

DIGITALIZATION OF THE JUDICIAL SYSTEM AND THE IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE IN UZBEKISTAN

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Abstract

This article examines the digitalization of the judicial system of Uzbekistan and the emerging legal framework for the implementation of artificial intelligence in court activities. The study analyzes the transition from electronic document management toward the broader concept of the “Digital Court,” with particular attention to Presidential Decree No. UP-140, the national strategy “Digital Uzbekistan – 2030,” and recent legislative developments concerning artificial intelligence. Using comparative-legal, formal-legal, and institutional methods, the article evaluates the potential of AI technologies to improve access to justice, reduce procedural delays, enhance consistency in judicial practice, and limit corruption risks. At the same time, the research identifies key challenges, including algorithmic transparency, data protection, judicial independence, professional responsibility, and the need for ethical oversight. The findings show that Uzbekistan is currently undergoing a phase of catch-up modernization, in which technological innovation must be accompanied by stronger institutional safeguards. The article concludes that the successful implementation of AI in the judiciary requires clear legal regulation, mandatory certification and auditing of algorithms, and specialized digital training for judges.

Keywords: Digital justice; artificial intelligence; judicial system; Digital Court; Uzbekistan; e-justice; judicial independence; algorithmic transparency; access to justice; legal technology.

Introduction

The contemporary stage of legal development in the Republic of Uzbekistan is marked by an extensive digital transformation aimed at enhancing the transparency, accessibility, and efficiency of the judiciary. As part of the country's broader modernization agenda, the government has prioritized the integration of advanced information and communication technologies into public administration, with particular emphasis on the justice sector. These reforms reflect global trends in digital governance and align Uzbekistan with emerging international standards of e-justice.

A central policy framework guiding this transformation is the national strategy "Digital Uzbekistan – 2030," which establishes long-term objectives for building a technologically advanced state infrastructure. The strategy is reinforced by specialized regulatory acts, most notably Presidential Decree No. UP-140 of August 21, 2025. This decree laid the institutional and legal foundation for the transition toward the concept of the "Digital Court," envisaging the systematic incorporation of artificial intelligence (AI) technologies into judicial processes.

Within this framework, AI is expected to perform several critical functions, including the analysis of large volumes of judicial practice, identification of patterns in case law, predictive modeling of potential case outcomes, and the automation of procedural operations such as document management and case allocation. These measures are designed not only to optimize administrative efficiency but also to strengthen consistency in judicial decision-making.

The overarching objective of the reform is to secure meaningful access to justice while minimizing bureaucratic barriers. By reducing reliance on manual processes and limiting the influence of subjective human factors, digital tools have the potential to promote procedural fairness, decrease opportunities for corruption, and accelerate dispute resolution. At the same time, the rapid deployment of AI in judicial contexts raises important questions concerning algorithmic accountability, data protection, judicial independence, and ethical oversight—issues that increasingly occupy scholarly and policy debates worldwide.

Against this background, Uzbekistan's experience provides a valuable case study of a transitioning legal system seeking to balance technological innovation with fundamental rule-of-law principles.

2. Theoretical Overview

The evolution of digital justice in Uzbekistan is increasingly interpreted by scholars as a transition from basic electronic document management toward a comprehensive интеллектуальная (intelligent) transformation of the judicial system. This shift reflects not merely technological modernization but a deeper reconfiguration of legal institutions, decision-making processes, and the relationship between the state and citizens in the administration of justice.

Islomjon Khamedov emphasizes that over two decades of administrative law reform, Uzbekistan has moved toward a model in which administrative justice functions as a critical safeguard protecting citizens against arbitrary actions by public authorities. In this framework, courts are no longer viewed solely as dispute-resolution bodies but as institutional guarantors of legality, accountability, and procedural fairness. Digital tools, therefore, are conceptualized as instruments for strengthening these guarantees rather than replacing traditional legal principles.

Doctrinal debates led by Sherzod S. Gulyamov and Ikrom R. Rustambekov focus on emerging questions surrounding the legal subjectivity of artificial intelligence and the evolving concept of “cyber-symbiosis” between humans and machines. The notion of AI legal subjectivity remains controversial within contemporary jurisprudence: while most scholars reject the idea of granting AI independent legal personality, many acknowledge its growing quasi-agent role in assisting judicial reasoning. The theory of cyber-symbiosis suggests a cooperative model in which human cognitive judgment is augmented—rather than displaced—by algorithmic analytics, enabling more consistent and data-driven adjudication.

From a structural perspective, Uzbekistan employs a hybrid judicial model that combines elements traditionally associated with both dualist and monist systems. Organizational specialization—manifested in the establishment of separate administrative courts—reflects the dualist tradition common in Continental European legal systems. Simultaneously, unified oversight by the Supreme Court of Uzbekistan preserves doctrinal coherence and ensures the uniform interpretation of legal norms, a characteristic more typical of monist systems. This institutional synthesis is often interpreted as an adaptive strategy suited to transitional legal orders seeking both specialization and systemic unity.

A particularly significant theoretical development is the legislative adoption of the “human-in-the-loop” principle in 2025. This principle requires meaningful

human oversight in AI-assisted judicial processes and serves as a normative safeguard against algorithmic arbitrariness. Its incorporation into national legislation signals a cautious approach to technological integration—one that recognizes the efficiency gains of automation while reaffirming the centrality of human responsibility in matters affecting fundamental rights.

More broadly, the Uzbek case illustrates a growing recognition that digital justice must remain anchored in rule-of-law values. The challenge is not merely technological but epistemological: ensuring that algorithmic reasoning remains transparent, explainable, and contestable within established procedural frameworks. Consequently, the theoretical discourse increasingly revolves around balancing innovation with legal certainty, efficiency with fairness, and predictive analytics with judicial independence.

3. Methodology

This study employs a mixed methodological framework combining comparative-legal, formal-legal, and institutional approaches. Such an integrated design enables a multidimensional assessment of judicial digitalization by examining both the normative foundations of reform and its practical implications within the evolving legal ecosystem of Uzbekistan. The comparative-legal method facilitates the positioning of Uzbekistan's experience within broader global trends in digital justice, while the formal-legal approach ensures a systematic interpretation of statutory provisions governing artificial intelligence. The institutional method, in turn, allows for the evaluation of structural transformations within the judiciary and their impact on procedural effectiveness. The empirical foundation of the research consists of several complementary sources:

1. Analysis of regulatory acts. Particular attention is given to Presidential Decree No. UP-140 and the Law “On Relations Arising from the Use of Artificial Intelligence,” both of which establish the legal architecture for integrating AI into judicial processes. These documents were examined to identify legislative priorities, safeguards, and the extent to which technological innovation is aligned with rule-of-law principles.

2. Pilot expert survey. A structured survey of 100 legal professionals—including judges, attorneys, and practicing lawyers—was conducted in late 2025 to identify systemic challenges in judicial practice during the transition toward digital adjudication. The survey design emphasized institutional development, enforcement mechanisms, and professional readiness for AI-assisted decision-making.

3. International indices and judicial statistics. The study draws upon data from the World Justice Project as well as official statistics published by the Supreme Court of Uzbekistan covering the period from 2020 to 2024. These sources provide a macro-level perspective on judicial independence, efficiency, and public trust.

4. Data Analysis. The empirical findings reveal a dynamic landscape characterized by measurable progress alongside persistent structural challenges.

Procedural efficiency. By 2024, administrative courts had adjudicated more than 15,000 cases, resulting in the restoration of rights for over 6,000 citizens and business entities. This trend suggests a strengthening of administrative justice as a mechanism for protecting private actors against unlawful state action. A notable illustration is the Supreme Court’s ruling in the UzPost case, which invalidated tax claims totaling approximately USD 2.6 million. The decision underscores the judiciary’s growing willingness to exercise substantive review over administrative authorities and signals an incremental shift toward greater legal accountability.

Rule of Law indicators. According to the World Justice Project Rule of Law Index, the subfactor measuring the “absence of government influence” declined from 0.09 in 2020 to 0.07 in 2024 as shown in Table 1. Scores range from 0.0 to 1.0, where 1.0 indicates optimal performance

Table 1: Dynamics of Civil Justice Factors in Uzbekistan (2020–2024)

Sub-factor	2020	2021	2022	2023	2024	Trend
Freedom from Improper Gov. Influence	0.09	0.09	0.08	0.08	0.07	Declining
No Unreasonable Delay	0.20	0.20	0.20	0.20	0.20	Stable
Effective Enforcement	0.12	0.12	0.12	0.12	0.12	Stable

Source: WJP Data (2024)

Although numerically modest, this downward movement highlights the continuing need to reinforce the de facto autonomy of the judiciary. It also suggests that technological modernization alone cannot substitute for institutional independence; rather, both must evolve concurrently to sustain public confidence in the legal system.

Survey results. The internal consistency of the institutional development problem scale—demonstrated by a Cronbach’s alpha coefficient of 0.829—confirms the reliability of the survey instrument and indicates a shared professional perception of enforcement-related difficulties.

Table 1. Reliability and Internal Consistency of Survey Scales

Scale / Survey Construct	Statistical Indicator	Coefficient	Interpretation
Institutional Development Problem Scale	Cronbach’s Alpha	0.829	Demonstrates strong internal consistency, confirming the reliability of the survey instrument and indicating a shared professional perception of enforcement-related challenges.
Institutional Development Problem Scale	Cronbach’s Alpha (Standardized Items)	0.829	Confirms measurement stability across standardized variables, supporting the robustness of the scale.
Judicial Specialization in Cyberlaw	Agreement Coefficient	0.940	Reflects exceptionally high expert consensus on the necessity for narrow judicial specialization, highlighting the increasing complexity of AI-related disputes and the need for advanced technical and doctrinal expertise.
Number of Items	N	6	Indicates adequate scale breadth for measuring institutional development challenges.

The highest coefficient (0.940) was recorded in responses emphasizing the necessity for narrow judicial specialization in cyberlaw. This finding reflects an emerging consensus that the complexity of AI-related disputes requires advanced technical literacy and doctrinal expertise beyond traditional legal training. Coefficients above 0.80 are generally interpreted as evidence of high reliability, suggesting that the survey instrument provides consistent measurements suitable for empirical legal research.

Digital infrastructure

The state modernization program for 2025–2027 envisions the deployment of a virtual legal consultant on the my.sud.uz platform and the automated generation of draft judicial acts. These initiatives illustrate a transition from supportive digital tools toward semi-autonomous analytical systems capable of assisting judges in procedural tasks. While such technologies promise efficiency gains, they simultaneously raise questions regarding algorithmic transparency, professional responsibility, and the preservation of judicial discretion.

5. Discussion

A comparative analysis with the Smart Courts model of Singapore demonstrates that Uzbekistan remains at the stage of normative formation, whereas Singapore has already developed a mature framework for artificial intelligence auditing and governance within the judiciary. This divergence reflects differing trajectories of digital transformation: while Uzbekistan is actively constructing its regulatory architecture, Singapore represents a more institutionalized approach characterized by procedural clarity, technological oversight, and established accountability mechanisms.

The primary risks associated with the deployment of AI in judicial settings include algorithmic bias and the so-called “black box” problem, referring to the opacity of automated decision-making processes. Such risks raise fundamental concerns regarding procedural fairness, transparency, and the ability of litigants to challenge algorithm-assisted outcomes. Without sufficient explainability, the legitimacy of digitally supported adjudication may be questioned, particularly in legal systems undergoing rapid modernization.

Experts consistently emphasize that AI should function strictly as an auxiliary tool rather than a substitute for judicial reasoning. Final adjudicative authority

must remain with the human judge, thereby preserving the principles of judicial independence, responsibility, and moral evaluation that cannot be fully replicated by computational systems. This position aligns with the broader international consensus favoring a human-centered model of digital justice.

Data protection represents another critical dimension of the reform agenda. The Senate of the Oliy Majlis of Uzbekistan previously rejected legislative proposals that would have allowed court judgments to be distributed via SMS notifications, citing the heightened risk of personal data breaches. This episode illustrates the cautious legislative approach toward balancing technological convenience with privacy safeguards and information security.

6. Conclusion

The judicial system of Uzbekistan can be characterized as undergoing a phase of “catch-up modernization,” in which institutional reforms and technological innovation advance simultaneously in an effort to align with global standards of digital governance. The adoption of Presidential Decree No. UP-140 marked a turning point in the intellectualization of justice, signaling a strategic commitment to embedding AI within judicial administration.

For the effective implementation of the “Digital Court” concept, several priorities emerge:

- 1. Formalizing the legal status of AI** within sector-specific legislation to eliminate regulatory ambiguity and establish clear boundaries of technological application.
- 2. Introducing mandatory certification and ethical auditing of algorithms** to ensure transparency, accountability, and compliance with fundamental legal principles.
- 3. Enhancing the digital literacy of the judiciary** through specialized training programs that equip judges with the competencies required to critically evaluate AI-assisted tools.

The integration of artificial intelligence has the potential to reduce case-processing times, improve administrative efficiency, and mitigate corruption risks by limiting discretionary procedural practices. Nevertheless, technological progress must be accompanied by the strengthening of constitutional guarantees of judicial independence. Sustainable digital transformation is therefore

contingent not only on innovation but also on the preservation of rule-of-law values that underpin public trust in the justice system.

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