Article

The Use of Emerging Technologies in Out of Court Dispute Management Procedures: International Legal Approach and Regulatory Challenges

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ABSTRACT:

This paper has two principal objectives addressed with different methodologies. First, from a descriptive perspective, it analyzes the most internationally used Out-of-court dispute management procedures. Also, the main emerging technologies, led by Artificial Intelligence (AI), are studied and the AI Programs applied to the different Alternative Dispute Resolution methods (ADR) digitized through Online Dispute Resolution (ODR). Secondly, with an analytical approach, the different questions raised by the use of AI in ADR are accessed, identifying the main pros and cons that the use of AI represent in the framework of Alternative Justice. This is followed by an analysis of the role that international law and regulation can play in this context. The article concludes with a reflection on the impact of AI on the digitization of alternative justice and various proposals in this regard.

RESUMEN:

Este articulo tiene dos objetivos principales abordados con diferentes metodologías. En primer lugar, desde una perspectiva descriptiva, analiza los procedimientos de gestión extrajudicial de litigios más utilizados internacionalmente. También, se estudian las principales tecnologías emergentes, lideradas por la Inteligencia Artificial (IA), así como los diversos programas de IA aplicados a los Métodos Alternativos de Resolución de Conflictos (MASC) digitalizados a través de la Resolución de Disputas en Línea (RDL/ODR). En segundo lugar, con un enfoque analítico, se abordan las diferentes cuestiones que plantea el uso de la IA en los MASC, identificando los principales pros y contras que representa el uso de la IA en el marco de la Justicia Alternativa. A continuación, se analiza el papel que el Derecho Internacional y la regulación pueden desempeñar en este contexto. El artículo concluye con una reflexión sobre el impacto de la IA en la digitalización de la justicia alternativa y diversas propuestas al respecto.

RESUME :

Cet article a deux objectifs principaux, abordés avec des méthodologies différentes. Premièrement, d'un point de vue descriptif, il analyse les procédures de gestion extrajudiciaire des litiges les plus utilisées au niveau international. Aussi, les principales technologies émergentes sont étudiées, au premier rang desquelles l'intelligence artificielle (IA), ainsi que divers programmes d'IA appliqués à les méthodes alternatives de résolution des litiges (ADR), numérisées par le biais de la résolution des litiges en ligne (ODR). Deuxièmement, une approche analytique permet d'aborder les différentes questions soulevées par l'utilisation de l'IA dans l'ADR en identifiant les principaux avantages et inconvénients que représente l'utilisation de l'IA dans le cadre de la justice alternative. L'article analyse ensuite le rôle que le droit international et la réglementation peuvent jouer dans ce contexte. Se termine par une réflexion sur l'impact de l'IA sur la numérisation de la justice alternative et diverses propositions à cet égard.

Contents:

1 INTRODUCTION

The transformation from a digital economy to a digital platform economy is already a reality in a global framework. Its specific smart contracts (Luquín et al, 2024) and its own appropriate dispute resolution systems occupying a privileged position in dispute resolution (Ibañez et al, 2025). This, together with the fact that in the different cultures and countries, since United States, to China, India, etc., passing through Europe, incredible emerging technologies and technological advances are taking place, makes its regulation and exportation to different legal systems a matter of time (Magaña, 2024). As a result, the number of conflicts in this area is expected to grow exponentially (Ballesteros, 2021).

In this context, one of the most innovative, topical and modern legal subjects is the one related to the field of the out-of-court dispute management procedures, so-called Alternative —Appropriate or Adequate- Dispute Resolution (ADR) refers to any method of resolving disputes without litigation, on the one hand. In the vast majority of countries and legal different cultures ADR mechanisms regroups all processes and techniques of conflict resolution that occur outside of any governmental authority, who however are still largely unknown (Sanfeliz, 2020). The most famous ADR methods are negotiation, conciliation, transaction, mediation and arbitration (Cornell Law School, 2024). Extrajudicial procedures increasingly digitized, through Online Dispute Resolutions (ODR).

On the other hand, undoubtedly another of the most topical global issues currently is the one related to the irruption of new or emerging technologies led by Artificial Intelligence (AI). This last has arrived so abruptly that in one of the shortest periods of time in the history of humanity the very and sweeping role of AI has had the capacity to generate itself a new Era: 'The Era of Artificial Intelligence' (Kissinger, Schmidt & Huttenlocher, 2023). IA has aroused a great deal of sentiment, both for and against, generating in turn a series of concerns and paradigm shifts in the most diverse areas, including law and justice and of course AI scientific research in the same ones (Cárdenas, 2024).

In this regard, alternative Justice, like traditional Justice, is debating how to adapt to the new technological demands while maintaining its traditional own principles and general guarantees of due process and effective judicial protection (Barona, 2018) and how to face digitalization in accordance with the demands of modern times (Palao et al, 2025). In this context, as novel as it is uncertain, the dizzying and revolutionary advances of AI are a source of both opportunities and challenges. Opportunities, because we considerate AI as a tool with which we can find solutions and resolve conflicts and problems of the most varied types in different fields (Gonzalo, 2023). This obviously takes on transcendental importance in the field of Justice and Law, especially in terms of ADR: negotiation, mediation, and arbitration, in particular, and the management of Online Disputes Resolutions through ODR to overcome geographical barriers, streamline procedures and reduce costs[1]. In addition, legal reforms in ADR are expected to further boost its development and promote its use in various areas. For instance, the transposition of Directive 2013/11/EU on Alternative Dispute Resolution in consumer matters has been an important step forward in the protection of consumer rights and the promotion of ADR in this sector[2]. The challenges arise because the introduction of AI in the legal and specifically extrajudicial sphere produces obvious reasons for mistrust and suspicion, along with interesting challenges to be faced.

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[1] For example, platforms such as ADR.eu or Arbitration Center for Internet Dispute are gaining ground in the field of alternative dispute resolution, offering online mediation and arbitration services, vid., RDS | RDS (adr.eu)

[2] Directive 2013/11/EU of the European Parliament and of the Council of 21 May 2013 on alternative dispute resolution for consumer disputes and amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC (Directive on consumer ADR): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013L0011

This work explores the issue of AI in the field of out-of-court dispute management procedures, or ADR Methods, on the context of Alternative Justice digitalized. Innovative research that aims to contribute to the scarce existing academic and practical work on tole of IA and new technologies in extrajudicial justice systems applied to resolve, domestic or international, conflicts through ADR. It intends to provide a structured understanding of the integration of emerging technologies in ADR mechanisms. Its unprecedented approach explores the legal benefits and issues of integrating new technologies and AI into ADR, ODR or the so-called hybrid or staggered out-of-court settlements; or combined mechanisms of mediation and arbitration in dispute resolution: Med-Arb, Arb-Med, Arb-Med-Arb (Morán, 2023); in conflict resolutions systems around the world.

2 OUT-OF-COURT DISPUTE MANAGEMENT PROCEDURES: INTERNATIONALIZATION AND DIGITALIZATION

2.1 ALTERNATIVE DISPUTE RESOLUTION (ADR)

Out-of-court dispute management procedures have gained well-deserved recognition as essential instruments in the search for peaceful solutions to conflicts, allowing dialogue and negotiation as alternatives to confrontation, thus contributing to a universal framework for a culture of peace (Gonzalo, 2021). Legally regulated, among the best known ADRs we can mention negotiation, conciliation, settlement, mediation and arbitration. The last two of these are the ADRs most used and preferred by the users of out-of-court justice systems. Arbitration in the first place, in the economic, industrial, commercial and mercantile sectors, such as in the energy sector[3]. Mediation, however, would occupy the first place in the family sphere, which is otherwise unarbitrable (Betancourt, 2018). So, this will obviously vary according to the availability of the material field (commercial, civil, family, etc.) and whether it is domestic or international conflict. The following figure summarizes the main differences between the most commonly used ADRs internationally.

Table 1. Summary Descriptions of the most commonly used ADRs internationally.

ADR	SUMMARY DESCRIPTION
Negotiation	❖ The purpose of negotiation is to reach an agreement or solution to a conflict directly between those involved in the dispute, by mutual agreement of the parties and giving priority to their interests. ❖ It is a process of interrelation that takes place without the need for conflict. It can be the origin of a relationship. ❖ It is a communication process that takes place between the parties.
Mediation	❖ A third party (the mediator) intervenes to help the parties. ❖ The mediator does not have the power to make proposals, but only brings the parties together and facilitates communication in order to solve the conflict. ❖ The solution of the conflict depends exclusively on the parties. ❖ It can be judicial or extrajudicial. ❖ Requires training or qualification of the mediator.
Conciliation	❖ Similar to mediation, where the third party (the conciliator) actively promotes the achievement of a solution to the conflict, having the power to generate options and proposals that are submitted for consideration by the parties, who can accept them or continue arguing. ❖ The conciliator makes proposals, but his or her proposals are not binding. ❖ The act of conciliation is exclusively judicial (usually prior to the trial). ❖ No specific training is required.
Arbitration	❖ The parties delegate to a third party (the arbitrator), who may be a sole or uneven collegiate arbitrator, the final settlement of the dispute by means of an award, which is binding on the parties. ❖ No specific training is required, but in practice it is usually executed by specialised arbitrators in conflicts depending on the subject matter.

Source: Own elaboration based on the work published in Collantes et al (2023,78-79).

Among the various ADRs that operate internationally, it is clear that each of the ADRs has its own idiosyncrasies and characteristics - whose opportunities and challenges in relation to

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[3] Data by Survey Energy Arbitration Survey (January 2023) of Queen Mary University & Pinset Masons, which asked: What are the most appropriate conflict management mechanisms for resolving disputes?, vid., Energy Arbitration Survey, (2022), available at School of International Arbitration (qmul.ac.uk);, https://arbitration.qmul.ac.uk/media/arbitration/docs/Future-of-International-Energy-Arbitration-Survey-Report.pdf.

new technologies and AI could be dealt with in a specific way in each of them separately -as has been done in the specific field of arbitration by Gonzalo (2023) and in mediation by Ordelin (2021)-. However, in view of the common characteristics of all of them, this research has made a unifying effort to focus on the generic universal principles, features and benefits of ADRs. Their basic principles and features that define their advantages over traditional justice systems (courts, tribunals, and jurisdictional orders).

The main advantages of ADR are voluntariness and freedom of choice, confidentiality, speed and cost reduction, efficiency, flexibility, absence of reputational risk, specialty, continuity of relations, modernity, etc.[4]. These properties have contributed in practice to favouring the dissemination of ADR and to ensuring its improvement and consolidation as an alternative system for the settlement of disputes. It is precisely the aforementioned advantages that are increasingly convincing individuals and companies to include in their contracts clauses whereby they voluntarily refer to arbitration, national or international, for the resolution of their conflicts, whether future or present; to mediation, civil and commercial, especially family mediation; or even to staggered or hybrid clauses such as Med-Arb, which alternatively refer to mediation in the first place, and if this fails, directly to arbitration, in the second place (Lalaguna, 2020), or the rest of the most successfully developed trio of hybrid clauses: Med-Arb, Arb-Med, Arb-Med-Arb (Allison, 2020).

Even so, as mentioned above, ADRs remain a great unknown (Sanfeliz, 2020) and there are still many questions regarding their functioning, effectiveness, implementation, and usefulness. However, there is no doubt that ADR is very relevant today and is growing exponentially (Betancourt, 2018). This, together with the inadequacies of a congested and worn-out public justice system that was unable to respond to the needs of litigants in times of crisis and pandemic, calling into question Effective Judicial Protection itself, has had a considerable influence on judicial systems around the world causing them to pay more attention to ADR and new technologies (Fariña et al, 2022).

From this perspective, this digitization of ADR, known as Online Dispute Resolution (ODR), has become crucial. In fact, the extrajudicial mechanisms of online dispute resolution raise a number of interesting approaches and legal solutions in private international law (Nava, 2023). Without going any further, the pandemic caused by the SARS-CoV-2 virus underscored the urgent need for appropriate technology and secure, guaranteed, and confidential platforms for out-of-court dispute resolution, emphasizing the importance of AI. ADR/ODR methods are currently favoured due to their proven effectiveness in conflict management and resolution across various legal systems and cultures, promoting reconciliation, cooperation, and strengthening interpersonal and social relations. They also ensure the improvement and adaptation of alternative justice systems in the current digital era or rather "IA Era", which has now prevailed in the digital world (Kissinger et al, 2023).

2.2 DIGITALIZED CONFLICT MANAGEMENT AND RESOLUTION MECHANISM: ONLINE DISPUTE RESOLUTION (ODR)

Online Dispute Resolution (ODR) originally emerged from Alternative Dispute Resolution (ADR) as a natural by-product of the creation of cyberspace (Ballesteros, 2021). However, in recent years, thanks in part to the above-mentioned momentum during and after the pandemic, ODR has itself become an independent entity with its own legal autonomy due to the growth of online activities and the consequent conflicts arising from them. Thus, ODR are in essence digitalized conflict management and resolution mechanisms that make it possible to carry out online dispute management and resolution procedures regardless of distance,

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[4] More extensively developed by Gonzalo, Diccionario digital de *Derecho Internacional Privado* (2023) and Barona's reference work (2018).

pandemics, location or any other barrier preventing the parties involved to meet in person. Although they were originally designed for parties located in different countries and had their heyday at the time of the pandemic caused by the COVID-19 virus (Gonzalo, 2022), it was soon realized that they were extremely useful for many unique cases, like ODR and disability, whether physical or intellectual (Pérez Tortosa, 2022).

Thus, ODR manages and resolves disputes in whole or in part with the help of electronic or digital tools. These tools range from web-based communication platforms that connect the relevant parties to AI that replaces the role of different professionals and traditional practices of the most commonly used classic ADR such as mediation and arbitration. However, a third clarification is urgently needed. A clear distinction must be made between ODR, delivered through different platforms, and AI exclusively applied in the procedures of some ADR procedures such as arbitration and mediation. In predictive platforms, we leave the outcome of the conflict to the predictive platform, which acts on its own - based on algorithms. There is no human factor other than in the initial design of the predictive algorithm. Thus, there is a certain "dehumanization" which, in our view, is contrary to the nature and principles of ADR itself. However, in ODR the essence of ADR used online is not lost. It is still a hybrid of the human side of ADR, to which it owes much of its success as the human component of empathy, strategy, fairness, and courage is fundamental. Conflict resolution through predictive platforms where no human factor is involved is, in our view, neither ADR nor, in its digital form, ODR. It undermines the very essence of ADR and is contrary to its core principles and virtues (Gonzalo & Suñez, 2024).

This distinction is necessary because although nowadays online platforms or oracles where the human factor does not exist are called ODR, their conceptualization would be debatable if we appeal to the essence of extrajudicial systems of conflict management where the human factor that brings the parties together, facilitates their communication, or dictates an award, continues to be fundamental (Ibañez et al, 2025). Finally, a clear distinction must also be made between ODR, which carry out the entire extrajudicial procedure digitally, and online hybrids, HDR, that only carry out part of the procedure online, for example, taking evidence or a videoconference (Conforti, 2020). With the obligation to ensure their wider dissemination and availability to all interested parties, they must be digitized and updated, which requires a significant financial investment procuring the electronic equipment and subsequently comprehensive training of their proper use. The use of ODR ranges from online and web-based disputes to claims arising from "offline" deals or agreements. In other words- and this is essential to validate its significance in the field of out-of-court dispute management and resolution and its enclave within Justice- the online aspect does not reflect the origins of the claim (which can also be "offline") but conceptualizes the out-of-court nature of the very management and resolution of the dispute in question which is done by exclusively electronic means (Palao, 2025).

The trajectory of ODR in the digitization of alternative justice is not linear and is far from being the same for all jurisdictions on the planet, accentuating the digital divide. Given the growth of electronic processes, and the impact of COVID-19 on adaptations to digital innovations, ODR is inevitable. However, their development has been uneven. Moreover, it is crucial to clarify that ODR will not become the regulatory route for the resolution of all types of disputes. First, because they are only contemplated for those matters that are available and, second, because, although available, they may not be appropriate in all categories of conflicts due to economic, material or human factors. The evaluation of possible shortcomings or even the possibility that they may give rise to new categories of problems is of great relevance and will certainly also be the subject of future research.

In this regard, under the idea of disseminating universal models of ODR, the growing community of legal practitioners with expertise in ODR considers the initial ideas of Katsh & Rifkin (2001) on this issue to be fundamental. They developed a chronology of three phases

or stages (amateur, experimental and enterprise phase) to measure the implementation and integration of ODR in jurisdictions. The "amateur" phase is one in which individuals attempt to develop ODR at an amateur level, without any guidance or regulation. The "experimental" phase suggests that organizations begin testing different forms of ODR through pilot programs. The "enterprise" phase refers to private companies using ODR on a larger scale. Finally, the "institutional" phase, added in 2003 by Conley, Tyler & Bretherton (2003), according to which ODR has reached a stage of institutionalization, when official bodies use it to resolve conflicts. Here, it can be stated that, at present, the final phase of ODR implementation has already been overcome in most of the jurisdictions that apply it and that, although they are not yet very numerous, there are outstanding global efforts to incorporate ODR in the field of e-commerce, consumption and disability through platforms such as those referred to (Palao, 2025). Today, we are one step further the digitized, modernized and AI-supported version of ADR, ODR, has experienced a remarkable boom in the new digital era in which we are immersed, allowing fully automated ADR (especially mediation, arbitration, and oracles) but, is ADR without human intervention[5]?

3 THE USE OF EMERGING TECHNOLOGIES, LED BY AI, IN ADR/ODR

3.1 ARTIFICIAL INTELLIGENCE IN ADR: THEORETICAL FRAMEWORK

The theoretical framework of AI in ADR focuses on the application of AI and sophisticated computing techniques aimed at improving the efficiency and accuracy of decision-making in out-of-court dispute resolution systems and, in general, the efficiency, quality and transparency of their procedures. Its operation is based on the use and application of programs or software created thanks to intelligent algorithms, machine learning techniques and natural language processing to improve a variety of aspects in all phases of ADR: from the provision of funds and the appointment of the professionals in charge of the ADR in question (negotiators, mediators, arbitrators, etc.) This systematization, analysis, and understanding of all data and documents related to an ADR case help develop better strategies, prepare cases, present evidence, forecast outcomes, and draft agreements (Gonzalo, 2023). Theoretically, this provides negotiators, mediators, arbitrators, or the professional(s) responsible for each of the parties' chosen ADR, with the ability to make more informed and fairer decisions, based on a thorough understanding of the facts and evidence. And, not only that, without getting into substantive issues, AI is a very useful tool that can also automate common and often tedious tasks, such as document review, data collection, and assistance to the parties, etc. It thus allows those responsible for the ADR in question to focus on more important and complex tasks, thereby improving the efficiency of the ADR procedure carried out.

AI is neither positive nor negative. It is just a tool that if we used properly can significantly benefit ADR procedures, providing insights and support. Technology is neither inherently good nor bad; the problem lies in how we use it (Antón, 2021). AI can act as a virtual assistant to ADR practitioners (negotiators, mediators, conciliators, arbitrators, etc.) by providing information and all kinds of support resources (data analysis, test practice, simulations of different scenarios, etc.) on the dispute in question. It can examine large amounts of documents, background information and data relevant to the case, enabling mediators, negotiators, conciliators, and arbitrators to quickly access all key information. In addition, AI intervenes in ADR by helping to identify patterns or trends in dispute resolution. In the sense that, by being able to dizzyingly analyze a large amount of data in similar cases, it can provide recommendations that allow ADR practitioners to develop their own strategies based on the

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[5] This question will be answered in section III. 3

different probabilities of success that, according to AI, have occurred and guided other cases and proceedings, both alternative and judicial (Gonzalo & Suñez, 2024).

AI in ADR is useful in predicting costs, appointing mediators, negotiators, and arbitrators, case management, summarizing legal and jurisprudential precedents, analyzing evidence, proposing strategies, drafting awards, simulating judicial reviews, and automating the enforcement of agreements and awards. AI offers great advantages, benefits, and opportunities, illuminating the ADR process through increased efficiency, cost reduction, and time savings. By automating repetitive tasks and administrative processes, AI frees up professionals involved in ADR to focus on more complex tasks, enhancing the overall efficiency and effectiveness of the ADR process (Delenz Lorieto, 2020).

3.2 AI PROGRAMS APPLIED TO THE DIFFERENT ADRS

AI is already present in virtually all ODR and will undoubtedly intensify in the near future. As a result of the use of technology and AI in ADR/ODR, we are confronted with new opportunities and challenges. Today, advanced software systems, among other tasks, are assisting in legal document review, outcome prediction and case management. Moreover, it is anticipated that the advent of even more evolved Strong Artificial Intelligence (SAI) in the not-too-distant future could enable the emergence of automated ADR potentially capable of resolving litigation more effectively and efficiently (Méndez Zamora, 2019).

As early as 2019, an AI platform was used for the first time in an ADR case to reach a settlement (Hilborne, 2019). The parties had attempted a court-derived mediation in a case where a personal trainer was claiming £2,000 from a client for services rendered. Following a failed attempt at telephone mediation, professional mediator Graham Ross, an ODR expert, proposed using an AI platform to the parties involved in order to settle their dispute as quickly and efficiently as possible. To do so, they used the Smartsettle ONE program, invented by Ernest Thiessen and developed by ICan Systems in British Columbia, based on an AI that, through algorithms that feed it, proposes a system of offers and counter-offers - identified by green and yellow flags - that prevents each party from sending proposals that will not be accepted by the other party, thus helping them to reach an agreement without "angering" or making the other party leave the negotiation platform and without revealing their secret proposals. Thanks to this "robot ADR" or "robot mediator" (although in this case we would not call it a mediator because technically the mediator was still Graham Ross, who recommended it and controlled the procedure at all times) the parties were able to resolve a conflict that had not been resolved either by the court or by the previous mediation attempt and in record time, resolving a three-month conflict in less than an hour.

There are more AI programs applied to the different ADRs. Two of the most widely used are Arbitrator Intelligence[6], for the appointment of arbitrators (Rogers, 2019), and Dispute Resolution Data[7], a program of great utility and application in any extrajudicial method of conflict resolution, especially arbitration and mediation[8]. Certain companies already use online mediation such as NextLevel Mediation[9], which uses AI and new technologies to mediate disputes for clients, or Finboot, a blockchain company that has just partnered with London Chamber of Arbitration and Mediation, to create a mediation platform using

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[6] https://arbitratorintelligence.com/

[7] https://www.disputeresolutiondata.com/

[8] For its reference, vid., http://datadog.nationbuilder.com/drd_wins_gar.

[9] https://nextlevelmediation.com/

blockchain technology[10]. There are also other more general legal tools that are also very useful in ADR procedures, such as Luminance[11], eBrevia[12], Jurimetria[13], Arbilex[14], etc.

There are also AI programs that could allow us to choose - from among all the ADRs - which is the best one to apply to a specific case. These programs are of great help and utility in the procedures of the different ADRs, both domestic and international, processing the information so quickly that they save a great deal of time and work. Instruments which, when applied to ADR, where speed is one of the main advantages over traditional justice, greatly increase the prerogatives attributed to ADR- lower cost and greater speed, among others. Although, as we will see below, being faster does not always mean being more efficient, AI, moreover, through all the programs and platforms listed above, produces results, and provides services that until recently were far from being available and were even unimaginable for many of us.

3.3 IS IT LEGALLY POSSIBLE TO USE FULLY AUTOMATED AI TO RESOLVE A DISPUTE THROUGH ADR?

Today, we are one step further since the digitized, modernized and AI-supported version of ADR, ODR, has experienced a remarkable boom in the new digital era in which we are immersed, allowing fully automated ADR (especially mediation, arbitration, and oracles), but is still ADR without human intervention?

Legally, in mediation, for instance, taking as a reference the Spanish mediation law, which like the rest of the European laws on mediation was transposed from the European Directive 2008/52/EC on mediation in civil and commercial matters , and whose results in its study can be, therefore, valid for the rest of the European laws that followed this transposition; the Law 5/2012, of 6 July, on mediation in civil and commercial matters,[15] Spanish Mediation Law - LMed-[16] allows mediation by electronic means in its article 24. Its second paragraph indicates that electronic mediation will be for small claims, which when this possibility did not exist, often left the injured party helpless, not affording to be able to go to court to assert their rights because it was more burdensome to set the judicial machinery in motion (payment of lawyers, process, etc.) than the amount to be claimed. Hence the importance, in order to make up for this lack of justice, of articulating economic means for consumers in these cases.

The law also states that mediation must be carried out by a professional mediator. A mediator who, according to his or her statute, must be a natural person, art. 11. 1, LMed., in fine[17]. Legally, therefore, according to the legislation, in an ADR such as mediation, at present, a "robot" cannot be a mediator, nor can automated processes that call themselves

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[10] https://www.finboot.com/

[11] Luminance is one of the most advanced AIs for processing legal documents and optimizing business operations and value delivery: https://www.luminance.com/.

[12] AI software aimed, among other solutions, at transforming and assisting in the review of contracts and legal documents: https://www.dfinsolutions.com/products/ebrevia.

[13] Jurimetría is a platform created by La Ley and Google Spain that allows legal professionals to explore and analyse data, previously difficult to access, that helps in the management and resolution of a specific case. Available at https://jurimetria.laleynext.es/content/Inicio.aspx.

[14] AI for investment and finance:https://www.arbilex.co/.

[15] Directive 2008/52/EC of the European Parliament and of the Council of 21 May 2008 on certain aspects of mediation in civil and commercial matters, https://eur-lex.europa.eu/eli/dir/2008/52/oj

 Published in the BOE no. 162, 07/07/2012, available at https://www.boe.es/buscar/act.php?id=BOE-A-2012-9112

[16] Published in the BOE no. 162, 07/07/2012, available at https://www.boe.es/buscar/act.php?id=BOE-A-2012-9112

[17] "The legal persons who engage in mediation, whether they are professional companies, or any others provided for by the legal system, must designate a natural person who meets the requirements of this Law".

"mediators" or "mediation" be called mediation. This would pervert the term and the very institution of mediation.

This legal reasoning would be equally valid for the rest of ADRs: negotiation, conciliation, automatic arbitration, which would not be authentic negotiations, conciliations, arbitrations, etc. if the human factor was not present (Gonzalo & Suñez, 2024). In order to guarantee that the use of AI in ADR is both legal and ethical, rules and control mechanisms are once again demanded which, for the moment, can only come from a human (the mediator, arbitrator, etc.), but also from extrajudicial conflict resolution bodies and institutions that must do everything to become more involved, and we call for this to be the case. Hence the importance of "human review" systems. AI control in ADR should be neutral, guaranteed, and permanent. Thus, the digital future of ADR is likely to move towards a "Hybrid model", in which AI and ADR professionals work in full collaboration (Gonzalo & Suñez, 2024). This will require ensuring, firstly, that there is no digital divide between the parties and, secondly, respect for the essential principles of ADR, in particular, the acceptance by the parties of AI: autonomy of will and freedom of agreement.

3.4 PROPOSAL: ACCEPTANCE OF THE USE OF NEW TECHNOLOGIES IN EACH ADR/ODR

In the face of all the disquiet, confusion, change and novelty that AI in ADR generates, it is proposed to go back to the origins, to the essence. Well then, the cornerstone of ADR is the autonomy of the will and freedom of agreement. Hence, in view of the disruption caused by AI in each ADR, it is proposed to go back to the origins and agree in each specific ADR whether the parties involved know what AI entails and, accordingly, whether they expressly wish to agree to accept AI in their specific case. This would correct the imbalance that could be caused by the digital divide in a domestic and international ADR case. For example, think of a case of one of the most used ADRs, such as arbitration, where one of the parties has much more means than the other to acquire the necessary AI to speed up the arbitration procedure (from the appointment of arbitrators, the presentation of the case, evidence, expert opinions, etc.) The other party, who does not have access to such resources, would not be able to compete. They would not have equality of arms in the procedure, thus violating one of the basic principles of ADR and of justice itself (Gonzalo, 2023).

Therefore, it is proposed that in the same contractual clause that refers to the out-of-court system, it should be agreed how, when and to what extent AI is used. This would have to be agreed upon between the parties at any time within the framework of negotiation, which is the essence of all ADR and ODR. It is proposed that the willingness to decide whether or not to use AI should be recorded and specified in detail in each ADR, clause, or contract. This can be set out in the agreement, whether it be arbitration, mediation, etc., and in any contract or dispute resolution clause that specifies the ADR chosen.

In cases where the dispute arises from "old" agreements or dispute resolution clauses - which will presumably be the majority, as the issue of AI was unimaginable until recently and thus not contemplated in contracts or their dispute resolution clauses- negotiation could be invoked. The current state of affairs necessitates this approach. Parties should negotiate within the agreements or clauses derived from ADR, or within the contract or arbitration clause itself, whether or not to use AI in a specific dispute. If they decide to use AI, they should specify which AI system to use, in detail, how and when it will be used, and stipulate the limits and conditions.

In short, for the time being, calm is advocated in the face of the precipitation of AI itself. So that, in each case and in each dispute the course of action has to had been agreed upon between the parties on specific issues regarding the use of AI. Under the rule of the autonomy of will, agreement and pact that governs all ADR and ODR, it is possible, even advisable, to agree in each specific case on the use of the AI tools that we want to use in each

procedure, how and when to do so, and even the prohibition of AI in the procedure guaranteeing in any case the equality of the parties in out-of-court proceedings as a basic principle of the alternative dispute resolution institution itself. In conclusion, wherever ADR goes, with or without AI, we cannot afford to forget its origins. And the origin of ADR is none other than free will and freedom of agreement.

4 PROS AND CONS OF APPLYING AI IN OUT-OF-COURT DISPUTE MANAGEMENT PROCEDURES

To summarize, a table has been produced highlighting the Advantages and drawbacks of applying AI in extra-judicial methods of conflict management.

Table 2: *Pros* and *cons* of applying AI in ADR

Benefits of AI applied to ADR	**Global accessibility:** AI-supported ADR can be accessible anytime and anywhere for anyone, regardless of whether they are in an international environment (distant and different countries) or simply in the same place but prefer to resolve their differences as quickly as possible. Ultimately, conflict management and resolution through ADR, especially conciliation, mediation and arbitration, facilitates conflict resolution without the need for physical meetings.
	Advanced data analytics: AI can help identify patterns and trends in disputes, enabling informed decision-making in ADR.
	Economy: ADRs is less expensive than court proceedings in all countries around the world. Economy which also translates into considerable cost and time savings through ADR.
	IA for the small claims: The current understanding from international perspectives is that technological assistance can be optimized when used for small claims (consumers, mainly[18]).
	Efficiency: AI systems can process large amounts of data quickly, which speeds up the ADR process even more. AI applied to ADR enhances ADR's own characteristics: making it even faster than it already is.
	Time: If disputes handled by ADR are already much faster than those handled by a court of law, the speed is further increased by the use of AI. Speed which is highly desirable to prevent conflict or pre-conflict situations from escalating and to resolve conflicts in any field.
	Strategic reasons: the systematization, analysis and understanding of all the data and documents related to an ADR in order to develop better strategies for each case in the workplace. systematizing, generating ideas and assisting in the preparation of the ADR, analyzing texts, assisting, and helping with the presentation of evidence, anticipating and drafting agreements, etc.).

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[18] In the E.U., the multilingual online tool, created in 2016 by the European Commission, for the resolution of disputes between consumers and businesses, Online Dispute Resolution, stands out, available at https://ec.europa.eu/consumers/odr/

Disadvantages of AI applied to ADR	**Costs barrier:** Digital divide. **Education:** Lack of training in new technologies and AI by ADR professionals and by society in general. Need for education and training in emerging technologies and AI (Johnson, 2022) **Sustainability and Environment.** AI needs a lot of energy to be generated and is expensive for the environment. It advocates for ADRs more sustainable and environmentally friendly methods. **Lack of personal contact:** *v. gr.,* e-mediation lacks direct human contact, which can affect empathy and understanding between the parties. Also in arbitration, etc. **Education & Liability:** All parties involved in the resolution of the conflict (parties, professionals, and company) must understand how AI works, so they can determine whether to use it as a tool in a process ADR. **Specific acceptance of the use of AI in each chosen ADR/ODR in the workplace:** AI still relatively new, unregulated, and uncontrolled, and this poses a key obstacle- the acceptance and trust necessary for the adoption of AI in ADR (Gonzalo, 2023). **Data &Technical issues:** we rely on technology, and any technical glitches can hinder the ADR process. **Privacy concerns/Confidentiality:** AI handles confidential data, which raises privacy and security issues. **Flexibility**, as another key principle of ADR, which makes it the most flexible and tailored dispute management and resolution mechanism, may be compromised in the face of the robotic rigidity of new technologies and AI. However, combining the efficiency of new technologies with the sensitivity, creativity, and intrinsically human values of ADR can lead to higher, safer, more sophisticated, faster, and more effective rates of alternative dispute management and resolution. **Legal Accountability:** Determining who is responsible when IA makes mistakes can be a challenge, especially if a clear allocation of responsibility has not been established in prior agreements or specifics protocols, affecting the ADR procedure in question.

Note: Own elaboration (September,2024), based on Gonzalo & Suñez (2024)

5 REGULATORY CHALLENGES

5.1 CALL FOR GLOBAL REGULATION OF AI

There is currently a comprehensive debate on whether or not to regulate AI and how to do it. However, the creation of a sound legal framework that addresses issues of accountability, transparency and fairness is essential to mitigate risks and ensure trust in emerging technology & IA in general (González, 2017). Not only regulation, but also ethics and oversight are essential. Ethical implementation of AI in ADR requires constant oversight and the active involvement of legal professionals to ensure that ethical and legal principles are respected.

On the one hand, there is a liberal stance according to which everything should develop and evolve without any intervention of state regulation, advocating decentralization and self-regulation. This tendency is rather focused on a specific sector of AI, namely Smarts contracts, Blockchain and cryptocurrencies (Ibañez et al, 2025). On the other hand, it is a reality that both, natural and artificial intelligence process, reality through patterns of behavior and parameters. Rules offer us not only a framework for action but also provide security and trust in a system. From this perspective, AI cannot be left unregulated. A legal

framework is essential for the development of society and is equally crucial for the appropriate evolution of AI. This requires a truly transnational global response (González, 2017; Lozano & Murillo, 2020 and Vida Fernández, 2022). And from here calls for truly international and global regulation of AI.

We do considerate that a transnational regulatory framework is needed. One that is even demanded by the creators of the most advanced AI technologies today, who are acutely aware of AI´s potential dangers. This regulatory demand is unusual, as it is rare to see international companies urgently and explicitly call for regulations to limit their own technologies[19]. Without regulation, the threat is real (Vida Fernández, 2022). The originality, lack of knowledge, topicality, and rapid development of AI provoke the need for a transnational regulatory framework to provide the legal certainty necessary for the development of AI itself. Global regulation is, therefore, essential.

The question then is how to regulate it: through hard law, using specific international treaties on the subject; through soft law, by means of codes of conduct; or through an intermediate route, utilizing the teleological jurisprudential interpretation of existing treaties and the standardization of the guiding principles of Global Law as a catalyst for a global and genuinely transnational response based on collective consensus (García San José, 2021). But the reality today is that in the face of the truly international challenge that AI represents, there is no global regulator. The complexity of understanding this subject, which is changing at an unprecedented pace, has led to regulatory proposals based on the creation of extensive texts with general strategy provisions that allow not only current but also future technologies to be regulated in a preventive manner.

In this respect, a hope has arisen. Europeans have been pioneers in regulating AI with the approval of the very first Artificial Intelligence Act, which will enter into force in 2026[20]. This development has also reactivated the urgency of advocating for greater transnational regulatory harmonization, which would provide clarity and better delineation of the rules governing AI. Such rules would offer legal certainty to both the companies that invest in and develop the AI sector and to the users of AI, including natural persons, States, and legal entities and, of course, its best effect and impact on ADR.

5.2 IA ADR´S REGULATION

In the absence of a truly international regulation on AI and its application within the legal framework, particularly in ADR, we have witnessed several attempts at self-regulation coming from various spheres and sectors, both public and private in ADR Methods.

5.2.1   Public Sector

In addition to the aforementioned European AI Act, some actions concerning AI were carried out by some public sectors and even States. The Italian Data Protection Agency temporarily blocked the use of Chat GPT until it could check whether it was in breach of the European

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[19] Currently some of the most outstanding technology companies in the sector (the aforementioned Chat GPT from OpenAI, Bard, Music LM, Bing and Phenaki from Google, VALL-E from Microsoft and Claude from Anthropic, to name a few) are calling for a standard, protocol, or regulatory framework to guide their development and evolution. One of the latest figures to call for regulation was Sam Altman, co-founder of OpenAI, creator of ChatGPT, the most outstanding and revolutionary variant in this field. He did so from the US Senate itself, where he appeared on 17 May 2023 to demand urgent action on a global scale to regulate AI. According to Altman, only through normative regulation can AI be beneficial. Only this type of regulation can ensure that humanity has access to the multiple benefits that this technology can provide.

[20] Regulation proposed by the European Commission in April 2021: Proposal 21.4.2021 COM (2021) 206 final 2021/0106 (COD) for a Regulation of the European Parliament and of the Council laying down harmonised rules in the field of Artificial Intelligence (Artificial Intelligence Act) and amending certain legislative acts of the Union; EU Artificial Intelligence Act | Up-to-date developments and analyses of the EU AI Act.

General Data Protection Regulation (GDPR) and European privacy rules[21]. Thus, joining the list of countries that have banned, totally or partially, AI: Russia, China, Iran, North Korea, Venezuela, and Belarus; Italy temporarily banned the use of Chat GPT in its territory for a possible violation of the GDPR. This ban affected the rest of the member countries who also wondered whether a ban would be advisable until there is greater certainty about the functioning and use of this tool[22]. By way of a ban, the technology ethics group Center for Artificial Intelligence and Digital Policy (CAID) has also officially petitioned the US Federal Trade Commission to prevent Open Ai from issuing new commercial launches of the chatbot, and has filed a complaint with the US regulator, accusing GPT-4 of violating "Federal Consumer Protection Law"[23] and arguing that its responses and actions are biased, misleading, and put public privacy and safety at risk. And, in this study, it should be noted that the global and comparative analysis is very limited as it has not undertaken the examination of AI and ADR that China, Japan and other more disparate legal cultures in this digitized field would require (Ballesteros, 2021).

5.2.2 Private Initiatives: Brief Basis for an Ethical Guide or Protocol for the Application of AI in ADR

Private initiatives have also emerged. In the private sector, law firms with ADR departments (particularly in negotiation, mediation, and arbitration) aim to offer the best services to their clients by utilizing the best available tools. However, they advocate that this should not be done at any cost, raising concerns about the use of AI to achieve their objectives. Consequently, some of these firms, with a trend that is expected to grow, have developed certain protocols or "ethical" guidelines to regulate the appropriate use of AI tools. While these tools can be highly beneficial if used properly, they are not yet as reliable as desired. In this regard, several law firms have already approved internal ethical protocols or guidelines on the use of generative AI systems for negotiators, mediators, arbitrators, lawyers, and other professionals within the organization, many of whom are ADR specialists. These guidelines are summarized in the table below.

Table 3: *Brief Basis for an Ethical Guide or Protocol for the Application of AI in ADR -*
Minimum Standards of Ethics

Internal recommendations on the implementation of AI	
1	AI-generated texts should not be used in direct client counselling.
2	The internal operation of the ADR firm or institution should refrain from using AI for the generation of texts as AI-generated texts do not disclose sources in a concrete and reliable way and may be inaccurate and/or be obtained in breach of data protection. If at all, only for consultation, and then only with caution and after further checking and verification, as the sources cannot be reliably identified and may contain erroneous or biased information.
3	It is of essential importance not to enter confidential data of any clients under any circumstances.

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[21] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation): Regulation - 2016/679 - EN - gdpr - EUR-Lex (europa.eu).

[22] On the prohibition, see the communiqué issued by Il Garante per la Protezione dei Dati Personali (GPDR), 30 March 2023. Available at: Provvedimento del 30 marzo 2023 [9870832] - Garante Privacy (gpdp.it).

[23] Consumer Protection | Federal Trade Commission (ftc.gov).

4	It is necessary to specify additional recommendations to ensure a minimum deontology in the use of AI in ADR offices, companies, and institutions. This ensures that all *ADR* and *ODR* users benefit, achieving a balance between the use of technologies, the appropriate use of these tools and the guarantee of extrajudicial procedures and the security of all ADR users. NOTE: An expansion of the basic points contained in this guide is recommended with the inclusion of some clarifications and details depending on the area of application.

Source: Own elaboration (September, 2024)

Obviously, the guides or protocols for action, both public and private, will need to be modified as we become more familiar with the different types of AI software or platforms. However, we believe that it is advisable, even desirable, that all users and professionals of ADR (institutions, law firms, individuals, companies, negotiators, mediators, arbitrators, etc.) adopt all the necessary precautions so that we can benefit from the great help that these AI platforms can provide us with. Moreover, it is essential to inform all parties at all times - and to have their approval - if any AI is used in the out-of-court dispute resolution procedure. This should be in accordance with the ethical standards and rules recommended by the International Consortium for Online Dispute Resolution[24].

Nevertheless, for the time being, given the absence of an international standard on ADR and the absence of a framework regulation on the use of ADR in ADR in general and in each of them in particular, and aware that the creation of a standard in this sense may take time, it is expected that the first responses will come in the form of special rules proposed by ADR institutions and some of the international organizations involved in out-of-court dispute resolution systems (Arbitration and Mediation Institutions, Chambers of Commerce, the International Forum for ADR, the International Bar Association (IBA)[25], the Organization for Economic Cooperation and Development (OECD)[26], the International Mediation Institute (IMI)[27]; and the United Nations Commission on International Trade Law (UNCITRAL/UNCITRAL)[28], among others).

But in the meantime, something must be done. We cannot just sit back and do nothing. AI has great power, and this brings with it great responsibility on the part of the various ADR institutions. Demands for control and regulation must also come from the out-of-court dispute resolution systems themselves[29]. Regardless of whether ODR is implemented at international or national level, there are universal principles that must be respected (Barona, 2018). These rules embody the inherent principles of dispute resolution, including confidentiality, fairness, equity, and neutrality.

6 CONCLUSIONS

The responsible implementation of AI in ADR requires a continued balance between technological efficiency and the preservation of the fundamental principles of the ADR Institutions themselves: voluntariness, neutrality, confidentiality, speed, appropriateness, security, fairness, and equity, among others. The critical analysis here of the intersection

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[24] Available at https://icodr.org/files/spanish.pdf

[25] International Bar Association | International Bar Association

[26] Better policies for better lives | OECD

[27] Available at https://imimediation.org/

[28] https://uncitral.un.org/

[29] For a more extensive study on the key international bodies in the implementation and international cooperation through ODR, see Gonzalo Quiroga (2024), Digitalización de la Cooperación Extrajudicial Internacional, in the collective work "A Digitalização da cooperação judiciária civil"/ "la digitalización de la cooperación judicial civil"; Tirant lo Blanch, in press.

between AI and ADR raises the need for clear regulatory frameworks to address these issues, ensuring fairness and transparency in the process of conflict management and resolution, as well as the protection of the rights of the parties involved in AI-based ADR processes, ensuring that AI is used appropriately, fairly, and equitably. A combination of continuous regulatory developments and best practices in this area will be essential to make the most of the opportunities of AI, shining light upon and minimizing its challenges in the quest for a more accessible and effective alternative justice.

In the meantime, our main conclusion and proposal regarding the role of AI in ADR focuses on something as simple as it is necessary. On a sort of connection between tradition -the origin and essence of ADR institutions- and innovation -emerging technologies & AI-. In other words, it is necessary to return to the essence of both ADR (the core of which is the autonomy of the will and the freedom of pacts) and AI (which, essentially, is neither good nor bad in itself, but just another instrument at the service of society and, in our case, of the alternative justice system). This includes our proposal which consists in recalling one of the essential points of alternative justice: the freedom to decide whether or not to incorporate AI into any ADR processes that the parties freely choose to engage in.

Therefore, it is proposed that the decision to use AI should be explicitly stated and detailed in each ADR clause or contract. This can be addressed in the agreement, whether it is an arbitration agreement, mediation agreement, or any contract or dispute resolution clause specifying the chosen ADR method. This requires negotiation (the basis of virtually all ADRs based on negotiation and agreement) Parties should negotiate within the agreements or clauses derived from ADR, or within the contract or arbitration clause itself, whether they wish to utilize AI for a specific dispute. If they do, they should specify which AI system to use, how and when it will be used, and outline the limits and conditions. In essence, AI should be treated as just another tool. Natural intelligence should be allied with AI through the negotiation of the contract and/or ADR agreement, specifying in each case the conditions for the use or non-use of AI.

The digital future of ADR&IA is expected to evolve towards a hybrid model (Gonzalo & Suñez, 2024) in which AI and ADR professionals work in full collaboration. This requires ensuring, firstly, that there is no digital divide between the parties, and secondly, that the essential principles of ADR are respected, particularly the parties' acceptance of AI, the autonomy of will, and the freedom of contract. Thus, the hybrid approach combining human and AI is a winning strategy in ADR, provided that equality in access, use, and training in new technologies is guaranteed and unequivocally accepted by the parties. In conclusion, AI should not operate alone in ADR. To ensure that the use of AI in ADR is ethical and legal, truly international regulation, protocols or guides and control mechanisms are essential. Currently, these controls in ADRs can only be implemented by humans, such as mediators, arbitrators, and other extrajudicial conflict resolution bodies and institutions. These institutions must become more involved, and we advocate for this involvement. The human factor is essential to ensure that emerging technologies & IA benefit alternative, and often more appropriate, systems of out-of-court dispute management procedures around the world.

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