

E-JUSTICE AND THE DEVELOPMENT OF JUSTICE: STRENGTHS, CHALLENGES AND PROSPECTS

A JUSTIÇA ELETRÔNICA E O DESENVOLVIMENTO DA JUSTIÇA: PONTOS FORTES, DESAFIOS E PERSPECTIVAS

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Abstract: The purpose of the article is to analyse the development of e-justice and e-administration, focusing on highlighting the main advantages, challenges, and prospects for further digitalisation of the judicial and legal system. To achieve this goal, the methods of content analysis and synthesis were used. The content analysis was used to reveal the main aspects of the development of e-justice and e-court, while the synthesis allows systematising and summarising the information obtained. The article is of practical importance as it addresses important aspects of the digital transformation of the judicial system. Highlighting the challenges, benefits, and prospects of digitalisation allows us to understand current trends and the need to improve e-justice. The results show that the main advantages of e-justice are convenience, speed, accessibility, reduction of bureaucratic processes, and corruption (due to the minimisation of physical contacts). In general, the results of this study indicate the importance of developing the functionality of e-court platforms using artificial intelligence and integration of Blockchain technologies. It is noted that important challenges include the formation of an appropriate digital infrastructure, the presence of cyber threats, formalism, lack of human factor, etc. The study concludes that the development of e-justice is essential for the modern legal system. At the same time, it is important to view challenges as a chance for improvement, focusing on innovation and cybersecurity. The findings emphasise the importance of further development of digital justice to ensure the efficiency and accessibility of court services.

Keywords: Digitalisation. Judicial system. E-court. Advantages and disadvantages.

Resumo: O objetivo do artigo é analisar o desenvolvimento da justiça eletrônica e da administração eletrônica, concentrando-se em destacar as principais vantagens, desafios e perspectivas de uma maior digitalização do sistema judicial e jurídico. Para atingir este objetivo, foram utilizados os métodos de análise de conteúdo e de síntese. A análise de conteúdo foi utilizada

para revelar os principais aspectos do desenvolvimento da justiça eletrônica no tribunal eletrônico, enquanto a síntese permite sistematizar e resumir a informação obtida. O artigo reveste-se de importância prática, uma vez que aborda aspectos importantes da transformação digital do sistema judicial. Destacar os desafios, as vantagens e as perspectivas da digitalização permite compreender as tendências atuais e a necessidade de melhorar a justiça eletrônica. Os resultados mostram que as principais vantagens da justiça eletrônica são a conveniência, a rapidez, a acessibilidade, a redução dos processos burocráticos e da corrupção (devido à minimização dos contactos físicos). Em geral, resultados deste estudo indicam a importância de desenvolver a funcionalidade das plataformas dos tribunais eletrônicos utilizando a inteligência artificial e a integração das tecnologias Blockchain. Constata-se que desafios importantes incluem a formação de uma infraestrutura digital adequada, a presença de ciberameaças, o formalismo, a falta de fator humano, etc. O estudo conclui que o desenvolvimento da justiça eletrônica é essencial para o sistema jurídico moderno. Ao mesmo tempo, é importante encarar os desafios como uma oportunidade de melhoria, centrando-se na inovação e na cibersegurança. Os resultados sublinham a importância de um maior desenvolvimento da justiça digital para garantir a eficiência e a acessibilidade dos serviços judiciais.

Palavras-chave: Digitalização. Sistema judicial. Tribunal eletrônico. Vantagens e desvantagens.

1. Introduction

Problem Statement

In today's world, which is characterised by a high level of technological development, the transformation of the judicial system into an electronic format is becoming a necessary stage in the development of justice. Over the past decades, there has been a steady trend towards the introduction of e-justice, which offers a new perspective on ensuring accessibility, speed, and efficiency of justice. In modern scholarly works, such concepts as “electronic justice” and “e-justice” have become not just technical concepts, but also key areas of modernisation of the global legal system (BAILEY, 2012; RINA HERAWATI et al., 2023; SHEVCHUK, 2020). This rapid transition from traditional judicial practices to the use of modern technologies has its challenges, but also a huge potential for improving the delivery of justice and meeting the needs of citizens (BARABASH, 2023).

Research focus

In this context, a number of research questions arise that relate to both the technical aspects of e-justice and its impact on the constitutionally guaranteed rights of citizens. Therefore, highlighting the challenges, advantages, and prospects for the development of e-justice is an important topic for discussion and research, as this stage is critical in shaping the modern legal paradigm.

Aims and research questions

Thus, the purpose of the article is to analyse the development of e-justice and e-administration through the prism of highlighting the main advantages, challenges, and prospects for further digitalisation of the judicial and legal system.

Accordingly, the range of research questions will include the following areas:

- A) Identification of mechanisms for the development of e-justice on the example of selected countries
- B) Exploring the main advantages and challenges of e-justice
- C) Outline the main promising areas for further implementation and use of digital technologies in the justice system.

2. Theoretical framework and literature review

Given the active digitalisation processes that have covered all social spheres, the topic of the specifics of the use of digital technologies in the judiciary is relevant among modern scholars. BĂNICĂ (2020) described certain aspects of the digitalisation of judicial proceedings in the context of the COVID-19 pandemic. The researcher proved that the ongoing transition to digitisation in the legal system encompasses several important elements, such as the introduction of electronic files, the widespread use of electronic signatures in court proceedings, and the huge amount of information disseminated by public judicial institutions in the virtual sphere. These developments mark the beginning of a profound process of restructuring the global legal environment (REZVOROVYCH et al., 2023). The conclusions of the seminal work of BRIGHAM and SCHREINER (2004) are also important for this study. Their work examines the semiotic aspect of digital law. Semiotics in this context means the study of signs and their interpretation in relation to digital law. The authors examine what signs, symbols, and linguistic constructions are used in digital law and how they affect understanding and interaction in this context.

The findings of FAUZAN and BAKHTIAR (2023) show that the historical context of constitutional cases, especially those related to the establishment of the Constitutional Court, serves as the basis for the emergence of evidence in this institution tasked with safeguarding the constitution. The integration of digital evidence has been recognised as necessary for the implementation of the principles of efficiency, simplicity, and economy in judicial proceedings. However, its practical application is currently limited to the administrative functions of court clerks and does not apply to the evidence processes set out in the Procedural Law on the Constitutional

Court. According to the findings of contemporary experts FLAGA-GIERUSZYŃSKA (2023) and JANKOVIĆ (2017), in order to eliminate certain limitations in the modern judicial system, there is an urgent need for courts to undergo a digital transformation. This transformation requires legal adjustments, including changes to the procedural laws governing the courts. According to FAUZAN and BAKHTIAR (2023), such a digital transformation of the Constitutional Court would allow for the incorporation of digital evidence into a broader procedural framework. These amendments will create a framework that will facilitate the introduction and use of digital evidence in court proceedings, thus contributing to the Court's adaptation to the digital age. The peculiarities of the development of the legal systems of Croatia and Slovenia through the prism of comparison are described by GAROUPA and GRAJZL (2020). Separately, the problem of digitalisation of justice in Ukraine is addressed by BARABASH (2023) and GUSHCHYN et al. (2022). These works describe in detail the actions of the Ukrainian authorities regarding the introduction and use of digital technologies in the Ukrainian judiciary. YAVORSKA (2015) describes the legal basis for harmonisation of Ukrainian legislation with the EU legal system. At the same time, according to KROITOR and MAMNITSKYI (2019), the profound transformation of the judicial system has significantly changed the role of the court in the Ukrainian justice system. The existing legal framework emphasises that civil litigation is adversarial and characterised by the active participation of the court. This collaborative approach is designed to ensure efficient case processing and fair trial principles. At the same time, changes in the economic environment have affected the practice of law, particularly in the bar and notary profession. Given the current national landscape, it is becoming increasingly difficult to navigate the complexities of the legal system. The researchers emphasise that, given the current trends, it is crucial that trendy measures do not exacerbate the difficulties faced by citizens in asserting their right to judicial protection.

LIEBMAN et al. (2020) described the key aspects of digitalisation processes in the Chinese judicial system. Also important are the results of the Canadian Centre for Court Technology, which conducted a comprehensive analysis of e-filing practices, presenting a comprehensive report entitled "E-Filing Case Studies". To our knowledge, this compilation is the most thorough and up-to-date study of e-filing in Canada. The study thoroughly examines specific cases from various courts, including the Federal Court, Tax Court of Canada, BCSC and Provincial Court, BCCA, Alberta, Saskatchewan, Ontario Superior Court of Justice and Competition. The study covers a range of information, including the technologies used, relevant costs, important documentation, and key findings (NAVAS, 2020). In this context, the authors of this article aim to highlight selected aspects of this lengthy and extensive study, supplementing it with any additional data

obtained through online search processes. Therefore, the following paragraphs in this article summarise specific aspects of the previous studies and contribute new and additional information to the scientific and legal opinion.

3. Research design and methods

General background

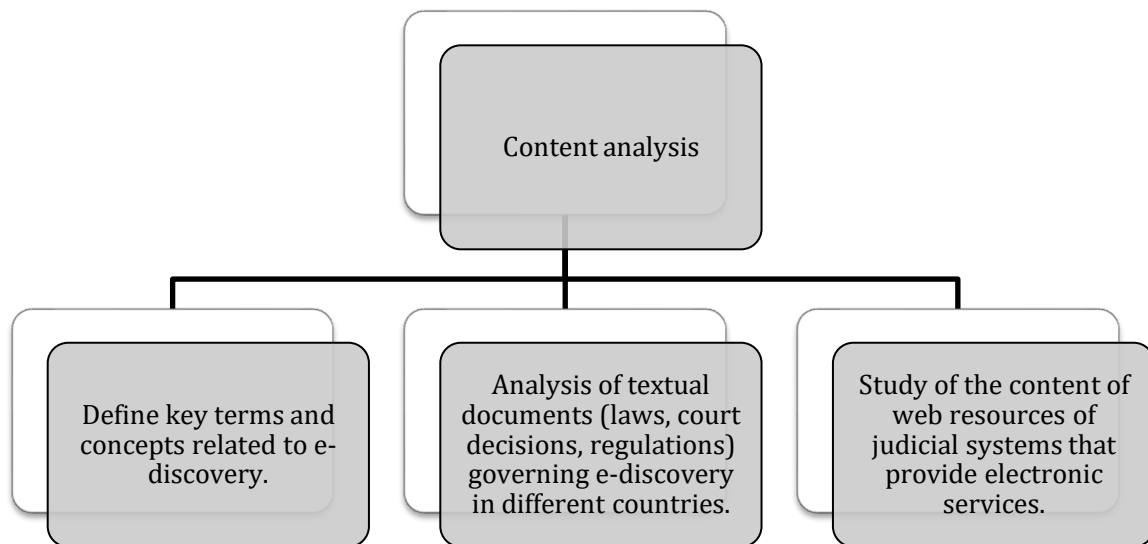
The main object of this study is to analyse the impact of e-justice on justice and guarantees of constitutional rights, and this will determine the type of this work - qualitative research.

Methods

Content analysis was used to systematically and objectively examine the content of documents, laws, web resources, and other sources related to e-discovery (see Figure 1).

Figure 1.

Key stages of content analysis



Source: authors' development

The data was collected through systematic analysis of legal documents and publications, observation of the judicial systems and their information resources, and interaction with experts and representatives of human rights organisations to obtain additional conclusions and views on e-justice.

4. Results

The judicial system is at the epicentre of digital transformation aimed at ensuring the innovative development of justice, its openness, and transparency. Therefore, in the context of the

active use of digital technologies and their capabilities, digitalisation is an obvious requirement on the way to building an effective court. An important act of the EU's digital policy is the programme entitled "Europe Fit for the Digital Age". It provides for the implementation of a large number of legislative documents aimed at the innovative development of the European judicial system (DEREVYANKO; TURKOT, 2022). In 2021, the European Commission demonstrated a vision for the digitalisation of Europe by 2030, based on the "4 pillars": the development of information and digital skills, digital government, business, and relevant infrastructure.

A striking example of this trend is Germany, where a law on the full transition of the judicial system to an electronic system was adopted (BIELOVA, 2022). This new legislative decision in Germany underscores the country's intention to modernise its judicial procedures, necessarily implementing a full transition of the judicial system to an electronic format. The recent adoption of this law reflects a strategic and foresighted approach to the use of digital technologies to optimise the legal infrastructure, which is a significant step towards a more technologically integrated and efficient judicial system. In the Netherlands, an innovative initiative has been created in the form of an online platform designed to consider and resolve labour and family disputes. The peculiarity of this platform is the deliberate exclusion of private lawyers from the settlement process (BIELOVA, 2022). The platform operates as a self-sufficient mechanism, providing a space for parties involved in disputes to navigate and resolve their problems without engaging individual legal representation. This marks a significant departure from traditional court procedures, signalling a strategic move towards the use of digital tools for efficient and affordable dispute resolution.

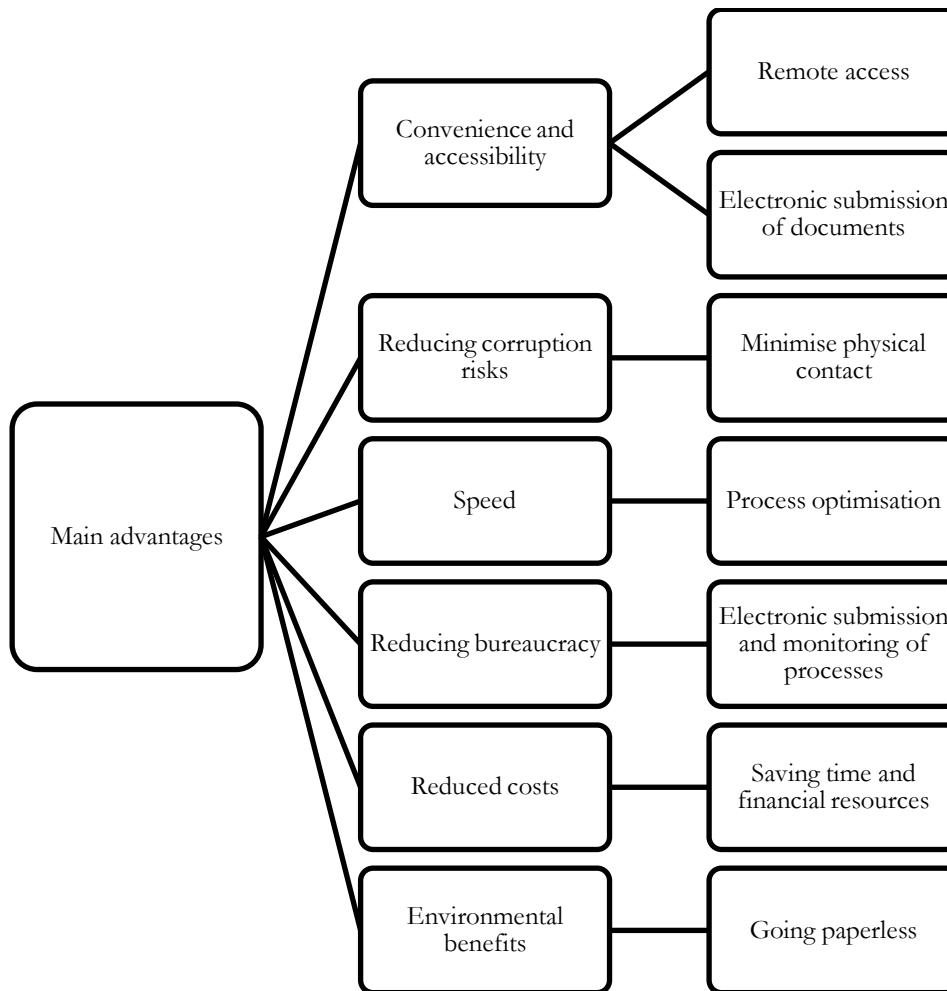
Canadian courts use a variety of technology tools for internal communication needs, including email, telephone, and fax services. These communications technologies extend to functions such as protecting and segregating judicial information and facilitating staff training and internal knowledge management. In order to support the constitutional independence of the judiciary, special technological solutions have been implemented to ensure the secure separation of judicial information, such as judges' e-mails and draft judgments, from public data. A model system in use is JUDICOM, adopted by more than 800 federal judges in Canada and used by more than 900 other members of the judicial community, such as judicial assistants, provincial judges, and lawyers. JUDICOM has been described as a communication system strategically designed to optimise and enrich communication and knowledge sharing among users in an online environment (BAILEY, 2012). Access to and use of JUDICOM is limited to ten groups of court-related members and court IT technicians. Potential users must submit a completed application by fax,

and only after approval are they granted access to the system. The JUDICOM online portal contains a help centre that includes, among other resources, “how-to” videos that provide guidance on various aspects of the system.

Several key elements have been widely incorporated into the ongoing development of e-justice in Ukraine, demonstrating the country's commitment to using technology for an efficient and accessible legal system. Notably, videoconferencing has become a widespread tool to facilitate remote participation in court proceedings. This innovation allows parties to participate in court proceedings without the need for physical presence, thereby increasing accessibility and convenience. Another significant progress is the introduction of electronic filing of documents through the Electronic Court system. This mechanism allows individuals to electronically submit documents to the judiciary, monitor the progress of the case, and participate in the court process without hindrance. In particular, in cases of simplified proceedings, the parties may remotely file procedural documents using their personal identification data and provide access to the case file in electronic format. The legal framework also supports the enforcement of court decisions in the form of electronic documents, as provided for in the Civil Procedure Code of Ukraine and the Code of Administrative Procedure of Ukraine (BARABASH, 2023). The Electronic Court application and the Electronic Court platform embody the principle of access to justice. They not only ensure reasonable timeframes for court proceedings but also comply with the necessary standards of court procedures, protecting the right to unimpeded access to court and justice. In today's environment, the implementation of the E-Court concept and the E-Court application is a prospect of optimising the judicial system and improving the quality of services. This technological integration is ready to provide citizens with significant time and cost savings in exercising their right to legal protection (BARABASH, 2023). Importantly, reducing physical interactions serves to minimise corruption risks in the judiciary. Furthermore, in line with environmental initiatives, the digitalisation of the judiciary contributes to the lofty goal of reducing paper use. Taken together, these achievements underscore Ukraine's steps towards a modern, efficient, and environmentally conscious judiciary. In summary, e-discovery brings a number of significant benefits to the global legal system (see Figure 2).

Figure 2.

The main advantages of the electronic court system



Source: Compiled by the authors based on: BIELOVA (2022); FAUZAN & BAKHTIAR (2023); YASYNOK & KOTVYAKOVSKY (2023).

Therefore, as can be seen from Figure 1, the important advantages of an electronic court system are convenience and accessibility, as digital technologies allow participants to engage in court proceedings remotely, which facilitates participation and reduces the need for physical presence. In addition, E-Court systems allow for the submission of documents in electronic format, which speeds up the process and reduces bureaucracy. In addition, the introduction of the e-Court concept allows for the optimisation of the judicial system, ensuring faster consideration of cases and resolution of issues. At the same time, digitalisation helps to reduce costs, as citizens can save time and money by using electronic means to obtain legal protection. It is also worth considering that the digitalisation of justice contributes to the environmental initiative by eliminating the use of paper and reducing the environmental impact. In general, e-justice

contributes to the improvement of the judicial system by making it more accessible, efficient and reducing administrative and financial barriers for citizens.

On the other hand, there are several important challenges to the further development of the e-justice system. Here is an example. In China, there is a project where claims are reviewed in a messenger called WeChat, while artificial intelligence makes decisions in the case. Such remote court hearings are organised by a specially created virtual judge who, before the trial begins, asks the plaintiff if he or she is willing to hear the case digitally. Accordingly, the process itself takes place in the form of a video chat (SHEVCHUK, 2020). As practice shows, trade disputes, and various copyright cases are most often resolved in a virtual court. However, this practice has a number of drawbacks. First, we note that the lack of trust in electronic courts may arise because the principles and mechanisms of their operation are not sufficiently clearly stated in the current scientific literature. This may hinder the understanding and adoption of an innovative approach in this area. The danger of miscarriages of justice and unlawful judgments is determined by the imperfection of computer programmes, algorithms, and information support systems. This highlights the risks associated with the automation of court processes, which can lead to negative consequences in resolving cases.

The introduction of e-courts involves the formalisation of the process, which can take away the individuality and professionalism of court proceedings. The impossibility of full technologicalisation of court proceedings is complicated by the variety of possible situations and the lack of universal programmes and algorithms for all cases (SHEVCHUK, 2020). Electronic courts cannot always guarantee full objectivity in resolving various judicial situations. Active involvement and control of the judge is key to eliminating the problems associated with e-courts. This points to the need for judges to be deeply involved in the process of resolving court cases, in particular in adapting recommendations to the specific conditions of the proceedings. In addition, it is worth considering other shortcomings of e-court proceedings that may affect its effectiveness and acceptance by citizens. Table 1 outlines the main challenges and shortcomings of the digitalisation of court proceedings.

Table 1.

Key challenges to the further development of e-justice

Challenge	Explanation
The imperfection of computer programmes	The risk of miscarriages of justice is determined by the imperfection of modern digital programmes, algorithms, and information support systems.
Technical challenges and dependence on digital infrastructure	The effective functioning of e-justice requires a well-developed information infrastructure and high-speed Internet. In countries with limited access to technology, this can be a challenge
Cybersecurity risks	The increase in the number of electronic documents can increase the risk of cyberattacks and breaches of personal data confidentiality.
Accessibility for all groups of citizens	In this aspect, technological exclusion is evident. Some groups of people, such as the elderly or those without technology skills, may find it difficult to use electronic services.
Formalisation and loss of the human factor	The introduction of electronic technologies may lead to the formalisation of court proceedings and the loss of the human factor in case consideration.
The need for investment	The transition to e-justice may require significant investments and large financial resources in the development, implementation, and maintenance of information systems.

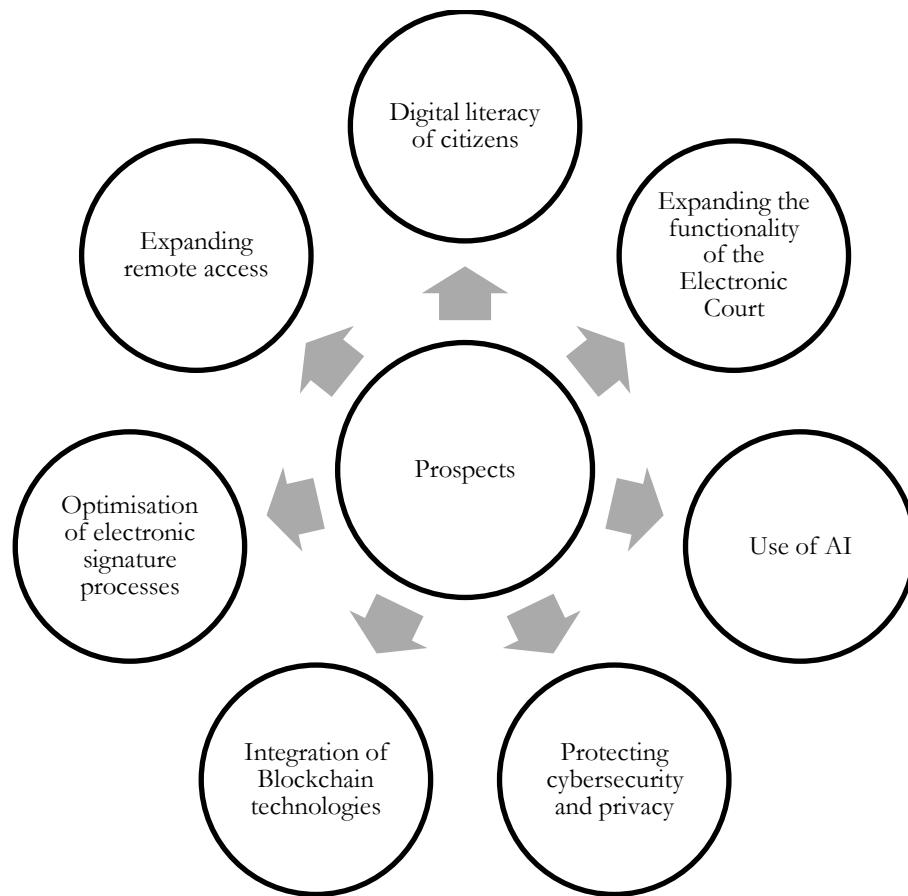
Source: compiled based on BARABASH (2023); POLITANSKYI (2020); SHEVCHUK (2020)

Therefore, for the successful implementation of e-justice, it is important to take these challenges into account and work on their solution for the maximum benefit and accessibility for all citizens.

Given the existing benefits and challenges of e-Justice, the future direction of the justice system includes a number of initiatives and technological innovations aimed at improving the efficiency and accessibility of these services (see Figure 3).

Figure 3.

Prospects for the development of electronic justice



Source: compiled by the authors

Thus, as can be seen from Figure 3, an important step is to develop and improve the functionality of the e-Court platforms. This should be done in order to provide citizens with more opportunities for electronic access to court services, including electronic filing of complaints, documents, appeals, etc. At the same time, modern experts have repeatedly proved the effectiveness of artificial intelligence, and in this context, the introduction of artificial intelligence technologies for the automation of certain court processes, evidence analysis, intelligent search, and decision support remains a promising area. At the same time, the use of other technologies should be optimised. In particular, the integration of Blockchain technologies is important. The introduction of blockchain is an important step to ensure the reliability of key judicial data and improve the transparency of processes. In this context, the improvement of electronic signature and identification systems is also seen to ensure the reliability and legality of electronic documents. At the same time, special attention should be paid to the protection of cyber data and privacy. This will require the development and implementation of high cybersecurity standards to protect electronic court systems from cyberattacks and ensure the confidentiality of personal data. All of

this requires appropriate technological or digital literacy of citizens and judicial staff. Therefore, the creation and development of e-learning resources for judicial officers and citizens to improve their training and understanding of modern technologies is a relevant perspective. These areas can contribute to the further development of e-justice, providing more opportunities for citizens and increasing the efficiency of court proceedings.

5. Discussion

This study has identified that the main advantages of the electronic court system are convenience and accessibility, reduction of costs and bureaucratic processes, environmental friendliness, etc. This is confirmed in a number of works by modern scholars (GRAY, 2004; HRIBOV & HENDRYK, 2022; MELNYCHENKO, 2021; MORSKA & DAVYDOVA, 2021). The findings show that the transition to the digitisation of the judiciary has gradually evolved, culminating in the establishment of e-courts and e-trial as the main platforms for e-justice implementation. This strategic policy change reflects a comprehensive effort to modernise and optimise legal processes through the introduction of advanced digital technologies, which has been proven in several works by contemporary scholars (YASYNOK & KOTVYAKOVSKY, 2023; POLITANSKYI, 2020). Thus, through the introduction of e-courts and e-trials, the judiciary seeks to take advantage of technology to speed up court proceedings, simplify the submission of documents, and provide stakeholders with real-time access to case-related information. The transition to e-justice means a commitment to embrace innovation and adapt to the demands of the digital age (RICCIO, & PEZZA, 2019).

The results of the study confirm that digital technologies, electronic platforms, and resources are important tools for the further development of e-justice. This has been proven in the works of other scholars (BIELOVA, 2022; MICELI, 2021). In particular, according to BAILEY (2012), in the United States and Canada, videoconferencing technology is often used to facilitate the remote appearance of a defendant in custody before a judicial officer, especially in proceedings such as bail hearings. As noted by contemporary scholars KAPLINA (2022), the configuration often includes cameras in both the courtroom and the correctional facility, and sometimes an additional camera in the interview room in the courthouse, allowing defence lawyers to engage in confidential conversations with their client. In the province of British Columbia (BC), the costs associated with court-initiated videoconferencing, such as the costs of appearances for persons in care and family matters, are covered by the Ministry of Justice's Court Services Branch (BAILEY, 2012). However, when videoconferencing technology is used by lawyers and parties for

purposes that traditionally require personal appearance, they are required to bear the costs. The lawyer must formally apply for permission to use the technology, for example, for the remote deposition of witnesses, and undertake to cover the costs associated with the use of the equipment. Importantly, the judge must approve the use of technology for each specific court proceeding.

The hypothesis about the convenience of using e-justice is fully confirmed in the study by BAILEY (2012). In this context, it is worth agreeing with scholars who believe that, in addition to convenience, videoconferencing is seen as a means of reducing costs and improving security by eliminating the need to transport detainees to and from places of detention in criminal cases (RINA HERAWATI et al., 2023; SMOLIJ, 2018; SHEVCHUK, 2021). However, we believe that for civil litigants wishing to use court videoconferencing facilities, it is very important to consider the costs involved, including equipment costs, telecommunication costs, fees for the use of other videoconferencing equipment, and any costs associated with connecting external systems to court systems.

At the same time, the study identified that the main disadvantages of using digital technologies in the judiciary are the imperfection of all digital programmes, which leads to certain technical problems, dependence on digital infrastructure, the formation of which is costly, and the presence of cyber risks. This is confirmed in the works of contemporary scholars, including SERGIENKO et al. (2023), SHEVCHUK (2020), and PARYZKYI (2021). Unequal access to technology is also highlighted in ØRSTAVIK (2022).

Therefore, given the confirmed data from the works of modern scholars, the scientific novelty of this study is the need to develop the functionality of the e-court tool to provide citizens with wider and more convenient electronic access to court services, including filing documents and tracking the progress of a case. However, in the context of all these areas, the practical significance of this study is to develop high standards of cybersecurity to protect against cyberattacks and ensure the confidentiality of personal data. This requires appropriate technological and digital literacy of both citizens and judicial staff.

The reliability of the findings is affected by certain limitations, in particular, the study is based on data and information obtained by researchers from certain specific countries (Ukraine, Canada, China, EU countries), which makes these results less universal for other jurisdictions. In addition, the use of specific technological approaches or solutions creates limitations on the universality of the results, as different jurisdictions may use different technologies.

6. Conclusions

Therefore, this study emphasises that the judiciary is at the centre of digital transformation aimed at ensuring innovative development of justice, openness, and transparency. The active use of digital technologies and digitalisation are becoming a necessity for an effective court. Modern courts successfully use various technological tools to communicate and protect judicial information.

Digital technologies make the electronic court system more convenient, fast, and accessible. In addition, digitalisation helps to reduce costs and increase access to legal protection, while having a positive impact on the environment.

However, there are challenges, such as difficulties in the technologicalisation of court proceedings due to their diversity, as well as issues of objectivity in dealing with various court situations. It is proved that formalisation and loss of the human factor are also important challenges. The author proposes to address these issues through active participation and control of judges, adaptation of recommendations to specific conditions of proceedings, and integration of artificial intelligence and Blockchain technologies. For the further development of the electronic justice system, it is important to develop the functionality of e-court platforms using artificial intelligence and integration of Blockchain technologies. At the same time, it is necessary to pay attention to the protection of cyber data and privacy, develop high standards of cybersecurity, and increase the technological literacy of citizens and judicial employees through the creation of electronic educational resources. In general, this will further improve the accessibility and efficiency of judicial processes.

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