Web of Science, costs 1-4 thousand USD or euro depending on the quartile of a foreign magazine and the timing of publication). Of course, all these processes do not contribute to the increment of genuine scientific knowledge.

## 5. Examples of using digitalization for swapping objectives

Political technologies in modern life are so sophisticated that they completely subjugate any other technology, including digital. Thus, in 2012, the President of the Russian Federation announced the idea of internet voting on candidates nominated in the HRC (Council for the Development of Civil Society and Human Rights under the President of the Russian Federation). Bobrova was nominated and had the opportunity to see for herself that in order for the candidate's voting percentage to increase by only one-hundred percent, it was necessary to provide a few hundred votes that could not be provided in one minute or even one hour. By the end of voting on the night of September 8-9, 2012, the author of these lines was in the third, that is, a passing position. Percentages of all candidates could be seen on the Internet in real time. And suddenly at 23.59 (a minute before the end of the voting) the result of Kucherena, which was the fourth, increased by one and a half percent in one and a half seconds, and he turned out to be passing. Meanwhile, it is simply unrealistic to get at once one and a half percent. This is only possible with the intervention of the operator of this voting program. There were other examples during this online voting that caused complaints from many HRC candidates. So, the President of the Russian Federation declared a worthy goal of electronic voting for candidates for the HRC, but the executors (creators and/or operators of the relevant program) technologically distorted this goal.

The same can happen with regulations, when the regulations declare certain goals, and in fact, very different goals are being implemented, those that, to put it mildly, kill real science, real will, real democracy. Similar processes demonstrating discrepancies between declared and real objectives are observed in other areas of law.

We share the fears of Dzidzoev and other scientists that the transition to electronic voting in the elections planned by the Central Election Commission of the Russian Federation does not have reliable guarantees of credibility. These scientists believe that Russia uses a powerful administrative resource in the elections on a massive scale, so it's premature to recommend electronic voting (Dzidzoev 2019).

In fact, the risks of digital technology and procedures are related to the fact that the computer program depends on the technicians (creators and/or operators of the program), for all the parameters of the program are determined by highly qualified operators, performing certain tasks of their managers, and these operators are not legally responsible for the program, which gives a deliberately distorted result. Professor Libanova also notes the contradictory impact of digitalization on political processes in an era of change (Libanova 2019).

## 6. Digitalization and the fight against corruption

Some scientists argue that judges are not ready to digitize their activities because of the lack of universal computer literacy of judges, especially in rural areas. In our opinion, this is a far-fetched and easily eliminated obstacle, a myth cultivated by the judges themselves.

In fact, judges are not ready to computerize for the reason, that computerization eliminates such an important corruption factor, as subjective discretion. Nepotism and discretion are the ground on which corruption thrives. A huge part of the staff of the State Road Safety Inspectorate (GIBDD) has been reduced due to the appearance of DVRs.

In the context of digitalization, law becomes not only a tool for digitizing the economy, management and other segments of social existence, but also an object of "digitization", as a result, it is undergoing changes in its shape, content and mechanism of action (Khabrieva and Chernogor 2018). Kudrin, developing the thesis about openness of ministries, stressed that today they provide insufficient information. The digital economy is now evolving, and ministries must combine their databases on the government platform. Do not sit on them and give out portions, but form a common array, so that everyone who needs it, automatically use the necessary information (Kudrin 2018). Open government strategy is welcomed in other post-Soviet states (Scheverdayev 2017).

Without digitalization, it is impossible to effectively fight corruption and effectively investigate economic crimes. When the Shopping Center «Winter cherry» (Siberian city of Kemerovo) burned down, Putin flew to

Kemerovo with the head of the Investigative Committee of the Russian Federation Bazhutin; more than a undred investigators and operatives were involved in the tragedy investigation. The President gave the command to trace the entire chain of responsible persons. But if the whole chain of responsible persons had been digitized in advance, it would not have to be tracked post factum, to use an unthinkable amount of force and deplete investigation of other criminal cases (Bazhutin 2019). The reason for such tragedies lies in the lack of proper control by the competent authorities and officials, including their use of their position in spite of legitimate purposes, which is corruption (Federal law 2008).

## 7. National Digitalization Strategy

The term "digital economy" contains a dialectical contradiction. On the one hand, the economy demands freedom of development and gravitates towards liberal-market methods, avoids administrative methods. On the other hand, the transition to the digital economy is a managed process. "Administer" in Latin, it means "to manage," "to supervise".

Digital economy aims to curb market environment. Without the state authorities, this task cannot be met. The strategy is patriotic, which in the conditions of information war and anti-Russian sanctions seems to be justified: foreign companies providing information services to Russia should form joint ventures with Russian market participants and make all payments through domestic systems. The strategy defines the foundations for the formation of the national digital economy. The digital economy is defined as an economic activity in which digital data is a key factor in production, processing large volumes and using the results of analysis of this data compared to traditional forms business enables a significant increase in the efficiency of various types of production, technology, storage, sales, delivery of goods and services (Russian President's Decree 2017).

The strategy is aimed at strengthening the legal regulation of media, Internet TV, ensuring transparency of management activities, including representatives of all parties interested in the digital economy (civil society, state and municipal authorities, business, science and education institutions). Management of the digital economy development involves the appropriate development of the regulatory framework, the creation of legal conditions for the digital economy, the provision of non-discriminatory access to information, subject to information security.

## 8. Conclusions and suggestions

All in all, it appears necessary to determine the legal status of the subjects of the digital economy, as well as the legal regime of the relations objects arising in the digital economy. A federal law should be adopted, this law should regulate: basic concepts, principles and parameters of legal regulation of the digital economy; features of key activities in the economy; legal status of participants in the digital economy; objects of legal relations in the digital economy; responsibility of legal actors in the digital economy, its types and mechanism for implementing; the mechanism for applying special legal regimes to stimulate the development of the digital economy (Tikhomirov 2018).

The fight against corruption by the methods of the digital economy involves the process of embedding the digital economy in public administration and, conversely, the embedding of public administration in the digital economy. This means a cardinal, revolutionary renewal of the relationship between the government and the people. In principle, amendments to the Constitution of the Russian Federation proposed by the President of the Russian Federation suggest such update.

Digitalization is the sister of globalization. And here some scientists see the danger to the economic sovereignty of the state (Boldyrev 2014). Digitalization will cover almost all areas of activity, and that's a concern for scientists and politicians, because in the future there will be a dramatic increase in unemployment. The problem is supposed to be solved by means of so-called transhumanism – the latest version of the "golden billion" theory (Chetverikova 2019). Finland and Sweden hold referendum on guaranteed income (whether to receive a certain income per month and not work). Citizens of these countries voted against because they understand that referendums were held in order to find a way out for the coming unemployment.

And yet there are more pros than cons in digitalization, even in spite of the threat of unemployment. And it would be good to reduce the number of some categories of staff. For example, there are 1.5 million officially registered guards in Russia. There are guards everywhere, and every one of them, by Dostoevsky, feels like a unit, around which the whole world revolves. But this is additional burden on the budget.

Finally, the criteria for assessing the scientific performance of universities need to be reviewed. The representative of the Ministry of Science and Higher Education of the Russian Federation promised in the protocol during the court session on appeal against the relevant points of the that this order will be revised.

Togliatti State University is a perfect example of the scientific work of teachers and is also a leader in distance education (primarily the Institute of Law). In order to further develop distance education, we propose to disseminate the best practices of Togliatti State University, namely:

- encourage creation of individual (author's) educational internet platforms, that could be visited by everyone to attend the practical classes of teachers and author's lectures both online or offline;
- develop teachers' development programmes in the field of digital technologies;
- to introduce into practice mutual visits of lectures and practical classes by teachers with feedback on the quality of work at the meetings of the department.

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