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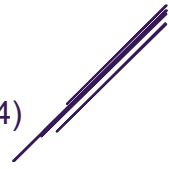
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**PROBLEMS AND PROSPECTS OF INTRODUCTION OF ARTIFICIAL
INTELLIGENCE TECHNOLOGIES IN JUDICIAL ACTIVITY
IN THE CONDITIONS OF A PANDEMIC**

***Abstract.** The topical problems of introduction of innovative technologies of artificial intelligence in judicial activity in modern conditions of epidemic threats and spread of pandemic of coronavirus are investigated. It is noted that the introduction of artificial intelligence technologies in the judiciary is closely linked to the formalization, creation and proposal of appropriate templates in the form of programs and algorithms, so this approach should in no way oppose the creative approach and deprive the judiciary of individuality and professionalism. It is emphasized that the imperfection of computer programs, algorithms and information support systems can lead to miscarriages of justice and illegal decisions. Therefore, a creative approach remains important in judicial activity, which is impossible without the participation and control of the judge. The considered direction of researches demands deep comprehension and the critical approach and causes necessity of carrying out the further scientific developments in this field of knowledge.*

***Keywords:** innovations in criminalistics, artificial intelligence in judicial activity, formalization of court proceedings, automated workplace of a judge (AWJ), electronic court proceedings.*

Introduction. In modern realities, the tasks of criminalistics are due to significant changes in crime, the peculiarities of the formation of criminalistic knowledge, modern trends in criminalistic science [1; 2; 3]. In this sense, V.O. Konovalova rightly states that today there are trends of integration and



interpenetration of knowledge, which enrich certain sciences, fields of knowledge, allowing to adapt new achievements to solve practical problems and thus contribute to the further development of certain branches of knowledge. These patterns of development apply to criminalistic knowledge, which is manifested today in the study of new concepts, criminalistic theories, the selection of certain criminalistic doctrines, new developments in tactics and methods of crime investigation [4, c. 55].

Forecasting trends in criminalistics requires taking into account both the changes in society and the level of global communication [5, c. 45]. Therefore, in modern conditions of criminalistic knowledge formation it is necessary to take into account the processes of informatization, digitalization, globalization in society, their impact on the state and nature of crime, the level of civilization and the presence of global threats to the world community. As can be seen, the current challenges of crime are a reflection of trends in the modern realities of society, its individual problems and crisis manifestations, and often the reverse negative aspects of the activities of individual subjects of such relations. Crime accompanies the global problems of society in the fields of economics, politics, ecology, provision of resources and food, energy, demography [1, c.14], including a significant impact and the current exacerbation of the epidemic situation in the country and the world.

The end of the past and the beginning of 2020 were marked by the fact that humanity faced one of the most dangerous threats of the XXI century - the Covid-19 epidemic of coronavirus. On March 11, 2020, the World Health Organization declared a pandemic due to an outbreak of coronavirus infection. She called the spread of the infection an "emergency of international significance" as a "global emergency". As we can see, such processes have affected criminal activity, the activities of law enforcement agencies, the national security of states in the field of health care, which has led to the emergence of new tasks and functions of criminalistics in modern realities.

Results and discussion. In the context of the coronavirus pandemic and the introduction of a number of restrictive measures by national governments, modern

crime has changed significantly, as it has acquired new features, trends and characteristics. As practice shows, today the level of street crime has significantly decreased, as the streets are patrolled by law enforcement agencies in order to monitor compliance with restrictive measures. At the same time, the number of crimes committed by organized criminal groups related to the use of Internet technologies has sharply increased. Various types of fraud in all its forms, committed by organized criminal groups with a certain "criminal specialization", an international level of connections and a clear division of functions in the mechanism of criminal activity, have become widespread. Therefore, the creation (development) and implementation of innovative criminalistic products has always been, and remains today, one of the priorities of criminalistics [6; 7].

Besides, the history of the emergence, development and formation of criminalistic knowledge shows that criminalistics has always been an innovative science, it has an innovative nature, it is constantly evolving according to the innovation scenario [8; 9]. The innovative way of development of criminalistics is caused first of all by the newest scientific developments, introduction of information technologies, high-tech equipment, scientific and technical means of new generation, computerization and automation of process of detection and investigation of criminal offenses.

In modern realities the complex approach in research of problems of creation and application of innovative means, receptions and methods in various kinds of legal proceedings (criminal, administrative, civil, economic), in various kinds of legal practices (investigative, judicial, expert, lawyer, prosecutorial, etc.) and in certain areas of human activity, on the one hand, in criminal, on the other - in the activities of law enforcement agencies and courts in the field of combating crime [10].

In this regard, a very promising and innovative direction is the use of information technology in litigation. Thus, the Chinese authorities have launched a project in which claims are considered directly in the messenger WeChat, and the decision and verdict in the case makes an artificial intelligence. We are talking about the so-called

"technologies" that were created in Hangzhou for several years in a row. This project was integrated into the popular Chinese messenger WeChat, which is actually a large social network. Since its launch in March to the end of 2019 alone, artificial intelligence has handled more than three million lawsuits, and it still works today. Such court hearings are conducted by a virtual judge, who before the hearing asks the plaintiff whether he has any objections to the proceedings in electronic form. The process itself takes place in the format of a video chat, and the verdict in the case makes artificial intelligence. Practice shows that most often the virtual court hears commercial disputes on the Internet, copyright cases and claims for liability for products in e-commerce. Given the existing 850 million Internet users in China, such "cyber courts" have greatly facilitated the work of judges. The service currently operates in 12 provinces and regions of the country. According to statistics, more than 90% of Chinese courts to some extent use mechanisms for resolving disputes using the Internet [11].

In our opinion, such an innovative approach is quite promising and it probably largely determines the future of the judicial system, the possibility of introducing artificial intelligence in the activities of courts to make decisions on certain categories of cases. This direction of application of innovations in court proceedings can significantly affect the near future of courts, including constitutional, anti-corruption, economic, etc. As we can see, such a system must be carefully thought out and adapted to the specifics of our national legislation and the organization of the judicial system.

In view of the above, there are several critical remarks.

First, the aforementioned sources, unfortunately, do not disclose the principles and mechanisms under which such a system works. Obviously, it is clear that such opportunities exist, as most of these lawsuits (proceedings) considered by "cyber courts" are typical. And if you download precedent court decisions and create a powerful information base of such decisions, then artificial intelligence is quite capable of resolving litigation and making decisions. In addition, it is very important



to take into account the system of evaluation of evidence, where each piece of evidence is assigned a certain "weight and significance" in the digital sense. However, the imperfection of computer programs, algorithms and information systems can lead to miscarriages of justice and illegal decisions.

Secondly, the introduction of the idea of "cyber-courts" is associated with the formalization, creation and proposal of appropriate templates in the form of programs and algorithms, so this approach should not oppose the creative approach and not deprive the judiciary of individuality and professionalism [12, c. 368-374]. This indicates that the individuality and uniqueness of the trial of a particular crime, administrative offense, civil dispute on the one hand, and the impossibility of typification "without residue" of all possible situations, versions, tasks and offer them appropriate programs, algorithms, standard court decisions, on the other, does not allow us to speak of full "manufacturability", ie one hundred percent formalization of the trial process in general and the ability to objectively and legally resolve all court situations, in particular. In this regard, a creative approach remains important in such activities, which, above all, highlights the ability to adapt standard recommendations to the conditions of a particular judicial process, which is impossible without the participation and control of the judge. Therefore, this area of research requires deep thinking and a critical approach and necessitates further research and development of these issues.

In this regard, it seems that a certain scientific and practical interest is gained by research and proposals of domestic scientists (M.V. Shepitko and others), who take into account the above caveats and quite carefully approach the problems of artificial intelligence in litigation. To automate the decision of a judge during the qualification of a criminal offense and the imposition of punishment, the author proposes to create a system in the form of an Automated Judge's Workplace (AJW). A significant difference between the proposed system and the above is that they are created to assist the judge in his work, information and technical support of the judge's decisions, and not to replace and completely exclude the judge from this process. AJW should

perform the functions not only of implementing programs, algorithms or methods of judicial review of certain categories of cases. Such systems should be automated, which indicates not only the collection of useful information for the judge in one resource, but also the independent performance of certain functions of a judge by such a resource. The proposed AJW should create documents and a draft court decision, which are usually drawn up by a judge, with minimal time. In addition, the judge *has the opportunity to choose* (selected by the author - V. Shevchuk) proposed by the system version of the court decision, which will be issued on the basis of a separate forensic methodology and generalized case law on the type of criminal offense [13, c. 155-158].

In our opinion, the proposed system will really save time spent on creating documents, making decisions and recording them in a single register, without excluding the creative approach and participation of the judge in this process. At the same time, it is necessary to take into account the positive and negative aspects of the introduction of such a system and e-justice in general, which has been repeatedly noted in the literature. Thus, the obvious advantages of the electronic judicial system include the following: timeliness of informing lawyers; saving working time of court employees; saving costs for printing documents, etc. Among its key features today are the following: electronic filing of claim documents; online consultation on information and documents used in the judicial process; holding an online meeting; electronic requests and provision of electronic copies; possibility to use a certain e-mail address to which users of the system can receive information from the court office or from lawyers [14, c. 105]. In addition, this approach minimizes the number of judicial errors during the trial, reduces corruption risks and provides an opportunity to effectively address problems in various areas of justice [15].

Despite all the advantages of e-litigation, it is necessary to note certain negative and problematic points. First of all, there is a high risk of losing legally important information, lack of "computer literacy" at the level of qualified users of judges and court staff (which is a serious problem for people, especially the older generation);



development and commissioning (which in our conditions is even more difficult) of the relevant software; necessary technical equipment of ships. Some researchers note the problem of the introduction of electronic justice through a psychological aspect, because most of our citizens still prefer traditional "paper" justice. Obviously, the consequence of the virtualization of the trial is the availability of judicial information for a wide range of the legal community and other users. Probably, Ukraine is in no hurry to maintain such a system - after all, there are probably more people interested in confidentiality of such information now than those who could use it [14, c. 105].

The realities of today show that the system of electronic justice in Ukraine is imperfect, because the transition of justice online requires a system and thoughtful changes. If the introduction of the E-Court in Ukraine, which was supposed to take place last year, went smoothly, today's challenges to quarantine justice would not cause so many problems, as much of the work related to the administration of justice could be done via the Internet - remotely.

For effective work of courts in the conditions of quarantine in Ukraine it is necessary:

1) to complete the equipment of all courtrooms of courts and the corresponding rooms of penitentiary institutions with technical devices and the software for carrying out remote trial;

2) oblige court staff to accept electronic documents and determine the officials responsible for electronic document circulation between the court office and the participants in the trial;

3) to ensure the same regime of operation of courts throughout the state; 4) when deciding on the adjournment of the trial, judges are obliged to be guided exclusively by the norms of the CPC of Ukraine, to act in favor of the participants in the trial, not allowing violations of the principle of reasonable time [16, c. 214].

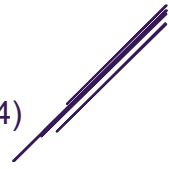
Conclusions. In view of the above, it can be concluded that in modern conditions, the pandemic of coronavirus infection COVID-19 today has posed a great challenge to the judiciary and made it a priority to improve e-justice [17; 18; 19; 20]. At the same

time, the realities of today have shown that in such a situation our domestic justice system is not quite ready to ensure the implementation of procedural guarantees and rights of participants in criminal proceedings in full, because in practice court hearings are postponed or not held and often violate the rights of participants [21; 22; 23; 24]. Therefore, the problem of providing access to justice online became especially relevant during quarantine and reaffirmed the need to introduce an electronic justice system in Ukraine as soon as possible [25; 26]. It is seen that in general the situation with the pandemic and the introduction of quarantine should clearly accelerate the development of information technology in the courts and promote the introduction of electronic justice, taking into account best foreign practices and best world practices.

References:

1. Шепітько В. Ю. (2018). Завдання криміналістики в умовах глобальних загроз та еволюційних перетворень злочинності. *Криміналістика и судебная экспертиза: наука, обучение, практика: матеріали науково-практичної конференції Міжнародного конгресу криміналістів* (м. Одеса, 13-15 вересня 2018 р.); у 2 Т. Т.1. Одеса : Юридична література, 14-26.
2. Шевчук В. М. (2020). Актуальні проблеми криміналістики у сучасних умовах. *Korszerű műszerek és algoritmusok tapasztalati és elméleti tudományos kutatási: tudományos művek gyűjteménye a nemzetközi tudományos-gyakorlati konferencia anyagával* (Hang 3), Szeptember 18, 2020. Budapest, Magyarország: European Scientific Platforme, 90-96.
3. Шевчук В. М. (2020). Криміналістика: традиції, новації, перспективи : добірка наук. пр. / Віктор Шевчук; упоряд.: Н.А. Чмутова. Харків: Право, 2020. 1280 с. http://library.nlu.edu.ua/POLN_TEXT/POSIBNIKI_2020/Kriminalistika_Shevchuk_2020.pdf
4. Коновалова В.О. (2018). Нові тенденції розвитку криміналістики. *Криміналістика и судебная экспертиза: наука, обучение, практика: матеріали науково-практ. конференції Міжнародного конгресу криміналістів* (м. Одеса, 13-15 вересня 2018 р.); у 2 Т. Т.1. Одеса : Юридична література, 55-64.
5. Кендзерска Г. (2013). Меандри криміналістики ХХІ века. *Криміналістика и судебная экспертиза: наука, обучение, практика*. Ч. II. Vilnius: Charkovas, 45-58.

6. Шепітько В. Ю. (2013). Сучасний стан та розвиток криміналістики. *Правова доктрина України: у 5 т. Х.: Право, 2013. Т. 5: Кримінально правові науки в Україні: стан, проблеми та шляхи розвитку / за заг. ред. В. Я. Тація, В. І. Борисова. 1240 с.*
7. Шевчук В. М. (2020). Інноваційні засади криміналістичного забезпечення діяльності органів правопорядку: постановка проблеми. *Paradigmatic view on the concept of world science: Collection of scientific papers «ΛΟΓΟΣ» with Proceedings of the International Scientific Conference (Vol. 2), August 21, 2020. Toronto, Canada: European Scientific Platform, 139-144. <https://doi.org/10.36074/21.08.2020.v2.51>.*
8. Шевчук В. М. (2019). Інноваційні напрямки розвитку криміналістики. *Інноваційні методи та цифрові технології в криміналістиці, судовій експертизі та юридичній практиці : матеріали міжнар. «круглого столу» (м. Харків, 12 груд. 2019 р.). Харків : Право, 142-147.*
9. Шепітько В. Ю. (2019). Інновації в криміналістиці як віддзеркалення розвитку науки. *Інноваційні методи та цифрові технології в криміналістиці, судовій експертизі та юридичній практиці : матеріали міжнар. «круглого столу» (12 груд. 2019 р.). Харків, 147–150.*
10. Shevchuk V. (2020). Innovations in criminalistic technique: problems of creation and application. *Scientific Collection «InterConf», (31): with the Proceedings of the 7th International Scientific and Practical Conference «Science and Practice: Implementation to Modern Society» (October 6-8, 2020). Manchester, Great Britain: Peal Press Ltd., 94-104.*
11. В Китае мобильные «кибер-суды» вынесли 3 миллиона приговоров <http://sublata.com/v-kitae-mobilnye-kiber-sudy-vynesli-3-milliona-prigovorov>
12. Шевчук В. М. (2013). Проблеми формалізації криміналістичних знань та їх застосування у слідчій діяльності. *Учёные записки Таврического национального университета имени В. И. Вернадского. Серия: Юридические науки. Т. 26, № 2/2. Симферополь, С. 368-374.*
13. Шепітько М.В. (2019). Автоматизація прийняття рішення суддею під час кваліфікації кримінального правопорушення та призначення покарання. *Інноваційні методи та цифрові технології в криміналістиці, судовій експертизі та юридичній практиці : матеріали міжнар. «круглого столу» (м. Харків, 12 груд. 2019 р.); Харків: Право, 155-158.*
14. Кушакова-Костицька Н.В. (2013). Електронне правосуддя: українські реалії та зарубіжний досвід. *Юридичний часопис Національної академії внутрішніх справ. № 1, 103-109.*



15. Shevchuk V. (2020). Innovations in criminalistic and practice of their implementation in law enforcement activity. *Modern science: problems and innovations. Abstracts of the 2nd International scientific and practical conference*. SSPG Publish (May 3-5, 2020). Stockholm, Sweden, 903-913.
16. Сеник Т. Б. (2020). Сучасні реалії відкладення судового розгляду у кримінальному провадженні. *Challenges in Science of Nowadays: Proceedings of the 4th International Scientific and Practical Conference* (May 26-28, 2020). Washington, USA: EnDeavours Publisher, 210-214.
17. Shevchuk V. (2020). Criminalistic innovation: modern problems of formation and prospects for research. *Perspectives of world science and education: abstracts of VIII International Scientific and Practical Conference*. CPN Publishing Group (April 22-24, 2020). Osaka, Japan, 158-168.
18. Shevchuk V. (2019). Criminalistic methodology and practical direction of study. *Scientific achievements of modern society: abstracts of the 4th International scientific and practical conference*. Cognum Publishing House (December 4-6, 2019). Liverpool, United Kingdom, 932- 939.
19. Shevchyuk, V. (2019). TACTICAL-CRIMINALISTIC COMPLEXES IN THE THEORY OF CRIMINALISTICS AND PRACTICE OF COUNTERACTION OF CRIME: PROBLEMS, DISCUSSIONS, INNOVATIONS. *Theory and Practice of Forensic Science and Criminalistics*, 20(2), 27-44.
20. Шевчук В. М. (2019). Сучасний стан та тенденції розвитку криміналістики: актуальні проблеми сьогодення. *Проблеми законності*, (146), 234–246.
21. Шевчук В. М. (2017). Проблеми вдосконалення науково-технічного забезпечення слідчої діяльності. *Питання боротьби зі злочинністю*: зб. наук. пр. / ред. кол. : В. І. Борисов та ін. X. (33), 108-122.
22. Shevchuk V. (2020). Genesis, trends and development prospects criminalistic tactics. *Scientific Horizon in the Context of Social Crises: Proceedings of the 4th International Scientific and Practical Conference* (June 6-8, 2020), Tokyo, Japan: Otsuki Press, 134-144.
23. Шевчук, В. М. (2013). Тактичні операції у криміналістиці: теоретичні засади формування та практика реалізації: монографія. X.: «Апостіль».
24. Шевчук В.М. (2020). Інноваційні криміналістичні продукти у правозастосовній діяльності : поняття, ознаки та проблеми впровадження у практику. *Наукові праці*

Національного університету «Одеська юридична академія». Одеса : «Гельветика».
Том XXVI,139-155.

25. Шевчук В. М. (2020). Інновації у криміналістичній техніці: сучасні можливості та проблеми застосування. *Науковий вісник Міжнародного гуманітарного університету. Серія «Юриспруденція».* Одеса : Видавничий дім «Гельветика», (43),146-151.
26. Шепітько В. Ю., Журавель В. А., Авдєєва Г. К. (2011). Інновації в криміналістиці та їх впровадження в діяльність органів досудового слідства. *Питання боротьби зі злочинністю* : зб. наук. праць. Х.: Право. 21. С. 39-46.

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