New zones of corruption risk in higher education because of the manipulation of digital technologies

Teimuraz Khvedelidze, Bakhitzhan Toleubekova, and Zhanel Saylibaeva

Department of Jurisprudence, Institute of History and Law, Abai Kazakh National Pedagogical University, Almaty, Kazakhstan

Abstract. The problems of combating corruption in the system of higher education have not been studied enough. The authors of earlier studies considered the problems of corruption based on traditional ideas about the zones of corruption risk, methods of recognizing signs of corruption, and their subject composition. Digital technologies being introduced into management and control impact the circumstances that contribute to the commission of corruption offenses at the university. The subject composition of offenses, the methods of their commission and concealment of traces, and the zones of corruption risks have changed because of digitalization. The purpose of the study is to substantiate the need to apply alternative approaches to the formation of a university anti-corruption policy. Corruption risk zones have moved from the department to services that ensure the introduction and application of digital technologies in the educational and scientific processes. Using previous methods of combating corruption in digitalization does not give the expected effect. The authors used formal-logical, comparative-legal, statistical, and other methods in the article.

1 Introduction

Studies have shown that regardless of the efforts made, the level of corruption in the higher education system of Kazakhstan has not decreased. The reasons for the current situation:
- with many scientific studies on combating corruption at the state, regional and international levels, the problems of corruption in the university education system are the least studied;
- corruption in the university system has such features that cannot be deeply and effectively covered by a nationwide anti-corruption policy;
- insufficient level of development of information law to build an effective digitalization strategy for various areas of public relations, including educational services;
- the lack of a unified nationwide concept of digitalization of the major functions of higher education organizations with a clear legal mechanism for prohibitions and permissions;

* Corresponding author: zhanel.sailibayeva@mail.ru

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- legal regulation of information security lags the pace of development of information technologies themselves, as well as their implementation in various branches of public relations;
- most studies do not consider the problems of the impact of digitalization on the formation of new zones of corruption risks in the management and control of higher education.

These reasons hurt the formation of a modern model of the university strategy and anti-corruption policy, given the economic, cultural, legal, and political situation in Kazakhstan.

T. A. Polyakova, A. V. Minbaleev and N. V. Krotkova argue that “the science of information law is actively developing under the influence of dynamic processes taking place both in the global world, primarily in the COVID-19 coronavirus pandemic, and at the national level, the legal system is being transformed, new subjects of law are emerging, new social relations are emerging, information technologies in their most diverse manifestations (breakthrough and convergent, “high”, end-to-end). Risks, threats, and challenges to information security, including international ones, are increasing” [1]. Information security challenges can be as corruption committed by manipulating digital technologies embedded in higher education. Kazakhstan’s practice of combating corruption in the system of higher education confirms this.

The processes of formation and development of a new post-Soviet policy of Kazakhstan in higher education are because of the peculiarities of the country's entry into market relations. Such a feature was the transfer of state universities to the private sector of the economy. It was assumed that this measure would reduce the financial burden on the state budget, and the released funds would ensure the quality of education. The quality of education remained at the same level, and, according to our data, even decreased in the private sector [2]. Another feature was that not all the specialties necessary for the further development of the country were represented in higher education. The direction of technical specialties needed capacity building. Compensation for this deficit was associated with the acquisition of new licenses by universities, which also led to the expansion of corruption risk zones.

The purpose of the study is to substantiate the hypothesis of the digitalization of higher education in Kazakhstan - along with undoubted advantages, it contributed to the formation of a new zone of corruption risks caused by the illegal manipulation of digital technologies.

Scientific direction of research: humanities.

2 Materials and methods

Place of study: Institute of History and Law of the Non-Commercial Joint Stock Company «Abai Kazakh National Pedagogical University».

The authors conducted a study under the program of the grant project «Methods for identifying areas of corruption risks in digitalization of forms of control and management of the educational process in universities» (2022) with the financial support of the university. The Anti-Corruption Council actively worked at the university in the period 2018-2021. There were three commissions: prevention of corruption offenses in the teaching environment; prevention of corruption offenses by students; work with letters and complaints of corruption offenses. The commissions have accumulated empirical material that forms the basis of individual conclusions and proposals.

Objects considered: zones of corruption risks in the university; the legislation of Kazakhstan on issues of higher education, departmental acts of the Ministry of Education and Science, acts of internal regulation (orders, directives, instructions, and regulations adopted by the university management); analytical materials of the commissions of the university on the prevention of corruption; official statistics; publications in domestic and foreign publications.
Assumptions: digital technologies introduced into higher education become objects of illegal manipulation for selfish purposes; departments of universities that ensure digitalization remain outside the zone of anti-corruption control; traditional methods for identifying areas of corruption risks in the teaching environment do not cover new areas because of the manipulation of digital technologies.

The rationale for assumptions: the number of cases of corruption in the teaching environment has decreased, and overall data on corruption in the digital environment have remained at the same level; lack of regulations on information security in the university system; monitoring of corruption risk zones is carried out in the teaching environment traditionally, service areas for using digital technologies are not monitored.

We experimented with the participation of undergraduates. Under the guise of material for the dissertation, the project leader compiled the original text without citations or borrowings without reference to the source. The undergraduate applied to the university service to check the text for plagiarism. At the end of the check under the Anti-Plagiarism program, the undergraduate was presented with a result of a percentage of originality below the acceptable norm. Objectively, such a result was excluded as not corresponding to reality. A survey of undergraduates showed that almost all dissertations were returned “for revision” because of checking for “anti-plagiarism” as they did not meet the requirements for the originality of texts. When re-checking for plagiarism dissertations submitted with no adjustments, the results were the highest. One can only guess about the content of the agreements between undergraduates and employees of the plagiarism check service. We observe in this case an example of a new zone of corruption risk.

3 Literature review

Prospects for modeling modern anti-corruption policy in Russia based on a critical understanding of anti-corruption policy in the countries of the European Union are studied by V. E. Shorokhov. He writes it is worth inspecting the European experience in improving the anti-corruption resilience of state and municipal employees, implementing interstate anti-corruption standards within the state, the formation of systemic inter-industry relations, and the preventing conflicts of anti-corruption legal norms, as well as other anti-corruption measures actively used in the EU countries. This can set a qualitatively new level for the Russian state’s anti-corruption policy [3].

The need for such modeling is because of leveling the negative consequences of corruption. V. M. Permyakov, V. V. Kotov, and O. N. Khodasevich researched the problem of corruption. They substantiate the thesis that “corruption has “survivability” and adaptability in various sectors of society, under the scientific and technological progressive changes of the time”, and that the problem of corruption “is precisely in the consequences of non-compliance with the rules for personal gain” [4]. In research, the idea of adaptability of corruption to changing conditions technological is important. Corruption in the university education system covers the distance form of education, information and communication technologies associated with the digitalization of educational process control processes, and the ways of committing corruption change and multiply along with the saturation of the university sphere with new technological resources.

A. M. Tsirin and V. V. Sevalnev devoted their research to the problems of institutional mechanisms for combating corruption in the public service. Not limited to the civil service, the authors put forward ideas relevant to any area of management and control, where a system of digitized functions is applied. The paper differentiates the existing institutional mechanisms for combating corruption into traditional and new ones, based on using digital and information technologies, which allow unlocking the potential of existing anti-corruption technologies [5].
The nationwide anti-corruption policy must cover the sphere of education. This aspect is the subject of a study by L. V. Savinov and V. E. Shorokhov. They believe “the prevailing public mentality, which is contrary to existing anti-corruption measures, needs the introduction of new educational standards at all levels of education, including higher education and additional training programs” [6]. The authors cite the experience of Lithuania in implementing a large-scale anti-corruption project to raise awareness about the fight against corruption through youth education. The relevance of raising the issue for the CIS countries is confirmed because special attention is paid to this side in the general educational policy in the Anti-Corruption Policy Concept of the Republic of Kazakhstan for 2022-2026, approved on February 2, 2022 [7].

The coronavirus pandemic has brought adjustments to the forms of organization and control of the educational process in universities. There was a reorientation of subjects of corruption. According to A. V. Kurakin and A. N. Sukharenko, «Despite the COVID-19 coronavirus epidemic, corruption remains one of the serious threats to Russia’s national security. An effective fight against corruption requires high-quality work of the entire state apparatus, proper international legal cooperation, close interaction with civil society institutions and the private sector, as well as political will» [8]. Researchers in another article prove that the harm caused by corruption crimes in a pandemic is in the billions of dollars. “The largest number of corruption crimes in the post-Soviet space is registered in Russia, Kazakhstan, and Belarus” [9]. Offers for the provision of online services have sharply increased, including in higher education (sale of certificates of advanced training, various distance courses, sale of theses, master's theses, publication of articles in publications included in the Scopus scientometric database, etc.). According to A. V. Kurakin and A. N. Sukharenko, “because of joint anti-corruption measures of law enforcement agencies of Russia, Kazakhstan, Belarus, Uzbekistan in the period 2018-2020. 597 crimes and 155 persons who committed them were identified in intellectual property; in information technology, 1.9 thousand crimes and 403 persons who committed them” [8]. The practical value of their research is to substantiate the positive and negative aspects of the impact of the transition to distance learning. Corruption gained new momentum in the application and maintenance of information and communication technologies in universities.

Research by T. Ya. Khabriyeva on the impact of modern digitalization processes on legal traditions suggests that information and communication technologies cover almost all areas of public relations. “There is a formation of a new reality - “digital”, which has no analogs in the history of humanity” as a result [10]. An analysis of digitalization in law, including the regulation of e-education, led her to the conclusion that in the widespread transformation of the content, form, and mechanism of law, neither in doctrine nor in legal practice “there is still not clear enough understanding of either the vector, or patterns, or mechanism of these transformations” [10]. Therefore, at the present stage, according to T. Ya. Khabriyeva, it is advisable to combine “tools of the “pre-digital era” with new ones. Perhaps it is worth using quasi-legal regulators” [10]. Her approach is rational in determining the scope and limits of digitalization in higher education.

Indian researchers William G. Tiereya, Nidhi Sadana Sabharwal examine the issues of «academic corruption» in the traditional way for the countries of the post-Soviet space: cheating on exams, using cheat sheets, etc. [11]. The authors give a new theoretical justification for the importance of organizational culture in understanding corruption as a systemic phenomenon.

The research work of Tim G. Andrews and Khin Thi Htun, representatives of the Asia-Pacific region, provides visual materials on the state of corruption in higher education in Myanmar [12]. The identified forms are also characteristic of Kazakhstan: nepotism, and bribery. Of practical value is the disclosure of zones of corruption risks: access to higher education; licensing and accreditation of programs and universities; successful customer
management. The wide geography of the distribution of forms of corruption means that the experience of countering it can be the subject of joint research or their implementation in the national anti-corruption strategy.

Ararat L. Osipyan revealed the growth of the “dissertation business” [13]. He has established 169 dissertation firms in Russia as of 2012. The value of the study lies in identifying signs that show the falsity of the research authorship. There are no legal mechanisms to counteract this business yet. «Dissertation business» is also developed in Kazakhstan.

Research by Nicole Durenberger and Susanna Warning suggests that corruption is negatively correlated with expected years of schooling [14]. The authors analyzed the activities of universities in 88 developing countries and found that «in countries with a low level of corruption, the share of enrolled in public higher education institutions increases the duration of the study, and in countries with a high level of corruption it decreases.» The article vaguely expresses the dependence of the duration of education in universities on their form of ownership. Valuable material on the system of higher education in developing countries.

E. Feoktistova also considers the problems of corruption in the universities of Kazakhstan and other CIS countries [15]. She identified the prerequisites, causes, and consequences of corruption in higher education using examples from Kazakhstan university practice. The author states that “corruption hinders the development of universities, as well as their accreditation by international organizations and accreditation agencies” [15]. To prevent corruption in higher education, she proposes to strengthen the forms and methods of state control. Controversial is her assertion that corruption can be stopped by preventive measures. Prevention of corruption in higher education can weaken corruption for a while until the criminals overcome a new obstacle aimed at countering it. Corruption is a systemic phenomenon. At the present stage of development of the CIS countries, the task is not to fight it, but to counter it so that the level of corruption does not exceed the critical mass when corruption does not interfere with the progressive development of the country.

M. M. Polyakov and S. Ya. Salamova assessed the regulatory framework for combating corruption in science and education in the Russian Federation [16]. The authors conclude that regulatory weakness has given rise to corruption in higher education, which “is driven by four types of interaction: in gaining access to education; in receiving, distributing goods, works, and services between representatives of the educational organization and organizations that produce and supply these goods, works, and services; in the interaction between representatives of authorities and representatives of an educational organization; in the interaction of students and their relatives with teachers and other representatives of the educational organization in assessing the knowledge, skills, and abilities of students” [16]. These types of interactions are typical for universities in the CIS countries and apply to research activities.

We highly appreciate the informativeness of the following conclusion: “in science, criminal schemes involving representatives of the Higher Attestation Commission, journal editors, and members of dissertation councils are of great danger. Entire dissertation factories have formed, as well as a cohort of dealers in fake dissertations, and «nepotism and favoritism» are flourishing [16]. The authors, based on the recommendations of the Ministry of Labor and Social Protection of the Russian Federation, propose anti-corruption measures: determining the organization of the unit and (or) employees responsible for preventing corruption; assessment of corruption risks; prevention of conflicts of interest; implementation of anti-corruption standards and codes of ethical conduct; interaction with law enforcement and other government agencies to combat corruption, etc. [16].

A. V. Gabov and N. V. Kolotova studied the issues of the place, role, and significance of digital technologies in educational and scientific activities at the university [17]. Based on
the study of a large array of legal sources, the authors concluded: the introduction of digital

technologies, incl. remote form of protection of scientific works, contributed to strengthening

guarantees of compliance with the principles of publicity, openness, and collegiality of

protection. They argue that “the spread of digital technologies in education and science is a

promising goal of a modern society focused on the development of human capital. Using

such technologies in all spheres of public life is an important state strategic task. In education

and science, digitalization is expedient and effective” [17]. The levels of regulation of the

procedure for using remote forms of the dissertation defense, which are in force in the

Russian Federation, are useful for improving the Kazakhstani model.

S. A. Ivanova, L. Yu. Grudtsyna and M.N. Pyankov conducted a study on potential

complications hindering introducing digital technologies into the system of legal relations

[18]. Considering the prospects for applying additive technologies to the structuring of the

system of law by enlarging and adding its fractional parts into a single whole, they propose
to apply the laws of artificial and natural selection. We believe the conclusion of the authors

that digitalization is an artificial process, which as a result gave rise to «artificial selection»
in society and the state, has practical value. If “everything in nature is thought out, the

selection is natural and is part of homeostasis, then the history of human society for many

centuries has shown the results of negative artificial selection, when the best individuals were

destroyed. Now digitalization offers us multiple accelerations, and whoever does not comply

with new trends and processes cannot “compete” and “survive”, as well as succeed in the

new environment” [18]. The selective attitude to digitalization processes in law is justified if

the threat of a complete replacement of a lawyer by machine technology in resolving legal

problems is growing.

From the review of the materials of the “round table” on the topic “Combating corruption

in modern Russian legal life”, conducted on December 7, 2020, by the editors of The Journal

“State and Law” and “Legal Culture” [19], we single out the speeches of V.V. Subochev,

A.P. Mazurenko, A.V. Fedorova and S.V. Navalny.

V. V. Subochev concluded that federal legislation contains a definition of the concept of
“corruption”, which he described as vague, abstract, and does not allow “to determine either
the criteria or signs of what the legislator means by corruption” [19]. Using lexical formulas
“other property”, “other services”, and “other property rights” in the text of the legal norm
makes the construction of the law amorphous, blurred, and contributes to the expansion of
personal discretion by the allowed person [19]. The author has identified a priority direction
for improving the anti-corruption legislation of the Russian Federation.

A.P. Mazurenko shared the experience of the Pyatigorsk branch of the North Caucasus
University in combating corruption. Since 2017, the specified branch has been practicing the
publication of the “Anti-Corruption Policy” academic and university yearbook, which
reflects the general theoretical problems of anti-corruption legal policy, and specific issues
of its implementation in the practice of state-legal construction in modern Russia” [19]. The
release of the printed edition was the first in the university’s anti-corruption practice. The
experience is useful and promising.

S. A. Fedorova spoke about the features of the processes of formation of legal culture in
a pandemic [19]. She found that the legal culture in a pandemic needed to be corrected. The
pandemic turned out to be the environment in which “the perception of corruption was
transformed by officials to achieve selfish goals.” She believes that during the pandemic,
“economic factors and circumstances, including the corruption component, are exacerbated.
Corruption causes various forms of inequality in society associated with the right to …
education. Social inequality takes on extreme forms” [19]. The author's position is valuable
in the sense that because of the pandemic, there has been a jump in the digitalization of higher
education.
Within the framework of anti-corruption education, S. V. Navalny [19] proves that corruption cannot be defeated by legal prohibitions and restrictions alone. It is necessary «to form intolerance to corrupt behavior in society, to develop anti-corruption immunity» [19]. He proposes to make wider use of modern information and communication technologies in the anti-corruption education of citizens. He divided the process of anti-corruption education into levels to differentiate the methodology for preparing and presenting material, considering the characteristics of a particular audience. The author proposes to use in education the placement of information materials in the media, the production of social advertising, the organization of lectures and training seminars, computer games, videos on social networks, etc. himself the role of the coordinator of this activity in terms of methodological support” [19].

The difficulties arising in connection with digitalization in financial control are considered by M. A. Shichanin [20]. He highlights the prerequisites for constructing a new control paradigm in public control bodies based on new digital technologies [20]. The digitalization of the control function in higher education in modern Kazakhstan is already transforming from a trend into a phenomenon. This means that shortly, there will be a need to create and implement a system of a holistic legal model for using digital technologies in the control function of universities.

Thus, studies on the problems of combating corruption in higher education do not represent a holistic work devoted to the problems of the formation of new zones of corruption risks based on the misuse of digital technologies, recognizing the signs of such violations. Along with this, the fundamental works on computer security, which we take as a methodological basis for the development of alternative approaches to ensuring information security in digitized areas of university activities, have a place to be.

4 Discussion

As of 2011 in Kazakhstan, the share of the private sector in the university system was in favor of the public sector: 58 universities or 38.96% out of 149 belonged to the private sector, as of 2019 there was an increase in favor of the private sector: 79 universities or 63.71% out of 124 belonged to private ones, while the total number of universities decreased [21]. Researchers believe it is the private sector in the university system that is the main area of corruption risks and, the reason for the inferior quality of higher education, since the sole purpose of a commercial university is to make a profit. This does not consider that public sector universities are interested in increasing the number of students to have as many educational grants as possible. State universities may carry out admission commercially. This means that the financial basis (private or public) for the provision of educational services is not the only reason for the corruption of the educational sector.

Kazakhstan ranked 102nd out of 181 countries in the 2021 Corruption Perceptions Index. Dynamics of this index by years: 2012 - 28; 2013 - 26; 2014 - 29; 2015 - 28; 2016 - 29; 2017 - 31; 2018 - 31; 2019 - 34; 2020 - 38; 2021 - 37 [22]. Assessment method: from «0» - the maximum level of corruption; «100» - no corruption. Kazakhstan has risen from 28 points in 2012 to 37 points in 2021. The situation appears to be improving. According to the head of the Anti-Corruption Service of the Republic of Kazakhstan, over 400 corruption offenses in education were registered in 2019-2021: 2019 - 161; 2020 - 181; for the three months of 2021 - 72. 270 people were prosecuted, including vice-ministers of education, and rectors of universities [23].

The decrease in official indicators of the level of corruption is associated with the shift of the risk zone from the teaching environment to the environment of support staff, which ensures the digitalization of university activities. The meters were not applied to the latter
during monitoring. The actual level of corruption in the university environment either remained high, as before, or became even higher.

The importance of the study is because of the recognition by Kazakhstan, the Russian Federation, and the Republic of Belarus of corruption in the system of higher education as one threat to national security. The high methodological and applied significance of timely identification of signs of the emergence of new areas of corruption risks in the system of higher education in the widespread use of digital technologies in the management and control of the educational process for the subsequent application of effective preventive measures is beyond doubt.

Anti-corruption standards under paragraph 1 of Art. 10 of the Law of the Republic of Kazakhstan «On Combating Corruption» (November 18, 2015) [24], - a system of recommendations established for a separate sphere of public relations aimed at preventing crime. According to the order of the Ministry of Education and Science of the Republic of Kazakhstan dated 04.05.2020 No. 174 “Anti-corruption standard for ensuring openness and transparency in organizations of higher and (or) postgraduate education” [25], conditions are established under which an anti-corruption effect is ensured in the activities of the university. This document does not contain any provisions to ensure the fight against corruption in using digital technologies. We believe it is necessary to include in the standard provisions constant monitoring of the state and dynamics of corruption manifestations. We believe it is necessary to introduce anti-corruption standards into the Kazakhstani higher education sector, tested by world practice, to fill in the gaps. This aspect is currently of great importance because Kazakhstan is a subject of the Bologna system of higher education.

We conclude that there is a need for a regulatory framework that regulates the relations that are developing in higher education with using digital technologies. The state should legislatively determine the forms, types, and limits of using digital technologies, and ways to ensure information security to prevent the unlawful manipulation of digital technologies in management and control in the educational process. The relevance of this problem is because of the introduction in April 2018 of amendments and additions to the Law of the Republic of Kazakhstan «On Education»: from 01.01.2019, the correspondence form of education was canceled with a replacement for distance learning technologies [26]. The trend of universal digitalization of routine work and assessment of the quality of students' knowledge is observed in legal regulation and control in higher education. The teacher is distanced from implementing this process. This circumstance prevents corruption in the teaching environment, but expands the zones of corruption risks caused by the manipulation of digital technologies by the service personnel.

Criminal manipulation of digital technologies can take unmanageable forms and volumes. The legitimate interests of students may ultimately be reduced to the level of secondary or derivative. The risk of violation of the constitutionally protected status of a student increases dramatically. A reasonable combination of machine and traditional technologies in teaching and monitoring residual knowledge, and in managing the quality of education, should be ensured based on the principle of balance between traditional and the latest methods of organizing the educational process.

The coronavirus pandemic has put all of humanity in front of the need for a sped-up transition to new technologies in higher education. The accumulated practice is the most valuable material for a deep and comprehensive scientific analysis on the issues of determining the viability of old and new technologies in the educational process. The leap has been truly gigantic and not all higher education technologies have been tested for strength. Along with the achievements, society notes that digital technologies in several cases have shown the acquisition of low-quality knowledge by students. Researchers have yet to assess the true gains and losses resulting from the rapid introduction of digital technologies into the management and control processes in higher education. One of the most unexpected
results was the formation of a new zone of corruption risks - the sphere of digital technologies.

5 Findings

The legal framework for the application of digital technologies in the management and control of the educational process in the system of higher education in Kazakhstan is still insufficient and ineffective. Such a base must be created.

Using traditional control technologies in the university educational process does not cover digital technologies, the service personnel of which remain outside the anti-corruption monitoring. The need to create new methods of control is ripe to monitor the dynamics of the results of the anti-corruption policy in all areas of the university's activities where digital technologies are used.

National indicators of corruption do not reflect the actual state of affairs in combating corruption in the university system. Features of corruption in the university environment are not always considered when building a nationwide anti-corruption strategy. The actual level of corruption in universities is much higher than the official figures.

We consider it expedient to study international anti-corruption standards with their subsequent perception at the level of national standards introduced into the university education system.

An audit of legislation on issues of higher and postgraduate education is necessary to identify gaps in computer security issues, and determine the directions and limits of digitalization, followed by the development of proposals for improving the current legislation.

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