

USE OF DIGITAL TECHNOLOGIES IN JUDICIAL PROCEEDINGS IN SOME COUNTRIES OF EUROPE AND THE USA

ANDRII SHABALIN

Department of Protection of Intellectual Property Rights,
Scientific Research Institute of Intellectual Property of the National Academy of Legal
Sciences of Ukraine, Kyiv, Ukraine
E-mail: andrii_shabalin@outlook.com

OLENA SHTEFAN

Department of Protection of Intellectual Property Rights,
Scientific Research Institute of Intellectual Property of the National Academy of Legal
Sciences of Ukraine, Kyiv, Ukraine
E-mail: olenashtefan95@ukr.net

LILIIA ANDRUSHCHENKO

Department of Legal Support of the Market Economy,
Academician F.H. Burchak Scientific Research Institute of Private Law and
Entrepreneurship of the National Academy of Legal Sciences of Ukraine, Kyiv, Ukraine
E-mail: andrushchenko14@proton.me

VICTOR OLEFIR

Department of Legal Support of the Market Economy,
Academician F.H. Burchak Scientific Research Institute of Private Law and
Entrepreneurship of the National Academy of Legal Sciences of Ukraine, Kyiv, Ukraine
E-mail: victorolefir@hotmail.com

Abstract: The use of digital technologies in the judiciary is becoming an increasingly relevant topic in the countries of Europe and the USA because a new reality has emerged in the world that requires governments to systematically develop the information sphere, which means that the authorities must improve the relevant areas of national legislation and develop and implement large-scale state strategies, projects, programs, and other activities, in particular, in the field of electronic justice. New approaches are needed to solve problems in the field of justice, and the use of technology can help overcome these barriers through intervention. The purpose of this work is to study the use of digital technologies in the judicial systems of European and American countries in order to assess the advantages and disadvantages of such use as well as the possibilities of introducing the latest digital technologies into the judicial system. The article uses general scientific methods of analysis, methods of private law, in particular legal and comparative law, as well as special-structural and special-statistical research methods, axiological methods, hermeneutic methods, forecasting methods, historicism, and general philosophical methods. As a result, the issue of the possibility of achieving algorithmic justice and positions of non-discrimination in the judicial process was analyzed, as well as

the need for a careful and balanced approach to various aspects of the justice system. The practical significance is that all countries should now use digital technologies instead of traditional paper communication to ensure better access to justice for companies, organizations, and other litigants.

Keywords: Electronic Justice, Civil Process, Access To Justice, Artificial Intelligence, Digitization Of The Judicial System

Abstrak: Pemanfaatan teknologi digital dalam peradilan menjadi topik yang semakin relevan di negara-negara Eropa dan Amerika Serikat, karena telah muncul realitas baru di dunia yang mengharuskan pemerintah untuk mengembangkan bidang informasi secara sistematis, yang berarti otoritas harus meningkatkan bidang legislasi nasional yang relevan dan mengembangkan serta menerapkan strategi, proyek, program, dan kegiatan negara skala besar lainnya, khususnya, di bidang keadilan elektronik. Pendekatan baru diperlukan untuk memecahkan masalah di bidang peradilan, dan penggunaan teknologi dapat membantu mengatasi hambatan tersebut melalui intervensi. Tujuan dari pekerjaan ini adalah untuk mempelajari penggunaan teknologi digital dalam sistem peradilan negara-negara Eropa dan Amerika untuk menilai keuntungan dan kerugian dari penggunaan tersebut, serta menganalisis kemungkinan memperkenalkan teknologi digital terbaru ke dalam peradilan. sistem. Artikel ini menggunakan metode analisis ilmiah umum, metode hukum perdata, khususnya hukum hukum dan komparatif, serta metode penelitian khusus-struktural dan khusus-statistik, metode aksiologis, metode hermeneutik, metode peramalan, historisisme, dan metode filosofis umum. Akibatnya, masalah kemungkinan mencapai keadilan algoritmik dan posisi non-diskriminasi dalam proses peradilan dianalisis, serta perlunya pendekatan yang hati-hati dan seimbang terhadap berbagai aspek sistem peradilan menjadi sorotan. Signifikansi praktisnya adalah bahwa semua negara sekarang harus menggunakan teknologi digital alih-alih komunikasi kertas tradisional untuk memastikan akses keadilan yang lebih baik bagi perusahaan, organisasi, dan pihak yang berperkara lainnya.

Kata Kunci: Peradilan Elektronik, Proses Perdata, Akses Terhadap Keadilan, Kecerdasan Buatan, Digitalisasi Sistem Peradilan

INTRODUCTION

The purpose of the study is to study the use of digital technologies in the judiciary of some European countries and the USA to clarify the advantages and disadvantages of such use, as well as to consider the possibilities of introducing modern digital technologies into the judicial system. The study also aims to analyze the impact of digitalization on justice processes and find out how it affects the provision of justice and the protection of human rights in the judicial system. With the aim of better access to justice, simplification of procedures in each field of law (civil, criminal, and administrative), and closer cooperation between judicial, administrative, and other public authorities in different countries, numerous Member States of the European Union intend to develop information technologies for courts, known as e-justice, e-courts, cyber-justice, and e-justice. This intention is reflected in their commitment, to varying degrees, to the development of information technology in the courts and public prosecutor's offices to improve the efficiency of the judicial system.¹

Ukraine's choice of a single European vector of development raises a significant number of issues related to the need to adapt the national legal system to generally recognized

1 Korchynska O-SI and Mykyychuk MM, 'SOURCES OF METROLOGICAL RISKS AS FACTORS OF INFLUENCE ON THE TECHNOLOGICAL PROCESS' (2023) 1 Bulletin of Cherkasy State Technological University 61.

European standards. This also applies to the judicial system. That is why it is relevant for Ukraine to borrow foreign experience in the application of modern digital technologies in the legal field. Effective judicial protection is necessary for the development of a democratic society. The resolution of legal disputes and the reconciliation of legal conflicts are signs of a modern democratic state and are important conditions for joining the European Community. Ukraine aspires to become a member of the EU, so the targeted formation of uniform legal approaches is an important step in this direction.

Foreign experience shows that the introduction of IT technologies into justice allows the expansion of the possibilities of the legal protection of a violated or unrecognized right or interest, in particular: increasing efficiency, significantly reducing the economic burden on process participants and the state, and increasing the level of openness of the judiciary, which ultimately increases the level of democratization of justice. The use of digital technologies and artificial intelligence in society is already significantly ahead of their legal and judicial modernization in the field of digitization². However, the use of such technologies in judicial proceedings faces some problems, such as a lack of understanding of their further implementation, imperfect legal regulation, and the lack of an adequate number of qualified specialists. These threats can range from undermining security and privacy to human rights violations. On the one hand, e-justice can improve access to justice, ensure neutrality and balance in court decisions, speed up and simplify court cases, and provide platforms for online mediation and dispute resolution. On the other hand, the use of such solutions can cause problems with their implementation and hidden threats³.

In particular, the judge of the Great Chamber of the Supreme Court, O. Kibenko⁴, thinks that, when developing electronic offices for the comfort of the participants in the court process, the issues of the convenience of managing court cases directly for judges, assistants, and employees of the court apparatus are being ignored. The article states that many countries have already switched to the electronic justice system, despite the problem of the imperfection of the interface from the point of view of the understanding of the algorithms of the use of electronic offices by court employees who are working with these programs for the first time. The main problem of the article is that absolutely every electronic program for managing cases in court will be developed on a commercial basis because it is impossible to implement decent electronic justice without the fact that IT companies compete in the process of creating such programs. Also, O. Gilyaka⁵ notes that the problem with the introduction of electronic justice is the lack of a single information platform for communication between trial participants and the court, single standards for

2 Zinchenko IH and Lavdanska OV, 'MODERN TECHNOLOGIES FOR EVALUATING THE EFFECTIVENESS OF DIGITALIZATION' (2022) 2 Bulletin of Cherkasy State Technological University 34. Valentina Spiga, 'No Redress Without Justice: Victims and International Criminal Law' (2012) 10 Journal of International Criminal Justice; Kibenko O, 'The Future of Online Courts in Ukraine: Digitization of Existing Processes or Digital Transformation of Justice?' (2023) 1 Legal Gazette 759; Shabalin AV, Civil Justice of Estonia: Legislative Review, Comparative Analysis (Interservice 2021); Valentyna I BORYSOVA and others, 'Judicial Protection of Civil Rights in Ukraine: National Experience through the Prism of European Standards' [2019] Journal of Advanced Research in Law and Economics; Vol 10 No 1 (2019): JARLE Volume X Issue 1(39) Spring 2019DO - 10.14505//jarle.v10.1(39).09 <<https://journals.aserspublishing.eu/jarle/article/view/4324>>.

3 Kibenko O (n 2).

4 Gilyaka O, 'Separate Aspects of the Functioning of Electronic Justice in Ukraine' (2020) 28 Journal of the National Academy of Legal Sciences of Ukraine 289.

filling in sources of judicial information, adequate financial support, and inconsistency of information technologies and procedural rules.

According to G. Blinova,⁶ the provision of effective information resources for administrative proceedings guarantees compliance with the principles of openness and transparency in the consideration and resolution of public legal disputes. A. Paskar⁷ concluded in her research that the process of implementing European standards of digital justice is the key to combating abuses in the field of justice and improving the accessibility, openness, and fairness of the judiciary because the level of efficiency indicators and the quality of the judiciary are direct reflections of the level of rights protection and human freedoms in the state.

Innovations in the field of artificial intelligence can make data processing autonomous and robotic, which can lead to distortion of the original information.⁸ In addition, technological tools used in justice can be biased and unfair, as they can repeat the stereotypes of their creators and ignore the interests of different social groups due to various forms of inequality and the digital divide. Despite this, the development of technology is a relentless process, so the introduction of a digital justice system is inevitable, regardless of how open society is to the use of such tools. That is why, within the scope of this study, one should directly focus attention on the issues of implementation and application of IT technologies in the judicial process of some countries in Europe and the USA, given the significant development of legal digital technologies in the latter.

Methods

An analysis of some risks, both obvious and hidden, that come up with the use of digital technologies was done to find a solution to the problem of fully adopting technological decisions for the introduction of electronic justice. The question arises whether algorithmic fairness can be ensured in terms of equality and non-discrimination. For this, the axiological approach was used as a general methodological basis, which assumes the prior value of human rights, justice, and the rule of law. The research used general scientific methods of analysis, methods of private law, in particular legal and comparative law, as well as a special statistical research method.

Analyzing the effectiveness in the field of development and implementation of information technologies in courts, in particular, in the courts of the countries of the European Union and the United States of America, problems and difficulties were identified not only in the use of electronic portals and programs by courts but also by persons who use the digitalization of the judiciary for fairer and more impartial conduct of the case by the judge. With the help of the system-structural method, the economic function of the state is considered in combination with other tasks and functions of the state as a multi-level system. In the process of researching digital technologies in the judiciary of European countries and the USA, the comparative legal method was applied. This method makes it possible to find common and distinctive features of the use of digital technologies in

5 Blinova G, Administrative and Legal Principles of Information Provision of Public Administration Bodies in Ukraine: Topical Issues of Theory and Practice (Zaporizhzhia National University 2019).

6 Paskar A, 'Electronic Justice: European Standards against Ukrainian Realities' (2020) 28 Journal of the National Academy of Legal Sciences of Ukraine 100.

7 Abay Magaiya and others, 'The Practices of Advanced Countries in the Legal Regulation of Intellectual Property Objects Created by Artificial Intelligence' (2023) 15 Law, State and Telecommunications Review 191
<<https://periodicos.unb.br/index.php/RDET/article/view/43935>>.

judicial proceedings. Based on the forecasting method, the prospects for the further development of electronic justice at this stage of globalization are determined. The research methodology is based on a comprehensive approach to solving the outlined problems, which includes the use of a system of philosophical, general scientific, and special legal methods. The application of the general philosophical dialectical method made it possible to study the essence of digital modernization in the judiciary.

The method of historicism was used to determine the patterns and opportunities for the development of the digital function of the judiciary in historical retrospect. The classification method was used to systematize theoretical and methodological research ideas, as well as to reflect the specifics of individual forms and legal means of implementing the economic function of the state and realizing the rights of citizens. Based on the hermeneutic method, interpretations of legal norms regulating social relations formed in the sphere of implementation of the digital functions of the state and the judiciary have been carried out. With the help of the system-structural method, the digital function of the judiciary is considered in combination with other tasks and functions of the judiciary as a multi-level system. Based on the forecasting method, the prospects for the further development of electronic justice at the current stage in the conditions of globalization are determined. The formal-logical method came in handy when forming the concept of "digital justice"; the system-functional method was used to research legal and technical means of increasing the efficiency of electronic justice using an analysis of negative and positive factors of digitalization, which determines the need for the total introduction of technical means in the sphere of justice and determine the future risks of using digital technologies in this area. An analysis of the possibility of ensuring fairness in the algorithmic process and positions that prevent discrimination in the judicial system was conducted. In addition, the need for a careful and balanced approach to various aspects of justice was determined.

Results

The role of the judiciary as a tool for dispute resolution, restraint of state bodies or individuals, and guardian of the rule of law is particularly important in our time. Courts have had to decide whether to significantly limit access during the COVID-19 period or even close some facilities, despite the overload. Thus, to facilitate and optimize work, the courts themselves, with the support of governments, took many measures to ensure the efficiency of judicial institutions. The initiative does require new investments from EU countries to develop the necessary infrastructure that can interact with e-CODEX. Investments will depend on the current national level of digitization, the level of participation in the e-CODEX project, the compatibility of solutions implemented by EU countries, and the ability to allow electronic transmissions by the national legislation of each country. But in the long term, the digitalization of justice will significantly reduce the costs borne by national justice systems during cross-border procedures⁹. To address cost concerns, the initiative may also invite the Commission to develop and provide reference software to countries, to the least developed countries, with certain electronic portals, applications, and other developments for implementation for national use.

8 Laura BZOVA, 'Providing of Reasonableness in Decisions of the Constitutional Court in the Scope of Recognition of the Echr's Decisions' (2020) 7 European Journal of Law and Public Administration 1 <<https://lumenpublishing.com/journals/index.php/ejlp/article/view/4030>>; Muhammad Siddiq et al Armia, 'Post Amendment of Judicial Review in Indonesia: Has Judicial Power Distributed Fairly?' (2022) 7 JILS 525; Muhammad Siddiq Armia, 'Ultra Petita and the Threat to Constitutional Justice: The Indonesian Experience' [2018] Intellectual Discourse.

The rapid development of IT in the world's information-developed nations also played a significant positive role in the informatization of the European judiciary. This development had an impact on all facets of public life, particularly public administration, the economy, and law. The development of technology has increased the socio-political, economic, and ideological role of information in developed countries. A new social ecosystem is being built around information. And jurisprudence cannot be aloof from such processes. The European legal system occupies one of the leading places in terms of technology. In addition to traditional court procedures regarding the filing of a lawsuit, other statements, consideration, and resolution of legal disputes, information technologies are also used in judicial activity in the European space. The United Europe's governing bodies gave the issue of the digitization of European justice a lot of attention. Electronic justice will help facilitate the procedure for serving documents and gathering evidence, and it will also simplify the procedure for other tools of judicial cooperation with state bodies, other judicial authorities, and citizens of states remotely.

With the potential to significantly reduce the costs of engaging in cross-border cases, this initiative will also benefit citizens and businesses, including medium-sized as well as small businesses. The use of digital technologies (such as the European Small Claims Procedure and the European Payments Procedure) by citizens, businesses, and legal practitioners will also increase thanks to new electronic access to justice. The initiative will improve the application of EU legislation on civil, administrative, and criminal law and increase the accessibility and efficiency of justice. This will bring very tangible benefits to citizens, businesses, including small and medium-sized businesses, and legal practitioners; increase trust in the judicial system and cooperation with the EU; and encourage compliance with the rights granted to these parties under current law. The simplified e-judicial protection of their rights by citizens abroad will encourage people and businesses to interact more frequently with other countries in terms of concluding contracts for the purchase and sale of goods in the EU, especially when they understand that there is a possibility of real compensation for damages of any size under a simplified procedure in the event of a dispute.

The initiative will have a positive impact on the right to a fair trial and access to justice by providing additional, faster means of communication with the courts and speeding up court proceedings. This will facilitate the global exchange of personal data and ensure that such exchanges are conducted in full compliance with data protection regulations. Although the EU General Data Protection Regulation 2016/679 will apply in full, this initiative may define the division of responsibilities between processors and data controllers. To achieve this, methods are used that include active cooperation between countries and recognition of reciprocity in data exchange relations¹⁰. This initiative will ensure full compliance with citizens' right to access justice, including for vulnerable sections of society. To this end, a combination of institutional, organizational, and financial measures will be adopted to facilitate the access of low-income court users to the digital justice system. To ensure that victims' rights are not violated, the initiative will ensure that paper-based communication is preserved and accessible to all.

9 Smokovich M, 'Electronic Justice in Ukraine' (2020) 28 Journal of the National Academy of Legal Sciences of Ukraine 43.

In most cross-border civil cases, applicants are often hindered from asserting their rights by the language barrier as well as their unfamiliarity with remote foreign procedures¹¹. The opportunity given to citizens and companies to submit online applications using pre-configured multilingual forms and receive online help in their native language will significantly improve and simplify their access to justice. However, this initiative must ensure that the use of digital technologies does not undermine the right to a fair trial and an effective remedy, in particular: equality of arms, namely equal opportunities for both sides to present their case; adversarial nature of the parties, namely the right to know and comment on all submitted evidence and comments; the right to a public hearing in criminal proceedings without interference with the rights of the defense, including access to a lawyer and the case file.

Ultimately, the initiative will simplify administrative procedures and reduce the administrative burden. The use of electronic justice would allow justice systems to function faster and more efficiently in cross-border cases, and the costs of court procedures would also decrease. Although the goals of the initiative would be best met by a Regulation (as a directly applicable act), the development of common digital channels between EU countries should be regulated by relevant regulations and will ensure fully compatible cooperation between countries and state bodies. It would therefore be important to ensure that practical steps are taken to establish these coordinated channels at the EU level. Finally, the Regulation should contain transitional provisions, which will give national authorities time for its full application.¹²

They must be properly supported during the transition to digitalization. The attention of interested parties should be directed to judicial bodies that can influence the prevention of conflicts and their resolution, as well as to bodies that have a public-private partnership model. Different regions of the world are using similar digital tools to solve justice problems and reduce gaps in the law and principles of the judicial system, but this also creates risks for data privacy. Therefore, it is necessary to introduce safe digital tools into the electronic judicial system. A step towards the digital future can be international cooperation in the exchange of practices regarding the introduction of electronic justice. Electronic justice will contribute to investments in the reliability, validity, legality, and security of confidential information.¹³

These services must reach a global scale to become stable and recognized in all EU countries and the US. Technological assistance is important, but strategic, financial, regulatory, and organizational support is even more important. Even impact matrices are important and necessary for the judicial system and due process; moreover, they will contribute to the development of innovation in the public sector. Every year, millions of people face problems in the field of justice that they cannot solve. Official bodies responsible for justice do not enforce the national legislation of the EU and the USA. During the COVID-19 pandemic, problems in the field of justice have increased, and it has become even more difficult to find solutions to overcome them. One of the possible

- 10 Zaripa N Adanbekova and others, 'Features of the Conclusion of a Civil Transaction on the Internet' (2021) 14 International Journal of Electronic Security and Digital Forensics 19 <<https://www.inderscienceonline.com/doi/abs/10.1504/IJESDF.2022.120035>>.
- 11 Stephen Castell, 'The Future Decisions of RoboJudge HHJ Arthur Ian Blockchain: Dread, Delight or Derision?', (2018) 34 Computer Law & Security Review 739 <<https://www.sciencedirect.com/science/article/pii/S026736491830195X>>.
- 12 Katsh E and Rabinovich-Einy O, Digital Justice: Technology and the Internet of Disputes (Oxford University Press 2017); Joe Tomlinson, 'Justice in Automated Administration' (2020) 40 Oxford Journal of Legal Studies 708 <<https://doi.org/10.1093/ojls/gqaa025>>.

options is the use of digital technologies. People prefer user-friendly justice services that are simple and accessible. However, innovations related to digital justice can cause problems, and their effectiveness requires careful analysis and definition of the role of stakeholders. Therefore, for the successful implementation of these innovations, it is important to focus on equality and carry out the necessary evaluation of their effectiveness.

Digital technologies are promising for solving the issue of access to justice. The question of e-judiciary and digital tools that create an opportunity to ensure local security and fair justice and provoke the emergence of certain risks needs further analysis. Innovation helps solve and prevent justice problems between people and companies. However, there are obstacles, opportunities, and risks that may hinder the implementation of e-judiciary to improve access to justice. Research on innovation in this field should include an analysis of digital tools as well as their business model and management. Ignorance of modern technologies can become an obstacle to accessing electronic justice. To analyze this problem, it is possible to create several categories of people who will use these services. For example, people who do not have sufficient computer skills will not be able to take advantage of e-justice, while others may have limited access to these innovations. If all court portal services are provided solely through technology, then this creates a problem as it excludes access for people who do not have sufficient digital skills. On the other hand, if access to services is provided through physical legal aid centers such as telephone helplines, this is a more moderately accessible method. The application of digitization and the latest technologies can adequately address the challenges of justice, but the use of technology can lead to risks and limitations. For example, the mentality of the society of a particular state may not allow continuous electronic justice or make it central in the judicial system because the technical support and thinking of citizens of the state must meet the requirements of e-justice (Table 1).

Table 1 Components of digital justice

Composite	Definition	Example
New technologies	A set of methods, processes, and tools that are developed with the aim of improving the existing state of the judicial system or creating a completely new innovative product in the field of the judicial system.	Artificial intelligence, augmented reality and virtual reality, 3D printing, and drones will be useful in the transformation of judicial proceedings into electronic ones.
Digital platforms	Technological solutions that provide the infrastructure for digital services are aimed at the implementation of electronic justice.	Web portals, mobile applications, cloud platforms, social networks, online stores, and other digital tools that allow users to perform various actions on the Internet, from quick access to information to online transactions, must be implemented as an open platform that will be available to all users and closed (only for court employees and civil servants).
Digital infrastructure	A set of information technologies, systems, and means of communication that	Communication networks, cloud technologies, data centers, software, cybersecurity, and electronic services.

	allow transmitting, storing, and processing digital data. This infrastructure is necessary for the functioning of electronic justice as a whole.	
Digital thinking	Understanding and applying digital technologies and various tools to resolve disputes in an orderly manner and to achieve the goal through new technologies.	An understanding of the importance of data collection and analysis, the creation and management of digital content, and the ability to work in a digital environment.
Continuous connection	The state of permanent connection, which allows fast and uninterrupted access to various online resources and applications.	Wired and wireless Internet access, satellite connection.
Digital skills	A set of knowledge, skills, and abilities related to the use of digital technologies and tools.	Work with computers, mobile devices, software, social networks, email, cloud technologies, data analytics, and artificial intelligence.

These include the risk of data privacy violations, the storage of users' data, digital exclusion, and the persistence of power imbalances. Innovations in the field of justice can take a variety of implementation projects. In some nations, taxpayers or outside investors fund innovation. Privately led, people-centered innovation works with the government in a variety of ways. This is explained in such a way that, as a service provider, one should equally work with the government as a client and not as a top government, having other states or partners as investors or participants in a public-private partnership to implement the project. Sometimes private justice works independently of the government.

The United States of America occupies one of the leading places among the technological countries of the world. The USA became the country where the first transistor was created, which became the basis of modern electronics and later the birthplace of the first personal computer. The United States is a leader in the creation of modern digital products – software, Internet services, and modern tools, and also occupies a leading place in the field of application of modern legal digital innovations.¹⁴ One of the most important factors affecting the formation of modern, innovative Western societies is the availability of digital technologies. The development of the modern justice system in foreign countries, in particular the countries of Europe and the USA, is impossible without the widespread use of digital systems in various spheres of public life. Such an approach indicates the coverage of all directions in which modern jurisprudence is developing. With the advent of digital technologies, the legal sphere is being rationalized.

Nowadays, there are many lawsuits between citizens and businesses operating outside the borders of the EU.¹⁵ Furthermore, to combat cross-border crime, the various member

13 Mustafin A and Kantarbayeva A, 'A MODEL FOR COMPETITION OF TECHNOLOGIES FOR LIMITING RESOURCES' (2022) 15 Bulletin of the South Ural State University 27.

14 Tsuvina TA, 'Online Courts and Online Dispute Resolution in Terms of the International Standard of Access to Justice: International Experience' (2020) 0 Problems of legality 62.

states and their judicial systems must cooperate. Different investigative agencies and judicial systems must share information and evidence to effectively investigate and prosecute crimes. Effective and high-quality justice systems require appropriate tools. It is necessary to ensure the resilience of justice systems to crises so that judicial bodies can function independently in any condition and ensure the rule of law. For this, it is necessary to equip justice systems with appropriate tools. In today's conditions, the creation of a single European space of freedom, security, and justice, which will ensure effective access to justice and the fight against crimes that cross state borders, is becoming urgent.

Discussion

New people-oriented methods of administering justice have emerged in recent years. Solutions developed by private companies and public institutions are becoming more effective in preventing and solving access to justice problems. In some areas, such as justice, technology is beginning to play an important role and influence the functioning of institutions. The courts use innovative technologies to automate their work and facilitate access to justice. However, there are risks associated with e-justice, such as privacy violations and the maintenance of access to justice inequalities. Solving these issues is the subject of further research and discussions in the field of the use of digital technologies in justice.¹⁶

New justice initiatives can face significant obstacles, such as financial constraints, insufficient computer literacy, unfamiliarity with the use of new technologies, and limited access to education in certain regions. To ensure that the justice system is accessible to all, local community involvement in the provision and definition of services should be considered. Such services may be provided by authorities, administrators, or public officials elected or approved by the community. State-of-the-art community justice services aim to provide justice in various areas of life, including family law, employment disputes, neighborly disputes, and partnerships. These services are available to a wide audience, thanks to online platforms that allow easy access to legal documents. In addition, these platforms provide information, mediation, and legal support.¹⁷ An important feature of these services is their design, which allows users to go through the stages of dispute resolution easily and without delays. Platforms that provide key public services such as social security, healthcare, and identity must be accessible to all citizens. Courts that specialize in solving certain types of crimes and are the main actors in the fight against them can use electronic justice systems to ensure full transparency in the handling of cases.¹⁸

15 Scala F, 'E-Justice: Sharing National Experiences in Enhancing Transparency, Effectiveness, and Access to Justice' (International Development Law Organization, 2016); Inna Junaenah, Abd Shukor Mohd Yunus and Normawati Hashim, 'Adequacy of Public Information for Meaningful E-Participation in Policy-Making' (2022) 6 Journal of Southeast Asian Human Rights 153 <<https://jurnal.unej.ac.id/index.php/JSEAHR/article/view/32420>>; See also, Jimly Asshiddiqe, 'Building A Constitutional Aware Culture To Create A Democratic Law State' (2023) 8 PETITA: Jurnal Kajian Ilmu Hukum dan Syari'ah <<https://petita.ar-raniry.ac.id/index.php/petita/article/view/128>>; Oriola O. Oyewole, 'Delineating The Rhetoric? The Intersection Of Retributive And Restorative Justice In International Sentencing' (2022) 7 Petita : Jurnal Kajian Ilmu Hukum dan Syariah.

16 Prokopenko TO and Povolotskyi Y, 'A SYSTEM OF CRITERIA FOR EVALUATING THE EFFICIENCY OF PROJECTS IN THE FIELD OF INFORMATION TECHNOLOGIES' (2022) 4 Bulletin of Cherkasy State Technological University.

17 Adanbekova and others (n 11).

Despite the different types of courts that exist, their organization is usually based on three principles: problem-solving, cooperation, and accountability. Security measures are designed to prevent violence, theft, and fraud. They can take different forms, such as apps, online platforms, or a combination of online and offline interventions. Platforms that provide legal information and advice with services related to the law, using technology, are a novelty in the justice system and will find their customers. Online information and consultation services aimed at people's needs will help them solve their problems efficiently, step by step, and fairly, respecting their legal rights.¹⁹ The transition to a digital court system allows for more effective data management, increases accessibility, transparency, and control in the judicial industry, and simplifies some court procedures. This means the ability to remotely access information and documents online for multiple parties simultaneously, create and analyze case data, track it in the system, and facilitate communication and collaboration between parties and stakeholders. A virtual trial means the possibility for the parties to the trial to appear over one or more telephone lines or via video conferencing instead of in person.

The modern proposals aim to facilitate cooperation between prosecutors and judges for more effective and faster work. The use of digital technologies will help ensure that judicial authorities, citizens, and businesses can exchange information safely and quickly, providing easier access to justice. Because there are differences in legal and regulatory systems, as well as in culture, the development of e-justice differs in the United States, where there is a more decentralized approach, and in Europe, where the emphasis is on privacy as one of the challenges of implementing digital justice. The United States and businesses play an important role in shaping data protection legislation, and democratic principles and interests are strong in both regions, which can help harmonize standards between them. Remote testimony is already possible in cases where the witness cannot physically be in the courtroom, and the implementation of digital justice can make this process even more routine. The impact of the virtual courtroom will be felt in several areas. For example, the use of a virtual courtroom will significantly speed up and improve the quality of justice. The lack of litigants who could testify is the main reason thousands of court cases are postponed. A virtual courtroom will greatly simplify the process of obtaining testimony and make more trials successful. However, despite the great progress in digital justice, there are some obstacles, such as the rule of law in some countries. For example, some digital technologies may be prohibited in the courtroom, limiting the use of electronic evidence. It is important to have a quality infrastructure in the judicial system to ensure the availability of digital tools. The quality of the internet connection and wireless internet are also key factors. For a successful transition to digital justice, court technologies must be well integrated into the systems of the 21st century.²⁰

It is important to note that the judicial systems of countries that have built their digital infrastructure from scratch, such as Dubai and Qatar, have a stronger position in the field of IT than courts in places that use legacy systems. Also, training judges and other court staff in the use of digital technologies can be a difficult task, especially if it is inadequately

18 'Federal Court Electronic Filing System' (efiling.fct-cf.gc.ca, 2020).

19 García-Sayán D, 'Corruption, Human Rights, and Judicial Independence' (United Nations, 2018); Byrom N, 'Digital Justice: HMCTS Data Strategy and Delivering Access to Justice' (2019) <<https://research.thelegaleducationfoundation.org/research-learning/funded-research/digital-justice-hmcts-data-strategy-and-delivering-access-to-justice-report-and-recommendations>>; Gramckow HD and Walsh B, *Developing Specialized Court Services, International Experiences and Lessons Learned* (World Bank Group 2013); Katsh E and Rabinovich-Einy O (n 13); Gabrielle Kaufmann-Kohler and Thomas Schultz, *Online Dispute Resolution : Challenges for Contemporary Justice* (Kluwer Law International ; Schulthess The Hague, Zürich 2004).

funded and the transition to digital justice is not properly managed. If these obstacles are not overcome, the implementation of digital justice may be delayed. The effect of the virtual courtroom will be felt in several directions. Optimizing the speed and quality of justice is one of the main results of the implementation of digital justice. In today's times, the lack of police testimony is the reason for the delay of thousands of court cases. However, with a virtual courtroom, gathering evidence becomes easier, which can help end more trials. In addition, online portals provide citizens with newer and more efficient methods of interacting with the judicial system. Thanks to the portal, court officials can provide information and advice, and citizens can report violations, pay fines and fees, and find out the work schedule. In the modern era of digital technologies, information protection is extremely important for judicial systems.²¹

It is possible to add to this opinion that court IT systems and legal documents must be protected from cyberattacks, as this can threaten their integrity and confidentiality. At the same time, court buildings, staff, lawyers, parties, and visitors also need physical protection to ensure the safety and protection of the rights of all litigants. This may include various security measures, such as security, the use of surveillance cameras, the installation of metal detectors, and restrictions on the import of certain items. The electronic justice system provides physical protection through the use of surveillance cameras, fingerprint and facial recognition systems, X-ray devices, tracking devices, document tags, cybersecurity policies, and other solutions. The development of the electronic justice system allows courts to work more efficiently and transparently with lower costs, making justice more accessible to all. The digital transformation of justice is desirable for the courts themselves, lawyers, plaintiffs, defendants, litigants, and society as a whole, which depends on a stable and well-functioning legal system.²²

The analysis of the legislative and law enforcement practices of the developed countries of Europe and the USA makes it possible to highlight the main directions regarding the development of the automation of justice, which should be considered through the prism of the general digitalization of legal processes, in particular:

- automation of legal services (web bots, online template designers, the use of online legal services, electronic legislative bases, specialized state digital registers);
- digitization of the court (specialized electronic databases and search systems, electronic court registers, special constructors templates for submitting court documents, and special online chats)
- transition to the system of electronic justice (application of intelligent information systems in the formation of the evidence base, for solving cases of minor complexity, as well as for modeling court decisions when solving more complex cases, the use of artificial intelligence to form the legal positions of the parties, the use of promising IT technologies, namely: NFT, VR).

20 J Scott Brennen and Daniel Kreiss, 'Digitalization', *The International Encyclopedia of Communication Theory and Philosophy* (2016) <<https://doi.org/10.1002/9781118766804.wbiect111>>; Floris Bex and others, 'Introduction to the Special Issue on Artificial Intelligence for Justice (AI4J)' (2017) 25 *Artificial Intelligence and Law* 1 <<https://doi.org/10.1007/s10506-017-9198-5>>; Walker J and Watson G, 'Rhetoric and Jurisprudence in the Formation of Customary International Law' (2008) 31 *International and Comparative Law Review* 251.

21 Manuel Pedro Rodriguez Bolivar (ed), *Setting Foundations for the Creation of Public Value in Smart Cities*, vol 35 (Springer International Publishing 2019) <<https://link.springer.com/10.1007/978-3-319-98953-2>>.

According to the proposed model, e-judiciary can develop in other countries as well. Some specialists in the digitization of jurisprudence believe that the latter should be considered a combination of law and digital technologies, which was achieved due to the intelligent automation of those actions performed by a person (who, as a rule, has a legal education and/or relevant work experience). These actions include searching, editing/replacing text, selecting matches, finding the latest ones, translating into another language, analyzing, interpreting, choosing, and making decisions. As a result of such automation, the speed increases, as does the accuracy and quality of the work performed. This leads to a decrease in budget costs as well as the cost of legal services²³. The above allows us to talk about the complex optimization of judicial proceedings thanks to its automation; therefore, it is worth holding the opinion that IT technologies are becoming a sufficiently effective tool that can be used by both judges and practicing lawyers, as they allow systematic processing of a large amount of information (BD) and will make justice more efficient, transparent, and accessible.

So, L. Donahue²⁴ noted back in 2018 that artificial intelligence will enter the everyday lives of lawyers in 10 years. The widespread use of artificial intelligence in judicial activity and decision-making by courts, which will offer artificial intelligence in tort law and criminal cases, will lead to the appearance of new, unusual questions to which lawyers will have to find answers. Among such questions, the scientist included the following: what is software, how does it work, what results can be expected from it, how legal practitioners can use artificial intelligence, and how it will affect the legal profession. Summarizing what has been said and comparing the opinions of other scientists with the conclusions made during the analysis of this issue in the process of writing the article should be noted, and digitalization should be considered as a fusion of law and digital technologies, which is achieved due to the intelligent automation of actions that are usually performed by a person with a legal education or work experience.

A.D. Reiling²⁵ sees the problems of using artificial intelligence and other digital technologies in the administration of justice in slightly different legal aspects, such as the compliance of the use of artificial intelligence with regulatory requirements,

22 'The European Court of Human Rights' (2021)' (coe.int, 2021) <<https://coe.int/en/web/tbilisi/europeancourtofhumanrights%3E>> accessed 29 May 2023; Emmanuel C. Obikwu, 'UNDRIP AND HISTORIC TREATIES: The Moral Imperative To Legitimize The Human Rights Of Indigenous People To Self -Determination' (2021) 6 Petita : Jurnal Kajian Ilmu Hukum dan Syariah; Obikwu, 'The Federal Constitution, National- Ethnic Minority Groups and the Creation of States: The Post-Colonial Nigerian Experience' (2017) 2 PETITA: Jurnal Kajian Ilmu Hukum dan Syari'ah <<http://petita.ar-raniry.ac.id/index.php/petita/article/view/56>>; Emmanuel Obikwu, 'International Law And Revolution In The 21st Century' (2019) 4 PETITA: Jurnal Kajian Ilmu Hukum dan Syari'ah.

23 Donahue L, 'A Primer on Using Artificial Intelligence in the Legal Profession' [2018] jolt.law.harvard.edu.

24 AD (Dory) Reiling, 'Courts and Artificial Intelligence' (2020) 11 International Journal for Court Administration. See also, Muhammad Siddiq Armia and Muhammad Syauqi Bin-Armia, 'Introduction: Form Over Substance, Achieving Objectives While Preserving Values' (2023) 8 Petita : Jurnal Kajian Ilmu Hukum dan Syariah i; Muhammad Siddiq Armia and Muhammad Syauqi Bin-Armia, 'Introduction: Maintaining the Constitutional Rights to Create a Better Society' (2023) 8 Petita : Jurnal Kajian Ilmu Hukum dan Syariah 69; Muhammad Siddiq Armia and others, 'Criticizing the Verdict of 18/JN/2016/MS.MBO of Mahkamah Syar'iyah Meulaboh Aceh on Sexual Abuse against Children from the Perspective of Restorative Justice' (2022) 17 AL-IHKAM: Jurnal Hukum & Pranata Sosial 113; Muhammad Siddiq Armia, 'Public Caning: Should It Be Maintained or Eliminated? (A Reflection of Implementation Sharia Law in Indonesia)' [2019] Qudus International Journal of Islamic Studies.

responsibility, risks, privacy, and ethics, after analyzing their works above, it is possible to compare their conclusions and conclude that they coincide with the decisions and proposals in the matter of the transition to the electronic justice system allows for more efficient and transparent work of the courts with lower costs, which makes the justice process more accessible to everyone, yes, digital the transformation of justice is desirable for all participants in the judicial process and society as a whole, which depends on a stable and effective legal system.

Conclusions

Summing up, it is concluded that digital transformation affects the judicial system through the introduction of the latest technologies and the modernization of justice, taking into account various aspects such as legal regulation, and social and financial support. A significant positive role in the informatization of the European judiciary and the USA was played by the rapid development of IT, which had an impact on all aspects of public life, in particular public administration, economy, and law. The development of technology has increased the socio-political, economic, and ideological role of information in the developed countries of the Western world.

In the EU, there is a comprehensive program aimed at the digitization of almost all spheres of life. This also applies to justice, as an important component of ensuring and implementing the basic democratic principles of a United Europe. Given Ukraine's choice of a European vector of development, it would be expedient to take into account a similar program when forming its electronic justice system. Digitization of the US judicial process contributes to the transparency (openness) and accessibility of justice. In the future, the US judicial system will develop in the direction of digitalization according to its model. Technologies create the need to develop new legal approaches to the application of digital innovations in judicial practice. For example, this applies to NFT claims. With the development of technology and the deepening of the Internet, e-technology will increasingly occupy a leading position in public administration. The introduction of digital technologies is becoming one of the main national priorities, as evidenced by the experiences of Europe and the USA. However, the implications of these changes must be assessed in terms of the balance between the opportunities and threats that digital technologies offer. Among the risks and threats, it should be noted possible violations of security rules, the confidentiality of user data, and non-compliance with the regulation of information exchange, for which their executors are responsible.

Manipulative influences on the judicial system and violations of the principle of justice and the rule of law are significant threats, especially in the context of digital transformation. Issues that arise in this context relate to the preservation of fairness and impartiality in digital proceedings, access to justice, and information security. Decisions on these issues can be complex and ambiguous, especially given the different levels of technological development. Claims of algorithmic impartiality and accuracy are at odds with observable bias, which may be intentional or unintentional and lead to systemic discrimination. On the other hand, algorithms can detect problems arising in various areas of the judicial process and at least improve procedural fairness. This could be the subject of further research and discussion on the use of digital technologies in court cases in countries such as the EU and the US. IT technologies are already an effective tool that can be used by both judges and practicing lawyers, as such a tool allows for the systematic processing of a large amount of information and makes justice more efficient, transparent, and accessible. However, the solution to the existing problems regarding the digitalization of justice needs to be solved both at the technical and legislative levels.

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