

Legal Certainty in the Digital Age: Challenges of Digital Transformation in Algeria

La sécurité juridique à l'ère numérique : les défis de la transformation numérique en Algérie

Mahcer Lotfi^{*1},

Faculty of Law and Political Sciences, University of Tlemcen, Algeria, Email:

lotfi.mahcer@univ-tlemcen.dz

Guenad Mohammed²,

Faculty of Law and Political Sciences, University of Tlemcen, Algeria, Email:

mohammed.guenad@univ-tlemcen.dz

Received: 05/06/2026

Accepted: 15/09/2026

Published: 29/09/2026

Abstract

Legal security is an essential requirement for the establishment of a state governed by the rule of law. It is considered one of the fundamental pillars for ensuring the protection of rights and freedoms, and for preserving and enhancing the sense of justice and equality before the law. This is achieved by instilling confidence in the legal system, its stability, and its consistency. In order for the law to achieve these optimal goals and reach a state of legal security, it must possess a set of characteristics and foundations, starting with the necessity for the legal rule to be clear, applicable, predictable, and characterized by relative stability and consistency.

With the development of computer science and digital technologies, new influences on the working methods of legal professionals have emerged. Conversely, the legal framework regulates these digital uses through appropriate standards, thereby effecting a true legal transition regarding technical advancements and the concerned economic operators.

Keywords: legal security, judicial security, human rights, digital transition.

Résumé:

La sécurité juridique est une exigence essentielle pour l'établissement d'un État de droit. Elle est considérée comme l'un des piliers fondamentaux pour garantir la protection des droits et des libertés, ainsi que pour préserver et renforcer le sentiment de justice et d'égalité devant la loi. Cet objectif est atteint en instaurant la confiance dans le système juridique, sa stabilité et sa cohérence. Pour que la loi atteigne ces buts optimaux et parvienne à la sécurité juridique, elle doit posséder un ensemble de caractéristiques et de fondements, à commencer par la nécessité pour la règle de droit d'être claire, applicable, prévisible et caractérisée par une stabilité et une cohérence relatives.

Avec le développement de l'informatique et des technologies numériques, de nouvelles influences sur les méthodes de travail de ces professionnels ont émergé. Réciproquement, le monde juridique encadre ces usages numériques par le biais de normes, opérant ainsi une véritable transition juridique face aux progrès techniques et aux opérateurs économiques concernés.

Mots-clés : sécurité juridique, sécurité judiciaire, droits de l'homme, transition numérique.

Introduction:

The statements made by Professors Susskind are emblematic of the influence of digital technology on the legal world. Author of the book "The End of Lawyers?"¹, he analyzed the consequences of computer science on American lawyers and theorized about the potential evolutions they might experience. However, the phenomenon of digital transformation has global repercussions, which apply to both judicial and legal professions, as well as to the litigant, and even to other sectors of activity.² Like law, digital technology permeates all aspects of daily life; its effects change customs and generate new practices. Professor Pierre Catala clarified, in this sense, that "Computer science, like law, infiltrates all the capillaries of social life." But their distribution networks are not separate like those of lymph and blood. On the contrary, computer science and law are increasingly intertwined in common channels every day. The former now seems destined to create new rules in all three branches of the latter [...].³

Due to technical advancements, the practice of law tends to change with the use of digital services aimed at both legal professionals and litigants. These solutions emerge following the availability of public data, with the phenomenon of Open Data fostering "innovation by the multitude." The services, created from public or private data, are specific to the legal world and offer, in a non-exhaustive manner, contract automation and the monitoring of related obligations, enriched and interconnected legal documentation, dispute management thru alternative dispute resolution methods, as well as statistical analyzes, such as "predictive justice."

With the development of computer science, new influences on the working methods of these professionals then emerged. Conversely, the legal world regulates these digital uses thru standards, thus effecting a true legal transition on technical advancements and the concerned economic operators. In order to delineate the scope of these interactions and their relationships with each other, it seems necessary to define the phenomenon of digital transformation, influencing the legal world thru technical advancements generally driven and developed by a particular type of entity, LegalTech.

The digital transformation impacts the entire society, whether it concerns the citizens of a state, businesses, associations, or even administrations. The improvement of public service thru the concept of a platform state is notably one of the 138 challenges of this transformation. Since the early days of computing, the term "digital administration" refers to the modernization of an administration thru the implementation of information and communication technologies, which facilitates the digital transformation of businesses and citizens. The European

¹ Traduction française de la citation suivante : "Technology will be the main driver of this change. And, in the long run, we will neither need nor want professionals to work in the way that they did in the twentieth century and before" : SUSSKIND R. et SUSSKIND D., *The Future of the Professions: How Technology Will Transform the Work of Human Experts*, 2015. Oxford University Press, ISBN : 0-1987-1339-

² SUSSKIND R., *The End of Lawyers ?*, 2008, Oxford University Press, ISBN : 0-1995-9361-2

³ Catala.P, *Le droit à l'épreuve du numérique*, Jus Ex Machina, 1^{er} éd, 1998, PUF, Droit éthique société.

Commission encourages Member States to achieve this digital administration within the framework of the "European Action Plan 2016-2020 for Online Administration."⁴

Legal security is closely linked to human rights, as it is considered one of the indicators for measuring the latter. An individual can only be empowered with their rights within a stable and consistent legal system across all fields, which provides reassurance to individuals. This, in turn, achieves human security in its various dimensions (health, social, employment, etc.). Moreover, discussing legal security and human rights inevitably leads us to another equally important guarantor, which is judicial security. The latter protects and guards rights, placing the law above all, ensuring the community's right to protection and security, and the individual's right to a fair trial. This guarantees a judicial environment that reassures investors and protects individuals from the escalation of crimes, thereby achieving social and economic security.

The establishment of judicial security is a testament to empowering individuals with various forms of freedom: expression, movement, transparency in public contracts, the right to property... etc., this confirms the integration and interconnection of human security and human rights, and their application necessitates achieving good governance in all areas and combating corruption by moving toward electronic governance and combating all forms of crime, foremost among them terrorism and human trafficking, and combating illegal immigration by achieving development in the countries of origin and improving the quality of life for individuals, thru economic, social, and political empowerment of various segments of society.

So when we talk about legal stability accompanying community activity, or to achieve any of the meanings of security mentioned earlier, it means that the legal centers resulting from human activity should be clear, effective, and not subject to disturbances and surprises. Therefore, legal security or legal stability does not only involve protecting existing legal centers and respecting and guaranteeing individual rights. In the present and the future, but security also means, with equal strength, respecting legitimate expectations and hopes. And it is worth mentioning that legal security or legal stability does not only require clarity and effectiveness, as we mentioned, but it also assumes the development of legal concepts and their interaction with the era, especially since we are dealing with a world increasingly characterized by the information revolution. We are witnessing a flourishing in the importance of a third type of rights. And that is intellectual property rights, as intellectual property has become the hallmark of the information revolution. Therefore, legal development must align with technological advancement.

Given that legal security or stability is one of the most important conditions for the application of law, allowing for the effective, permanent, and continuous realization of its objectives, does the widespread use of modern technologies in all aspects of life by individuals have an impact on achieving this legal security? And does this lead to laws being considered more technologically advanced, given the subjection of human behavior to order and law?

⁴ Commission européenne, *Plan d'action européen 2016-2020 pour l'administration en ligne : Accélérer la mutation numérique des administrations publiques*, COM/2016/0179 final, Communication de la Commission au PE, au Conseil, au CESE et au CdR, URI : <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0179>

What are the gaps that accompanied digital development? And what are the challenges facing legal security? And how can these security challenges be addressed in light of this digitization?

Section one : Legal security

The French Council of State defined the principle of legal certainty as the principle that requires the ability the citizen should be able to determine what is prohibited without difficulty from the applicable law, and to achieve this result, the law must be clear and understandable, and not subject to frequent changes. This was confirmed by the International Court of Justice, which stated that the principle of legitimate expectation is an essential element of the principle of legal certainty, and it should be applied to all activities and decisions issued by the authority, in order to ensure the fair and effective application of the law. The European Court of Human Rights has also upheld and established the principle of legal certainty based on legitimate trust, leading to the establishment of the principle of legal certainty as a main principle⁵.

The Principle of Legal Security in the European Renaissance: Europe witnessed a significant development in all areas of life at the dawn of the Middle Ages, This development was accompanied by a noticeable evolution in the concept of freedom and equality and the promotion of justice among members of society. European countries began to develop their legal systems by enacting written laws. Instead of relying on custom, this was accompanied by a clear development in governance systems, especially with the establishment of the principle of separation of powers and the distribution of authority, which led to the improvement of the principle.

First,inGermany: The German judiciary played an important role in establishing the principle of legal certainty in the aftermath of World War II in 1949, by enhancing citizens' trust in the legal system, emphasizing the necessity for laws to be clear and comprehensible, ensuring the fundamental rights and freedoms of individuals. The Federal Constitutional Court of Germany affirmed this in its decision dated December 19, 1961, stating that legal certainty has a fundamental purpose in the rule of law, thru the possibility The citizen expects possible state interventions in areas protected by laws, and the ability to make decisions based on that, which gives individuals a sense of reassurance about their actions.

- The court considered that the principle of legal certainty is the pinnacle of the legal hierarchy, protecting trust.

Secondly,inFrance: The French judiciary was influenced by the German judiciary, which led it to recognize the principle of legal certainty by emphasizing the necessity for the law to be clear, predictable, and accessible.

Thru proper codification, so that citizens can easily know what is permissible and what is not, away from sudden and unexpected changes, in respect and embodiment of the idea of legitimate expectation, which the French Court of Cassation considered one of the most essential

⁵ Miller, A," The assault on privacy, University of Michigan press,1971 p 87 Burkert, H," Institutions of data protection", 1982 p 65

components of a fair trial and the entire legal system. The French Constitutional Council also considered legal certainty a constitutional principle, as derived from the decision issued on April 6, 1996, which was adopted.

The French Council of State in the report issued on 2006/03/24.

Thirdly: In Spain: Spain explicitly adopted the principle of legal certainty thru Article 9, paragraph 3 of the Spanish Constitution of 1978, by embracing the principle of legality, the rules of hierarchy, the generality of rules, the non-retroactivity of laws, the supremacy of the law, and the prohibition of abuse.

Section Three: The Principle of Legal Certainty in Algeria

The laws in Algeria have witnessed significant development since independence, after the laws French laws were imposed on it before its independence in 1962. The various Algerian constitutions emphasized the necessity of providing legal protection to individuals in a fair and equal manner. The 1963 Constitution recognized criminal legitimacy and the non-retroactivity of laws, while the 1976 Constitution affirmed the state's responsibility to ensure equality for all citizens before the law, apply the law fairly and justly among people in all fields, protect citizens, and guaranty the stability of social life, thru Articles 40 and 41. of it The 1989 Constitution also strengthened the foundations of the constitutional and political system democratically, establishing the state on legal bases and protecting rights and freedoms and equality among individuals. The principle of legal security was explicitly enshrined in the 2020 constitutional amendment, which obligated the state, when enacting legislation, to ensure the necessity of Providing a set of guaranties, especially the necessity of clear laws and easy access to them. And its stability, in order to achieve legal security, in order to build a state of law, and to enhance trust.

In conclusion, the emergence of legal security occurred at the end of World War II, with the rise of jurisprudential and legal trends aimed at spreading justice and tranquility, especially working to avoid wars due to their catastrophic consequences. In this context, the theories of deterrence and balance were developed, and the concept of legal security spread in its various degrees and forms, becoming a fundamental criterion for any prevailing legal system in the state, with the aim of achieving equality and stability and preventing imbalances that could lead to disasters.⁶

-The right to work: The right to work is a constitutional right granted to every individual by the state, regardless of the type of work, whether in the public or private sector, in exchange for a wage, and individuals are free to choose their work. The right to health services: The right to health services is considered one of the most important social rights that individuals enjoy without exception, as it is indispensable. This right is guarantyd to everyone equally, with the necessity of providing facilities, services, and tools to individuals. No one should be deprived of it for any reason and without any discrimination. Doctors must fully adhere to this right. To protect this right, the state has devoted all efforts to providing medical services to individuals equally, opening clinics, hospitals, and epidemic prevention centers. This was affirmed by Health Law 18-11 of 2018, particularly Article 12, which states: "The state works to ensure the

⁶ Michael, J, "Privacy and human Rights", An international and comparative study with special reference of development in information technology, 1994 p 34

realization of the right to health as a fundamental right for every human being at all levels thru the spread of the public sector to cover the entire national territory."For the human being at all levels thru the spread of the public sector to cover the entire national territory."

-The right to social security: It is a constitutional right guarantyd by the constitution to every worker, aiming to ensure a secure and peaceful life for the citizen by guaranteeing the ability to work freely and safely, and covering the burdens that a person may face due to permanent or temporary inability to work, death, or old age. This is what the Algerian constitution stipulates in Article 66, stating: ".... The law guaranties the worker's right to social security, and this right has been enshrined in many international charters, such as the Universal Declaration of Human Rights issued in 1948, thru Article 22.

"Everyone, as a member of society, has the right to social security."

Section two :The digital transformation

The rapid scientific development the world is witnessing, which has made it a small village, has led to the emergence of many from technological transformations have affected many different societies and groups, as well as changing economic, social, cultural and other lifestyle patterns. The spread of modern technologies, social media, digital applications and others has become a major threat to the social fabric and the balance that ensures legal security. Although the virtual environment has many positive aspects on minds, their thinking patterns and the scientific and life methods they adopt; However, this is accompanied by numerous negative effects that have become significant threats and challenges to society in general. Hence the importance of information security and how to employ its diverse methods and applications to confront these threats. The role of information services and their functions as a profession with its own methods, models, and scientific approaches contributes significantly to protecting all segments of society from falling victim to many different problems and challenges, including threats to the digital environment. This is the impetus behind this research paper, which aims to identify threats to the digital environment, the role of information security in confronting them, and ultimately to arrive at a proposed vision from a sophisticated digital perspective that addresses this issue.

Given the importance of digital transformation in the performance of legal, judicial, and administrative tasks and related activities, and the speed it brings in decision-making and completing required tasks, especially since electronic management has become a science with its own rules and principles, and in order for management to achieve its goals, it is necessary to have information systems that keep pace with modern technology to practice the legal and administrative tasks related to them. Therefore, legislative guaranties should be stipulated to ensure digital transformation. Administrative activities include planning, organizing, communication, coordination, leadership, guidance, and control. However, these activities overlap with each other, starting with planning based on data analysis and ending with control. The application of digital transformation thru modern information systems contributes to the ability to perform many and varied operations with exceptional speed and utmost precision, as

well as to store and retrieve large amounts of information using easy, simple, fast, and accurate programming methods that must be protected by sufficient legal texts.⁷

The transition to a digital culture in the legal sector represents a significant strategic challenge that requires much more than just implementing new technological tools; it is a genuine change in mindset that must be integrated at all levels of the organization! To achieve success in this transformation, it is essential to encourage an innovation-based mindset, where experimentation is valued and the risk of failure is seen as an opportunity for learning. This also includes implementing continuous education tailored to new technologies, going beyond basic technical skills to include sessions on the impact of these tools on lawyers' daily lives. At the same time, interdepartmental collaboration is crucial, as it allows for the development of integrated solutions that not only meet legal needs but also the overall goals of the company. Legal teams need to set measurable goals to assess their success in this transformation, based on key performance indicators such as reducing document processing time and improving compliance. Finally, developing a culture of adaptability is essential, as digital transformation is an ongoing process; therefore, teams must be ready to adapt to technological developments and customer requirements, viewing change as an opportunity for improvement rather than a threat. By adopting this comprehensive approach, legal departments will be better prepared to meet the demands of the constantly changing environment, while enhancing their effectiveness and impact within the organization.

This legal recognition or acknowledgment of the digital transaction system and the environment in which these transactions occur is considered one of the primary legal requirements necessary to establish digital transformation processes in all their forms and shapes. This legal recognition can only be achieved thru a set of relevant legal measures and regulations, relevance. It is also worth noting that the issue of enshrining and legally recognizing digital transactions and the environment in which they arise is not sufficient on its own for the success and development of digital transformation processes. Digital transformation processes also require the establishment of legal protection for the digital environment and the businesses connected to it. In my opinion, this can only be achieved by implementing a series of legal measures that frame and regulate the concept of protection for the various elements of the digital transformation process and its outputs.⁸

Axis One: The Legal Recognition of the Digital Environment and Related Businesses: The legal recognition and acknowledgment of the digital transaction system and the environment in which these transactions occur are among the primary legal requirements necessary to establish digital transformation processes in all their forms and shapes. This legal recognition can only be achieved thru a series of legal matters, which we consider to be the following essential issues: starting with the legal framework for the technical infrastructure related to digital transformation processes, as well as taking measures to enable and encourage various individuals to control digital transformation processes, in addition to implementing measures to obligate government and official bodies to transition to digital administration or electronic

⁷ Nicole TORTELLO , Pascal LOINTIER, « Internet pour les juristes », Dalloz, Paris, 1996, p.191.

⁸ Anne PENNEAU, « La sécurité juridique à travers le processus de normalisation », p.2

transactions, in addition to bestowing legal legitimacy on transactions introduced within the digital environment.

First: The legal framework for the technical infrastructure related to digital transformation processes: Digital transformation processes primarily arise within what is known as the digital environment. The existence of this environment is, in turn, linked to the establishment and availability of a set of information systems and technical tools that continuously evolve to improve the quality of operations and activities related to digital transformations. These information systems and technical tools manifest in various forms, including the necessity of communication networks in all their forms, whether closed networks or open networks, wired networks or wireless networks. These networks are considered the backbone of the digital environment, which cannot be a suitable incubator for various operations and activities related to digital transformation without these communication networks.

A suitable incubator for the various operations and activities related to digital transformation. On the other hand, digital platforms created relying on communication networks are an extremely important technological tool that allows for the improvement of the quality of services related to digital transformations, regardless of whether these services or activities are administrative, commercial, or otherwise. Additionally, electronic cards or biometric cards in their various forms and purposes contribute to solidifying digital transformation processes and improving the quality of services provided thru them. It is also worth mentioning the artificial intelligence system, which has recently seen growth and intervention in many fields and activities, to the extent that various operations and services are now provided and completed in an easy and digitized manner.

Digitized.

It is worth noting that all the aforementioned information systems and technical tools, despite their technical importance in improving the quality of digital transformations, cannot achieve their intended purpose without legal frameworks that allow for their establishment, work toward their realization, and define their scope. The creation of such information systems—especially those related to communication networks—in reality without legal authorization makes them an illegal reality.

It makes them constitute an unlawful reality, considering the impact they have on the concept of public security. In this context, we note the intervention of the Algerian legislator in the matter of regulating the digital environment that hosts digital transformation processes in 2000 by issuing Law 2000-03, before revising it in 2018 to align with the developments in this field, thru the issuance of Law No. 18-04 which defines the general rules related to postal and electronic communications. For the general rules related to postal and electronic communications⁹.

The legislator has also established a system for electronic and biometric cards thru various and successive legal frameworks¹⁰, as mentioned in the Algerian Commercial Code regarding

⁹ Law 05-02 dated 06-02-2005 amending Law 75-59 containing the Commercial Code, Official Gazette, No. 11.

¹⁰ Law 05-10 dated 20-06-2005 amending Ordinance 75-58 containing the Civil Code, Official Gazette, No. 44.

electronic payment cards, and also in Presidential Decree 17-143 concerning the biometric identity card.¹¹

In this regard, we commend the national strategy of the Algerian state in generalizing the use of digitization and electronic transactions at various government and official bodies, which has been reflected thru numerous legal measures taken by the country's high authorities. Among these legal measures is Presidential Decree No. 23-314 concerning the establishment of the High Commission for Digitization¹², which has been tasked with designing the national digitization strategy in consultation with the relevant sectors, institutions, the economic sector, and civil society.¹³ civil society, and it was also tasked with ensuring the monitoring and implementation of the national digitization strategy.

Digital transformation In the context of the development of computer science and the acquisition of its various uses, it is necessary to note that legislative texts, regulations, or court decisions are generally focused on issues related to the protection of personal data or correspond to the establishment of the scope within which an information system can be implemented.

A dogmatic analysis of these elements would not be of a nature to allow us to outline the contours of this digital transformation. Conversely, a teleological analysis of different norms should enable us to understand the evolutions that the legal world might experience; "However, there is no legal rule that is fatally imposed by facts." Only human wills create rules of life. No doubt they are inspired by changing feelings and interests, and the causes of laws must be carefully studied to unlock the secret of creation.¹⁴

Law is, thus, the transcription of the rules that constitute a society. This subject can be analyzed from two different approaches. First, the law can be subject to a so-called dogmatic approach, that is, the application of a norm in relation to facts or the analysis of a provision and its coherence with a set of texts.

Secondly, law can be studied thru a teleological approach. By seeking the purpose that led the legislator to adopt a norm, it then becomes possible to understand the link between the creation of said norm and a practical reality. This approach thus clarifies the evolution of customs and the new influences in practices.

The study by teleology is subdivided into two distinct approaches, the philosophy of To deduce the spirit of the legislator, and thereby the external influences that led them to legislate, legal sociology involves observing facts objectively, in order to, on the one hand, describe phenomena that fall outside dogmatic law and, on the other hand, establish cause-and-effect relationships, general principles. This approach is then understood as "[...] the study of

¹¹ Law 09-04 dated 05-08-2009 concerning specific rules for the prevention and combating of crimes related to information and communication technologies, Official Gazette, No. 47

¹² Law 15-04 dated 01-02-2015, which sets the general rules related to electronic signatures and certifications, Official Gazette, No. 06. 5. Presidential

¹³ Decree 17-143 dated 18-04-2017, which specifies the procedures for the preparation, issuance, and renewal of the national identity card, Official Gazette, No. 09.

¹⁴ The RIPERT G., *Les forces créatrices du droit*, 2e éd., 1955, LGDJ, p. 73 189 LEGRAND G., *Philosophy and Legal Sociology*, Neo-Scholastic Philosophy Review. 1921, no. 92, pp. 349-362;

the interrelationships between law and society, which involves both the study of legal manifestations and their influences on society and that of law and deductive legal sociology, moving from general concepts to specific cases to explain the choice of the legislator or a magistrate. Conversely, legal sociology proceeds with an inductive method; starting from facts, it becomes possible to conceive general principles. The philosophy of law consists of analyzing, thru a method, activities developing within society and their influences on the legal.¹⁵

Legal sociology is said to be comparative when "The scientific objective [...] is the systematic and methodical analysis of several objects of comparison, an analysis that allows for the observation of certain similarities or differences [...] in an attempt] to identify constant elements and regularities related to the analyzed units, notably to define which general principles arising from the digital transformation of the legal world, such a scientific method will be necessary to study, from each judicial or legal profession, the influences that this ecosystem is experiencing. In order to analyze and induce principles.¹⁶

The phenomenon of digital transformation results in, and requires as a prerequisite, digital literacy. Composed of a succession of epiphenomena, this cyclical evolution progresses, at the same time as the quality of the data improves and their numbers increase exponentially. Following the dematerialization of state public services, a data openness policy was implemented, initially in the form of storage by providing reusable information free of charge and in an electronic format, and subsequently thru the deployment of dynamic data, accessible via a programming interface.

The digital transformation of the legal world is particularly linked to that of the administration, thus it evolves according to the progress made by the Stat.

Conclusion:

Regardless of the various evolutions that the legal world has experienced or will experience, one of the fundamental challenges – which remains – is the ability to adopt new tools or new working methods. This resilience to change is at the heart of the adaptation of both customs and technology. The judicial and legal professions are seeing changes in their practices with the emergence of new digital solutions, whether they come from regulatory bodies, large groups, or startups. If these services are initially perceived as potentially destructive to certain activities, they turn out to be an economic gain and a vector of efficiency in the operating methods of these professions.

However, for practitioners to fully embrace these new tools, it is necessary to gain digital trust in these services. The impact of modern technologies on law or the technical inclination of law has led to the creation of new legal principles, including the principle of publication, information, and communication, by which the authority must promote the dissemination of the law not only through the delivery of the official gazette to the addressees of the law, but also by raising awareness about the content of the law. This is because the

¹⁵ HUBERT R., Science of Law, Legal Sociology, and Philosophy of Law, Arch. phil. droit, 1931, p.43 190 v. "Legal Sociology" in ALLAND D. and RIALS S., Dictionary of Legal Culture, 1st ed., 2003, PUF.

¹⁶ "Comparative Legal Sociology" in ARNAUD A.-J., Encyclopedic Dictionary of Legal Theory and Sociology, 2nd ed., 1993, LGDJ, ISBN: 978-2275006017 conditions cause such variations.

process of publishing the law is a dynamic two-way process involving both sending and reception, which can only be achieved through the public dissemination of the law rather than the state merely addressing itself.

Findings:

1. The integration of digital tools into legal and judicial practices proves to be a true economic gain and an efficiency vector for operational methods rather than a destructive force.
2. Law publication has evolved into a dynamic two-way process involving sending, reception, and communication, extending beyond traditional state-to-addressee delivery.
3. The electronic availability of legal information sources has successfully brought laws into homes, significantly narrowing the traditional excuses for ignorance of the law.
4. Algeria faces an urgent mandate to digitize public sector services—spanning the General Secretariat of the Government, the justice sector, and parliament—to genuinely realize e-government.

Recommendations:

1. Revise legislation, such as Article 4 of the Algerian Civil Code, to officially expand the concept of the official gazette to include both print and electronic versions.
2. Conduct rigorous research, studies, and thorough discussions before enacting or amending legislation to ensure new laws precisely match societal needs.
3. Foster institutional confidence among legal practitioners and the public to ensure smooth adoption of new technologies and digital legal services.
4. Equip the judiciary and administrative institutions with advanced technological infrastructure to secure legal stability and streamline public access.

Future Research Horizons:

Future research horizons encompass investigating the long-term impact of electronic legal dissemination on judicial litigation rates, exploring advanced frameworks for electronic official publication, evaluating the integration of artificial intelligence in legislative drafting, and assessing the balance between technological efficiency and legal security in emerging digital economies.

List of sources and references

1. Susskind, R., & Susskind, D. (2015). *The Future of the Professions: How Technology Will Transform the Work of Human Experts*. Oxford University Press.
2. Susskind, R. (2008). *The End of Lawyers?*. Oxford University Press.
3. Catala, P. (1998). *Le droit à l'épreuve du numérique*. Jus Ex Machina, 1ère éd., PUF, Droit éthique société.
4. European Commission. (2016). *EU eGovernment Action Plan 2016-2020: Accelerating the Digital Transformation of Government*, COM/2016/0179 final.
5. Miller, A. (1971). *The Assault on Privacy*. University of Michigan Press.
6. Burkert, H. (1982). *Institutions of Data Protection*.
7. Michael, J. (1994). *Privacy and Human Rights: An International and Comparative Study with Special Reference to Development in Information Technology*.
8. Tortello, N., & Lointier, P. (1996). *Internet pour les juristes*. Dalloz, Paris.
9. Penneau, A. « La sécurité juridique à travers le processus de normalisation ».

10. Law No. 05-02 of February 6, 2005, amending Law 75-59 containing the Commercial Code, Official Gazette No. 11.
11. Law No. 05-10 of June 20, 2005, amending Ordinance 75-58 containing the Civil Code, Official Gazette No. 44.
12. Law No. 09-04 of August 5, 2009, concerning specific rules for the prevention and combating of crimes related to information and communication technologies, Official Gazette No. 47.
13. Law No. 15-04 of February 1, 2015, setting the general rules related to electronic signatures and certifications, Official Gazette No. 06.
14. Presidential Decree No. 17-143 of April 18, 2017, specifying the procedures for the preparation, issuance, and renewal of the national identity card, Official Gazette No. 09.
15. Ripert, G. (1955). *Les forces créatrices du droit*, 2e éd., LGDJ; Legrand, G. (1921). « Philosophy and Legal Sociology », *Neo-Scholastic Philosophy Review*, no. 92.
16. Hubert, R. (1931). *Science of Law, Legal Sociology, and Philosophy of Law*, Arch. phil. droit; Arnaud, A.-J. (1993). *Encyclopedic Dictionary of Legal Theory and Sociology*, 2nd ed., LGDJ.