

**IMPLEMENTATION OF THE ELECTRONIC COURT SYSTEM: PROBLEMS AND PROSPECTS IN THE EXPERIENCE OF UZBEKISTAN AND ESTONIA**

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**Abstract:** In the era of rapidly developing information technologies, as a result of the increasing demand for digital technologies and artificial intelligence in public administration and the legal system, states are creating a digital environment in their judicial systems, as in all areas. As a result, the electronic court system serves to simplify judicial processes, ensure their openness and transparency, and create convenience in applying to court. However, the integration of these digital technologies into the judicial system also shows its negative aspects. This article analyzes the existing problems and development trends in the implementation of the electronic court system. The main attention is paid to the reforms being carried out in Uzbekistan to introduce the electronic court system, the organizational, technical and legal shortcomings associated with the electronic conduct of court cases, the automation of online services and processes. Also, the practice of Estonia, which has advanced experience in the field of digital transformation and technological innovations, is studied on the basis of comparative legal analysis. According to the results of the study, it is concluded that strategic directions can be developed using national experience and foreign best practices to improve the e-court system and bring it to a new level.

**Keywords:** e-court system, digitization, artificial intelligence technologies, digital technologies, algorithmic justice, digital transformation, integration, technological infrastructure

Introduction.

The adaptation of countries to the digital environment has become a means of determining their level of development, indicating that the importance of digital technologies has increased significantly. Proof of this can be seen in the fact that today many countries have established e-court systems or are conducting digitization practices. In particular, 47 countries in the European region have introduced their own e-court systems.<sup>1</sup> In addition, Estonia's "E-justice" platform, the UK's "Online Court" project, and the digitalization processes in some states in South Korea and the US are also vivid examples of this.<sup>2</sup> Uzbekistan has also been implementing a number of measures to implement digital technologies in the state power system on a large scale in recent years. In particular, in accordance with the Resolution of the President of the Republic of Uzbekistan "On measures to digitize the activities of judicial authorities" dated September 3, 2020, the digital architecture of the judicial system of Uzbekistan is based on the integration of three main platforms: "E-COURT" (for civil cases), "E-XSUD" (for economic cases), and a unified electronic system for criminal cases.<sup>3</sup> Digitalization in the judicial system is benefiting not only the judicial system employees, but also citizens in carrying out pre-trial, during and post-trial actions. Despite the effective results in the judicial system, the application of the

<sup>1</sup> <https://www.worldbank.org/ext/en/home>

<sup>2</sup> <https://yozyovon.uz/news>

<sup>3</sup> Kiber huquq: o'quv qo'llanma/ Abdixakimov Islombek Bahodir o'g'li. TDYU nashriyoti, 2025. – 258-b.

principles and norms adopted for the traditional system remains under threat. This has led to many practical conflicts in the judicial system. A number of scientific works have provided fundamental foundations related to the essence of the issue of electronic judicial systems. In particular, issues such as e-courts - better case management, increased transparency and security of the process are highlighted.<sup>4</sup> In addition, the problems in the e-court system are also presented in general terms, limited to issues of improving legislation, developing infrastructure, and increasing digital literacy.<sup>5</sup>

The prospects of artificial intelligence in the analysis of the judicial system, the possibilities of modernization, such as the integration of the e-court system with other state bodies, as well as threats to the independence of e-courts, and problems associated with algorithmic justice, have not been widely analyzed. This study focuses on these issues. The approaches put forward in the article and the results of the analysis achieved will serve as a foundation not only for the countries of Uzbekistan and Estonia, but also for countries that are on the path to introducing an e-court system.

#### Research methods.

This article uses general, scientific and special legal research methods in order to comprehensively and fully study the process of introducing an e-court system. The experience of developing e-court systems in the countries of Estonia and Uzbekistan is analyzed based on the "comparative analysis" method and compares the regulatory legal acts, institutional mechanisms and processes related to digitalization. In addition, the method of summarizing statistical and empirical data serves as the basis for determining the development directions of the digitalization process in courts.

#### Analysis and results.

In this article, we will analyze the issues being analyzed directly in 2 stages and criteria. In our opinion, this will have a positive impact on improving the quality of the analysis and the systematicity of the results.

#### The first issue.

Artificial intelligence technologies are increasingly penetrating various spheres of society and becoming an integral part of everyday life. However, the issue of introducing these technologies into the activities of the judicial system is recognized as one of the current issues that causes a certain amount of controversy in jurisprudence and practice. For this reason, states are cautious when using artificial intelligence technologies in judicial functions. In the analyzed country of Estonia, as of September 2025, artificial intelligence is mainly used for auxiliary tasks such as transcription and translation.<sup>6</sup> It is known that transcription of court hearings is a time-consuming

<sup>4</sup> Ahmed RK , Muhammad KH , Pappel I , Draheim D (2021), "Elektron sud tizimlarini joriy etishning ta'siri: amaliy tadqiqot". Hukumatni o'zgartirish: odamlar, jarayon va siyosat , 15-jild, 1-son, 108–128-betlar, doi: <https://doi.org/10.1108/TG-01-2020-0008>

<sup>5</sup> RAQAMLI SUD MAJLISLARI VA ONLAYN NIZOLARNI HAL QILISH TIZIMLARI: O'ZBEKISTON VA XALQARO AMALLARNING QIYOSIY TAHLILI. (2025). Xalqaro sun'iy intellekt jurnali , 5 (03), 1245-1248 <https://www.academicpublishers.org/journals/index.php/ijai/article/view/3496>

<sup>6</sup> Estonia | AI for crime prevention | Oxford Institute of Technology and Justice

activity. To simplify and optimize this operation, Estonian courts have introduced Salme, a speech recognition tool developed in collaboration with CGI Estonia IT company and Tilde language technology company. This software is designed to increase the efficiency and accuracy of court hearing transcription. Regardless of whether the hearing is held in the courtroom or online, Salme's task remains the same. Transcription helps save time, especially in long court hearings lasting more than 6 hours.<sup>7</sup> Shu bilan birga, sud hujjatlarini tahlil qilishni takomillashtirishga qaratilgan sinov tashabbusi doirasida ma'lumotlarni yorliqlash usullari joriy etilmoqda. Bu jinoyat ishlari matnlari va jinoyat hodisalarini subyektlar, obyektlar va manzillar asosida tizimli tekshirish imkonini beradi. Bu qarorlar sifatini oshirishga xizmat qiladi va huquqiy statistikani tuzishni soddalashtiradi. Foydalanuvchilar shunga o'xshash It is known that transcription of court hearings is a time-consuming activity. To simplify and optimize this operation, Estonian courts have introduced Salme, a speech recognition tool developed in collaboration with CGI Estonia IT company and Tilde language technology company. This software is designed to increase the efficiency and accuracy of court hearing transcription. Regardless of whether the hearing is held in the courtroom or online, Salme's task remains the same. Transcription helps save time, especially in long court hearings lasting more than 6 hours.

can find jobs and increase work efficiency. In Uzbekistan, initiative projects are also being implemented on the basis of the Presidential Decree on the introduction of artificial intelligence technologies in the activities of courts. The priority tasks of these projects are the gradual introduction of the "Digital Court" concept in all courts, the creation of interactive services and platforms related to the activities of courts, and the establishment of electronic data exchange. It was determined that the direct application of artificial intelligence technologies will be applied only to the calculation of court costs. This is a sign of the state's caution towards artificial intelligence technologies. However, based on the experience of Estonia, it should also be noted that the use of AI technologies in the analysis and transcription of court decisions can be a necessary tool for increasing the efficiency of court activities and reducing the volume of cases.

The above-mentioned priority tasks listed in the decree of the President of the Republic of Uzbekistan also include the integration of the judicial system with other sectors, which will be implemented in the following areas: full integration of organizations under the Ministry of Digital Technologies with the information systems "Presidential Virtual Reception", "E-Xat", "edo.ijro.uz" and "MyID", obtaining initial court information through the my.gov.uz portal, and full integration of the information available on the interdepartmental integration platform of the "Digital Government" system with the information systems of the courts in order to eliminate the requirement of excessive information from persons participating in the court.<sup>8</sup> These integration processes indicate that digital transformation in Uzbekistan has reached a new level. In the Estonian experience, one of the notable achievements is the creation of a single digital case file

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<https://www.techandjustice.bsg.ox.ac.uk/research/estonia>

<sup>7</sup> Introducing Salme, Estonian courts' speech recognition assistant — Invest in Estonia

<https://investinestonia.com/introducing-salme-estonian-courts-speech-recognition-assistant/>

<sup>8</sup> <https://lex.uz/ru/docs/-7696567>

system. This system ensures that all stakeholders - police, prosecutors, courts, forensic experts and defense lawyers - have access to the same information at the same time.<sup>9</sup>

Thus, the experience of Uzbekistan and Estonia shows that in the process of digitizing the judicial system, ensuring effective integration between information systems of state bodies is of great importance. In both countries, the interconnection of the judicial system with other state services and databases serves to increase the transparency of judicial proceedings and the convenience of citizens. At the same time, the experience of Estonia shows that it is possible to organize judicial proceedings more effectively by organizing digital judicial systems on a single platform and creating the opportunity for all interested parties to access information simultaneously. This experience can be of great importance in further improving the judicial system of Uzbekistan and deepening its digital transformation.

The second issue

Despite the fact that the adaptation of judicial systems to the digital environment is leading to effective results, if control over judicial information systems is outside the judiciary, can this indirectly affect the principles of judicial independence? That is, does the dependence of the electronic judicial system on IT platforms affect judicial independence? This question is somewhat controversial, creating a legal gap between the fundamental principles of the judiciary and digital technologies. It is known that courts have the right and obligation to act independently of other organs and institutions of state power. However, the dominance of technological infrastructure can become a new risk factor that threatens judicial independence. Overreliance on errors or algorithms can undermine judicial independence and human rights. As the UN Special Rapporteur noted in a discussion organized by UNESCO, "Everyone has the right to a human lawyer and to face a human judge." He emphasizes that artificial intelligence should support judicial deliberations. Moreover, almost all speakers agreed that AI can pose a real threat to judicial independence and highlighted several factors. These are: the existence of private control over technology: many tools used for translation, case management or design are created by companies without fully taking into account judicial independence. Therefore, courts should carefully examine public-private partnerships and low-tech alternatives.<sup>10</sup> This means that courts should not use any digital transformation in their work, and each digital technology must undergo a multi-stage review. Subtle impact on decisions: Even supporting SI functions, such as document summarization, can shape the facts considered in decisions. When judges use SI results, its database limitations can affect legal reasoning.<sup>11</sup> That is, which facts the SI indicates as important or how it summarizes them can affect the judge's thinking process. For example, there are many pages of material in a court case. The SI system reduces it and provides a list of key facts. The judge analyzes the case based on these facts. If the SI omits some important facts,

<sup>9</sup> 2025-yilda sun'iy intellekt, mashinani o'rganish va katta ma'lumotlar qonunlari | Estoniya

<https://www.globallegalinsights.com/practice-areas/ai-machine-learning-and-big-data-laws-and-regulations/estonia/>

<sup>10</sup> Asrda inson huquqlari va sud mustaqilligini ta'minlash

<https://www.unesco.org/en/articles/safeguarding-human-rights-and-judicial-independence-age-algorithmic-justice>

<sup>11</sup> Asrda inson huquqlari va sud mustaqilligini ta'minlash

<https://www.unesco.org/en/articles/safeguarding-human-rights-and-judicial-independence-age-algorithmic-justice>

the judge's conclusion will also be based on this information. This calls for increased caution in the process of using SI technologies. Another controversial issue is algorithmic justice. It is known that cases are often distributed in the electronic court system by an algorithm. This system is important in reducing the human factor, preventing corruption, and distributing cases equally. However, since this can affect the principle of fairness of the court, the following question arises: why should the fate of a court case be determined on the basis of random selection? In some court systems, the algorithm that distributes cases works on the basis of closed code, and the parties do not know how it works.<sup>12</sup>

This calls into question the algorithm's efforts to ensure equality and fairness. Problems such as more cases being assigned to certain courts and certain cases being assigned to certain judges may arise. In addition, the algorithm may not take into account factors such as the complexity of the case, the duration of the hearing, and the volume of evidence. Although allocation based on algorithmic justice is a successful result in reducing the human factor, it may limit the principles of transparency, equality, and fairness in the courts.

#### Conclusion.

The results of the study show that electronic court systems create significant opportunities for speeding up court proceedings, reducing the human factor, and creating convenience for citizens. In this regard, the experience of Estonia shows that it is possible to achieve effective results in organizing an e-court system through a single platform, using SI in transcription and analysis. In Uzbekistan, although digital technologies are being gradually introduced into the judicial system, they are showing significant results. However, the experience of Estonia and other countries that have developed in this area should be studied and taken into account in new stages of digitalization.

According to the results of the analysis, the problems that contradict the practical principles of the digital judicial system are: algorithmic justice and limitation of the independence of the courts, technical security. The elimination of these threats requires strong control by the courts, increased vigilance in the use of SI technologies, and their use as an auxiliary tool that cannot influence court decisions. In addition, for the development of the e-judicial system, courts and citizens must be able to use e-services and platforms. For this purpose, it is recommended to organize regular trainings and seminars. Another important approach is the protection of e-judicial platforms and automatic distribution with secure servers and encryption tools.

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