

Examining Artificial Intelligence and Law as a Tool for Legal Service, Decision-making, Job Transformation, and Ethical Performance

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Abstract

Artificial intelligence is a tool used in law. It focuses on the complementarity of human performance. A bibliometric study of the scientific production in Scopus in the period 2015-2023 was carried out. The main findings are that artificial intelligence is related to legal service, decision-making, digital transformation, and ethical performance. It was concluded that scientific production on artificial intelligence and law experienced exponential growth, especially coinciding with the COVID-19 pandemic. It was also concluded that artificial intelligence enables the generation of empathy and creativity through responsible use, which gives rise to trust in the population.

Keywords: Algorithm, Ethics, Skills, Prediction, Legal Service.

1 Introduction

Artificial intelligence is part of today's society and is consolidated with the actions of human beings as it is integrated into the social, economic, and technological spheres. In the legal sphere, there is concern that the applicable regulations are not standardized (Valenzuela-Fernández, et al., 2023). It is necessary to recognize that it is not possible to leave aside ethics and commitment to democratic values, therefore, it is a new challenge that the population will assume in its interaction with the digital world (Restrepo Amariles & Baquero, 2023).

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The uses of artificial intelligence reflect the multiplicity of fields in which it can be implemented. For example, in the legal area, questions arise regarding copyright and the detection of financial fraud (Dos Santos & Sampaio, 2023). Similarly, in the military area, it would be used to improve operations, although the application of international humanitarian law principles is unclear (Putro et al., 2023).

The different contexts in which artificial intelligence has been implemented demonstrate the need to analyze the legal framework. Over the years, the literature recognized the importance of regulating personal data protection (Krupiy & Scheinin, 2023), automated decision-making (Ince, 2022), and fundamental rights in the digital age (Burgess, 2022). Also, the absence of effective regulatory frameworks for governmental decision-making (Murray, 2020) and (Arkhipov & Naumov, 2017) and consumer protection in the marketplace (Lippi et al., 2020).

The study of the present topic is justified because further research is needed in the face of the gaps identified. It is essential to understand the impact of artificial intelligence on dispute resolution (Alarie, et al., 2018) to determine new profiles of social peace. Similarly, it will be necessary to implement mechanisms for integrating artificial intelligence into the legal system (Magrani, 2019), and (Pagallo, 2017).

This study aims to carry out a bibliometric analysis to identify the scientific production of artificial intelligence and law.

2 Literature Review

Ethical and Legal Challenges of Artificial Intelligence in the Legal Field

The implementation of artificial intelligence in the legal sphere requires that human rights and ethics are not affected. This is possible based on a review of the applicable regulations and recognition of the influence of ethics in social relations (Sartor, 2020). In a new situation, the main identifiable component in terms of its use is the determination of the assumptions involved in the legal liability of artificial intelligence systems. Specifically, what will be the criminal consequence derived from the use of the technology and how to avoid non-discrimination due to ignorance of the benefits that are projected to improve human welfare (Abbott, 2020).

The interaction between humans and intelligent machines is a challenge for authorities. The government will have to establish guidelines to prevent the proliferation of harm (Magrani, 2019). Regulation will strike a balance between the process of technological innovation and the traditional conception of human action. It is important that regulation progresses in parallel with changes in reality, otherwise it would be a step backward for humanity (Pagallo, 2017).

Impact of Artificial Intelligence on Legal Practice

Artificial intelligence is transforming various aspects of legal practice. It is for this reason that the need for further research arises to contribute to the strengthening of the legal system. For example, the use of software tools in the lawyer's tasks is becoming more and more common and notorious. This represents the connotation of having a quasi-expert assistant, which will reflect a benefit that translates into the efficiency of the legal service (Alarie et al., 2018; Livson et al., 2021).

Artificial intelligence contributes to the legal professions in information research, translation, document drafting, argumentation, and case analysis. In other words, it seeks to mimic human reasoning,

a situation that must be considered precisely in terms of legal assistance. The lawyer as a human being should not allow himself to be replaced (Nissan, 2015; Mahardhika et al., 2023).

Regulation and Governance of Artificial Intelligence in the Legal Context

The main difficulty is whether the regulation of artificial intelligence should be a local or a global issue, as the harms and legal consequences could cross the geographical space of countries (Chesterman, 2021). There is also research that complements this by asserting that authorities should promote governance principles, and the literature focuses on the debate between corporate law rules and corporate governance (Hickman & Petrin, 2021).

International regulation will need to adapt to the challenge posed by the implementation of artificial intelligence. To this end, it is important to establish whether flexibility in the development of obligations is possible (Smith, 2020). In some research, the starting point should be robotics legislation, in order to take advantage of the components of civil and administrative law. However, there is no unanimity to date and the initiative to regulate artificial intelligence is isolated (Arkhipov & Naumov, 2017).

3 Methodology

The aim of the research is to identify the scientific production of artificial intelligence and law in the period 2015-2023.

Search Formula

In Scopus: (TITLE-ABS-KEY (“artificial intelligence” and law)).

Protocol Used

The PRISMA 2020 protocol was used to analyze the data in a transparent and detailed manner (Page et al., 2021).

Inclusion Criteria

- Documents published between 2015 and 2023.
- Type of document: All
- Publication stage: Final
- Source type: All
- Language: English
- Open access: Yes

Exclusion Criteria

- Documents not covered by the period 2015 to 2023.
- Documents published in languages other than English.
- Duplicate documents.
- Papers not related to the research topic.

The search was based on title, abstract, and keywords. At the start of the search, 1889 documents were returned. Data analysis was performed using Excel and R-studio 4.1.0, the bibliometrix package, and the Biblioshiny interface.

The Research Questions are:

- RQ1. What are the most influential journals and authors in artificial intelligence and law?
- RQ2. What are the most cited articles and authors?
- RQ3. What are the most frequently used words in research on artificial intelligence and law?
- RQ4: What are the main findings in the scientific production of artificial intelligence and law?

Selected Documents

Table 1 lists the main selected papers containing the perception of artificial intelligence and law.

Table 1: Selected Documents

N	Author (year)	Journal (Title, ISSN)	Source	Artificial Intelligence Perception
1	(Alarie et al., 2017)	University of Toronto Law Journal (ISSN 0042-0220, eISSN 1710-1174)	WoS	It is a tool that contributes to the efficiency of the work done by the lawyer in solving cases.
2	(Nissan, 2015)	AI & Society (ISSN 0951-5666, eISSN 1435-5655)	WoS	It is a tool that supports lawyers in the argumentation and reasoning applied in a judgment.
3	(Xu & Wang, 2021)	Journal of Management & Organization (ISSN 1833-3672, eISSN 1839-3527)	WoS	It enables the development of lawyer robots as a complement and added value to the legal service.
4	(Simshaw, 2018)	Hastings Law Journal (ISSN 0017-8322)	WoS	It is linked to the improvement of the service offered by law firms.
5	(Shestak et al., 2019)	Russian Journal of Criminology (ISSN 2500-4255, eISSN 2500-1442)	WoS	It is software containing artificial intelligence and cannot be held criminally liable. The offense must be punishable by the act or omission of a person.
6	(Hilt, 2017)	Canadian Journal of Information and Library Science-Revue Canadienne Des Sciences De L. Information et de Bibliotheconomie (ISSN 1195-096X, eISSN 1920-7239)	WoS	Applies to the service offered by lawyers and librarians.
7	(Stern, 2018)	University of Toronto Law Journal (ISSN 0042-0220, eISSN 1710-1174)	WoS	Artificial intelligence will not be implemented at the same time in all areas of law, as these have particularities in their legal nature.
8	(Linna, 2021)	IEEE Technology and Society Magazine (ISSN 0278-0097, eISSN 937-416X)	WoS	It is linked to the provision of legal services and benefits to individuals.
9	(Rajendra & Thuraisingam, 2021)	Information & Communications Technology Law (ISSN 1360-0834, eISSN 1469-8404)	WoS	It is related to productivity in legal services that implemented artificial intelligence.
10	(Solar Cayon, 2022)	Derechos y Libertades (ISSN 1133-0937)	WoS	It is the initiative that brings about changes in the application of the law.
11	(Gingras, & Morrison 2021).	Family Court Review (ISSN 1531-2445, eISSN 1744-1617)	WoS	It is the opportunity to improve the legal service more quickly and cost-effectively.

12	(Davis, 2020)	Revista Direito GV (ISSN 1808-2432, eISSN 2317-6172)	WoS	It is the transformation of the legal service in the areas of litigation, content automation, research, contract analysis, and prediction of case solutions.
13	(Suárez, 2022)	Revista General de Derecho Procesal (ISSN 1696-9642)	WoS	It is linked to regulation that would allow the regulation of the legal professional to be reviewed, especially in the construction of the justice system.
14	(Geng, 2022)	International Journal on Artificial Intelligence Tools (ISSN 0218-2130, Eissn 1793-6349)	WoS	It is focused on contributing to the resolution of disputes through law.
15	(Jalon Arias et al., 2022)	Revista Conrado (ISSN 1990-8644)	WoS	Artificial intelligence must guarantee the ethical and legal factors in society.
16	(Silva, et al., 2021)	Humanidades & Inovacao (ISSN 2358-8322)	WoS	The process of developing technology in the legal activity offered is necessary.
17	(Armour, & Sako, 2022).	Journal of Professions and Organization (ISSN 2051-8803)	Scopus	Artificial intelligence performs legal activities, but these are complemented by human presence and a multidisciplinary approach.
18	(Berman, & Hafner, 1989).	Communications of the ACM (ISSN 0001-0782)	Scopus	The difficulty lies in decision-making, therefore, artificial intelligence focuses on being the tool to understand, evaluate, and responsibly disseminate the solution of a case.
19	(Mowbray et al., 2020).	Computer Law and Security Review (ISSN 0267-3649)	Scopus	The use of artificial intelligence is geared towards the dynamism derived from the application of law, which attracts the attention of lawyers and the government.
20	(Luckin et al., 2022)	Computers and Education: Artificial Intelligence (ISSN 2666-920X)	Scopus	The use of artificial intelligence in the education sector is becoming increasingly common.
21	(Sukanya & Priyadarshini, 2021)	International Journal of Advanced Computer Science and Applications (ISSN 2158-107X)	Scopus	Information search engines use artificial intelligence and are useful for the judge, who will analyze the facts to argue and issue the respective judgment.
22	(Janeček, et al., 2021)	Computer Law and Security Review (ISSN 0267-3649)	Scopus	It is underpinned by legal technology, which is rapidly evolving and therefore requires the involvement of the education sector.
23	(Várkonyi, & Gradišek, 2020)	Informatica (Slovenia) (ISSN 0350-5596)	Scopus	The use of this tool also includes the protection of personal data.
24	(Gravett, 2020)	Potchefstroom Electronic Law Journal (ISSN 1727-3781)	Scopus	It has the potential to develop legal work, through machine learning.
25	(Rogers, & Bell, 2019)	Technology and Humans (ISSN 2652-4074)	Scopus	It is a tool based on social psychology and materializes by analyzing the way humans think

				and act through the use of artificial intelligence.
26	(Shang, 2022)	Computational Intelligence and Neuroscience (ISSN 1687-5265)	Scopus	It can be used in the prediction of court rulings, which was made possible through the analysis of algorithms.
27	(Coloma Correa, et al., 2021)	Revista Chilena de Derecho y Tecnologia (ISSN 0719-2576)	Scopus	It is the tool that expresses the main question of the existence or not of limits for the incorporation of technology in the justice system when resolving a case.
28	(Armour, et al., 2021)	International Journal of the Legal Profession (ISSN 0969-5958)	Scopus	Artificial intelligence is used to replace automatable legal tasks and to improve the lawyer's service.
29	(De Oliveira, et al., 2022)	PLoS ONE (ISSN 1932-6203)	Scopus	It is a tool that presents scientifically and technologically feasible solutions through prediction.
30	(Ragone, 2021)	Revista Chilena de Derecho (ISSN 0716-0747)	Scopus	It allows its use in justice, specifically in automated decision-making.
31	(Quezada Castro, et al., 2022)	Revista Venezolana de Gerencia (ISSN 1315-9984)	Scopus	It is a tool for the training of university students.
32	(Rajendra, & Thuraisingam, 2022)	UUM Journal of Legal Studies (ISSN 2229-984X)	Scopus	It is the tool that adopts technological innovations to improve the efficiency of legal services.
33	(Burt, 2021)	Kutafin Law Review (ISSN 2713-0525)	Scopus	Artificial intelligence will be able to surpass human capacity in the field of law.
34	(Nitta & Satoh, 2020)	Asian Journal of Law and Society (ISSN 2052-9015)	Scopus	This tool enables machine learning and text processing applicable to legal information.
35	(Evgrafova et al., 2022)	Transportation Research Procedia (ISSN 2094–2098)	ScienceDirect	It is applied to the judicial system to contribute to the role of judges in time management and decision-making.
36	(Sage et al., 2023)	Telematics and Informatics (Print ISSN: 0736-5853, Online ISSN: 1879-324X)	ScienceDirect	It is a tool that enables communication between consumers of a service.
37	(Van Rompaey et al., 2022)	Computer Law & Security Review (ISSN 0267-3649)	ScienceDirect	It is a tool that requires regulation to prevent products from being considered illegal.

4 Results

Most Influential Journals and Authors

Journal of Physics: Conference Series stands out with the highest number of documents related to the research topic. This journal reached 90 papers and has been in Scopus since 2005, it is identified with ISSN:1742-6588 and E-ISSN:1742-6596. Lecture Notes in Computer Science (including subseries

Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) is in second place with 47 registered papers. This journal has belonged to Scopus since 1973 and is identified with ISSN:0302-9743 and E-ISSN:1611-3349. IEEE Access is in third place with 30 registered papers. This journal belongs to Scopus since 2013 and is identified with ISSN:2169-3536. The journals Computer Law and Security Review, Artificial Intelligence and Law, ACM International Conference Proceedings Series, Procedia Computer Science, Frontiers in Artificial Intelligence and Applications, IOP Conference Series: Materials Science and Engineering and Applied Sciences (Switzerland) register less than 30 papers in the selected period.

Figure 1 shows the most influential authors that are related to the scientific production of artificial intelligence and law. This result reflects that the selected topic has potential for growth.

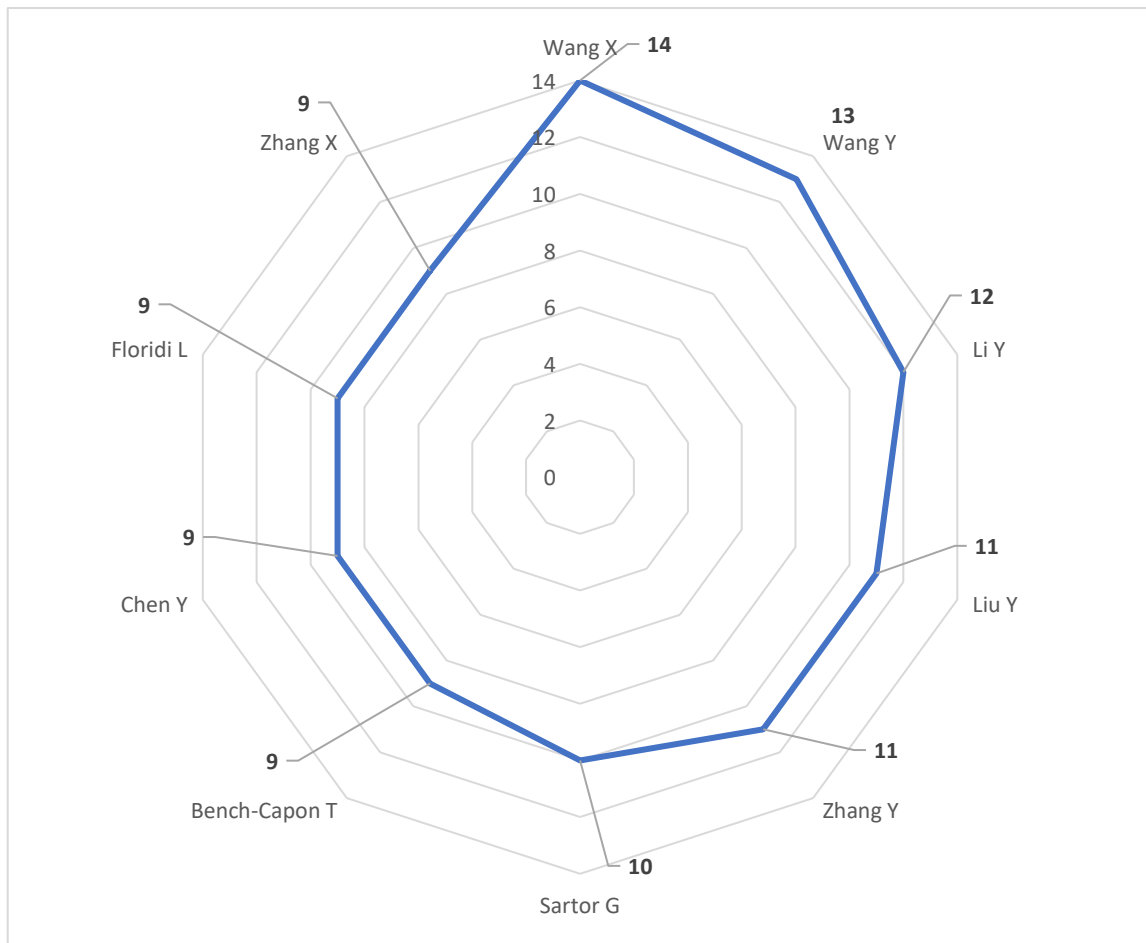


Figure 1: Most Influential Authors

Most Cited Documents and Authors

Table 2 lists the most cited authors. Of these, it can be seen that there are authors who focused on outcome prediction and machine learning applied to the legal field (Aletras, et al., 2016). It can also be seen that there are ethical and legal concerns in the use of artificial intelligence systems (Ntoutsis, et al., 2020) and (Mitchell, et al., 2019). Similarly, there are experiences of legislation regarding algorithmic bias and its legal impact on reducing discrimination rates (Feldman, et al., 2015).

Table 2: Most Relevant Authors and Documents

N	Author (year)	Title	DOI	Total Citations
1	Deo (2015)	Machine learning in medicine	10.1161/CIRCULATIONAHA.115.001593	1891
2	Feldman et al. (2015)	Certifying and removing disparate impact	10.1145/2783258.2783311	1069
3	Gunning et al. (2019)	XAI-Explainable artificial intelligence	10.1126/scirobotics.aay7120	998
4	Mitchell et al. (2019)	Model cards for model reporting	10.1145/3287560.3287596	933
5	Raissi & Karniadak (2018)	Hidden physics models: Machine learning of nonlinear partial differential equations	10.1016/j.jcp.2017.11.039	806
6	Chmiela et al. (2017)	Machine learning of accurate energy - conserving molecular force fields	10.1126/sciadv.1603015	771
7	Deng et al. (2020)	Model Compression and Hardware Acceleration for Neural Networks: A Comprehensive Survey	10.1109/JPROC.2020.2976475	531
8	Yang et al. (2020)	Federated Learning	10.2200/S00960ED2V01Y201910AIM043	426
9	Aletras et al. (2016)	Predicting judicial decisions of the European court of human rights: A natural language processing perspective	10.7717/peerj-cs.93	412
10	Ntoutsis et al. (2020)	Bias in data-driven artificial intelligence systems—An introductory survey	10.1002/widm.1356	386

The Most Frequently Used Words

Figure 2 shows that the most used words are artificial intelligence (982 times), laws and legislation (227 times), machine learning (158 times), big data (71 times), learning algorithms (61 times), social media (38 times), software (29 times), procedures (27 times), health care (26 times) y human rights (25 times).

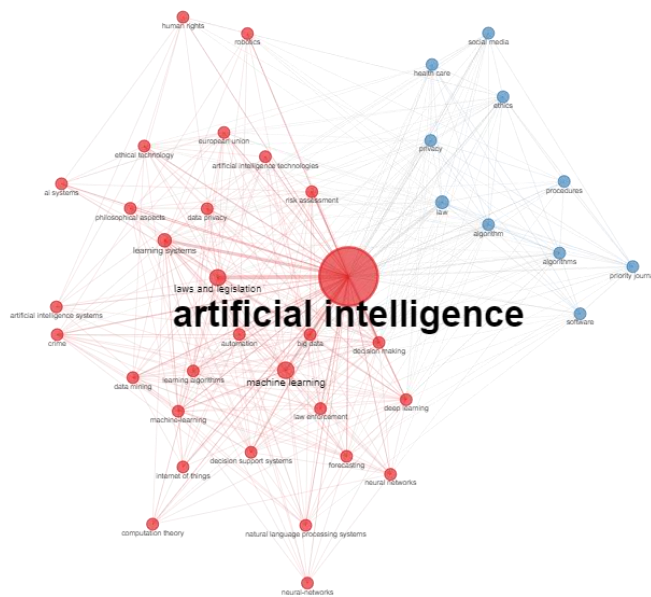


Figure 2: Co-occurrence Network

The Trend and Main Findings

Figure 3 shows the annual trend of scientific production on artificial intelligence and law, reaching an Annual Growth Rate of 34.95%. It shows the exponential increase in the last 4 years, a situation that demonstrates the interest in the subject and coincides with the period of the COVID-19 pandemic.

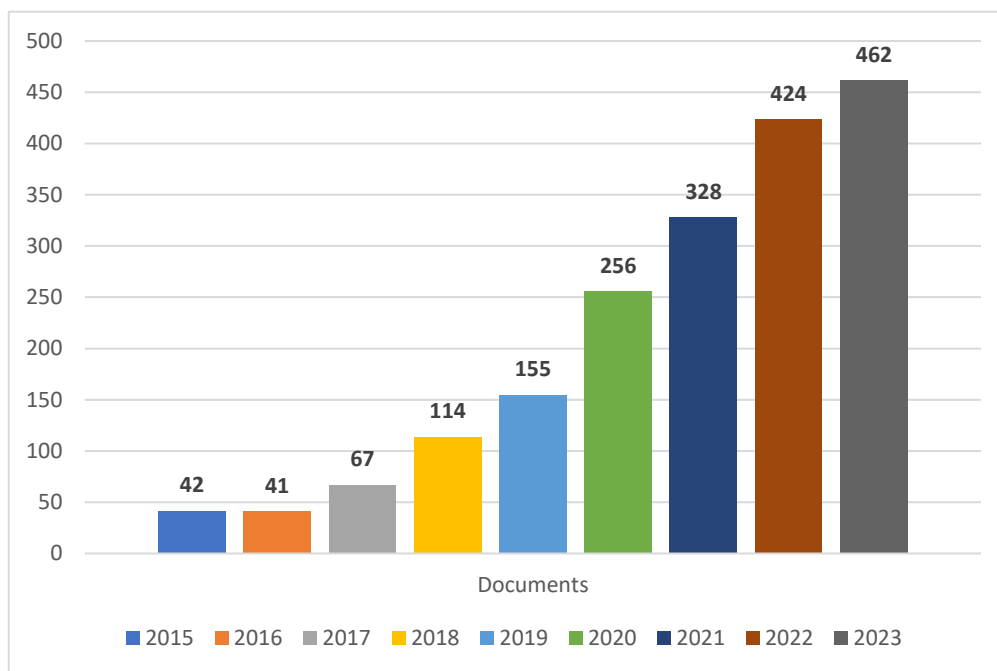


Figure 3: Annual Scientific Production

Table 3 lists the main findings related to the topic of artificial intelligence and law.

Table 3: Main Findings

Topic	Authors
Artificial intelligence and the legal service	(Hakim et al., 2023), (Valenzuela-Fernández et al., 2023), (Davis, 2020) and (Alarie et al., 2018).
Artificial intelligence and decision-making	(Krupiy & Scheinin, 2023), (Restrepo Amariles & Baquero, 2023), (Murray, 2020), (Langford, 2020) and (Verheij, 2020).
Artificial intelligence and digital transformation	(Ramli et al., 2023).
Artificial intelligence and ethical performance	(Dos Santos & Sampaio 2023), (Hickman & Petrán, 2021), (Sartor, 2020) and (Pagallo, 2017).

5 Discussion

Artificial Intelligence and Legal Service

It should be noted that the incorporation of artificial intelligence occurs in the absence of regulations, which could leave victims defenseless in the face of damages incurred (Hakim et al., 2023). There is also research demonstrating functionality in law firms, collaboration in case resolution, legal research, and predictive analytics (Valenzuela-Fernandez et al., 2023) and (Davis, 2020). The efficiency of legal services is the main reason for consolidating young lawyers' skills. For example, those linked to empathy and creativity, therefore, justice would benefit and play a transformative role in society (Alarie et al., 2018).

At this point, it is worth noting that the relationship between law and technology is not a recent one. The latter has always been characterized by its dynamism and excessive evolution. Over time, its usefulness in the service of others has been proven. The complementarity of the two terms strengthens the regulation and extension of new research problems (Ragone, 2021).

In this respect, the professional activity consisting of legal service must be provided responsibly. That is to say, to know what and when to express the legal advice for which the lawyer was requested and hired. If justice that delays is not justice, then a bad legal service would be focused on increasing injustice in society, a situation that cannot be allowed. In this sense, the conformity referred to by authors is manifested, when pointing out that what is sought is to provide legal service through technology and in an efficient manner (Shestak et al., 2019).

In this sense, the legal service does not only consist of the lawyer's opinion. The legal firms or law firms have a set of strategies aimed at building client loyalty. To achieve this, they focus on providing details from the legal search to the possible prediction of the case. In this phase, dithering could result in the loss of the case before the respective judgment is issued or due to a lack of skills resulting from the increasing digital divide (Alarie et al., 2017). In this regard, there is an attempt to create a robot to provide legal service; however, the perception of trust is not yet developed (Xu & Wang, 2021).

At this point, it is worth remembering whether legal services should be provided by humans or robots. Although there is no uniform recognition of a solution, likely, the delay in the administration of justice and some related data linked to corruption are the main questions of lawyers and judges. Criticism of the professional guild where justice should prevail is not appropriate (Stern, 2018). In that order of ideas, it is admitted as a tempting premise that if the problem is the human being, then the most pertinent thing

to do is to replace him or her through artificial intelligence (Rajendra & Thuraisingam, 2021), and (Solar Cayon, 2022).

On the other hand, it is noted that the lawyer interacting with artificial intelligence should be valued and retained by the human talent office. The development of new skills requires a process of adaptation and the strengthening of the usefulness derived from the legal service. Whereby, it should be noted that the outcome of the implementation of artificial intelligence in the legal service is the interpretation of court decisions, machine learning, and the improvement of legal advice (Sage et al., 2023).

Artificial Intelligence and Decision-making

The use of artificial intelligence can lead to behavior linked to discrimination, especially for people with disabilities, a situation that should not be allowed (Krupiy & Scheinin, 2023). Decision-making must be in line with respect for human rights (Restrepo Amariles & Baquero, 2023) and (Murray, 2020) and automation derived from the public sector, thus highlighting the importance of assessing risks to achieve social trust (Langford, 2020) and (Verheij, 2020).

The exercise of the function requires knowledge and the strength to make decisions promptly. Technology contributes to this characteristic and is intended to be the essential support for the lawyer. The result of management involves the management of information and, at the same time, the maturation process to select the most accurate response from the use of artificial intelligence (Nissan, 2015).

Traditionally, the lawyer considered that freedom and respect for rights require priority attention to avoid infringement. However, the doubt arises that artificial intelligence, or legal robots, can be modified. Notwithstanding the above, it should be stressed that justice is the supreme goal of society (Jalon et al., 2022).

Nevertheless, it should be borne in mind that decision-making is possible due to the improvement of higher education. At this point, we agree with the authors who maintain that through trial and error, human beings recognize the need to learn and transform what they have learned. In this way, knowledge does not stop and the threshold of automated learning is visualized. In this order of ideas, it is important to highlight the usefulness of artificial intelligence in the different facets of life (Luckin et al., 2022; Quezada Castro et al., 2022).

Prediction is the most notorious feature of artificial intelligence. Outlining and understanding the results of scientific knowledge is a complex act. So is trying to conceptualize human decisions, so progress in this area was only possible through experimentation. Future decisions made by lawyers could be recognizable with the implementation of machine learning (Nitta & Satoh, 2020), and (Siemens et al., 2022).

Artificial Intelligence and Digital Transformation

Artificial intelligence transforms the traditional conception of jobs. For example, research shows that artificial intelligence attempts to simulate or mimic human intelligence, which has new consequences not only in terms of employment but also in terms of intellectual property (Ramli et al., 2023). In this way, responsible use is proposed to avoid infringement of rights.

On the other hand, it is not advisable to argue that artificial intelligence will not change anything in society. It should be borne in mind that all change produces effects. In this case, there is concern among a section of the population about the possible loss of jobs. This is likely to happen in the short term. In

other times, for example in the industrial revolution, there have already been effects similar to those mentioned above (Hilt, 2017).

In this respect, it should be made clear that mechanized jobs will be the first to be abolished in the face of the implementation of artificial intelligence. It should be remembered that the repetition of actions is perfectly programmable in a machine. Thus, different human activities will have to be re-evaluated and adapted to the new needs of society. Human beings must continue to learn to be considered in the labor market.

Artificial intelligence, when implemented in the lawyers' function, leads to changes in mechanized activities. These too will disappear at the least expected moment. However, it is the set of skills and abilities that will mark the continuity of independence in the workplace. This idea is taken up by law firms, which will designate document reviews to be carried out using algorithms (Davis, 2020).

In this respect, it should be pointed out that we agree with authors who refer to argumentation as the language used by machines. The wording must be clear and understandable so that any citizen can recognize the scope of the sentences. The programming of the initial algorithms will be vital for the fulfillment of this purpose (Zharova et al., 2019).

Artificial Intelligence and Ethical Performance

The relationship between artificial intelligence and ethics is fundamental to preventing the infringement of rights. To achieve this, transparent use and trust are recommended, which is obtained from the information provided (Dos Santos & Sampaio, 2023), and (Hickman & Petrin, 2021). Values and normativity should be developed to encourage the responsible use of robotics and the innovation of systems derived from artificial intelligence (Sartor, 2020; Pagallo, 2017).

The use of technology is not exempt from the observance of ethical norms. Artificial intelligence arises in the debate of ethical questions. Legal advice is linked to correct and professional conduct. In such a way that it is not possible to argue the absence of liability for breach of duty in the work activity (Mowbray et al., 2020).

The lawyer's job offer already includes compliance with ethical standards. Disengagement with such an approach is not possible because it would represent the infringement of the fundamental rights of the individual. The use of artificial intelligence does not disrupt the development of justice (Rajendra & Thuraisingam, 2022).

In this regard, the role of law firms in establishing guidelines for the use of ethics and its link to access to justice is highlighted. The disintegration of human values and principles is not acceptable. The end does not always justify the means. In the present case, it falls on the lawyer's performance, who must manage a courteous and efficient treatment at the time of offering the ethical-legal service (Simshaw, 2018).

In that order of ideas, it is feasible to identify specific findings linked to artificial intelligence and law.

1. Social trust implies the concern of the population to recognize what will be the responsibility derived from the use of machines whose technology promotes artificial intelligence. Researchers emphasize this point and even propose categorization as a subject of law, a situation that represents a normative, doctrinal, and jurisprudential challenge (Mahardhika et al., 2023).
2. The responsible use of artificial intelligence implies the security of continuing to respect intellectual property rules. Copyright is the main recognition to promote educational training and ensure

- protection against infringement of rights in a democratic state (Vesala, 2023), and (Xuan et al., 2021).
3. The generation of artificial intelligence-derived skills for decision making, solving complex cases (Rahmat & Pribadi, 2021).
 4. Transparency and trust in the use of artificial intelligence. Both terms are vital to ensure the learning and transparency of algorithms. In this way, it is feasible to improve ethical practices, which brings about an adequate perception of the population (Liu, 2020).

6 Conclusion

Scientific production on artificial intelligence and law experienced exponential growth, especially coinciding with the COVID-19 pandemic. This reflects the fact that artificial intelligence is a tool and its use in law is linked to complementarity. Its function is not to the exclusion of the human being and it is characterized by the development of skills that today's society requires. The success of its implementation is related to the recognition of the need to reduce the digital divide.

It is recognized as a general finding of this study that artificial intelligence is related to legal service, decision-making, digital transformation and ethical performance. Likewise, there is no hierarchy or priority among the aforementioned, what exists is the need for its application from higher education.

It is recognized as a specific finding of this study that artificial intelligence develops on the basis of social trust and responsible use to prevent the violation of rights. Likewise, new skills linked to empathy and creativity are generated, which is possible by strengthening transparency that will guarantee an adequate use by the population.

It is urgent to standardize the regulation produced by international law in order to avoid the lack of protection for victims in the face of possible damages caused by the use of artificial intelligence.

References

- [1] Abbott, R. (2020). The Reasonable Robot: Artificial Intelligence and The Law. *The Reasonable Robot: Artificial Intelligence and the Law*, 1-196.
- [2] Alarie, B., & Niblett, A., & Yoon, A.H. (2018). How artificial intelligence will affect the practice of law. *University of Toronto Law Journal*, 68, 106-124.
- [3] Alarie, B., Nilbert, A., & Yoon, A. (2017). How Artificial Intelligence Will Affect the Practice of Law. *University of Toronto Law Journal*, 68, 106-124.
- [4] Arkhipov, V.V., & Naumov, V.B. (2017). Artificial intelligence and autonomous devices in legal context: On development of the first Russian law on robotics. *SPIIRAS Proceedings*, 6, 46-62.
- [5] Burgess, P. (2022). The Rule of Law, Science Fiction and Fears of Artificial Intelligence. *Law, Technology and Humans*, 4, 124-136.
- [6] Chesterman, S. (2021). Weapons of mass disruption: Artificial intelligence and international law. *Cambridge International Law Journal*, 10, 181-203.
- [7] Davis, A. (2020). The Future of Law Firms (and Lawyers) in the Age of Artificial Intelligence. *Revista Direito GV*, 16, 1-12.
- [8] Dos Santos, J.A.B., & Sampaio, G.M. (2023). Brief Assessments on Legal Personality and Liability: A Discussion Between Artificial Intelligence Technologies and Patents in European Communitarian Law. *Revista da Faculdade de Direito da Universidade Federal de Minas Gerais*, 183-201.

- [9] Hakim, H.A., Praja, C.B.E., & Ming-Hsi, S. (2023). AI in Law: Urgency of the Implementation of Artificial Intelligence on Law Enforcement in Indonesia. *Journal Hukum Novelty*, 14, 122-134.
- [10] Hickman, E., & Petrin, M. (2021). Trustworthy AI and Corporate Governance: The EU's Ethics Guidelines for Trustworthy Artificial Intelligence from a Company Law Perspective. *European Business Organization Law Review*, 22, 593-625.
- [11] Hilt, K. (2017). What Does the Future Hold for the Law Librarian in the Advent of Artificial Intelligence? *Canadian Journal of Information and Library Science*, 41, 211-227.
- [12] İnce, S.T. (2022). European Union Law and Mitigation of Artificial Intelligence-Related Discrimination Risks in the Private Sector: With Special Focus on the Proposed Artificial Intelligence Act. *Annales de la Faculte de Droit d'Istanbul*, 71, 265-307.
- [13] Jalon Arias, E., Ponce Ruiz, D., Arandia, J.C., & Arrias Anez, J.C. (2022). The Limitations of the Application of Artificial Intelligence in Law and the Future of Legal Education. *Revista Conrado*, 17(83), 439-450.
- [14] Krupiy, T.T., & Scheinin, M. (2023). Disability Discrimination in the Digital Realm: How the ICRPD Applies to Artificial Intelligence Decision-Making Processes and Helps in Determining the State of International Human Rights Law. *Human Rights Law Review*, 23, 1-27.
- [15] Langford, M. (2020). Symposium: How will artificial intelligence affect international law? Taming the digital Leviathan: Automated decision-making and international human rights. *AJIL Unbound*, 114, 141-146.
- [16] Lippi, M., Contissa, G., Lonowska, Agnieszka J., Lagioia, F., Micklitz, H-W., Palka, P., Palka, P., Torroni, P. (2020). The Force Awakens: Artificial intelligence for consumer law. *Journal of Artificial Intelligence Research*, 67, 169-190.
- [17] Liu, T. (2020). Empirical research on the application of computer artificial intelligence in law. *Journal of Physics: Conference Series*, 1648, 1-6.
- [18] Livson, M., Eshtokin, S., Vasyukov, V., Yudina, E., Baybarin, A., & Pivneva, S. (2021). Impact of Digitalization on Legal Regulation: formation of new legal practices. *Journal of Law and Sustainable Development*, 9(2), e0749-e0749. <https://doi.org/10.37497/sdgs.v9i2.28>
- [19] Luckin, R., Cukurova, M., Kent, C., & Du Boulay, B. (2022). Empowering educators to be AI-ready. *Computers and Education: Artificial Intelligence*, 3, 1-11.
- [20] Magrani, E. (2019). New perspectives on ethics and the laws of artificial intelligence. *Internet Policy Review*, 8, 1-19.
- [21] Mahardhika, V., Astuti, P., & Mustafa, A. (2023). Could Artificial Intelligence be the Subject of Criminal Law? *Yustisia*, 12, 1-12.
- [22] Mowbray, A., Chung, P., & Greenleaf, G. (2020). Utilising AI in the legal assistance sector—Testing a role for legal information institutes. *Computer Law and Security Review*, 38, 1-9.
- [23] Murray, D. (2020). Symposium: How will artificial intelligence affect international law? Using human rights law to inform states' decisions to deploy AI. *AJIL Unbound*, 114, 158-162.
- [24] Nissan, E. (2015). Digital technologies and artificial intelligence's present and foreseeable impact on lawyering, judging, policing and law enforcement. *AI & Society*, 32, 441-464.
- [25] Nitta, K., & Satoh, K. (2020). AI Applications to the Law Domain in Japan. *Asian Journal of Law and Society*, 7, 471-494.
- [26] Pagallo, U. (2017). LegalAize: Tackling the normative challenges of artificial intelligence and robotics through the secondary rules of law. *Perspectives in Law, Business and Innovation*, 281-300. https://doi.org/10.1007/978-981-10-5038-1_11
- [27] Page, M., McKenzie, J., Bossuyt, P., Boutron, I., Hoffmann, T., Mulrow, C., Shamseer, L., Tetzlaff, J., Akl, E., Brennan, S., Chou, R., Glanville, J., Grimshaw, J., Hróbjartsson, A., Malu, M., Li, T., Loder, E., Mayo-Wilson, E., McDonald, S., McGuinness, L., Stewart, L., Thomas, J., Tricco, A., Welch, V., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic review. *The BMJ*, 372, 1-9.

- [28] Putro, Y.M., Tarigan, M.I., & Al Asyari, H. (2023). Artificial Intelligence in Indo-Pacific: Quo Vadis International Humanitarian Law and Regional Peace and Security in Southeast Asia. *Lentera Hukum*, 10, 391-432.
- [29] Quezada Castro, G.A., Castro Arellano, M.D.P., & Quezada Castro, M.D.P. (2022). Artificial intelligence and legal education: its incorporation during the Covid-19 pandemic. *Revista Venezolana de Gerencia*, 27, 750-764.
- [30] Ragone, A. (2021). Civil Justice in the Digital and Artificial Era: Towards a new Identity? *Revista Chilena de Derecho*, 48, 203-229.
- [31] Rahmat, A.F., & Pribadi, U. (2021). Delivering Artificial Intelligence for Electronic Traffic Law Enforcement in Yogyakarta Region: Current Effort and Future Challenges. *IOP Conference Series: Earth and Environmental Science*, 717, 1-7.
- [32] Rajendra, J., & Thuraisingam, A. (2021). The deployment of artificial intelligence in alternative dispute resolution: the AI augmented arbitrator. *Information & Communications Technology Law*, 31, 176-193.
- [33] Rajendra, J., & Thuraisingam, A. (2022). Artificial Intelligence and its Impact on the Legal Fraternity. *UUM Journal of Legal Studies*, 13, 129-161.
- [34] Ramli, T.S., Ramli, A.M., Mayana, R.F., Ramadayanti, E., & Fauzi, R. (2023). Artificial intelligence as object of intellectual property in Indonesian law. *Journal of World Intellectual Property*, 26, 142-154.
- [35] Restrepo Amariles, D., & Baquero, P.M. (2023). Promises and limits of law for a human-centric artificial intelligence. *Computer Law and Security Review*, 48, 1-10.
- [36] Sage, K., Sherrie-Anne, K., & Oviedo-Trespalacios, O. (2023). What factors contribute to the acceptance of artificial intelligence? A systematic review. *Telematics and Informatics*, 77, 1-33.
- [37] Sartor, G. (2020). Artificial intelligence and human rights: Between law and ethics. *Maastricht Journal of European and Comparative Law*, 27, 705-719.
- [38] Shestak, V., Volevodz, A., & Alizade, V. (2019). On the possibility of doctrinal perception of artificial intelligence as the subject of crime in the system of Comon Law: using the example of the U.S. Criminal Legislation. *Russian Journal of Criminology*, 13, 547-554.
- [39] Siemens, G., Marmolejo-Ramos, F., Gabriel, F., Medeiros, K., Marrone, R., Joksimovic, S., & De Laat, M. (2022). Human and artificial cognition. *Computers and Education: Artificial Intelligence*, 3, 1-9.
- [40] Silva, R.A., Isidro-Filho Silva, A., De Moraes Sousa, M., & Sayao de Moraes, T.M. (2021). Artificial Intelligence and Legal Careers in Brazil: A Review and Proposed Research Agenda. *Humanidades & Inovacao*, 8, 187-203.
- [41] Simshaw, D. (2018). Ethical Issues in Robo-Lawyering: The Need for Guidance on Developing and Using Artificial Intelligence in the Practice of Law. *Hastings Law Journal*, 70, 173-212.
- [42] Smith, B.W. (2020). Symposium: How will artificial intelligence affect international law? New technologies and old treaties. *AJIL Unbound*, 114, 152-157.
- [43] Solar Cayon, J.I. (2022). Challenges of Lawyer Professional Ethics in the Age of Legal Artificial Intelligence. *Derechos y Libertades*, 45, 123-161.
- [44] Stern, S. (2018). Introduction: Artificial Intelligence, Technology, and The Law. *University of Toronto Law Journal*, 68, 1-11.
- [45] Valenzuela-Fernández, L.A., Ocaña-Fernández, Y.J., Sánchez, M.A.F., Apaza, Y.C.L., Zubieta-Romero, E., & Uribe-Hernández, Y.C. (2023). Law and Artificial Intelligence: Possibilities and Regulations on the Road to the Consummation of the Digital Verdict. *Journal of Law and Sustainable Development*, 11, 1-15.
- [46] Verheij, B. (2020). Artificial intelligence as law: Presidential address to the seventeenth international conference on artificial intelligence and law. *Artificial Intelligence and Law*, 28, 181-206.

- [47] Vesala, J. (2023). Developing Artificial Intelligence-Based Content Creation: Are EU Copyright and Antitrust Law Fit for Purpose? *IIC International Review of Intellectual Property and Competition Law*, 54, 351-380.
- [48] Xu, N., & Wang, K. J. (2021). Adopting robot lawyer? The extending artificial intelligence robot lawyer technology acceptance model for legal industry by an exploratory study. *Journal of Management & Organization*, 2, 867-885.
- [49] Xuan, D., Zhu, D., & Xu, W. (2021). The Teaching Pattern of Law Majors Using Artificial Intelligence and Deep Neural Network Under Educational Psychology. *Frontiers in Psychology*, 12, 1-11.
- [50] Zharova, A., Elin, V., & Panfilov, P. (2019). Introducing artificial intelligence into law enforcement practice: The case of Russia. *Annals of DAAAM and Proceedings of the International DAAAM Symposium*, 30, 688-692.

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