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Towards the Establishment of Smart Courts to Achieve Prompt Justice (Between Application and Challenges)

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Abstract:

Artificial intelligence, as the birth of the fourth industrial revolution, has imposed itself as a necessity in all fields of life to assist humans in solving their current and future problems. It primarily relies on the use of robots and intelligent programs to perform complex tasks, which were originally entrusted to human intelligence. Hence, the urgent need arose to solve issues in case rulings, simplify litigation procedures, and bring justice closer to citizens, which can only be achieved through a new challenge for the judicial institution. This challenge involves keeping up with the artificial intelligence revolution, which is expected to positively impact the entire justice system in order to create a modern justice system. Several applications of artificial intelligence have emerged in the judiciary internationally, contributing to the realization of the concept of smart courts. However, its practical applications in Arab countries are very limited due to the novelty of the subject, as they have barely introduced some technological means to implement the concept of electronic courts. It may take many years for these countries to enter the world of artificial intelligence.

Keywords: Artificial Intelligence, Modern Justice, Smart Court, Smart Litigation, Electronic Court.

Introduction:

The world today is experiencing a significant informational opening that has created new opportunities that were once considered mere fantasies in the past years. The vast expansion in the use of digital technology has led to a qualitative shift, affecting various fields of life, including the justice system.

The use of information technology in the justice sector leads to the electronic transformation of judicial institutions from traditional to electronic, a situation that positively impacts the quality of judicial work and brings justice closer to the citizens. This has been the path followed by most countries around the world, including Algeria. However, this applied electronic judicial system should not be the final stage but must be developed further, especially with the emergence of artificial intelligence technologies, which rely primarily on robots that resemble human intelligence and thinking, and sometimes even surpass it. There is now the possibility of relying on and replacing human elements with smart robots that manage this sector, from services to litigation in all its stages. In this regard, several judicial applications of artificial intelligence have appeared in the courts of developed countries, while its practical applications are still rare in most Arab countries due to the novelty of the field. These countries are still in the early stages of adopting an electronic litigation system in their courts, having barely introduced some basic electronic systems in their litigation procedures. They may need many years to transition to a smart litigation system, especially since the latter is more comprehensive than electronic litigation. Initially, it appears as electronic litigation, but when fully relying on the internet and replacing human elements with artificial intelligence systems, electronic litigation turns into smart litigation.

In light of the above, we formulated the following problem:

How can artificial intelligence technologies contribute to creating smart courts in order to achieve a modern justice system?

To support this main issue, we raise the following questions:

What is meant by artificial intelligence? And what is its importance for the justice sector?

What are the manifestations of artificial intelligence applications in the judiciary?

What is the feasibility of applying artificial intelligence technologies in Algerian courts?

Study Objectives:

Understanding the concept of artificial intelligence and defining its importance, particularly in the justice sector.

Understanding the legal framework regulating artificial intelligence technologies at the international and national levels.

Explaining the practical applications of artificial intelligence in the judiciary to create a modern justice system.

Understanding the role of artificial intelligence in judicial institutions: Does it serve as an aid to the human judge in decision-making, or will it replace the human element altogether?

Identifying the challenges facing Algerian courts in implementing artificial intelligence technologies and proposing the necessary requirements to achieve this.

To answer this issue, we have decided to adopt a descriptive, analytical, and comparative approach, relying on a two-part structure. The first part is titled Artificial Intelligence: A Modern Approach for the Modernization of the Judiciary, and the second part is titled The Smart Court: A Modern System in Light of Artificial Intelligence.

Chapter One: Artificial Intelligence as a Modern Trend for the Modernization of the Judiciary

The digital revolution has caused a fundamental change in various fields, whether at the individual or group level, especially concerning the operation of public institutions and the quality and speed required in delivering services to the public. This is particularly true if the governmental entity is a service provider, especially the judicial system, which primarily aims to achieve justice and simplify procedures for litigants amidst the digital transformation that the world is currently witnessing. This situation necessitates a judicial breakthrough, primarily represented by the adoption of artificial intelligence as a modern strategy to enhance and elevate the justice system.

Section One: Artificial Intelligence Between Concept and Importance

Artificial intelligence represents a significant turning point in human history due to the modern applications it offers in the administration process across various fields. This science emerged as a result of the experiences, experiments, and research of many thinkers and researchers, which have been translated into programs and devices serving individuals, such as conducting scientific research experiments, or serving public institutions by performing various tasks and activities.

Subsection One: The Concept of Artificial Intelligence

To understand the concept of artificial intelligence, it is essential to first know its linguistic definition and then proceed to its technical definition.

First: Linguistic Definition

Artificial intelligence consists of two words: the first, "intelligence," meaning the ability to understand or think, and the second, "artificial," referring to something made.

The Oxford Dictionary defines "artificial intelligence" as "the theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and language translation."[1] Similarly, the Britannica

[1] Artificial-intelligence, Oxford Refernce, https://is.gd/TiuuYG

Dictionary defines it as "a field of computer science that gives machines the ability to exhibit human-like intelligence or the power of machines to mimic intelligent human behavior."[2]

Second: Technical Definition

There are numerous definitions of artificial intelligence, and in fact, no unified definition exists. It is thus defined as "certain behaviors and characteristics that computer programs possess, enabling them to simulate human mental capacities and patterns of operation. This means that a computer is qualified to perform functions for which it was not previously programmed, relying on information it is fed electronically or mechanically."[3]

The American scientist John McCarthy is considered the person who coined the term "artificial intelligence" in 1956. He defined it as "the science and engineering of making intelligent machines, especially intelligent computer programs."[4]

Dr. Adel Abdel Nour, the author of the book on artificial intelligence, defined it as "a science whose primary objective is to make computers and other machines acquire the attribute of intelligence and have the ability to perform tasks that were until recently exclusively human, such as thinking, learning, creating, and communicating."[5]

What is noticeable in the previous definitions is undoubtedly that they were presented in a general form, meaning that artificial intelligence encompasses various fields of life, including the judiciary system, as it is one of the sensitive institutions with big data and confidential information. In turn, it requires precision in resolving disputes and sound decision-making. This leads us to the possibility of using artificial intelligence technologies in the justice system to achieve greater transparency and improve decision-making practices, aiming to create a justice system characterized by fairness and efficiency that enables everyone to access better justice under artificial intelligence, towards embodying a modern justice framework.

Based on the above, artificial intelligence is considered a modern science that allows machines to process information and reach accurate results in a manner that resembles human thinking processes, that is, in a way similar to human logical operations of analysis, connection, and inference, but with complete independence through acquiring the attribute of intelligence. Therefore, the science of artificial intelligence is a technology that simulates human intelligence in performing tasks across various fields. It can continuously improve itself based on the information it collects and the data it processes, leading to better decision-making and decision-making practices.

Introducing artificial intelligence technologies into the justice system leads us to highlight and define some terms that we often use without mastery. Defining them is necessary due to their primarily technical meanings.

[2] Artificial-intelligence, The Britannica Dictionary, https://is.gd/35kzek
Consulted the 10/11/2023 at 10 :53.
[3] Siham Darrbal, "Artificial Intelligence: A Legal Study," The Scientific Group for Printing, Publishing, and Distribution, First Edition, 2022, pp. 12-13.
[4] Artificial-intelligence, Tutorialspoint , https://is.gd/6iAhWj
Consulted the 10/11/2023 at 12.30.
[5] Adel Abdelnour, An Introduction to the World of Artificial Intelligence, Lotus Electronic Library, 2009, p. 5.

- **Smart Litigation:** It is an intelligent system in which all litigation procedures are carried out, from filing the lawsuit to the judgment stage and even its implementation, through official smart applications adopted by judicial authorities via specialized and secure networks. Through this system, files are saved and archived in designated electronic records, and judgments and decisions are issued digitally through the database and analysis, resulting in an executable digital judgment automatically and under specific regulations.[6]
- **Smart Court:** It relies on activating artificial intelligence systems in digital litigation, where this technology replaces humans, compensating judges, lawyers, and judicial institution employees. Initially, it is an electronic court that relies solely on the Internet, and with the use of newly developed artificial intelligence technologies, it transforms into a digital court[7].

- **Predictive Justice:**

It refers to artificial intelligence algorithms associated with mathematical tools that rely in their predictions on previously provided data. Its main goal is to assist judicial authorities in achieving more reliable legal justice[8]. Therefore, the foundation of predictive justice is judicial prediction, meaning anticipating the outcome of litigation through analyzing abundant information based on previously provided decisions. Hence, the algorithm will be able to predict the resolution of the concerned dispute[9].

Subsection Two: The Importance of Artificial Intelligence

It is difficult to pinpoint the importance of artificial intelligence in specific points due to its connection and impact across all fields and domains. Therefore, we will attempt to highlight some points, for example but not limited to:

- Artificial intelligence can contribute to preserving accumulated human expertise by transferring it to intelligent machines.
- Enabling humans to use natural language in interacting with machines instead of computer programming languages, thus making the use of these machines accessible to all segments of society.
- The contribution of intelligent systems in decision-making areas, especially since these systems are characterized by autonomy, precision, and objectivity, making their decisions free from errors, biases, previous judgments, or even external or personal interventions.

- Artificial intelligence plays an important role in various sensitive fields such as providing legal and professional consultations[10], managing financial and banking transactions, and

[6] Abdullah Mohammed Ali Suleiman Al-Marzouqi, Electronic Litigation (Smart Litigation), and Electronic Judiciary (Smart Judiciary): A Comparative Study of the Legislation of the United Arab Emirates with Some Arab and Foreign Systems, Sharjah University Journal of Legal Sciences, Volume 18, Issue 2, 2021, pp. 249-250.

[7] Nesreen Zarari, Ismail Bougerra, Towards the Transition to the Digital Court, Journal of Law and Political Sciences, Volume 10, Issue 2, 2023, p. 455.

[8] Omar Abdel Majid Mosbih, "The Employment of 'Predictive Justice' Algorithms in the Criminal Justice System: Prospects and Challenges," International Journal of Law, Volume 10, Issue 1, 2020, pp. 237-238.

[9] Boujemaa Betchim, Artificial Intelligence in the Modern Justice System: In Light of the Latest Legislative and Comparative Judicial Rulings up to 2022, Alfa Publications for Documents, Algeria, First Edition, 2023, p. 65.

[10] Adel Abdelnour, Op. cit., p. 9.

swiftly and accurately drafting and reviewing smart contracts beyond the abilities of humans and specialists in the field of contracts.

Based on the above, it can be said that artificial intelligence holds significant importance affecting various fields and sensitive institutions with large data and confidential information, including the judiciary system as a vital institution with national and strategic dimensions. The importance of artificial intelligence in the judiciary lies in:

- The smart judicial system allows the entire litigation process, from filing a lawsuit to executing the judgment, to be carried out using official smart applications approved by judicial authorities through specialized and secure networks[11].
- The supporting role of artificial intelligence for the human judge in most cases presented before him, helping him perform his work better, known as "expert systems," or replacing him in resolving some cases that do not require the presence of a human judge[12]. For instance, artificial intelligence can replace the human judge in inheritance cases, where it would be more superior than the human mind and perform calculations more comprehensively than specialists in inheritance division or a human judge in family court.
- The ability of artificial intelligence to predict and make judicial decisions and rulings on its own without human judicial intervention, known as "predictive justice." Artificial intelligence can simulate the human mind and through it, be able to make or predict the appropriate decision. It also has the ability to analyze legal documents and papers using the Ross Intelligence program[13].
- The use of robotics technology in courts has a positive impact on the efficiency of the services provided by the courts by saving time and effort for litigants and their representatives, while allowing human resources to be used for major tasks. For example, the North Carolina courthouse uses this system through Tango technology, which has led to a 37% reduction in the volume of incoming calls to the courts[14].

Section Two: The Legal Framework Regulating Artificial Intelligence

National, regional authorities, and international organizations, along with many non-governmental institutions around the world, have started adopting strategies aimed at benefiting from the capabilities of artificial intelligence, given its significant importance and continuous development witnessed today through robots, intelligent programs, etc. However, this industrial revolution may affect various segments of society. Therefore, it is important for lawmakers to consider the legal and ethical implications of such a revolution without hindering research and development in artificial intelligence technologies. However, it appears that international and national efforts in the legal regulation of artificial intelligence technologies are still in their early stages and do not match the rapid development of these technologies.

Subsection One: Legal Documents at the International Level

[11] Abdullah Mohammed Ali Suleiman Al-Marzouqi, Op. cit., pp. 249-250.
[12] Fatima Abdel Aziz Hassan Ahmed Bilal, Smart Litigation in Qatari Courts: Between Reality and Expectations - A Comparative Study, Journal of Legal and Political Research, Volume 3, Issue 3, July 2023, p. 101.
[13] Fatima Abdel Aziz Hassan Ahmed Bilal, The Role of Artificial Intelligence in Enhancing Prompt Justice before the Judiciary: A Comparative Study with the Legal and Judicial Systems in the State of Qatar, Master's Thesis, Private Law, Faculty of Law, Qatar University, January 2023, p. 34.
[14] Fatima Abdel Aziz Hassan Ahmed Bilal, Ibid., pp. 36-37.

Among the most important international legal documents that addressed artificial intelligence technology:

First: The European Ethical Charter

The European Union countries officially adopted algorithms within their national legislative system when the European Regulation No. 967 of 2016 entered into force on May 25, 2018. This regulation is currently in effect in the EU countries and provides legal protection for personal data in EU member states by taking necessary legal measures to protect the rights, freedoms, and legal interests of data owners when they are subjected to technological processing. To ensure the implementation of this regulation within a neutral ethical framework that does not infringe on the rights, freedoms, and interests of the data owner, the European Commission for the Efficiency of Justice, part of the Council of the European Union, issued the European Ethical Charter for the Use of Artificial Intelligence in Judicial Systems[15]. The Charter outlines five fundamental ethical principles that judicial authorities must consider:

1. **Principle of Respect for Basic Human Rights**: Design and implement artificial intelligence tools in a way that ensures the protection of fundamental human rights.
2. **Principle of Equality and Non-Discrimination**: Prevent the development of biased artificial intelligence programs, meaning not discriminating against individuals based on race, gender, or color.
3. **Principle of Quality and Security**: Ensure the design of algorithms that allow for the issuance of judicial decisions and data through the use of reliable sources and secure data in the technological environment.
4. **Principle of Transparency, Neutrality, and Fairness**: This means processing information in a way that is accessible and understandable regarding how it is processed, and that it can be reviewed by others[16].
5. **Principle of User Control**: The user, whether a judge or lawyer, should have independence when using this system[17].

On June 14, 2023, members of the European Parliament adopted the European Union Artificial Intelligence Act, the first comprehensive artificial intelligence law in the world, proposed by the European Commission on April 21, 2021. The aim of this law is to provide a common regulatory and legal framework for the use of artificial intelligence systems. The law also proposes the creation of a European Artificial Intelligence Council to enhance national cooperation and ensure compliance. After the adoption of this law by the European Parliament, it is expected that discussions with European Union countries will begin in the council to finalize the law and reach an agreement by the end of 2023[18].

Second: The Recommendation on the Ethics of Artificial Intelligence

[15] Fahil Abdel Basset Abdel Karim, The Role of Digital Technology in Achieving Criminal Justice: Opportunities and Challenges, Duhok University Journal, Volume 25, Issue 2, Iraq, 2022, p. 912.
[16] Omar Abdel Majid Mosbih, Op. cit., p. 243.
[17] Fatima Abdel Aziz Hassan Ahmed Bilal, The Role of Artificial Intelligence in Enhancing Prompt Justice before the Judiciary, Op. cit., p. 104.
[18] Abbas Fadhil Saeed, The Parties Responsible for Criminal Liability in Artificial Intelligence Errors, Regional Studies Journal, Year 17, Issue 58, Center for Regional Studies, University of Mosul, Iraq, October 2023, pp. 176-177.

The Recommendation on the Ethics of Artificial Intelligence was adopted on November 23, 2021, and was issued in 2022 by the United Nations Educational, Scientific and Cultural Organization (UNESCO). This recommendation was established to ensure that the development process of artificial intelligence respects the law, aligns with it, and does not cause any potential ethical harm to human societies, the environment, and ecosystems, such as discrimination, gender inequality, the violation of privacy, or misuse of personal data. It also addresses the necessary precautionary measures to maximize the benefits of artificial intelligence while reducing its risks by promoting relevant values and principles, and offering detailed recommendations in the field of policies for all areas related to artificial intelligence. Additionally, it provides a readiness assessment tool that allows member states to assess their readiness to implement the recommendation by identifying the competencies and skills required from those working in the artificial intelligence sector to ensure its regulation under more robust controls. Member states are required to submit regular reports on the progress made and the practices followed, particularly providing a report every four years[19]. Thus, this recommendation contains an integrated and flexible strategy for the optimal and correct use of artificial intelligence technologies, grounded in the necessity of preserving human dignity, ensuring safety, and preventing harm, serving as a guiding indicator, as it is based on fundamental principles in digital technology ethics.

Subsection Two: Legal Documents in Foreign Legislation

Among the legal documents addressing artificial intelligence technology in foreign legislation:

First: The United States of America

In 2017, the United States issued the law *"The Future of Artificial Intelligence and its Prospects in the World,"* which is the first law centered on artificial intelligence systems[20]. Additionally, the state of California adopted legislation to support the twenty-three principles of artificial intelligence approved by the Future of Life Institute, aiming to promote the expected and beneficial development of artificial intelligence. These principles include research, ethics, and values, and have been widely adopted in their research.

Second: Singapore

In 2018, the Government of Singapore announced additional initiatives focusing on the ethics of artificial intelligence and providing a set of guiding ethical principles concerning the management and integration of human decision-making in artificial intelligence to reduce biases in datasets[21].

Subsection Three: Legal Documents in Arab Legislation

Among the legal documents that addressed artificial intelligence technology in Arab legislation:

First: The Egyptian Charter for Responsible Artificial Intelligence

[19] The Recommendation on the Ethics of Artificial Intelligence, issued by the United Nations Educational, Scientific and Cultural Organization (UNESCO), 2022.
[20] Abbas Fadhil Saeed, Op. cit., p. 175.
[21] Talal Bin Aqeel Al-Attas Al-Khairi, The Islamic Foundations of Artificial Intelligence Ethics: An Analytical Study, Tabuk University Journal of Humanities and Social Sciences, Volume 1, Issue 3, Tabuk University, Kingdom of Saudi Arabia, p. 198.

The Egyptian National Council for Artificial Intelligence, established by the Cabinet Decision No. 2889 of 2019, announced the launch of the Egyptian Charter for Responsible Artificial Intelligence. This document represents Egypt's first attempt to clarify the various guiding principles related to the regulatory frameworks for the ethical and responsible use of artificial intelligence technologies, adapted to the nature and ethics of Egyptian society[22]. The Charter is divided into two parts:

1. **General Guiding Principles**: These are comprehensive rules that apply to all members of the ecosystem, for example: ensuring justice by preventing harm to any individual from the application of an artificial intelligence system, and providing special protection for vulnerable and disadvantaged groups such as children and individuals with low economic and educational levels.
2. **Executive Guiding Principles**: These are technical considerations primarily applied to any entity that develops, deploys, or manages an artificial intelligence system. For instance: artificial intelligence systems must be secure and safe throughout their lifecycle, ensuring proper functioning and risk-free operation, whether in normal use conditions, misuse, or adverse conditions[23].

Second: Principles and Guidelines for Artificial Intelligence Ethics

The United Arab Emirates, through the Dubai Smart Office, announced the launch of principles and guidelines for artificial intelligence ethics, aiming to provide guidance for designing and applying artificial intelligence ethics for systems and solutions in both the public and private sectors. Among Dubai's principles for artificial intelligence are: ethics, safety, inclusivity, and humanity[24].

As for Algerian legislation, there is no independent legal regulation on artificial intelligence, except for the provisions found in other legislation related to cybercrimes, electronic crimes, or electronic transactions. These regulations address some issues related to artificial intelligence but not as an independent entity. The reason for this may be that the artificial intelligence technologies used in Algeria are at simple levels that do not meet the full scope of artificial intelligence. Moreover, there are no artificial intelligence entities in Algeria, such as intelligent robots or smart programs, as is the case in advanced countries in this field.

From what has been presented, it appears that there is no regulation equivalent to a binding law defining the rules governing artificial intelligence technologies and their legal nature, which would hold them accountable for errors resulting from them. Instead, these are merely codes of conduct containing a set of general and guiding principles for the procedures that must be followed by all relevant parties when applying artificial intelligence technologies in courts, especially since they may affect fundamental human rights and principles of justice. Therefore, we urge the Algerian legislator to establish a strategy for artificial intelligence technologies to ensure their use in accordance with Islamic law and national identity, with the formation of a specialized body to oversee their implementation. Additionally, there should be a comprehensive law to regulate artificial intelligence systems, define their legal nature, and determine how they should be applied

[22] Abbas Fadhil Saeed, Op. cit., p. 175.
[23] The Egyptian Charter for Responsible Artificial Intelligence, issued by the Egyptian National Council for Artificial Intelligence, 2023, pp. 2-3.
[24] Smart Dubai, Principles and Guidelines for Artificial Intelligence Ethics, p. 6. Available at: https://www.digitaldubai.ae/ar/initiatives/ai-principles-ethics

within the justice sector, as well as establish the necessary measures and procedures to address the risks resulting from them without hindering research and development in the field of artificial intelligence technologies.

Chapter Two: The Smart Court: A Modern System in Light of Artificial Intelligence

Each country strives to develop its justice system in light of artificial intelligence technologies due to the technological and scientific advancements made in this field, including intelligent applications and programs. In this regard, many advanced countries, such as the USA and European countries, have applied artificial intelligence systems in their judicial institutions, with remarkable success in reducing time and effort for litigants and judges alike, enhancing judicial work. However, its practical applications in the Arab world are very limited compared to Western countries. This is likely due to the recent introduction of electronic litigation systems in Arab countries, which have only implemented basic electronic systems in litigation procedures. These countries need many years to fully adopt artificial intelligence technologies in their judicial institutions.

Section One: Applications of Artificial Intelligence in the Courts of Western Countries

Efforts have emerged in the Latin system and Anglo-American system to apply artificial intelligence systems to the justice system, both in its substantive and procedural aspects. This has been achieved by adapting modern tools and technologies to simplify and facilitate the tasks of those working in the judiciary, enabling transparency in justice and improving decision-making and judicial rulings.

Subsection One: Artificial Intelligence Applications in Litigation

Among the countries that have utilized artificial intelligence technologies to create a modern justice system through their application in litigation are the United States of America (first), China (second), and France (third).

First: The USA's Experience in Smart Litigation

The USA launched the "Robot Lawyer," which provides various legal information and engages with people in a way that mimics human interaction. It also offers legal services through which users can access legal information and certain case precedents, provided by private companies using specific technologies that predict the judgments the judge will issue, a concept known as "Predictive Justice."[25] In this regard, predictive justice has the ability to analyze data and forecast future trends, including recidivism rates by using risk assessment tools, which are algorithms that analyze historical data to predict the likelihood of a defendant reoffending. For example, some judges in U.S. courts use tools like "COMPAS" to help them make decisions regarding bail or release. The goal is to reduce recidivism rates and maintain public safety[26].

[25] Fatima Abdel Aziz Hassan Ahmed Bilal, Smart Litigation in Qatari Courts: Between Reality and Expectations - A Comparative Study, Op. cit., p. 109.
[26] Mohammed Ali Saleh, Justice in the Era of Artificial Intelligence, UltraSonic Network, Website: https://is.gd/MHKc9e , Accessed on 13/11/2023 at 15:41.

Subsection Two: China's Experience in Smart Litigation

In 2015, the SPC Committee of China completed three online platforms to provide information on China's judicial processes, including "China Judgement Online" and "China Judgement Enforcement." These platforms aim to offer litigants and lawyers the opportunity to receive updates on their cases by enabling litigants to log in with their personal information, such as name, mobile number, ID card, or passport number for verification, providing comprehensive information that helps parties and lawyers navigate the litigation process.

For instance, the "China Judgement Online" platform publishes judgments issued by all levels of Chinese courts, except those that are legally restricted from being made public. Additionally, the platform acts as an important database for all Chinese judges, ensuring consistent rulings by providing access to previously adjudicated cases with similar facts. Moreover, the data derived from the judgments on the platform has been used in some of the court systems integrated with artificial intelligence technology developed by local courts[27].

In December 2019, China announced that millions of legal cases were being decided by "internet courts" that did not require the public to physically attend court[28]. The Hangzhou Internet Court, for instance, has jurisdiction to hear internet-related cases such as disputes arising from online shopping and services, via the "Hangzhou Internet Court Litigation Platform," which allows for all judicial procedures to take place online, from filing a case to submitting documents, exchanging evidence, conducting online hearings, and issuing judgments. However, the court can still decide to require physical attendance[29].

It is also noteworthy that the first artificial intelligence robot was used in a court in Beijing. This robot, named "Xiaofa," is 1.46 meters tall and provides legal consultations and guidance by explaining complex legal terms to help the public better understand them. The robot is capable of answering over 40,000 legal or procedural questions and is tested by legal specialists before being used in Chinese courts[30].

Subsection Three: France's Experience in Smart Litigation

Decree No. 20/356, dated March 27, 2020, related to the automatic processing of personal data, implemented an algorithm called "Data Just" for two years to develop the foundations for compensating personal injuries. This system is available to judges, lawyers, insurance companies, and, most importantly, the injured parties, to estimate the compensation they might be entitled to, also aiming to encourage out-of-court settlements[31].

Furthermore, France adopted an "Open Data" system, which makes court decisions publicly available online for free. This system is established under Article 21 of Law No. 1321 of 2016,

[27] Amal Badghio, Sofiane Archouche, Smart Courts: The Chinese Supreme People's Court as a Model, Journal of Law and Political Sciences, Volume 10, Issue 1, Abbas Laghrour University of Khenchela, Algeria, p. 695.
[28] Tara Vasdani, Robot justice, China's use of internet Courts, the Lawyer's Daily, LexisNexis, Canada, https://is.gd/6EaIQl , Consulted the 13/11/2023 at 12.30.
[29] Amal Badghio, Sofiane Archouche, Op. cit., pp. 695-696.
[30] Robots gives guidance in Beijing court, China Daily, 2017, https://is.gd/qdRhow, Consulted the 16/11/2023 at 17:46.
[31] Soulier Avocats, Data Just- Towards a Predictive Justice, impact News service, 22/4/2020, Available at: https://is.gd/PxNqdH , Consulted the 16/11/2023 at 21:30.

dated October 7, 2016, and further clarified by Article 33 of Law No. 22 of 2019, dated March 23, 2019, regarding justice reform programming, and Decree No. 797 of 2020, dated June 29, 2020, concerning the publication of judicial and administrative decisions. The main objective of open data is to ensure transparency in justice and to build trust.

France has two specialized websites for open data: the first, "Jureca," collects all decisions issued by the French Court of Cassation, while the second, "Jurnet," includes rulings from appellate courts and decisions collected in the database[32]. Through this system, the judiciary provides the public with access to court decisions online, ensuring transparency[33].

Subsection Two: Artificial Intelligence Applications in Enforcement

Undoubtedly, advanced countries have been able to utilize artificial intelligence technologies in litigation, with numerous applications contributing to the modernization of judicial work to create a modern justice system. This technological shift can also extend to the field of enforcement of judgments, where human intervention is minimized, referred to as "Smart Enforcement." This aims primarily to expedite the execution of judgments and judicial decisions through artificial intelligence systems to achieve the principle of "Efficiency of Justice."

First: Smart Enforcement of Judicial Judgments

Artificial intelligence can serve as a substitute for judges or assist them, as it can be integrated to issue judicial decisions or related rulings on cases or their enforcement without human involvement. Thus, the smart enforcement of judicial judgments refers to restoring the rights of individuals as decreed by the judiciary or robots using artificial intelligence technologies, in compliance with legal frameworks, to expedite the enforcement process and eliminate some of its challenges.

For example, artificial intelligence systems, such as robots, can be used to issue administrative judgments involving threat penalties. This can happen after the creditor submits an electronic request before the relevant judicial authority to compel the debtor (whether a legal or natural person) to fulfill their obligation, with the judge issuing a threat penalty if not executed. Referring to Articles 987 and 988 of Law No. 22/13 on Civil and Administrative Procedures, the Algerian legislator defined the necessary conditions for imposing a threat penalty on a public administration[34] that fails to execute a final judgment. These conditions include:

- The final judgment involving the administration must be related to doing or refraining from doing something, such as paying a specific amount, under Article 986 amended by Law No. 22/13.
- The administration refuses to execute the judgment.
- The request for a penalty must be submitted to the competent administrative court.

The request for the imposition of a threat penalty shall not be submitted except after the expiration of a period of 3 months, starting from the date of the official notification of the judgment, with the exception of emergency orders for which a request can be submitted without adhering to a deadline.

[32] Boudjemaa Betchim, Op. cit., pp. 108-109.
[33] Boudjemaa Betchim, Ibid., p. 110.
[34] Law No. 22/13 amending and supplementing Law 08/09 on Civil and Administrative Procedures, dated 12/07/2022, Official Gazette of the Algerian Republic, Issue 48, issued on 17/07/2022.

If the administrative judicial authority has set a deadline for enforcement in its judgment or decision, the beneficiary of the judgment cannot submit the request until after the expiration of this period (Article 987, amended by Law No. 22/13)[35]. If the execution applicant files a complaint with the administration regarding the execution of the judgment issued by the administrative judicial authority and it is rejected, the three-month period will start from the date of the rejection decision (Article 988 of the Civil and Administrative Procedures Law No. 08/09)[36].

Based on the above, it is believed that artificial intelligence technologies can be used to determine the threat penalty, starting with the electronic examination of the request for the enforcer's compliance with the conditions mentioned earlier. If these conditions are met, a threat penalty can be imposed against the defendant if they fail to execute the judgment or decision. Afterward, the process of electronically deducting the debt amount from the defendant's account can take place. In this case, artificial intelligence can also be applied in the electronic systems used between the enforcement court, banks, and financial institutions, enabling direct access to the defendant's bank account and transferring the required funds to the rightful owners. This technology is also useful for detecting the debtor's assets and determining whether they are in financial distress[37]. The role of the human judge in this case would be to oversee the enforcement process to ensure that the artificial intelligence systems do not interfere in matters related to enforcement[38].

Based on the above, it can be said that the main goal of enforcing judicial rulings using artificial intelligence technologies is to increase the levels of enforcement, speed it up, and protect and guarantee rights. Additionally, it accelerates the pace of judicial work, benefiting the parties involved and ensuring the swift recovery of debts, without violating the provisions of the law, thereby achieving legal security.

Second: Smart Enforcement Bonds

An enforcement bond is a written document with a specific form, and its form indicates its content, and it has enforcement power. This is a type of validity recognized by law for a document holder, which assists the judicial system in helping the holder of the document achieve its content by taking enforcement actions[39]. To ensure enforcement in an automated and seamless manner without the intervention of the natural enforcement judge, an artificial intelligence technology called "Blockchain" is used as a smart technology to facilitate the enforcement of enforcement bonds.

1. **Definition of Blockchain Technology**:
   Blockchain is a type of shared database that differs from traditional databases in the way information is stored. This technology stores data in blocks, which are linked together through an encryption algorithm. When new data is added, it is entered into a new block. Once the block is filled with data, it is chained with the previous block, making the data

[35] See Article 987 of the amended Civil and Administrative Procedures Law No. 22/13.
[36] See Article 988 of the amended Civil and Administrative Procedures Law No. 22/13.
[37] Fatima Abdel Aziz Hassan Ahmed Bilal, The Role of Artificial Intelligence in Enhancing Prompt Justice before the Judiciary, Op. cit., p. 74.
[38] Fatima Abdel Aziz Hassan Ahmed Bilal, Ibid., p. 71.
[39] Talaat Youssef Khater, Recent Developments in Enforcement Bonds: A Comparative Study, Journal of Legal and Economic Research, Issue 76, University of Mansoura, Egypt, June 2021, pp. 180-181.

linked together in a chronological order[40], Several blockchain platforms have emerged, such as "Ethereum" and "Solana."

Blockchain technology has been used in the creation of smart contracts, in the establishment of digital cryptocurrencies like "Bitcoin," as well as in banking, healthcare, and intellectual property services. The most important features of blockchain technology include:

- **Decentralization**: This means that all blockchain data is not managed by any central authority like banks, but is only governed by the participants in the system, who can access and verify the data. It is managed collectively by the participants without the involvement of external parties.
- **Preservation of User Privacy**: This means that all user data is stored in secure and encrypted blocks, and no information can be accessed or altered except by the authorized user.
- **Resistance to Cyberattacks on Personal Data**: This refers to the inability of anyone to view, modify, or change blockchain data due to its encrypted and protected nature, making the data secure and trustworthy.

2. **Application of Blockchain Technology in Enforcement Bonds**:
Blockchain technology can be utilized in enforcement bonds by setting up an electronic platform linked electronically to the enforcement court, allowing the enforcement process to be carried out electronically without the need for human intervention ("bailiffs"). Once the user registers the enforcement bond electronically via this platform, which is built using the latest technological methods to ensure security and trust, it will track payment processes, verify, and protect the information and data of the bondholders to prevent their claims from being rejected, guaranteeing financial rights through the submission of an electronic order bond.

Through this platform, the creditor registers a request to "create a promissory note" with all necessary data, ensuring there are no deficiencies. Afterward, the debtor agrees to this request, and the electronic transfer of funds from the debtor's account to the creditor's account begins. In the end, the request and all associated documents and data are saved for future reference[41].

It is evident that the application of blockchain technology in enforcement bonds enables their electronic execution without the need for human intervention, facilitating the enforcement process for the beneficiaries and quickly verifying the data and information related to the parties.

In this regard, the Saudi judicial system has launched the first fully automated court, without the need for human intervention, to achieve prompt justice in a comprehensive system that effectively restores rights. This is the "Virtual Court for Enforcement." It is a digital structure that guarantees the automatic completion of all enforcement procedures, starting with the submission of the enforcement request, its examination, and reaching the final judgment for electronically verified enforcement bonds via the "Nafidh" platform. This platform, in its initial phase, offers services for promissory notes to access innovative judicial services that have impressed users. The most important feature of this court is the transition to digital financial transactions, ensuring transparency, quality, and speed of execution. Furthermore, it establishes this court using artificial

[40] Adam Hayes, What is a Blockchain?, Investopedia, June 22, 2022, Available at: https://is.gd/kJxcFZ, Consulted on 17/11/2023 at 13:30.
[41] Fatima Abdel Aziz Hassan Ahmed Bilal, The Role of Artificial Intelligence in Enhancing Prompt Justice before the Judiciary, Op. cit., p. 80.

intelligence technologies in judicial facilities to achieve the goals of the prompt justice system in line with Saudi Arabia's Vision 2030[42].

Finally, we conclude that the application of artificial intelligence in the judiciary has become a reality, once considered a mere fantasy. It is now one of the essential requirements for judicial reform aimed at fostering transparency in performance, enhancing judicial effectiveness, and eliminating bureaucracy, without forgetting the quality and type of services provided to litigants. However, this does not negate the concerns that artificial intelligence may encounter in its application in justice, such as undermining the spirit of the law and affecting the principles of justice and fundamental human rights. Therefore, to ensure the proper, correct, and safe application of artificial intelligence in courts in compliance with the law and justice, it is essential to consider the principles and foundations outlined in the European Ethical Charter when introducing artificial intelligence systems into the judicial system.

section Two: Challenges of Applying Artificial Intelligence in Algerian Courts and Requirements for Its Activation

The courts in advanced countries contain several intelligent applications and programs, which in turn have contributed to the modernization and quality of judicial work, aiming to achieve prompt justice, which is the ultimate goal of establishing and activating artificial intelligence technologies in judicial institutions. However, its practical applications in Arab countries in general, and Algeria in particular, are very limited compared to Western countries. This is due to the recent development of electronic litigation in Arab countries, which is still in its early stages, as is the case in Algeria. Initially, smart litigation relies on electronic litigation, and when it is fully reliant on the internet and the human element is replaced by artificial intelligence technologies, the process then turns into smart litigation.

Subsection One: Challenges of Applying Artificial Intelligence in Algerian Courts

There is no disagreement on the great importance of artificial intelligence in modernizing the justice system, and its adoption in many judicial fields in Western countries to improve judicial work quality. However, this importance has not yet been realized within the judicial institutions of Arab countries in general and Algeria in particular, due to a range of challenges that hinder the adoption of artificial intelligence technologies in Algerian courts. The most significant challenge facing Algeria, as is the case for other Arab countries, is the novelty of smart litigation and the difficulty of applying it practically. Algeria has barely introduced some electronic means to activate electronic litigation in its courts, and it may need many years to transition into the world of artificial intelligence and adopt it within the judicial system.

Additionally, there are several challenges posed by artificial intelligence itself, which make its application in Algerian courts difficult, and they are as follows:

- **Legal Challenges**: These include the lack of a legislative framework that defines and regulates the data and information collected and analyzed by artificial intelligence technologies[43]. The absence of a specific legal regulation for the controls and rules of

[42] Sakina Fatima, Saudi Launches First Artificial Intelligence Run Virtual Court, Siasat Daily, India, March 28, 2022, https://is.gd/UBf6Mg, Consulted on 17/11/2023 at 17:30.
[43] Ahmed El-Shoura Abouzeid, Artificial Intelligence and the Quality of Judgment, Journal of the Faculty of Economics and Political Science, Volume 23, Issue 4, Cairo University, Egypt, October 2022, p. 165.

artificial intelligence technologies is a direct result of the legislative delay in keeping pace with the digital transformation in the legal field[44]. This requires either amending current laws or creating new laws that regulate the application of artificial intelligence in the judiciary, including its procedures, the regulation of its legal and technical concepts, and the definition of responsibility and errors resulting from its use, which necessarily entails the determination of penal sanctions for crimes committed using it.

- **Technical Challenges**: These involve the lack of a technical infrastructure equipped with all the necessary tools, equipment, and networks that would allow the expansion and easy application of digital justice. This requires large budgets to create and develop court infrastructures[45], which is a concern for the responsible administrative bodies and court managers, especially with the lack of financial support from higher leadership[46]. Additionally, there are concerns regarding information security due to the possibility of hacking the information systems[47], leading to the spread of cybercrimes and the potential manipulation and alteration of evidence. This necessitates the establishment of an effective electronic protection system to prevent these crimes, with strict penalties for those who commit them[48].
- **Human Challenges**: These relate to the lack of technical expertise among human resources, which is crucial when creating an integrated electronic infrastructure[49], The shortage of specialized and qualified personnel in the electronic field results in a lack of knowledge regarding the use of modern tools, which causes reluctance in applying them in litigation[50]. This leads to obstructing decision-makers' efforts to keep up with digital transformations and integrate artificial intelligence technologies into judicial institutions. Therefore, there is a need to train and qualify judicial and administrative staff on how to use intelligent systems[51] by experts in the electronic field.

Section Two: Requirements for Activating Artificial Intelligence in Algerian Courts

Quality judicial work and its alignment with technological development are among the aspirations of wise leadership, and are essential pillars of growth and progress, as they achieve the modernization of justice and the integration of all its components into digital transformation initiatives. In this regard, the Algerian legislator has made a significant shift in its focus on judicial reform and improving performance by issuing laws that allow judicial authorities to use modern digital technologies and employ advanced mechanisms in the form of an electronic public service offering services efficiently with speed and quality, in line with the global shift towards electronic courts. Moreover, a new challenge has emerged, adopted by many developed countries[52], which revolves around the application of artificial intelligence systems in courts, known as the "smart

[44] Mohamed Fawzy Ibrahim Mohamed, Ahmed Mohamed El-Baghdadi, Digital Justice and Virtual Courts, Banha Journal of Humanities, Issue 1, Part 2, Banha University, Egypt, 2022, p. 160.
[45] Mohamed Fawzy Ibrahim Mohamed, Ibid., p. 159.
[46] Abdullah Mohammed Ali Suleiman Al-Marzouqi, Op. cit., p. 258.
[47] Fertass Fatiha, Modernization of Public Administration in Algeria through the Implementation of E-Government and Its Role in Improving Citizen Services, New Economy Journal, Volume 02, Issue 15, Khemis Miliana University, Algeria, 2016, p. 320.
[48] Mohamed Fawzy Ibrahim Mohamed, Op. cit., pp. 159-160.
[49] Ahmed El-Shoura Abouzeid, , Op. cit.,p. 164.
[50] Abdullah Mohammed Ali Suleiman Al-Marzouqi, Op. cit., p. 258.
[51] Fatima Abdel Aziz Hassan Ahmed Bilal, Smart Litigation in Qatari Courts: Between Reality and Expectations - A Comparative Study, Ibid., p. 123.
[52] Amal Badghio, Sofiane Archouche, Electronic Litigation and Its Role in Ensuring the Functioning of the Justice Sector During the COVID-19 Pandemic, Journal of Legal and Social Sciences, Volume 6, Issue 3, Zian Achour University, Djelfa, September 2021, p. 493.

court," which is broader than the electronic court. Initially, it is an electronic court, but once it relies solely on the internet and replaces the human element with artificial intelligence technologies, it transitions into a smart court[53].

Thus, the most important requirements for transitioning to adopt artificial intelligence systems in Algerian courts are:

- **Activating the Electronic Court Application**:
  An electronic court relies on information technology in some aspects but does not fully replace traditional methods, unlike a smart court. The primary goal is to enable access to the justice system and facilitate communication among legal and judicial actors[54]. Additionally, it provides remote judicial or administrative services. The electronic court is related to the smart court in a way that the electronic court is a part of the smart court, or more accurately, the electronic court is a precursor to the smart court.

In this regard, the Algerian legislator has shown an intention and effort towards adopting the concept of the electronic court to modernize judicial institutions, evidenced by the issuance of Law No. 15/03 on the modernization of justice, which serves as the primary legislative reference allowing the use of modern technology in the judiciary. However, this law is criticized for not significantly contributing to the digitization of the justice sector, particularly due to the lack of public awareness supporting digital transformation.

However, due to the spread of the COVID-19 virus and its negative effects on public services, particularly the justice sector, which disrupted judicial work and suspended court services due to the restrictions imposed by the pandemic, including quarantine and social distancing, the Algerian legislator activated the electronic litigation mechanism by expanding the use of remote video conferencing in light of Ordinance No. 20/04 amending and supplementing the Criminal Procedure Law in the stages of judicial investigation and trial, a practice that had previously been modest under Law No. 15/03 on the modernization of justice. This was done to ensure the continued functioning of the justice system and maintain public health security. It is inevitable to rely on such technologies in the future, as they ensure fair trials conducted remotely under technical and equitable conditions that guarantee the rights of litigants.

Thus, like other Arab countries, Algeria has only adopted the electronic court in its judicial system without yet reaching the point of adopting the smart court.

Some manifestations of the implementation of the electronic court in Algeria as the first steps toward adopting the smart court, which relies on artificial intelligence technologies, include:

1. **In the Administrative and Service Aspects of the Electronic Court**:
   - The possibility to track the status of cases and view judgment areas online.
   - Remote retrieval of judgments and court decisions.
   - Extraction of documents from the unified window via the internet.
2. **In the Judicial Aspects of the Electronic Court**:
   - Establishment of a platform for the Public Prosecution.

[53] Nesreen Zarari, Ismail Bougerra, Op. cit., p. 461.
[54] Al-Hussein Dekair, Mohamed Bouzdeka, State of Health Emergency and the Challenge of Activating the Digital Court, Legal Researcher Journal, Series of In-Depth University Legal Research, Issue 38, Morocco, 2020, pp. 48-49.

- Use of remote video conferencing technology in criminal procedures.
- Adoption of electronic notification.

- **Legislative Foundations**: The legal foundations include issuing a series of legal texts that regulate the concept of smart litigation and specify how smart courts should operate to grant legitimacy and credibility to their work. This includes providing criminal protection from crimes resulting from artificial intelligence through the preparation of legislation that ensures the protection of digital documents and data from tampering, preserving cybersecurity for digital court networks[55].
- **Technical Foundations**: These involve introducing a range of modern technological tools to create digital infrastructure within Algerian courts, relying on the experiences of judicial systems that have been pioneers in using artificial intelligence technologies in their judicial institutions, both in technical and technological aspects, and applying them on the ground in alignment[56] with Islamic law and the identity of Algerian society, while ensuring the provision of technical protection for the information system against hacking and viruses[57].
- **Human Foundations**: In addition to the legislative and technical foundations, creating a smart court requires the availability of highly skilled human resources in using electronic programs[58]. This includes the need to train and qualify all judicial and administrative staff on how to use the electronic systems in electronic courts. This confirms the ability to train court workers in using artificial intelligence technologies by experts in this field[59] in preparation for adopting the smart court. Furthermore, there is a need to spread awareness of artificial intelligence among different segments of society to facilitate the widespread use of applications based on these technologies, thereby creating a digitally literate citizen capable of interacting with them[60]. And we mention in this regard Algeria's interest in teaching artificial intelligence through the establishment of a dedicated school under Presidential Decree No. 21/323, which includes the creation of a National School of Artificial Intelligence[61], This is considered a positive step for Algeria towards adopting artificial intelligence and benefiting from it in various fields, particularly in the justice sector.

Conclusion:

There is no doubt that the world is witnessing the birth of the fourth industrial revolution due to the emergence of artificial intelligence systems, which combine the material aspect of things with the digital one, in an effort to provide services for humanity, offering comfort and contributing to finding radical solutions to problems that have long troubled humans, both present and future. Thus, it is expected that this usage will reflect on the judiciary system as a whole in order to create a modern justice system, one that relies solely on the internet, replacing the human element with

[55] Al-Hussein Dekair, Mohamed Bouzdeka, Op. cit., p. 55.
[56] Fatima Abdel Aziz Hassan Ahmed Bilal, Smart Litigation in Qatari Courts: Between Reality and Expectations - A Comparative Study, Ibid., p. 122.
[57] Al-Hussein Dekair, Mohamed Bouzdeka, Op. cit., p. 55.
[58] Al-Hussein Dekair, Mohamed Bouzdeka, Ibid., p. 53.
[59] Fatima Abdel Aziz Hassan Ahmed Bilal, The Role of Artificial Intelligence in Enhancing Prompt Justice before the Judiciary, Op. cit., pp. 100-101.
[60] Mohamed Mohamed El-Sayed Toukhie, Artificial Intelligence Technologies and Technological Risks, Police Thought, Volume 30, Issue 116, General Command of Sharjah Police, Police Research Center, United Arab Emirates, 2021, p. 93.
[61] Presidential Decree No. 21-323, dated August 22, 2021, Establishing the National Higher School of Artificial Intelligence, Official Gazette of the Algerian Republic, Issue 65, issued on August 26, 2021.

artificial intelligence technologies. This has led to the emergence of many digital judicial applications, especially in developed countries, while Arab countries still have very few artificial intelligence applications in their judicial systems. The reason for this is likely the novelty of electronic litigation, which is still in its early stages in some Arab countries, including Algeria. Algeria has barely introduced some technological means in its courts, aiming to implement the electronic court model, which makes it difficult to transition towards adopting a smart court system. Initially, an electronic court operates as a traditional electronic court, but when artificial intelligence technologies replace the human element, it evolves into a smart court.

Through our analysis of the topic, we have reached several conclusions as follows:

- Artificial intelligence represents the birth of the fourth industrial revolution and has become a necessity for achieving efficiency and effectiveness in various areas of life, ultimately forming the backbone of present and future human life.
- International efforts have been directed toward establishing ethical principles and rules to ensure the proper application of artificial intelligence technologies in judicial authorities, yet these efforts have not yet reached the level of binding laws. Thus, there is a lack of legal frameworks regulating artificial intelligence technologies both at the international and national levels.
- Advanced judicial systems have multiple artificial intelligence applications in their courts, striving to make optimal use of them to achieve prompt justice, while some Arab judicial systems are still in the early stages of digital transformation, working towards implementing electronic litigation and aspiring to move towards smart litigation. Other systems remain mired in paperwork and piled files.
- Algeria's efforts in implementing the electronic court project are considered a first step towards realizing a smart court, especially since the electronic court is the initial phase towards the digital court, which relies solely on artificial intelligence technologies without the need for human intervention.

We conclude our study of the topic by offering several suggestions as follows:

- Gradually applying artificial intelligence systems to some judicial services that do not require direct human intervention, such as case registration or responding to public inquiries in courts, thereby saving time and effort on one hand, and utilizing human resources for other tasks on the other.
- While artificial intelligence's participation in the judicial system helps in promoting judicial justice, speed, and equality, it should not dominate or replace the human element in decision-making, especially in complex cases. It is essential to establish that technology is meant to achieve judicial flexibility, with the final judicial decision remaining the responsibility of the human element, as it is fundamental in this process.
- We hope that the Algerian legislator will reconsider the legislative framework by issuing new laws to regulate the concept of electronic litigation and outline how electronic courts should operate, and to develop and prepare them to incorporate artificial intelligence systems, alongside training all administrative and judicial staff in using electronic programs, in preparation for implementing artificial intelligence systems in courts. All of this should be seen as a step toward adopting the smart court model in Algeria.
- We request that the Algerian legislator introduce a strategic plan for using artificial intelligence in courts by creating a law that regulates artificial intelligence technologies, defining their legal nature, and establishing legal responsibility for their use, alongside

necessary procedures to mitigate potential harm. The law should also include rules and principles that clarify how artificial intelligence can be applied in judicial institutions without infringing upon fundamental human rights or contradicting principles of justice. Moreover, there should be provisions in the judicial code of ethics regarding the use of artificial intelligence technologies in judicial bodies.

- Leveraging the experiences of courts in countries that are pioneers in applying artificial intelligence systems, and conducting studies and research on the feasibility of implementing these systems in Algerian courts, in a manner consistent with Islamic law and national identity.

Footnotes: