

The Impact of Artificial Intelligence on Administrative Judicial Proceedings

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Abstract: This research examines in a comprehensive manner the impacts of artificial intelligence technologies on legal systems and public administration within the process of digital transformation. The article first reviews the evolution of the digital society, networked socialization, and the semantic-legal status of the concept of artificial intelligence. It then classifies the technologies that are transforming legal systems into assistive, substitutive, and transformative categories, and analyzes the digitalization of administrative law through the example of electronic court platforms. The study evaluates the process of datafication, which enhances the monitoring capabilities of state authorities over citizens, as well as the risks it entails. The final part of the article highlights virtual justice, online courts, and telepresence technologies. Rather than opposing automation and human involvement, a hybrid intelligence model is proposed that integrates machine efficiency with human interaction. The main objective of the study is to reduce the gap between rapidly developing digital technologies and existing legal regulations, and to identify socio-technical integration mechanisms that ensure transparency and accountability in public services. The analysis shows that the legal system of the future should be built not on fully automated mechanisms, but on hybrid models based on the synthesis of human oversight and artificial intelligence.

Keywords: Artificial Intelligence, Administrative Law, Hybrid Intelligence, Digitalization, Electronic Court

Introduction

Today, the rapid and widespread diffusion of technology and related technological products has led to an equally rapid expansion of their fields of application. Among these, the internet has become one of the most significant tools, eliminating the concept of distance in society and enabling communication and interaction between users. As a result, a phenomenon that can be described as “networked socialization” has emerged. Internet technology, which facilitates this interaction, has given rise to a new form of application and process not only by serving as a means of communication but also by enabling “information transmission” (Rafaeli, 2015).

This process, which can be described as networked socialization within society, has created a global network that connects people living in different parts of the world, facilitating communication and the exchange of information. At the same time, this development has generated processes such as globalization, digitalization, and innovation (the emergence of new technologies and business models), as well as changes in individual and consumer behavior and the gradual disappearance of traditional business models. This process, which promotes intercultural interaction and contributes to the development of global markets, has also facilitated the emergence of new ideas and products and significantly accelerated changes influenced by the digital environment; for example, the widespread and effective use of e-commerce, e-government, cloud technologies, distance education, social media, art platforms, social forums, and mobile applications.

A completely new and digital society is rapidly progressing toward encompassing all areas of life and simultaneously generating continuous changes. Both positive and negative effects of these changes are observed on society and individuals. While the expansion of opportunities in education, work, socialization, entertainment, information, and communication enables individuals to better understand the world, it also leads to consequences such as addiction, violations of privacy, cybercrime, and information pollution. At this stage, one of the most influential, widely discussed, and rapidly evolving technologies

of recent times—artificial intelligence—has emerged, and in the 21st century, it has been widely used in daily life by most societies, often without being recognized as artificial intelligence. Whether its presence is acknowledged or not, artificial intelligence has become a leading force of the digital era.

The rapid technological evolution of artificial intelligence-related tools has also led to semantic changes in the concept itself. Over time, this has resulted in varying definitions of artificial intelligence. There is still no clear consensus on how artificial intelligence should be defined. This situation applies not only to public opinion but also to the fields of computer science and law (Larsson, 2020). Artificial intelligence is currently applied in many different fields. Thus, it can be stated that artificial intelligence is one of the most important technologies that will shape the world today and in the future, and it has long moved beyond being merely a product of science fiction (Davies, 2011). In this regard, understanding the potential benefits and risks of artificial intelligence is crucial for ensuring its development and application in a way that is as problem-free and beneficial as possible.

Today, artificial intelligence has acquired characteristics that allow it to influence the activities of many scientific fields. It is closely related to and influential across all social sciences, ranging from theology (Davies, 2011) to psychology, from communication studies to law, and from economics to sociology. In terms of its relationship with law, one of the most important aspects, beyond its “legal status,” is liability law. In addition, data protection law, electronic commerce law in relation to the effects of online robots on e-commerce, and other related fields are of particular importance. Furthermore, the investigation of accidents caused by autonomous vehicles is significant from the perspectives of criminal law and liability law. While debates on whether robots can possess legal personality are examined within civil law, issues concerning copyright in developed robotic models require intensive academic attention in the field of intellectual property law.

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An important step in the process of developing solutions is to invest in increasing the number of legal professionals and artificial intelligence experts who will be capable of developing legal regulations that can respond to future cybercrimes and the impacts of artificial intelligence. In addition, conducting academic and scientific research that contributes to the formation of still underdeveloped global norms and ethical values in the field of artificial intelligence, as well as the development of international cooperation and treaty mechanisms, is of significant importance. Because technological development progresses ahead of real-life regulatory frameworks. Although it is accepted that legal regulations originate from the needs of real life, it is natural that law follows real life afterwards. The main issue is to reduce the distance between legal regulation and real life, and to ensure that the legal system can adapt to the rapid changes brought by artificial intelligence.

The use of artificial intelligence and information technologies will become one of the most important agenda topics of law in the future. In this context, three main categories of technologies that can transform legal systems are identified: “supportive”, “substitutive”, and “transformative (disruptive)” technologies.

- Supportive technologies perform the function of providing information, assistance, and recommendations to legal practitioners. Such applications assist practical legal activities without changing the fundamental structure of the legal system and make work processes more efficient. Examples include legal search systems, keyword-based search tools, and legal software that provides sample legal documents.
- Substitutive technologies refer to situations where technology performs functions previously carried out by humans. When traditional operational mechanisms are replaced by technological applications, the basic structure of the legal system remains unchanged, but practical methods of operation are transformed. For example, in the Republic of

Azerbaijan, through the Electronic Court Information System, legal operations have been extensively transferred to the digital environment, enabling electronic access to case materials, signing documents with electronic signatures, filing claims electronically, and participation of lawyers in court hearings via videoconferencing.

- Transformative (disruptive) technologies refer to the fundamental restructuring of the legal system. However, such radical change should not necessarily be understood as irreversible transformation; rather, it involves significant changes in the functionality and approach of legal processes. These types of technologies may fundamentally reshape existing legal systems and create new operational mechanisms.

Each of these technologies produces different effects in the field of law and has the potential to redefine the functioning of legal systems.

In essence, artificial intelligence technologies applied in law were initially focused on rule-based legal systems and knowledge representation (Ülaşan, 2023). In the modern era, the transformation of society under the influence of artificial intelligence is also affecting administrative structures. Currently, AI-based applications have been integrated into the administrative systems and public services of many states. In particular, examples include the automatic delivery of personalized information to stakeholders, virtual assistants, risk assessment processes, assistance in administrative decision-making, provision of recommendations related to administrative activities, issuance of final administrative decisions, dispute resolution, detection of administrative violations, and ensuring the integrity of administrative systems. The rapid growth of such applications is observed in many countries.

The development of artificial intelligence technologies and applications has also begun to significantly affect administrative law. Around the world, states use digital technologies to optimize administrative processes and personalize public services. At the same time, they increasingly recognize the datafication potential in one of the core areas of traditional sovereignty—namely, maintaining public order through monitoring and surveillance of citizens (Mazur & Wloch, 2024).

The adoption of artificial intelligence by public administration may contribute to simplifying administrative processes, strengthening citizen–state relations, reducing adaptation costs, and enabling administrative actions, acts, and decisions to be made on the basis of more comprehensive data. The integration of artificial intelligence into public services helps reduce paperwork and bureaucratic barriers in administrative processes, thereby enabling faster service delivery. In this way, AI-supported solutions ensure more efficient and effective provision of public services. As artificial intelligence and machine learning continue to develop, public administration is expected to undergo further transformation.

Artificial intelligence applications are also of great importance in enabling individuals to understand decisions made about them, obtain information about their rights and freedoms, find answers to their questions easily, and interact with administrative authorities. In this regard, artificial intelligence contributes to making governance more interactive and information-driven. This capability of artificial intelligence will also enable local self-government bodies to provide public services in a more democratic manner, while also allowing citizens to participate more actively in administrative processes. In addition, it may provide significant advantages in enhancing accountability and transparency in local administration.

Artificial intelligence, together with the innovations it introduces to administrative activities, has become a field of application that causes significant changes in the structure of administrative acts and administrative processes. This development necessitates the adoption of new legal regulations related to artificial intelligence and the updating of existing legal norms. The European Parliament has carried out extensive legislative activity in the field of

artificial intelligence. In October 2020, the European Parliament adopted several resolutions concerning artificial intelligence, including those addressing ethics (European Parliament, 2020a), liability (European Parliament, 2020b), and intellectual property rights (European Parliament, 2020c). From the perspective of administrative law, these regulations can be regarded as important legal mechanisms aimed at maintaining a balance between the technological capabilities of state authority and the protection of individuals' private life and fundamental rights.

Virtual Administration of Justice

With the rapid development of society and the increasing recognition of the rule of law, public demands for justice, equality, and social security are also steadily growing. In this context, the primary objectives of courts are to ensure justice for the public, to respond effectively to societal concerns and demands, and to meet judicial needs. The digitalization of law has significantly influenced administrative procedures, making judicial processes more accessible, transparent, and efficient for participants (Parycek et al., 2024).

Thus, while state-based dispute resolution mechanisms were traditionally limited to physical courtrooms, digitalization has enabled virtual hearings and online courts, allowing parties to submit documents in electronic form, establish secure digital communication with courts and other legal authorities, file administrative applications and complaints, conduct online proceedings through e-forms, and track cases via electronic notification systems (Susskind, 2019). Susskind further notes that the use of technology in judicial processes will continue to expand, with future generations increasingly benefiting from "telepresence" capabilities, and virtual hearings becoming more realistic through augmented reality technologies (Susskind, 2019).

When examining the functions of digital technologies in the field of justice, they can be categorized into primary and secondary functions. Primary functions include data collection, obtaining legal advice, participation in direct negotiations, facilitated deliberation processes, and assistance in decision-making stages. Secondary functions, on the other hand, mainly involve dispute and process management. Telepresence technology refers to a system that enables a person to participate in a virtual environment as if physically present. Rather than viewing automation and human involvement as opposing forces, this model considers them as complementary elements of a unified and integrated process. The main objective is to ensure both technological efficiency and human interaction simultaneously, enabling employees to be integrated into organizations in a smooth and socio-technical manner.

The aim is to achieve both technological efficiency and human connection, ensuring that employees receive a smooth and sociotechnical introduction to the organization. AI can reduce costs and streamline processes, but personalized service, as demanded by customers, can only be provided to a limited extent (Khan & Iqbal, 2020; Reinhard et al., 2024). The remedy is a combination in which humans perform personal customer interaction, but AI augments them in problem-solving (Reinhard et al., 2024).

Dellermann et al. (2019) introduce the concept of hybrid intelligence, emphasizing that AI system developers must coordinate novice interactions with AI to maximize synergies in hybrid intelligence. The main purpose of this approach is to ensure both technological efficiency and human connection at the highest possible level simultaneously.

Conclusions

Within the framework of this research, the evolution of the digital society, the integration of artificial intelligence technologies into the legal system, and the profound transformations created by this integration in administrative governance and the judicial system have been analyzed from a scientific and theoretical perspective. The conducted analysis shows that the digital era, which began with the internet and network socialization, has now entered a new phase characterized by

the rapid semantic and functional evolution of artificial intelligence. Artificial intelligence has moved beyond being merely an object of science fiction and has become a global driving force that directly influences all branches of law, particularly liability, civil, criminal, and intellectual property law, as well as broader social sciences ranging from theology to sociology.

The analysis of the classified supporting, replacing, and transformative technologies demonstrates that digitalization reshapes the practical mechanisms of law without undermining its fundamental essence. The Electronic Court Information System successfully implemented in the Republic of Azerbaijan, along with the conduct of hearings via videoconferencing, represents one of the most prominent practical examples of this transformation. However, such technological advancement also brings significant risks related to “datafication,” expanding states’ capacity for surveillance and monitoring over citizens. For this reason, ensuring an effective balance between state technological power and individuals’ fundamental rights and freedoms—particularly the right to privacy—has become one of the most pressing issues of administrative law.

One of the most important scientific conclusions of this study is that viewing automation and human involvement as opposing forces is a fundamental misconception. A socio-technical approach that synthesizes technological efficiency with human interaction is essential for the future sustainability of legal systems. Based on the theories of contemporary scholars such as Khan, Iqbal, Reinhard, and Dellermann, the application of the “Hybrid Intelligence” model in public administration and justice systems is inevitable in order to maximize service quality and the objectivity of decision-making. This model combines the efficiency of artificial intelligence in processing large datasets and reducing costs with human emotional intelligence, sense of justice, and individualized judgment within a unified framework.

In conclusion, artificial intelligence can improve the accessibility, efficiency, and consistency of administrative judicial proceedings. However, it should complement rather than replace human judicial reasoning. A hybrid intelligence model is therefore the most appropriate approach, provided that transparency, explainability, data protection, non-discrimination, and meaningful human oversight are ensured.

The principal limitation of this study is its conceptual and doctrinal nature. It does not include empirical testing of a specific AI system, quantitative analysis of administrative cases, or interviews with judges, lawyers, and litigants. Consequently, its findings should be regarded as exploratory and require further empirical verification.

Future research should focus particularly on the use of AI in claims seeking performance of an obligation in administrative judicial proceedings. Using anonymized administrative cases, researchers could examine whether AI can assist in distinguishing administrative acts from factual actions, identifying administrative inaction, comparing judicial practice, and monitoring the enforcement of judgments. Such research should be conducted through an interdisciplinary pilot project involving legal scholars, judges, lawyers, and AI experts. Nevertheless, the final assessment of the public-law obligation and the adoption of the judicial decision must remain under the exclusive responsibility of the judge.

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