THE ROLE OF ARTIFICIAL INTELLIGENCE IN THE IMPLEMENTATION OF ALTERNATIVE DISPUTE RESOLUTION MECHANISMS

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ABSTRACT

Alternative dispute resolution (ADR) has been gaining increasing importance in the management of legal conflicts, offering faster, more cost-effective, and cooperation-oriented solutions compared to traditional litigation. The emergence of artificial intelligence (AI) opens new perspectives in this field, particularly in mediation, where digital technologies can support both parties and mediators. This study demonstrates how AI can enhance the efficiency of mediation procedures: from processing and analysing large volumes of data, through providing information and decision support to the parties, to assisting and preparing mediators in their work. The research explores opportunities where AI, through interactive tools such as chatbots, simulations, or speech recognition systems, can improve transparency and build trust among parties, while also pointing out limitations and risks, especially in the areas of data protection, liability, and social acceptance. The paper argues that the relationship between mediation and AI is not merely a matter of technological innovation, but a systemic developmental direction that—if embedded in adequate regulatory and institutional frameworks—may contribute to the modernisation of the dispute resolution culture and its broader dissemination.

KEYWORDS

ARTICLE HISTORY

23

I. Introduction

Alternative dispute resolution (ADR) is becoming increasingly popular as an alternative to litigation, as it tends to be more cost-effective, faster, and less burdened by conflicts than court proceedings. ADR encompasses mediation, arbitration, and other non-judicial mechanisms of conflict resolution. In recent years, the advent of artificial intelligence has opened new avenues for ADR, enabling more efficient and flexible methods of dispute management.

Among the arguments in favour of ADR, several can be effectively supported by AI—most notably speed and cost-efficiency.[1] This observation is based on the fact that in all domains where AI has been integrated, supporting mechanisms have emerged that fully serve these goals. The ability to process, analyse, and organise large amounts of data can significantly assist the proceedings concerned. At the same time, there are domains where the utility of AI remains limited.

The question at stake is complex: on one side stands mediation, a long-standing human need that has existed since the earliest written history—the aspiration to resolve conflicts as efficiently and peacefully as possible. The desire for peaceful solutions is universal, deeply embedded in human society and transmitted across generations.

On the other side, there is no such universal consensus on AI. Its relatively short history has already drawn the contours of a new digital order, comprehensible only to a narrow circle of experts. Many fear it, as it radically reshapes labour markets and disciplines across the sciences. For many, keeping pace with these changes and adapting to them is an impossible task, given their lack of time, resources, skills, or technological background. For this reason, AI divides societies—contrary to the essentially consensual nature of ADR. While peaceful dispute settlement has virtually no opponents, AI faces both numerous supporters and numerous detractors.[2]

The concerns raised against AI are entirely legitimate, particularly in relation to data protection, consumer rights, and liability. Beyond legal issues, in many regions the level of telecommunication or economic development is insufficient to enable people to take advantage of AI-based solutions. This is why I cannot agree with those who fully support AI solely on the grounds that it offers equal knowledge and opportunities to all. At the same time, it must be acknowledged that in certain respects AI can reduce social inequalities.

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[1] Samuel D Hodge Jr, 'Is the Use of Artificial Intelligence in Alternative Dispute Resolution a Viable Option or Wishful Thinking?' (2024) 24 *Pepperdine Dispute Resolution Law Journal* 91.

[2] Ryan Abbott and Brinson S Elliott, 'Putting the Artificial Intelligence in Alternative Dispute Resolution: How AI Rules Will Become ADR Rules' (2023) (Series 2) 4(3) *Amicus Curiae* 685. https://doi.org/10.14296/ac.v4i3.5627

What is beyond doubt, however, is that it is futile to remain stuck at the question of whether AI is "good" or "bad", because in doing so, entire fields risk falling behind the rapidly advancing technological trends. Instead, it is necessary to identify those segments of mediation where AI can most effectively assist both the parties and the mediator. In short, we must take control of AI and shape it in a way that serves human purposes and channels processes into the desired direction. Accordingly, this study aims to present the ways in which AI can support the implementation of ADR mechanisms and to outline how mediation could be modernised and made more effective with its assistance.

II. The Integration of AI Solution into Mediation Procedures

AI-generated tools can assist both professionals and parties involved in gaining a clearer understanding of the legal framework and the possible outcomes of a procedure. They may also support parties in comprehending legal concepts, thereby enabling them to represent their interests more effectively during dispute resolution.[3] For example, if the parties have access to explanatory materials—including legal information, practical guidance, and educational resources—the decision-making process becomes significantly easier for them.

AI can also support mediators by offering access to structured datasets. For instance, databases categorised by case type could provide settlement rates calculated on various parameters, such as the type of legal dispute, the monetary value at stake, or the duration of pre-procedure conflicts. On the basis of such statistics, a mediator could form a comprehensive picture and develop complex strategies to specialise in certain types of cases. This would contribute to ensuring that highly specialised experts assist parties in reaching voluntary settlements, thereby encouraging a wider use of mediation.

In the following, I will examine whether AI can provide support for both the parties and the mediator during the different stages of the mediation process, and if so, in what forms and to what extent.

The first step in mediation is the written request of the parties, who jointly invite the mediator to participate in the procedure. The request must include the names and addresses (or registered seats) of the parties, the name of the mediator, the subject matter of the dispute, the language to be used, and a joint declaration that the parties wish to resolve their dispute through mediation. If only one party initiates the request, the mediator may attempt to involve the other stakeholders.

In my view, AI-based systems could already provide effective assistance at this initial stage of the procedure. For prospective parties, AI could supply detailed information about the stages of the process and how they are interconnected.

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[3] John Lande, 'When AI Comes to the Table: How Tech Tools Will Change ADR' (2025) 43 *Alternatives to the High Cost of Litigation* 107 (University of Missouri Legal Studies Research Paper No 2025-25)

A chatbot,[4] in particular, could answer questions about ambiguous terms or logical relations, thereby increasing the likelihood that parties opt for this form of dispute resolution.

If appropriate data are available, AI could even recommend mediators according to their areas of expertise, professional experience, prior client satisfaction, or fees.[5] Once such an overview has been provided, there are further opportunities for harnessing AI. Before offering an automated template for the request, the system could guide the interested party through a questionnaire. This might ask whether the person has previously participated in mediation, what expectations they have of the procedure, what they anticipate from the mediator, and what they expect from the opposing party. Such preliminary surveys could provide mediators with insight into the goals, fears, and reservations of the parties. This would make it easier for the mediator to decide whether to accept the case, which could be particularly useful for mediators at the beginning of their careers.

AI may also contribute to the mental preparation of parties.[6] For example, simulation videos could familiarise them with the general atmosphere of the process.[7] The advantage of this is that parties do not only receive written information, but also gain an interactive experience of the environment. However, careful consideration is required, as such videos cannot convey empathetic gestures and non-verbal signals that may be decisive for choosing mediation. Moreover, the discrepancy between the simulated atmosphere and the actual first encounter could discourage parties. Therefore, such tools should be limited to demonstrating general aspects, such as the seating arrangement during mediation or the initial explanations provided by the mediator.[8]

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[4] See: Balázs Hohmann, 'Chatbotok a kormányzati platformok szolgálatában: Alkalmazási követelmények és átláthatósági hatások [Chatbots in the Service of Governmental Platforms: Application Requirements and Transparency Effects]' (2023) 71(4) *Belügyi Szemle / Academic Journal of Internal Affairs* 691-695. https://doi.org/10.38146/BSZ.2023.4.8

[5] Emad Hussein, 'AI Meets Mediation: Shaping the Future of Dispute Resolution in a Digital World' (2025) 91(2) *Arbitration: The International Journal of Arbitration, Mediation and Dispute Management* 180-185. https://doi.org/10.54648/AMDM2025012

[6] Ashish Vaswani, Noam Shazeer, Niki Parmar, Jakob Uszkoreit, Llion Jones, Aidan N Gomez, Łukasz Kaiser and Illia Polosukhin, 'Attention Is All You Need' in Isabelle Guyon and others (eds), *Advances in Neural Information Processing Systems 30 (NeurIPS 2017)* (Curran Associates 2017) 5998

[7] David B Olawade, Ojima Z Wada, Aderonke Odetayo, Aanuoluwapo Clement David-Olawade, Fiyinfoluwa Asaolu and Judith Eberhardt, 'Enhancing Mental Health with Artificial Intelligence: Current Trends and Future Prospects' (2024) 3 *Journal of Medicine, Surgery, and Public Health* 100099 https://doi.org/10.1016/j.glmedi.2024.100099

[8] Adesina Temitayo Bello, 'Online Dispute Resolution Algorithm: The Artificial Intelligence Model as a Pinnacle' (2018) 84(2) *Arbitration: The International Journal of Arbitration, Mediation and Dispute Management* 159

AI-based systems could also serve an educational function, for instance, by identifying personality traits of participants based on their responses and recommending relaxation or focus techniques to help them remain calm and concentrate on reaching an agreement. For mediators, AI could assist with administrative aspects, such as reminding them of the statutory deadline of eight days for accepting or declining the appointment, or identifying conflicts of interest.

During the first mediation session, the mediator must explain the principles of mediation, the neutrality and impartiality of their role, confidentiality obligations, potential involvement of experts, and the costs of the process. They must also clarify that they are not judges, do not take sides, and cannot provide legal advice. If the mediator is a lawyer, notary, or legal counsel, they cannot formally countersign the settlement agreement. After receiving this information, the parties confirm in writing their decision to proceed.

At this stage, AI could again play a supportive role.[9] Prior to the meeting, it could provide explanations and answer questions, enabling parties to attend the session with clearer expectations. Through such a program, they could even submit remarks on cost-sharing arrangements before the session. The system might recommend an equal division of costs to prevent later disagreements, thereby reducing the perception of bias based on financial contributions.

During the substantive stage of the mediation, the mediator allows each party equal time to present their views and emotions without interruption. Following this, discussions—including the presentation of evidence or expert opinions—aim at reaching an agreement. If one party becomes resistant, private sessions can be held to move the process forward.

Here, too, AI could provide valuable support. For instance, a signalling system could indicate when a party's speaking time is over, thereby reducing interruptions. A speech-recognition tool could record and analyse conversations in real time, identifying shifts in emotions or demands compared to initial questionnaires. Such systems might alert the mediator to signs of stress not visible through external cues, enabling targeted interventions or suggesting breaks.

Furthermore, the system could continuously analyse the dialogue, generate question prompts for the mediator, and evaluate uploaded documents to provide outcome predictions, thus reducing the need for expert input in routine cases. Nevertheless, in areas requiring psychological or specialised assessments, AI cannot replace human expertise[10].

When drafting the settlement, AI could generate standardised templates adaptable to specific cases. Secure storage of agreements, in compliance with data

27

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9 John Zeleznikow, 'Using Artificial Intelligence to Provide Intelligent Dispute Resolution Support' (2021) 30(4) *Group Decision and Negotiation* 789 https://doi.org/10.1007/s10726-021-09734-1
10 Nadia Ahmad, *"Smart Resolutions: Exploring the Role of Artificial Intelligence in Alternative Dispute Resolution,"* 73 Cleveland State Law Review 273 (2025).

protection rules, would enlarge the dataset available for further analysis, thereby improving predictive accuracy over time.

For AI to be applied in mediation in the ways outlined above, a unified system must first be established. This naturally raises the question: who should be responsible for creating and maintaining such a framework? In my view, the most suitable approach would be for state or judicial supervisory bodies to take the lead. This is justified not only by the fact that successful mediations relieve the burden on courts,[11] but also because Hungarian law already provides a basis for such integration.

According to Section 4(1) of Act LV of 2002 on Mediation, "*The Minister of Justice shall maintain a register of mediators and legal entities or partnerships employing mediators.*" Such an official registry could be directly linked to a state-administered AI application, enabling prospective parties to select the most appropriate mediator through chatbot-assisted searches based on specialisation, experience, and other criteria.

A centrally operated system would also clarify responsibility for secure data management and liability for inaccurate information provided by the application. Comparable legal frameworks already exist: for example, under Section 132/D(1) of Act LIII of 1994 on Judicial Enforcement, if the Electronic Auction System (EÁR) operated by the Hungarian Chamber of Judicial Officers (MBVK) is unavailable to users for more than 10% of the published auction period, the auction notice is deemed never to have been published. This demonstrates that legal consequences for operator errors are already recognised by legislation. The architecture of the EÁR system could serve as inspiration for developing an AI-based mediation platform.

The EÁR comprises four main components: (i) a public interface for information gathering, (ii) a registered user interface for participation in auctions, accessible only after in-person verification, (iii) authorised enforcement officers responsible for verifying data and managing user access, and (iv) the operator, who oversees technical development, maintenance, and client support.

By analogy, a mediation platform could assign registration responsibilities to authorised mediators listed in the official register, while central authorities ensure data integrity and system functionality. This layered model would combine accessibility with accountability.[12]

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[11] 'AI Mediation for Reducing Court Congestion' (Cornell Journal of Law & Public Policy, 26 November 2024) https://jlpp.org/ai-mediation-for-reducing-court-congestion/ accessed 15 August 2025

[12] David L Evans, Stacy Guillon, Ralph Losey, Valdemar Washington and Laurel G Yancey, 'Dispute Resolution Enhanced: How Arbitrators and Mediators Can Harness Generative AI' (2024) 78(1) *Dispute Resolution Journal* 57

Balázs Hohmann, 'Interpretation the Concept of Transparency in the Strategic and Legislative Documents of Major Intergovernmental Organizations' (2021) 2(1) *Közigazgatási és Infokommunikációs Jogi PhD Tanulmányok (PhD Studies in Administrative and ICT Law)* 48-55. https://doi.org/10.47272/KIKPhD.2021.1.4

In practice, the publicly available interface should be hosted on an official website. Here, anyone could access the full mediator registry with search filters such as name, region, and specialisation. Interactive tools—including introductory videos and chatbot-guided explanations of the procedure—would familiarise potential users with mediation. An AI-driven search engine could instantly retrieve relevant legislation based on keywords, narrowing results with clarifying questions. Up-to-date statistics on mediation success rates, cost distributions, and other indicators could also be displayed.

For registered users, the platform could offer more advanced features. Beyond national statistics, users could access mediator-specific data such as client evaluations, settlement success rates, and fees. Requests for mediation could be completed and submitted electronically, with mediators responding via the same system.

The platform could further streamline proceedings by allowing mediators to record audio of sessions, automatically stored in the system. AI could analyse transcripts to suggest likely settlement scenarios, generate negotiation strategies, and highlight recurring issues. Users would, however, need to be explicitly informed that such predictions are based solely on statistical data and cannot account for the unique interpersonal dynamics of each case.

On the mediator's side, AI could support both practice management and case-specific tasks. For practice management, the system could provide statistics on average case duration, reasons for unsuccessful settlements, scheduling, and document organisation. It could also assist in financial optimisation by forecasting the expected number of cases based on probability modelling.

For individual cases, AI could anticipate potential escalation points based on speech analysis, suggest breaks or guiding questions, and automate drafting and scheduling follow-up sessions.

For administrators and system operators, AI would reduce the manual burden of data entry, automatically generating records and statistical reports required for official oversight.

Of course, such a system would not be without challenges. Sensitive issues arise concerning the type of advice AI may provide to parties, the reliability of predictive analytics, and the extent to which mediators should rely on automated suggestions.[13] Nevertheless, the opportunities presented by AI-supported systems—if applied with proper caution—are substantial.

29

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[13] Ben Davies, 'Ethics in Artificial Intelligence and Alternative Dispute Resolution: Generating AI/Human Reviewed Ethical Guidelines for ADR Practitioners and the Legal Profession' (2025) 20(2) *University of Massachusetts Law Review* 149. https://doi.org/10.2139/ssrn.4972220

III. Conclusion

The growing prominence of mediation and other forms of alternative dispute resolution (ADR) clearly demonstrates society's increasing demand for faster, more peaceful, and less costly methods of conflict management. This demand has existed since ancient times and remains just as relevant today. By contrast, artificial intelligence is still a very young phenomenon, surrounded by uncertainty and concern. Nevertheless, its emergence has undeniably ushered in a new era, fundamentally reshaping the world of work, scientific disciplines, and everyday decision-making. The encounter between these two domains—traditional human-centred mediation and digital technologies—is therefore both exciting and delicate.

This study has demonstrated the multiple ways in which AI can be integrated into different stages of mediation. For parties, it can provide information, orientation, and even preliminary mental preparation. Through chatbots, interactive tools, and simulations, parties may better understand the steps of the process, gain clearer insights into their options, and thus be more willing to choose mediation. From the mediator's perspective, AI can support preparation with statistical data, issue deadline reminders, organise documents, and even detect shifts in the emotional states of the parties. These are all areas where technology accelerates and simplifies the procedure while adding valuable layers of information.

It is essential to emphasise, however, that AI has clear limitations. It cannot replicate the human gestures, empathy, and trust that lie at the heart of successful mediation. A virtual simulation or automated suggestion can only point to possible directions; it cannot replace the human relationship between mediator and parties. For this reason, AI must be seen not as a substitute but as a complement: a tool that supports but never takes full control.

A crucial question for the future is who will establish and govern the unified system within which these AI solutions can function. As argued above, it would be most appropriate for state or judicial authorities to oversee such systems, ensuring data protection, transparency, and clear accountability.[14] At the same time, it is evident that for younger generations, technology use will become second nature, and they will expect that such procedures be supported by digital tools. Failure to develop these systems now risks leaving mediation behind the broader pace of technological change in society.

In conclusion, the application of AI in mediation is not a matter of a simple "yes" or "no". Rather, the key question is how we can shape technology to serve

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[14] Balázs Hohmann, 'A mesterséges intelligencia közigazgatási hatósági eljárásban való alkalmazhatósága a tisztességes eljáráshoz való jog tükrében [The Applicability of Artificial Intelligence in Administrative Authority Proceedings in Light of the Right to a Fair Trial]' in Bernát Török and Zsolt Ződi (eds), *A mesterséges intelligencia szabályozási kihívásai: Tanulmányok a mesterséges intelligencia és a jog határterületeiről [Regulatory Challenges of Artificial Intelligence: Studies on the Borderlands of AI and Law]* (Ludovika Egyetemi Kiadó 2021) 403-410.

human purposes, steering it towards supporting peaceful conflict resolution. If this can be achieved, AI may provide genuine added value: making mediation more accessible, faster, and more effective, while preserving its essential human character. The future path is not a choice between human or machine, but a partnership of human and machine, where AI provides support while the ultimate decision always remains in human hands.