



AI-Enhanced Online Dispute Resolution for Family Disputes: Examining Global Trends, Models, Mechanisms, and Ethical Challenges in Pakistan

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ABSTRACT

The integration of Artificial Intelligence (AI) into Online Dispute Resolution (ODR) presents a transformative opportunity for addressing family conflicts in Pakistan, where traditional litigation remains slow, costly, and overburdened. This paper explores AI-enhanced ODR models, mechanisms, and ethical challenges, contextualizing them within global trends and Pakistan's evolving legal landscape. The study examines key ODR approaches—online negotiation, mediation, and arbitration—alongside AI-driven tools such as game theory-based platforms and DIY separation systems. It evaluates the Lodder-Zeleznikow three-step model for intelligent dispute resolution, emphasizing information gathering, dialogue facilitation, decision analysis, and adaptive recursive processes. Globally, jurisdictions like the U.S., Canada, Europe, and Australia have pioneered AI-ODR adoption in family disputes, offering valuable insights for Pakistan. Despite recent advancements, including Supreme Court endorsements of virtual testimony and AI's potential to reduce judicial inefficiencies, Pakistan's ODR framework remains underdeveloped. Ethical concerns, including transparency, bias, and data privacy, further complicate AI-ODR integration. The paper concludes with recommendations for legal and technological reforms, advocating for E-filing systems, virtual courts, and AI-powered case management to enhance accessibility, efficiency, and fairness in resolving family disputes. By aligning with global best practices while addressing local challenges, Pakistan can harness AI-ODR to modernize its justice system and mitigate systemic delays.

Introduction

The legal landscape is undergoing a transformative shift with the rise of *Online Dispute Resolution (ODR)*, a digital mechanism that leverages technology to resolve conflicts efficiently. Initially popular in e-commerce, ODR has expanded into judicial systems, offering a streamlined alternative to traditional litigation. By integrating digital platforms, courts can reduce costs, enhance accessibility, and improve user satisfaction. ODR operates through key stages—*problem diagnosis, mediation/arbitration, adjudication, information gathering, and communication*—using tools like AI, chatbots, and video conferencing to simplify dispute resolution. This evolution reflects a broader shift from face-to-face (F2F) interactions to digital engagement, as technology reshapes communication, work, and daily life¹. The lines between online and offline worlds are increasingly blurred², yet traditional dispute resolution (both courts and ADR) has been slow to adapt³, despite public demand for digital solutions in sectors like healthcare, finance, and legal services.

The transition to an information society has pushed legal systems worldwide to embrace technological advancements. Judges, lawyers, and court administrators increasingly rely on digital tools for case management, yet resistance persists—even in technologically advanced nations like the USA, UK, and Australia. Some traditionalists argue that empathy and creative problem-solving require F2F interaction⁴, but the emergence of ODR challenges this notion. Defined as the use of technology (e.g., mobile phones, computer-mediated communication) for negotiation, mediation, and arbitration, ODR introduces technology as a "*fourth party*" in dispute resolution⁵. In Pakistan, the legal system remains entrenched in traditional litigation, despite its inefficiencies, while *Alternative Dispute Resolution (ADR)* and ODR remain underutilized. Complex family disputes, burdened by paperwork and delays, highlight the urgent need for modernization. Emerging solutions like E-Filing, Virtual Courts, and AI-assisted case management could revolutionize dispute resolution, but systemic barriers hinder progress⁶.

Globally, jurisdictions such as the EU, US, and Singapore have pioneered advanced ODR frameworks, demonstrating its potential in resolving small claims, landlord-tenant conflicts, and even family disputes. Countries like India have also embraced ICT in courts⁷, while Pakistan's judiciary has been slow to adopt technology, though initial steps toward digitizing case

¹ Kemp S, 'Digital Trends 2019: Every Single Stat You Need to Know about the Internet' (TNW | Contributors, 4 March 2019) <<https://thenextweb.com/news/digital-trends-2019-every-single-stat-you-need-to-know-about-the-internet>> accessed 11 May 2025

² Katsh ME and Rabinovich-Einy O, *Digital Justice: Technology and the Internet of Disputes*, (Introduction) (Oxford University Press 2017), Available at SSRN: <https://ssrn.com/abstract=3508311>

³ Schmitz, A. J., Wing, L., Beneficial and ethical ODR for family issues, (2021) 59(2) Family court review, 250. <https://doi.org/10.1111/fcre.12572>

⁴ Sternlight, J.R., Pouring a Little Psychological Cold Water on Online Dispute Resolution (2020). Journal of Dispute Resolution, Winter 2020, at 1., UNLV William S. Boyd School of Law Legal Studies Research Paper Series, Available at SSRN: <https://ssrn.com/abstract=3446140>

⁵ Katsh ME and Rifkin J, *Online Dispute Resolution: Resolving Conflicts in Cyberspace* (Jossey-Bass 2001) <https://books.google.com/books/about/Online_Dispute_Resolution.html?hl=&id=hKZQgAACAAJ>

⁶ Kalanauri ZI, 'Electronic Filing System, Virtual Courts & Online Dispute Resolution -Need of the Hour for Pakistan Legal System' (2021) 5 International Journal for Electronic Crime Investigation 17 <https://doi.org/10.54692/ijeci.2021.0501146>

⁷ Sabela, "Mandatory Corporate Social Responsibility: Law and Policy in Indonesia" (2016) Doctoral thesis, Universiti Utara Malaysia, Online Available at: <<https://etd.uum.edu.my/id/eprint/6188>>

management have been taken⁸. The concept of online courts, combining ICT with paperless "green courts," presents a viable solution to reduce backlog and enhance transparency. However, ethical concerns surrounding AI and automation in dispute resolution⁹ must be addressed, particularly in culturally sensitive areas like family law. Despite these challenges, ODR offers significant benefits, including cost and time efficiency (reducing travel and legal fees) and greater accessibility for parties who may face power imbalances or cultural barriers to F2F processes¹⁰. This research explores the transition from ADR to ODR in Pakistan's family dispute resolution, analyzing both opportunities and obstacles. While developed nations have integrated ICT into their judicial systems, Pakistan faces unique challenges, including low digital trust, privacy concerns, and infrastructural limitations. Yet, the potential for ODR—particularly in family disputes—remains high, given its ability to streamline mediation and arbitration. By examining global best practices and local constraints, this study proposes actionable strategies for integrating ODR into Pakistan's legal framework, ensuring faster, cheaper, and more accessible justice for families in conflict. The adoption of AI-driven tools for documentation, predictive analysis, and conflict de-escalation could further enhance efficiency, provided ethical and practical challenges are carefully managed.

ODR and AI base Family Dispute Resolution

Pakistan's judicial system faces severe challenges with only 10.5 judges per million people and a staggering backlog of cases that would take an estimated 320 years to clear. This crisis has led to the proliferation of informal justice mechanisms like Jirgas and Kangaroo courts, which often operate outside legal frameworks. Compounding these problems are administrative inefficiencies where judges juggle both judicial and administrative duties, while outdated IT infrastructure further delays case resolutions¹¹. In this strained environment, ODR emerges as a transformative solution, particularly for sensitive family disputes requiring timely intervention. ODR represents a paradigm shift in conflict resolution, utilizing information and communication technologies to facilitate mediation, arbitration and adjudication through digital platforms. At its core, ODR creates virtual spaces for dispute resolution where technology itself becomes a "fourth party"¹² in the process and the service providers facilitating ODR act as "fifth Party"¹³, complementing human mediators and arbitrators. This innovative approach encompasses various models including facilitative processes like online mediation, advisory mechanisms such as expert case appraisal, and determinative methods including binding online arbitration¹⁴. The system has evolved

⁸ (Munir, 2005)

⁹ Wing L, "Ethical Principles for Online Dispute Resolution" (2016) 3 International Journal of Online Dispute Resolution 12 <<https://doi.org/10.5553/ijodr/235250022016003001004>>

¹⁰ Schmitz, A. J., "Remedy realities in business-to-consumer contracting" (2016) 58 Arizona Law Review, 213. Online Available at: <<https://scholarship.law.missouri.edu/cgi/viewcontent.cgi?article=1612&context=facpubs>>

¹¹ Kalanauri (n 6).

¹² Katsh (n 5).

¹³ Lodder A, "The Third Party and Beyond. An Analysis of the Different Parties, in Particular The Fifth, Involved in Online Dispute Resolution" (2006) 15 Information Communications Technology Law 143 <<https://doi.org/10.1080/13600830600676438>>

¹⁴ Sourdin T, 'ODR – An Australian Perspective on the Digital Divide' in M Conley Tyler, E Katsh and D Choi (eds), *Proceedings of the Third Annual Forum on Online Dispute Resolution* (International Conflict Resolution Centre, University of Melbourne in collaboration with UNESCAP 2005) Online Available at: <<http://www.odr.info/unforum2004/>>

significantly from its experimental beginnings in 1996 to become a globally recognized justice alternative¹⁵.

The integration of AI with ODR presents particularly promising opportunities for enhancing dispute resolution efficiency. AI systems can process vast amounts of legal data, identify patterns in case outcomes, and even assist in generating settlement proposals¹⁶. In the context of family disputes, which often involve complex emotional and financial considerations, AI tools can provide neutral, data-driven insights to facilitate fair resolutions. These technological advancements make dispute resolution more accessible and cost-effective, potentially revolutionizing how conflicts are managed in overburdened judicial systems like Pakistan's. Traditional Alternative Dispute Resolution (ADR) mechanisms in Pakistan, while valuable, face significant limitations including low public awareness, cultural skepticism, and unequal access - particularly for rural and marginalized communities¹⁷. Many citizens and even legal professionals remain unfamiliar with ADR options, while a strong preference for conventional litigation persists. ODR addresses many of these challenges by eliminating geographical barriers and reducing costs, though digital literacy and infrastructure gaps remain obstacles to widespread adoption in Pakistan's diverse socioeconomic landscape.

Family disputes represent a particularly compelling use case for ODR implementation in Pakistan. Conflicts involving divorce, child custody, inheritance and other domestic matters often benefit from private, flexible resolution processes that minimize confrontation. ODR platforms can provide secure virtual environments for mediation, allowing parties to negotiate settlements without the stress and expense of courtroom proceedings. The asynchronous nature of many ODR communications also enables participants to carefully consider responses, potentially leading to more thoughtful and durable agreements in emotionally charged family matters. The development trajectory of ODR globally offers valuable lessons for Pakistan's potential adoption. Beginning with early experiments like the Virtual Magistrate project in 1996, ODR has progressed through distinct phases of development - from enthusiast-driven initiatives to institutional adoption by courts and governments¹⁸. Successful implementations in other jurisdictions demonstrate that careful attention must be paid to regulatory frameworks, quality standards, and user experience design. Pakistan could benefit from studying these international models while adapting them to local legal traditions and cultural contexts. Significant technological and infrastructural challenges must be addressed for ODR to succeed in Pakistan. Reliable internet connectivity remains inconsistent in many regions, while digital literacy varies widely across different demographic groups. The development of user-friendly interfaces in local languages, coupled with training programs for both legal professionals and the general public, will be essential for building trust in ODR systems. Public-private partnerships could play a crucial role in developing the necessary technological infrastructure and promoting widespread adoption.

The potential benefits of ODR implementation in Pakistan are substantial. By diverting appropriate cases from overburdened courts, ODR could significantly reduce case backlogs and delays. The system offers particular advantages for family disputes, where preserving relationships and

¹⁵ Katsh (n 5).

¹⁶ Gingras D and Morrison J, 'Artificial Intelligence and Family Odr' (2021) 59 Family Court Review 227

¹⁷ Jurgees SM, Suleman S and Shahid A, 'The Role of Alternative Dispute Resolution (ADR) in Pakistan's Legal System' (2024) 5 Qlantic Journal of Social Sciences and Humanities 194 <<https://doi.org/10.55737/qjssh.733319300>>

¹⁸ Conley Tyler MH and McPherson MW, 'Online Dispute Resolution and Family Disputes' (2006) 12 Journal of Family Studies 165

maintaining privacy are often priorities¹⁹. ODR can also improve access to justice for women, rural populations, and other disadvantaged groups who face barriers in navigating traditional legal systems. Furthermore, the data generated through ODR processes could provide valuable insights for legal reform and policy development. Looking ahead, Pakistan's path to effective ODR implementation will require coordinated efforts across multiple sectors. Pilot programs in urban centers with better infrastructure could demonstrate proof of concept before expanding to nationwide implementation. Legal education curricula should incorporate ODR training to prepare future lawyers and judges for technology-assisted dispute resolution. Public awareness campaigns will be needed to build confidence in these new mechanisms, particularly in conservative communities where traditional dispute resolution methods are deeply entrenched. The integration of ODR and AI-based dispute resolution represents a transformative opportunity for Pakistan's justice system. While challenges remain in terms of infrastructure, digital literacy, and cultural acceptance, the potential benefits - particularly for family disputes - make this an innovation worth pursuing²⁰. As Pakistan seeks to modernize its legal framework and improve access to justice, ODR offers a practical solution that aligns with global trends in legal technology. With careful planning and phased implementation, Pakistan could develop an ODR ecosystem that not only addresses current case backlogs but also creates a more responsive and accessible justice system for future generations.

Online Dispute Resolution (ODR): Defining a Complex Concept

Regulating ODR presents significant challenges for institutions due to its inherently complex nature. This complexity emerges from multiple intersecting factors that shape dispute resolution processes. The type of technology used varies²¹, with some systems operating in real-time while others function through delayed exchanges or combine both approaches²². Resolution techniques range from fully automated systems to those requiring human facilitation. Disputes may originate in digital environments or transition from physical interactions to online platforms. Traditional resolution methods like mediation, negotiation and arbitration all find digital counterparts in ODR systems. ODR comprises several fundamental elements that streamline the resolution process. *Case Management* enables users to input data, track progress, and access necessary documents, ensuring organized dispute handling²³. *Screening* helps identify urgent cases, such as domestic abuse, and directs parties to appropriate venues for timely intervention. *Consulting Tools* offer valuable resources, including legal literature, case reports, calculators, and guidance on *Best Alternative to a Negotiated Agreement (BATNA)* to inform decision-making. *Communication Tools* facilitate negotiation and mediation through secure platforms, supporting both joint and private sessions. *Decision Support Tools* leverage AI or game theory to propose concessions when parties reach an impasse, fostering progress²⁴. Finally, *Document Drafting Software* automates the creation of formal agreements (e.g., parenting plans) once a resolution is achieved, ensuring clarity

¹⁹ Ibid.

²⁰ Kalanauri (n 6).

²¹ Wing L and Draper C, "Parameters of Online Dispute Resolution" (2022) 9 International Journal of Online Dispute Resolution 112 <<https://doi.org/10.5553/ijodr/235250022022009002002>>

²² Lipsky DB and Avgar AC, "Online dispute resolution through the lens of bargaining and negotiation theory: toward an integrated model" (2006) 38(1) University of Toledo Law Review, 47.

²³ de la Rosa FE and Zeleznikow J, 'Making Intelligent Online Dispute Resolution Tools Available to Self-Represented Litigants in the Public Justice System' [2021] Proceedings of the Eighteenth International Conference on Artificial Intelligence and Law 195 <<https://doi.org/10.1145/3462757.3466077>>

²⁴ Candeias TDJ, "Artificial Intelligence's Role in Enhancing Conflict Resolution within the Online Dispute Resolution (ODR) System" [2023] SSRN Electronic Journal <<https://doi.org/10.2139/ssrn.4559439>>

and enforceability²⁵. Together, these elements enhance efficiency, accessibility, and fairness in dispute resolution.

The absence of a universally accepted definition creates ongoing uncertainty about ODR's boundaries. Experts debate whether various digital processes qualify as true ODR. Video conference mediations, email negotiations, digital complaint forms and technology-assisted court proceedings all occupy a gray area. While all ODR systems share the common feature of employing digital tools, the classification carries important consequences. Legal frameworks, procedural rules and case suitability assessments all depend on how we define ODR. Scholarly perspectives diverge significantly regarding ODR's fundamental nature. Some academics position ODR as the natural digital progression of alternative dispute resolution methods. Others interpret it more broadly as a technological enhancement that supports various resolution processes without constituting a distinct discipline²⁶. The judicial system's relationship with ODR further complicates matters. Courts primarily function as venues for litigation but increasingly incorporate digital mediation and arbitration options. ODR initially developed to address specific market needs, particularly the resolution of numerous small-scale disputes that overwhelm traditional systems. Digital platforms created entirely new spaces for conflict resolution rather than simply improving existing methods. This innovation led to hybrid forms that defy conventional categorization²⁷. Online arbitration demonstrates this evolution, often lacking the legally binding force of its traditional counterpart.

The ODR landscape includes both preventative tools and direct resolution mechanisms. *Automated Complaint Systems* and similar technologies help prevent disputes from escalating but may not constitute full ODR processes. More comprehensive systems facilitate actual resolutions through digital mediation or arbitration. This spectrum of approaches continues evolving alongside technological progress, requiring adaptable definitions. Institutional approaches to defining ODR fall into two broad categories²⁸. Flexible frameworks emphasize functionality over strict definitions, as seen in European Union regulations focusing on practical outcomes. Structured approaches prioritize clarity through precise definitions, exemplified by guidelines from organizations like the American Bar Association and UNCITRAL²⁹. These technical standards often require specialized platforms with secure communication capabilities, reflecting technology's central role as an active participant in digital dispute resolution processes.

ODR and AI base Dispute Resolution Modes, Mechanism

Family disputes can be emotionally draining and financially burdensome, but technology is transforming how we resolve these conflicts. From the first generation of ODR—basic tools like email, forums, and video calls—to the second generation of intelligent systems powered by AI, case-based reasoning, and negotiation protocols³⁰, ODR systems are creating smarter, fairer ways

²⁵ Ibid.

²⁶ Wing (n 21).

²⁷ Menkel-Meadow C, "Is ODR ADR?" (2016) 3 International Journal of Online Dispute Resolution 4 <<https://doi.org/10.5553/ijodr/235250022016003001002>>

²⁸ Kaufmann-Kohler G and Schultz T, *Online Dispute Resolution: Challenges for Contemporary Justice* (Kluwer Law International ; Schulthess 2004)

²⁹ Beretta R, "The Use of Technology in Dispute Resolution; A Framework for the Study of ODR" [2023] Vilnius University Open Series 16 <<http://dx.doi.org/10.15388/PhDStudentsConference.2023.2>>

³⁰ Peruginelli G and Chiti G, 'Artificial Intelligence in Alternative Dispute Resolution' in *Proceedings of the Workshop on the Law of Electronic Agents–LEA* (2002).

to settle family matters without lengthy court battles. These digital tools analyze the situation objectively while keeping the human element at the center of the process. At the heart of this approach are AI negotiation systems that help families reach fair agreements. When dealing with divorce settlements, the technology allows both parties to submit confidential offers, then suggests compromises based on legal standards and past cases. It can predict likely court outcomes by comparing similar historical cases, giving everyone realistic expectations. For dividing assets, AI examines financial disclosures and local laws to calculate equitable splits, removing much of the bias and conflict from this difficult process³¹.

ODR for Family Matters

Family disputes require sensitive, accessible and cost-effective resolution methods. ODR platforms have emerged as a valuable alternative to traditional court processes. These digital solutions provide specialized tools for family mediation including secure video conferencing for remote discussions, automated document generation for parenting plans and separation agreements, and safe payment processing for child or spousal support arrangements³². Unlike litigation which can be adversarial and time-consuming, this approach allows families to resolve conflicts privately and cooperatively with a focus on the best interests of children and long-term relationship preservation. Several platforms cater specifically to family disputes, offering different approaches depending on case complexity. *Amicable*³³, a UK-based service, specializes in divorce and co-parenting mediation, guiding couples through financial and childcare arrangements without courtroom battles. Similarly, *Fairway Divorce Solutions* in Canada combines automated forms with live mediator support, helping separating couples divide assets and establish parenting schedules efficiently³⁴.

For financial disputes related to divorce or child support, AI-assisted platforms like *SmartSettle*³⁵ can facilitate fair settlements through structured negotiation tools³⁶. These services prove particularly beneficial for families needing flexible scheduling, reduced legal costs and a less confrontational resolution process. The most effective platforms incorporate features designed for emotional sensitivity and legal compliance. Secure messaging ensures private communication between parties and mediators while multilingual support accommodates diverse families. Some platforms include guided workflows for uncontested divorces, reducing paperwork and processing time. Virtual mediation rooms allow for safe face-to-face discussions even when parents live in different locations³⁷. Additionally, AI tools help draft customized parenting plans based on family needs, ensuring schedules for visitation, holidays and decision-making responsibilities remain clear and enforceable.

³¹ Candeias (n 24).

³² Gingras (n 16).

³³ 'Divorce, Separation and Cooperative Parenting' (*amicable*) <<https://amicable.io/>> accessed 18 May 2025

³⁴ (*Fairway Divorce Canada - Divorce Mediation*) <<https://fairwaydivorce.com/>> accessed 18 May 2025

³⁵ 'Collaborative Negotiation Systems: Smartsettle One & Infinity' (*Smartsettle*) <<http://smartsettle.com/>> accessed 18 May 2025

³⁶ Bilal M, Rafiq W and Junaid U, 'Necessity of Online Dispute Resolution (ODR) in Family Matters and Legal Implementation of Online Court System' (2023) 11 Pakistan Journal of Humanities and Social Sciences <<https://doi.org/10.52131/pjhss.2023.1102.0553>>

³⁷ Carneiro D and others, 'Online Dispute Resolution: An Artificial Intelligence Perspective' (2012) 41 Artificial Intelligence Review 211

Court systems worldwide increasingly adopt these solutions for family disputes to reduce delays and improve access to justice. Some jurisdictions handle certain family matters online while others integrate these platforms into their family court processes for child custody and support modifications. These systems provide structured pathways for resolution while maintaining legal safeguards. As technology advances, platforms become more sophisticated with features like emotion-detection algorithms to help mediators assess stress levels and predictive analytics to suggest fair settlement ranges based on similar cases³⁸. For families navigating separation or conflict, this approach offers a faster, more affordable and less adversarial alternative than traditional litigation. By combining technology with human expertise, these platforms help parents focus on constructive solutions rather than prolonged legal battles. As these systems continue evolving, they hold potential to transform family dispute resolution worldwide, making the process more accessible, transparent and child-centered. ODR mechanisms can be broadly categorized into three primary types: online negotiation, online mediation, and online arbitration³⁹. Each of these mechanisms employs different methods to resolve disputes, often incorporating technology to improve outcomes and reduce costs.

1. Online negotiation

Online negotiation, as a form of ODR, offers a streamlined and cost-effective alternative to traditional face-to-face negotiations in family disputes. It can be either **automated**, using AI-driven platforms like *SmartSettle* or *Cybersettle*⁴⁰ (particularly effective for financial settlements), or **assisted**, where human mediators facilitate discussions via email, video conferencing, or online platforms⁴¹. Unlike conventional methods, online negotiation leverages digital platforms—such as email, video conferencing, or specialized ODR software—to facilitate discussions without requiring physical confrontation⁴². This not only reduces logistical challenges and expenses but also provides greater flexibility for disputing parties, particularly in emotionally charged family conflicts where direct interaction may escalate tensions⁴³. By allowing participants to communicate asynchronously or through mediated digital channels, online negotiation fosters a more controlled and less adversarial environment, which can be especially beneficial in sensitive matters like divorce, child custody, or inheritance disputes. Furthermore, the accessibility of electronic means ensures that parties can engage in negotiations from different locations, making the process more inclusive and efficient. Studies suggest that the simplicity and convenience of online negotiation contribute to quicker resolutions, minimizing the emotional and financial strain often associated with prolonged family disputes⁴⁴. As ODR continues to evolve, its role in family law highlights the growing need for adaptable, technology-driven solutions in dispute resolution.

³⁸ Ibid.

³⁹ Sulistianingsih D and others, 'Online Dispute Resolution: Does the System Actually Enhance the Mediation Framework?' (2023) 9 Cogent Social Sciences <<https://doi.org/10.1080/23311886.2023.2206348>>

⁴⁰ 'Cybersettle Is a Trusted Platform That Streamlines Financial Negotiation and Settlement' (*Cybersettle*) <<https://www.cybersettle.com/>> accessed 18 May 2025

⁴¹ Khan MD, Kaya S and Habib RI, 'Global Trends of Online Dispute Resolution (ODR) with Reference to Online Trade in Pakistan' (2019) 4 Review of Economics and Development Studies 303

⁴² Fasihullah A, Awan B and Khan A, 'Negotiating in the Digital Age: Exploring the Role of Technology in Modern Negotiations' (2023) 2(1) *Law and Policy Review* 61.

⁴³ Sagala LM and Marpaung DS, 'Penegakkan Hukum Serta Upaya Penyelesaian Sengketa Online Marketplace Melalui Mekanisme Online Dispute Resolution' (2021) 4 Widya Yuridika

⁴⁴ Ibid.

2. Online Mediation

Online mediation facilitates family dispute resolution through digital platforms like Zoom or specialized tools such as Fair Outcomes⁴⁵. A neutral mediator assists parties via video calls, chat, or asynchronous messaging, with AI chatbots first screening conflict severity⁴⁶. The process adapts to the parties' dynamics—using joint sessions for cooperative cases or shuttle mediation for high-conflict disputes. AI algorithms propose fair solutions for child support or asset division based on legal standards, while e-signatures finalize agreements. Benefits include neutrality, scheduling flexibility, and legal recognition in many jurisdictions. AI is increasingly integrated into mediation, though it remains an assistive tool rather than a replacement for human mediators. Chatbots like ChatGPT analyze legal data, suggest negotiation strategies, and predict settlement outcomes, improving efficiency⁴⁷. However, risks include inaccuracies, such as fabricated legal references, and an inability to manage emotional complexities. Experts emphasize AI's role in supporting, not supplanting, mediators—particularly in sensitive family disputes where empathy and emotional intelligence are crucial⁴⁸. Despite limitations, AI enhances mediation by processing vast data quickly, reducing costs, and minimizing human bias. For instance, tools like CoCounsel assist lawyers in document analysis, while generative AI can draft proposals or identify overlooked negotiation points. Its impartiality offers a counterbalance to subjective human judgments, though ethical oversight remains essential. The technology's potential grows when combined with mediator expertise, ensuring compliance with legal and ethical standards.

A novel application of AI in mediation involves breaking deadlocks by motivating parties to negotiate independently. In one case, a mediator used ChatGPT's settlement suggestion to spur disputants toward compromise—avoiding reliance on AI while still leveraging its influence. This approach highlights AI's indirect value in encouraging constructive dialogue, even when parties distrust automated solutions. Such creative uses demonstrate AI's evolving role as a catalyst rather than a decision-maker⁴⁹. The future of AI in mediation hinges on balancing innovation with caution. While automation streamlines processes, human oversight is critical to prevent errors and maintain trust. Training AI on verified legal data and integrating emotional intelligence algorithms could address current shortcomings. For now, the most effective mediation combines AI's analytical strengths with mediators' interpersonal skills, ensuring As technology advances, AI's role in family dispute resolution will expand, but its success depends on ethical implementation⁵⁰. Hybrid models—where AI handles data-driven tasks and mediators focus on relationship dynamics—offer a promising path forward. By enhancing efficiency without sacrificing human judgment, AI can make mediation more accessible while preserving its core principles of fairness and collaboration.

⁴⁵ Arif R and Khadam N, 'ONLINE DISPUTE RESOLUTION MECHANISM: LEGAL SOLUTION TO E-COMMERCE DISPUTES DURING COVID-19 IN PAKISTAN.' (2023) 1 Academic Student Research Journal 1

⁴⁶ Khan (n 39).

⁴⁷ Carneiro (n 36).

⁴⁸ Upadhyay P, 'Artificial Intelligence in Alternative Dispute Resolution' (*Legal Egalitarian*, 9 January 2024) <<https://legalegalitarian.com/artificial-intelligence-in-a-d-r/>> accessed 18 May 2025

⁴⁹ Shonk K, 'AI Mediation: Using AI to Help Mediate Disputes' (*Program on Negotiation Harvard Law School*, 24 March 2025) <<https://www.pon.harvard.edu/daily/mediation/ai-mediation-using-ai-to-help-mediate-disputes/>> accessed 17 May 2025

⁵⁰ Ibid.

3. Online Arbitration

Online arbitration in family disputes leverages ODR platforms, where a neutral arbitrator reviews the case digitally and issues a binding decision. While traditionally used in commercial and consumer disputes, its application in family matters is growing due to its efficiency and accessibility. However, challenges remain, including ensuring due process, maintaining confidentiality, and enforcing awards, particularly across jurisdictions. Platforms now facilitate virtual hearings, document submissions, and even cross-examinations, preserving procedural fairness while reducing time and costs⁵¹. Despite its advantages, the adaptability of international frameworks like the New York Convention to family-specific online arbitration awards requires further legal clarity. The integration of arbitration principles with digital tools signifies a transformative shift in resolving familial conflicts, balancing flexibility with judicial rigor

AI-ODR Integration in Family Disputes and Legal Practice

AI is transforming dispute resolution by offering new tools and methods that differ from traditional ODR. Traditional ODR focuses on managing workflows, such as scheduling hearings and generating legal documents, while AI-driven ODR enhances the resolution process itself. For example, AI uses *Natural Language Processing (NLP)* to analyze communication tones⁵² or tools like *Split-Up* to predict divorce outcomes⁵³. This shift allows for faster and more efficient resolutions by automating complex tasks that previously required human intervention. In family law, AI helps humanize legal processes by handling repetitive tasks, such as automating financial disclosures, which frees lawyers to focus on client counseling and emotional support. AI also provides decision support through predictive tools like *Family-Winner*⁵⁴ in Australia, which helps prioritize assets in divorces, or *Lex Machina*, which analyzes case law for better legal strategies⁵⁵. Additionally, AI can screen for risks such as domestic violence or power imbalances, ensuring fairer outcomes. Expert systems like *SHYSTER*⁵⁶ and *HYPO*⁵⁷ replicate legal expertise, offering case recommendations and improving argumentation in court.

AI integration in ODR relies on various systems, including *Expert systems* that mimic human decision-making. These systems consist of a knowledge base, an inference engine, and a user

⁵¹ Rainey D, Katsh E, and Wahab MSA (Eds.), *Online Dispute Resolution: Theory and Practice*, 2nd Ed., The Hague: Eleven, 2021” (2021) 8 *International Journal of Online Dispute Resolution* 39

<<https://doi.org/10.5553/ijodr/235250022021008002008>>

⁵² Nilsson NJ, *The Quest for Artificial Intelligence* (Cambridge University Press 2009)

<<https://doi.org/10.1017/CBO9780511819346>>

⁵³ Zeleznikow J and Stranieri A, “Split up: an intelligent decision support system which provides advice upon property division following divorce” (1998) 6 (2) *International Journal of Law and Information Technology* 190.

⁵⁴ Bellucci E and Zeleznikow J, “Developing Negotiation Decision Support Systems That Support Mediators: A Case Study of the Family_Winner System” (2005) 13 *Artificial Intelligence and Law* 233 <<https://doi.org/10.1007/s10506-006-9013-1>>

⁵⁵ Kourlis RL and Samnani R, ‘Court Compass: Mapping the Future of User Access through Technology’ (*IAALS, the Institute for the Advancement of the American Legal System*, 2017)

<https://iaals.du.edu/sites/default/files/documents/publications/court_compass_mapping_the_future.pdf> accessed 18 May 2025

⁵⁶ Popple J, “A Pragmatic Legal Expert System” [1996] *SSRN Electronic Journal*

<<https://doi.org/10.2139/ssrn.1335176>>

⁵⁷ Ashley KD, “Reasoning with Cases and Hypotheticals in HYPO” (1991) 34 *International Journal of Machine Studies* 753 <[https://doi.org/10.1016/0020-7373\(91\)90011-u](https://doi.org/10.1016/0020-7373(91)90011-u)>

interface, allowing them to provide legal recommendations⁵⁸. *Decision support systems*, like *Family-Winner* and *SmartSettle*, help prioritize subjective values in disputes and assist mediators in negotiations. Studies show their effectiveness, with tools like *Adjusted Winner* matching real-world outcomes, such as those seen in the *Camp David Accords*⁵⁹. *Knowledge assistance systems* act as advanced legal search engines, though they sometimes struggle with context in industrial disputes. *Case-based reasoning systems* learn from past legal outcomes, as seen in *PERSUADER* for labor disputes, but they may have difficulty identifying relevant facts in new cases⁶⁰. *Rule-based systems* apply predefined legal rules, such as *DoNotPay*⁶¹ for parking ticket appeals, and are widely used in platforms like eBay and PayPal for low-value disputes. *Intelligent interfaces*, powered by natural language processing, hold future potential for more intuitive legal interactions. AI technologies are also reshaping legal practice by providing tools for lawyers, such as chatbots for client intake, legal research platforms like Lex Machina, and smart contracts that use blockchain for automated enforcement. The best outcomes arise from human-AI collaboration, where AI efficiency complements human judgment, as seen in Scotland's *CALM mediator accreditation program*⁶². Success is measured through time and cost savings, as well as improved client satisfaction, demonstrating AI's growing role in modern legal systems.

The Lodder-Zeleznikow Three Step Model for ODR

The *Lodder-Zeleznikow Three-Step Model* is a clear and structured method for resolving disputes online. It provides a virtual space where people in conflict can use different tools to settle their disagreements. They can choose tools freely or follow a guided process for better results. The model works best when used in a fixed three-step order, helping parties reach fair solutions efficiently⁶³. The first step focuses on negotiation support. Here, the system shows each party what might happen if they fail to agree—this is called the BATNA. By understanding their options, people can make smarter decisions about whether to keep negotiating or accept a compromise. If negotiation doesn't resolve the dispute, the second step uses argumentation and dialogue techniques. The system helps parties discuss their issues in a structured way, clarifying misunderstandings and finding common ground. This step encourages open communication, which can often lead to a resolution without further intervention. For any remaining conflicts, the third step applies decision analysis and trade-off strategies. The system helps parties compare options and make trade-offs, such as giving up one demand in exchange for another. If this still doesn't work, the process loops back to step two, allowing parties to revisit discussions before trying decision-making tools again. If the dispute remains stuck, the system shifts to alternative methods like arbitration or blind bidding—but only on the unresolved issues. This saves time and money by narrowing the focus. Even if a full agreement isn't reached, the process helps reduce conflict and may make further legal steps unnecessary⁶⁴. Overall, this model is flexible, efficient, and user-friendly. It guides parties toward resolution while giving them control over the process. By

⁵⁸ Carneiro (n 36).

⁵⁹ Lodder, AR, Zeleznikow J, "Artificial Intelligence and Online Dispute Resolution" (2012). In Rainey (n 51).

⁶⁰ Fatima N, "From Courtrooms to Algorithms: The Evolution of Dispute Resolution with AI" (2023) 5 Revista Brasileira de Alternative Dispute Resolution <<https://doi.org/10.52028/rbadr.v5i10.art13.in>>

⁶¹ 'Save Time and Money with Donotpay!' (*DoNotPay*) <<https://donotpay.com/>> accessed 18 May 2025

⁶² Mair J, 'From ADR to ODR in Scots Family Justice: No Clear Direction of Travel', *Digital Family Justice from alternative dispute resolution to online dispute resolution?* (Hart Publishing 2021) <https://books.google.com/books/about/Digital_Family_Justice.html?hl=&id=4H67DwAAQBAJ>

⁶³ Lodder A.R., Zeleznikow J., "Developing an Online Dispute Resolution Environment: Dialogue Tools and Negotiation Systems in a Three Step Mode", (2005) 10 *The Harvard Negotiation Law Review* 287.

⁶⁴ Lodder (n 59).

combining negotiation, discussion, and decision-making tools, it increases the chances of a fair and lasting settlement.

Noopur H. Amin's proposed ODR model enhances Lodder and Zeleznikow's three-step Model by integrating advanced technologies such as Machine Learning (ML) and NLP alongside mindfulness techniques to foster a more adaptive and empathetic conflict resolution process⁶⁵.

Step one: Intelligent Information Gathering & Analysis

The process begins with *data collection*, where essential details about the dispute are gathered, including each party's concerns, desired outcomes, and key decision variables. This structured data helps frame the negotiation effectively, ensuring that all relevant factors are considered. Next, *machine learning enhancements* are applied to refine the negotiation process. The system conducts a *BATNA analysis*, predicting likely outcomes if negotiations fail, which helps parties assess their alternatives realistically. Additionally, *AI-generated automated summaries* provide concise overviews of each party's arguments, promoting clarity and minimizing misunderstandings. This step ensures that both sides enter negotiations with a clear understanding of their positions and potential outcomes. By establishing this strong foundation, parties can engage in discussions with realistic expectations and complete information, increasing the likelihood of a successful resolution.

Step Two: Conflict Resolution through Dialogue and Argumentation

This step employs Natural Language Processing (NLP) to enable structured negotiation, allowing conflicting parties to present their arguments clearly and systematically meaning thereby facilitating Communication. Through this approach, each side can respond to the other's points and propose potential solutions in an organized manner. The structured framework helps prevent misunderstandings and keeps discussions focused on resolving the dispute rather than escalating tensions. To foster a constructive dialogue, this phase incorporates mindfulness techniques that promote active listening, empathy, and non-judgmental reflection. Participants may engage in reflective writing exercises to articulate their perspectives calmly and thoughtfully. Additionally, guidance on using neutral language helps reduce hostility and encourages mutual understanding. For disputes involving language barriers, automated translation tools may be integrated to ensure all parties can communicate effectively. Leveraging digital tools such as video conferencing and chat rooms, this step facilitates remote mediation, making conflict resolution accessible regardless of geographical location. The process ensures that each party has the opportunity to express their needs while also listening to the other side. If, despite these efforts, a resolution is not reached, the process seamlessly transitions to *Step Three* for further intervention. This structured yet flexible approach aims to resolve conflicts amicably before escalating to more formal measures.

Step Three: Decision Analysis and Trade-Offs

In this step, the process employs a combination of numerical algorithms, transformative mediation principles, and *Smartsettle-inspired techniques* to facilitate fair and efficient dispute resolution. Numerical algorithms for issue prioritization, similar to those used in *Smartsettle* and *Family-Winner*, assess the relative importance of different issues to each party, ensuring a structured

⁶⁵ Amin NH, 'A New Frontier in Online Dispute Resolution: Combining AI and Mindfulness' (2024) 15 *Case Western Reserve Journal of Law, Technology & the Internet* 283. Available at: <https://scholarlycommons.law.case.edu/jolti/vol15/iss2/3>

approach to negotiation. *Transformative Mediation Principles* encourage parties to openly share their needs, interests, and values, fostering mutual understanding and empathy. This method incorporates logrolling strategies, where trade-offs are made based on the perceived importance of issues, allowing for balanced concessions. Additionally, Smartsettle-inspired techniques, such as a blind bidding system, promote fairness by preventing biased offers, while rewarding good faith behavior—for instance, favoring the party that makes the smaller last move. Parties also have the option to host negotiations under Smartsettle's branding with API integration for seamless implementation. To further enhance decision-making, machine learning is utilized to analyze negotiation patterns, identify potential compromises, and predict likely outcomes, ensuring a data-driven and objective resolution process.

Step Four: Adaptive Recursive Resolution Process

If Step Three fails to resolve the dispute, the parties return to Step Two for further negotiation, creating a recursive process of iterative mediation. This cycle continues until either a resolution is reached or an impasse is declared. Throughout this process, AI tracking and feedback mechanisms monitor progress, offering suggestions for additional mindfulness practices to ease tensions and improve communication. The system can also recommend resources or signal the need for human mediator intervention if the dispute remains unresolved. However, there are limitations to AI-mediated conflict resolution; while tools like ChatGPT can reduce the need for human facilitation by handling many aspects of the process, some disputes may still require the nuanced judgment and emotional intelligence of a human mediator⁶⁶. Ultimately, AI serves as a supportive tool but cannot entirely replace human intervention in complex or deeply rooted conflicts.

Global Practice of using AI-ODR Platforms and Tools in Family Disputes

ODR Platforms and Tools for family disputes are increasingly being adopted worldwide to provide accessible, efficient, and cost-effective alternatives to traditional court processes⁶⁷. These platforms handle issues such as divorce, child custody, alimony, and inheritance disputes. Below are some notable ODR platforms and initiatives used globally for family dispute resolution;

United States & Canada

The United States has developed several innovative ODR platforms that are transforming divorce and family dispute resolution⁶⁸. *SettleSmart*⁶⁹ leads in financial settlements with its AI-powered asset division calculators and alimony estimators, while *Wevorce*⁷⁰ (now integrated into *Hello Divorce*⁷¹) pioneered a "divorce concierge" model blending technology with human expertise for

⁶⁶ Ibid.

⁶⁷ Schmidt-Kessen MJ, Nogueira R, Cantero Gamito M, "Success or Failure?—Effectiveness of Consumer ODR Platforms in Brazil and in the EU" (2020) 43 Journal of Consumer Policy 659 <<https://doi.org/10.1007/s10603-020-09448-y>>

⁶⁸ Judicial Technology and Curriculum (JTC) Resource Committee, *ODR for Courts* (Version 2.0, updated and adopted 29 November 2017). Online Available at: <https://www.ncsc.org/_data/assets/pdf_file/0033/39579/JTC-Resource-Bulletin-Case-Studies.pdf>

⁶⁹ SettleSmart (n 35).

⁷⁰ 'Premiere Online Divorce, Private Divorce, Private Judge' (Wevorce, 4 July 2024) <<https://www.wevorce.com/>> accessed 27 May 2025

⁷¹ 'Hello Divorce: Online Divorce without Expensive Divorce Lawyers' (*Hello Divorce | Online Divorce Without Expensive Divorce Lawyers*) <<https://hellodivorce.com/>> accessed 27 May 2025

parenting plans and mediation. *CustodyXChange*⁷² provides specialized tools for creating court-approved parenting schedules and tracking shared expenses, significantly reducing post-divorce conflicts. *CoParenter*⁷³ stands out with its on-demand mediation services and child-centered approach to dispute resolution, operating across both the U.S. and Canada. More sophisticated systems like *Modria*⁷⁴ (now part of Tyler Technologies) have processed over one million cases, including complex cross-border disputes, through AI-assisted triage and secure mediator-monitored communication channels. Its success in Clark County, Nevada courts demonstrates its effectiveness for custody and support cases. *Matterhorn ODR*⁷⁵ has shown particularly impressive results in Michigan, where its automated notification system and secure communication portal reduced child support hearings by 24% in Ottawa County, prompting adoption by multiple other states⁷⁶.

For international family disputes, specialized platforms offer comprehensive solutions. *2Houses*⁷⁷ and *OurFamilyWizard*⁷⁸ provide robust co-parenting management systems featuring shared calendars, expense tracking, and conflict-reducing communication tools. *OurFamilyWizard* has achieved particular prominence, receiving court mandates across multiple countries including the U.S., Canada, Australia and the UK, with features like professional monitoring accounts for therapists and guardians ad litem. *CREK ODR*⁷⁹ takes a more comprehensive approach with multilingual support and a complete dispute resolution workflow from initial diagnosis through to arbitration, featuring unique collaborative editing tools and private negotiation spaces. *UpToParents*⁸⁰ focuses specifically on transforming contentious separations into cooperative parenting relationships through its structured agreement framework, which has earned recommendations from courts and mediators alike. *Mediate.com*⁸¹ serves as a vital connection hub, maintaining an extensive network of professional mediators across North America to handle family, workplace and civil disputes through alternative resolution channels. Canada has developed its own distinctive ODR platforms tailored to local legal frameworks and needs. *SmartSeparations*⁸² stands out for its accessible, step-by-step divorce agreement process that combines guided questionnaires with optional legal review. *CollaborativeDivorceToronto*⁸³ exemplifies the Canadian emphasis on non-adversarial resolution through its interdisciplinary teams of legal and financial professionals working via secure digital platforms. *MyLawBC*⁸⁴, backed by Legal Aid BC, represents an important public-private partnership that has significantly improved access to justice through its innovative Dialogue Tool and free legal resources for

⁷² 'The Leading Software for Creating and Managing Custody Agreements' (*Custody X Change: The Trusted Software for Parenting Schedules*) <<https://www.custodyxchange.com/>> accessed 27 May 2025

⁷³ 'Put Your Kids at the Center, Not the Middle' (*CoParenter*) <<https://coparenter.com/>> accessed 27 May 2025

⁷⁴ 'Modria' (tylertech) <<http://www.modria.com/>> accessed 27 May 2025

⁷⁵ 'Matterhorn ODR' (*Catalis*) <<https://catalisgov.com/matterhorn-LP/>> accessed 27 May 2025

⁷⁶ 'June 2021 Child Support Report' (*The Administration for Children and Families*) <<https://acf.gov/archive/css/newsletter/ocsnewsletter/june-2021-child-support-report>> accessed 27 May 2025

⁷⁷ 'Divorced Parents Web & Mobile App' (*Divorced parents web & mobile app*) <<https://www.2houses.com/en>> accessed 27 May 2025

⁷⁸ 'Tools for Conflict Free Co-Parenting' (*OurFamilyWizard*) <<https://www.ourfamilywizard.com/>> accessed 27 May 2025

⁷⁹ (*CREK ODR*) <<https://crekodr.com/>> accessed 27 May 2025

⁸⁰ (*UpToParents*), <<https://www.uptoparents.org/>> accessed 27 May 2025

⁸¹ *Mediate.com*, <<https://mediate.com/>> accessed 27 May 2025

⁸² 'Toronto Family Mediator: Mediation Services: Smart Separation' (*Smart Separation Toronto*) <<https://smartseparation.ca/>> accessed 27 May 2025

⁸³ (*Collaborative Divorce Toronto*) <<https://collaborativedivorcetoronto.com/>> accessed 27 May 2025

⁸⁴ (*Free help for legal problems | MyLawBC by Legal Aid BC*) <<https://mylawbc.com/>> accessed 27 May 2025

vulnerable populations. *Fairway Divorce Solutions*⁸⁵ completes the Canadian landscape with its predictable, fixed-fee mediation and arbitration services that provide cost-effective alternatives to traditional litigation. Together, these North American platforms demonstrate how technology can humanize the dispute resolution process, making it more accessible, efficient, and focused on constructive outcomes for families.

Europe

The United Kingdom (UK) is a leader in ODR adoption, with both private and public sector initiatives supporting family dispute resolution. Private platforms like *Amicable*⁸⁶ help couples resolve divorce, child arrangements, and financial matters without court. It uses AI-powered document generation for divorce petitions and financial agreements, along with virtual mediation and step-by-step guidance. This reduces conflict and legal costs, with an average resolution time of 3-6 months. Another platform, *Divorce.co.uk*⁸⁷, offers automated form filling, legal document generation, and fixed-fee pricing, making it cheaper than traditional solicitors. It also integrates with HM Courts & Tribunals Service (HMCTS) for e-filing, ensuring a fully digital process. On the public side, *HMCTS Reform Pilots modernize court systems* with digital divorce applications, financial disclosures, and child arrangement services. Government-funded mediation vouchers and video hearings have reduced divorce processing time to under 12 weeks for uncontested cases, improving accessibility for self-represented litigants⁸⁸.

The Netherlands was an early adopter of ODR with *Rechtwijzer*⁸⁹ (2006-2017), which helped divorcing couples reach agreements without court. It featured an interactive Q&A system, AI-based negotiation tools, and chat-based mediation, reducing processing time to 24 hours for uncontested cases. However, it failed due to reliance on government funding and lack of profitability⁹⁰. Despite its closure, it inspired platforms like *Modria*. Currently, the Netherlands uses *MijnZaak*⁹¹ for digital divorce filings and *scheidingsPro.nl*⁹² for online mediation. Germany integrates ODR through court-linked platforms and private tools. Public initiatives like *ePKH* (*elektronisches Personenstandsverfahren*) enable digital divorce registration, while some states mandate electronic submission of divorce petitions⁹³. Private platforms like *Scheidung.de*⁹⁴ assist with online divorce filings and lawyer checks. France promotes amicable divorce through platforms like *WeDivorce*⁹⁵, which uses AI-powered negotiation. Italy's ODR adoption is slower, but pilot projects like *DivorzioBreve.it*⁹⁶ offer online mediation for quick divorces. Belgium

⁸⁵ Fairway Divorce Canada (n 34).

⁸⁶ Amicable (n 33).

⁸⁷ 'Mills & Reeve Family and Children Law: Family Law Solicitors' (*Mills & Reeve Family and Children Law | Family Law Solicitors*) <<https://www.familylawsolicitors.org/>> accessed 27 May 2025

⁸⁸ 'Get a Divorce' (GOV.UK) <<https://www.gov.uk/divorce/file-for-divorce>> accessed 27 May 2025

⁸⁹ (*Rechtwijzer*) <<https://rechtwijzer.nl/>> accessed 28 May 2025

⁹⁰ Margaret B, 'The Rechtwijzer Justice Platform' (*Justice Innovation*, 16 June 2017) <<https://justiceinnovation.law.stanford.edu/rechtwijzer-justice-platform/>> accessed 28 May 2025

⁹¹ 'Mijnzaak' <<https://mijn.dezaak.nl/#>> accessed 27 May 2025

⁹² (*Scheidings pro*) <<https://scheidingspro.nl/>> accessed 28 May 2025

⁹³ 'Federal Ministry of Justice and Consumer Protection' (*BMJV - Federal Ministry of Justice and Consumer Protection*) <https://www.bmj.de/EN/home/home_node.html> accessed 27 May 2025

⁹⁴ (*Zur Startseite*) <<https://www.scheidung.de/>> accessed 28 May 2025

⁹⁵ (*WeDivorce*) <<https://www.wedivorce.fr/>> accessed 28 May 2025

⁹⁶ 'Divorzio Breve Archivi' (*Divorzio Breve*) <<https://www.divorziobreve.it/category/divorzio-breve/>> accessed 28 May 2025

supports family dispute resolution through *Bemiddeling.be*⁹⁷, an online mediation service. The Nordic countries lead in digital justice, with Denmark's *Familieretshuset*⁹⁸ enabling fully digital divorces (processed in 24 hours for uncontested cases). Norway's *Tingrett*⁹⁹ (Digital Court) allows online hearings for child custody disputes. These initiatives highlight Europe's growing reliance on ODR for faster, more accessible, and cost-effective family dispute resolution.

Australia and New Zealand

ODR has emerged as a significant method for resolving family disputes in Australia and New Zealand, particularly in matters such as property division, parenting arrangements, and child support. The key ODR tools and platforms in both countries can be categorized into three main approaches:

- *AI and game theory-based tools*
- *DIY separation tools*
- *Mediation or Arbitration platforms*

Each of these serves distinct purposes, catering to different needs in the dispute resolution process. AI and game theory-based tools leverage AI and negotiation principles to facilitate fair outcomes in property and parenting disputes. In Australia, one of the earliest examples was *Family Winner*, developed in the 2000s by Dr. John Zeleznikow at Victoria University. This tool assisted couples in dividing property by allocating "value points" to assets to achieve an equitable split¹⁰⁰. Although no longer maintained, its principles influenced later tools such as *Amica*. Another precursor to *Amica* was *SplitUp*, an AI-based system from the 1990s that used rule-based reasoning to predict court outcomes for property division¹⁰¹. Today, *Amica*¹⁰², developed by *National Legal Aid and the Australian Government*, is a free AI tool that suggests fair asset splits and parenting arrangements, primarily for uncontested separations where couples agree to separate but need assistance in dividing assets. Additionally, *FairWay Resolution*¹⁰³, a private provider, offers structured online mediation for family disputes. In New Zealand, *FairWay Resolution NZ* similarly provides online mediation for property and parenting disputes, employing structured negotiation techniques to guide couples toward mutually acceptable solutions¹⁰⁴.

For couples seeking a more independent approach, DIY separation tools help create separation agreements without formal mediation. In Australia, *MyDivorcePapers*¹⁰⁵ is a private service that enables couples to generate separation agreements online, catering to those who prefer a self-guided process without legal mediation. New Zealand's *Family Court NZ* offers DIY separation

⁹⁷ 'Bemiddeling' (Federale overheidsdienst justitie) <https://justitie.belgium.be/nl/themas_en_dossiers/bemiddeling> accessed 28 May 2025

⁹⁸ (dansk) <<https://familieretshuset.dk/en>> accessed 28 May 2025

⁹⁹ 'Norges Domstoler' (Norges domstoler) <<https://www.domstol.no/en/>> accessed 28 May 2025

¹⁰⁰ Bellucci (n 54).

¹⁰¹ Zeleznikow (n 53).

¹⁰² 'The Simple, Low Cost, Smart Way to Separate or Divorce Online' (*amica*) <<https://www.amica.gov.au/>> accessed 28 May 2025

¹⁰³ (FairWay - kia tau | Fairway Resolution Limited) <<https://www.fairwayresolution.com/>> accessed 28 May 2025

¹⁰⁴ Ibid.

¹⁰⁵ (*MyDivorcePapers.com*) <<https://www.mydivorcepapers.com/>> accessed 28 May 2025

guides, providing self-help resources for couples navigating separation without court intervention. These tools empower individuals to manage their disputes with minimal external assistance, making the process more accessible and cost-effective¹⁰⁶. For more structured negotiation support, online mediation and arbitration platforms are available in both countries. *Immediation*¹⁰⁷, a paid service, offers online mediation and arbitration for family disputes, providing a formal yet flexible approach to resolving conflicts. In Australia, the *Federal Circuit and Family Court of Australia (FCFCOA)* features an ODR portal designed to help resolve family law disputes before trial, incorporating case management and negotiation support¹⁰⁸. Similarly, New Zealand's *Family Court* allows some processes, such as filing and mediation, to be managed online before proceeding to court¹⁰⁹. These platforms streamline dispute resolution, reducing the need for in-person hearings and making the legal process more efficient. Overall, the availability of diverse ODR tools in Australia and New Zealand reflects a growing emphasis on accessible, efficient, and fair dispute resolution methods in family law. Whether through AI-driven solutions, self-guided tools, or formal mediation platforms, these technologies provide valuable alternatives to traditional court processes, catering to varying needs and circumstances¹¹⁰.

ODR and Family Dispute Resolution System in Pakistan

Pakistan's legal system continues to rely heavily on traditional litigation, despite its inefficiencies, including prolonged case durations and procedural complexities. ADR and ODR remain underdeveloped, limiting access to faster and more cost-effective justice. Multi-party disputes, especially those involving extensive paperwork, further slowdown judicial processes, worsening case backlogs. To address these challenges, modernization through Electronic Filing (E-Filing), Virtual Courts, and ODR is essential¹¹¹. Emerging technologies like AI can streamline case management, as seen in global trends¹¹². ADR provides a quicker, more affordable, and relationship-preserving alternative to litigation in family disputes. Unlike adversarial court battles, ADR focuses on amicable settlements, reducing hostility and maintaining family bonds. It also aligns with Islamic principles, which emphasize reconciliation (Sulh) and harmony in family matters. Mediation and arbitration are supported by Quranic teachings that encourage peaceful conflict resolution, making ADR culturally and religiously compatible with Pakistan's values¹¹³. Pakistan's legal framework incorporates ADR mechanisms through key legislations such as the *Muslim Family Laws Ordinance (MFLO) 1961* and the *Family Courts Act (FCA) 1964*. The MFLO establishes Arbitration Councils to handle divorce and polygamy cases, requiring mediation before finalizing divorce. The FCA mandates judges to attempt reconciliation before proceeding to trial, emphasizing out-of-court settlements. However, gaps remain in the current legal framework. There are no clear standards for selecting Arbitration Council members, leading to inconsistent mediation quality¹¹⁴. Judicial discretion results in uneven application of mediation,

¹⁰⁶ (Ministry of Justice | New Zealand Ministry of Justice) <<https://www.justice.govt.nz/>> accessed 28 May 2025

¹⁰⁷ (Immediation) <<https://immediation.com/>> accessed 28 May 2025

¹⁰⁸ (Federal Circuit and Family Court of Australia) <<https://www.fcfcga.gov.au/>> accessed 28 May 2025

¹⁰⁹ Ministry of Justice (n 105).

¹¹⁰ Conley (n 18).

¹¹¹ Kalanauri (n 6).

¹¹² Ibid.

¹¹³ Shah SS, 'Mediation in Marital Discord in Islamic Law: Legislative Foundation and Contemporary Application' (2009) 23(3) *Arab Law Quarterly* 329.

¹¹⁴ Munir M, 'The Law of Khul' in Islamic Law and the Legal System of Pakistan: The Sunnah of the Prophet or Judicial Ijtihad?' (2014) 2 *LUMS Law Journal* 1

with some judges prioritizing trials over settlements¹¹⁵. Additionally, the ADR Act 2017 does not explicitly recognize ODR, and the Code of Civil Procedure lacks provisions for e-filing, hindering digital dispute resolution.

Despite these shortcomings, recent reforms show progress in modernizing dispute resolution. The Family Courts (Amendment) Act 2015 allows recording witness statements through audio or video, enhancing efficiency¹¹⁶. Landmark judgments, such as the 2023 Supreme Court ruling in *Meera Shafi vs. Ali Zafar*¹¹⁷, permit video conferencing for witness testimony, recognizing virtual attendance as valid under the law. Similarly, the 2017 Lahore High Court case *Salman Ahmad Khan vs. Judge Family Court, Multan*¹¹⁸ upheld the use of video links for recording statements in family disputes, reinforcing the flexibility of court procedures. The ADR Act 2017 and provincial laws in Punjab and KPK further support mediation, arbitration, and conciliation in civil, commercial, and family disputes. The *E-Court Project (2019)* introduced online hearings, paving the way for ODR integration¹¹⁹. The adoption of video hearings offers significant benefits, including efficiency through real-time transcripts and document-sharing software. It also reduces costs by eliminating travel expenses, which is particularly helpful in international arbitrations¹²⁰. ODR enhances convenience in family disputes, with platforms like *CoParenter* simplifying co-parenting arrangements. It improves communication by allowing asynchronous interactions, reducing stress, and mitigating power imbalances¹²¹. ODR is cost-effective, aligning with the preferences of younger, tech-savvy individuals, though older generations may face challenges due to the digital divide. Additionally, ODR tools like *e-calendars* and AI-driven negotiation aids support long-term family stability¹²². Given these advantages, ODR presents a viable solution for Pakistan's family dispute resolution system, offering efficiency, affordability, and adaptability to modern needs.

Current Status of AI-ODR Development in Pakistan

Pakistan's judiciary has taken initial steps toward digital transformation, primarily under the Lahore High Court and Supreme Court's E-Courts Project, which focuses on digitizing case management¹²³. While full-fledged ODR remains in its early stages, the Digital Pakistan Policy (2018) supports this shift by promoting alternative dispute resolution (ADR) mechanisms as part of its broader vision for a digital economy¹²⁴. Private institutions, such as the *Chartered Institute of Arbitrators (CI Arb Pakistan)*, are also exploring ODR platforms, indicating growing interest in tech-driven dispute resolution. However, widespread adoption of ODR still faces infrastructural and regulatory challenges. The Supreme Court of Pakistan, in a recent judgment authored by

¹¹⁵ Ibid.

¹¹⁶ New sub-section (1A) inserted under Section 11 of Family Court Act 1964, by the Family Courts (Amendment) Act 2015 (XI of 2015).

¹¹⁷ PLD 2023 SC 211

¹¹⁸ PLD 2017 Lah. 698

¹¹⁹ Bano Sohail I, *Online Dispute Resolution: A New Wave of ADR and its Relevance for Pakistan* (Policy Brief, Islamabad Policy Research Institute, March 2024)

¹²⁰ Kourlis (n 55).

¹²¹ Carrel A, Ebner N, 'Mind the Gap: Bringing Technology to the Mediation Table' 2019 (2) *Journal of Dispute Resolution* art. 5 <<https://scholarship.law.missouri.edu/jdr/vol2019/iss2/5>> accessed 28 May 2025

¹²² Bilal (n 36).

¹²³ Bano (n 119).

¹²⁴ 'Digital Pakistan Policy' (Ministry of IT & Telecom, 22 May 2018)

<[https://moib.gov.pk/Downloads/Policy/DIGITAL_PAKISTAN_POLICY\(22-05-2018\).pdf](https://moib.gov.pk/Downloads/Policy/DIGITAL_PAKISTAN_POLICY(22-05-2018).pdf)> accessed 29 May 2025

Justice Mansoor Ali Shah, acknowledged that AI can address inefficiencies in the judicial system¹²⁵. Tools like *Judge-GPT* analyze case laws and precedents rapidly, saving time for judges and lawyers. AI also enhances case management by automating tasks such as case assignment, deadline tracking, and workload distribution. Additionally, AI-powered drafting tools improve the clarity of court orders and reduce legal ambiguities. This judicial endorsement highlights AI's potential to modernize Pakistan's legal framework. JudgeGPT, the world's first AI judgment-writing tool, was developed by NES Professor Sultan Mehmood and researchers at ETH Zurich. Remarkably, around 1,500 judges—nearly half of Pakistan's judiciary—use this tool, making it one of the largest AI implementations in courts globally¹²⁶. The Supreme Court has officially endorsed JudgeGPT, recognizing its potential to enhance legal research and judicial writing. Justice Shah's judgment provides a comprehensive framework for understanding AI's role in Pakistan's judicial system. Addressing the critical problem of overburdened courts, particularly at the District Judiciary level, it recognizes the urgent need for structural reforms while emphasizing that immediate pragmatic innovation through AI can enhance judicial efficiency without compromising constitutional principles enshrined in Articles 10A and 37(d) of Pakistan's Constitution. The judgment carefully balances technological potential with fundamental rights, insisting that any AI implementation must preserve human oversight and ensure fair, expeditious justice. It draws on global examples, such as Colombia's use of ChatGPT for drafting rulings and China's randomized case assignment system, while stressing the need for rigorous verification of AI-generated content due to known limitations¹²⁷.

Despite its advantages, AI adoption in the judiciary presents risks. If trained on biased data, AI could reinforce historical inequalities, leading to unfair outcomes¹²⁸. Transparency is crucial to maintaining public trust in AI-driven legal processes. Judges must review AI-generated results, interpret complex legal issues, and apply ethical judgment—AI should support, not replace, human decision-making¹²⁹. The judgment highlights the "*black box*" problem of AI decision-making, warning against unexamined outputs and citing studies showing a 58% error rate in some AI-generated legal content. It establishes the principle that judges bear ultimate responsibility for all decisions, requiring a "*human-in-the-loop*" approach that preserves judicial discretion while utilizing AI assistance¹³⁰. Modern digital court systems in Pakistan incorporate critical features such as e-filing, case management systems (CMS), video conferencing for remote hearings, and ODR¹³¹. These tools help reduce case backlogs—where 82% of district court cases remain pending—and improve access to justice, particularly for marginalized groups. Successful models from the U.S., such as digital trial streamlining, and Israel's NGCS fully digital workflows demonstrate how technology can enhance judicial efficiency. Pakistan requires a unified case management system to track cases from filing to resolution, along with automation tools like SMS

¹²⁵ C.P. No.1010-L/2022 (*Ishfaq Ahmed v. Mushtaq Ahmed, etc*) Uploaded on 10 April 2025 on SC website and can be accessed via <https://www.supremecourt.gov.pk/downloads_judgements/c.p._1010_1_2022.pdf>

¹²⁶ NES, 'Judgegpt from Sultan Mehmood' (NES) 2025 <<https://news.nes.ru/news/ii-razrabotka-JudgeGPT-professora-resh-sultana-mexmuda-vnedrena-v-sudebnuyu-sistemu-pakistan/?lang=en>> accessed 29 May 2025

¹²⁷ (n 125).

¹²⁸ Asghar MS, Naz H, Mukhtar H and Saqib KM, 'Online Dispute Resolution (ODR) in Pakistan' (2023) 11(4) *Russian Law Journal* 787. Available at <<https://www.russianlawjournal.org/index.php/journal/article/view/2589>>

¹²⁹ Williamson J, 'The Rise of AI in Legal Practice: Opportunities, Challenges, and Ethical Considerations' (21 March 2025) *Colorado Technology Law Journal* <<https://ctlj.colorado.edu/?p=1297>> accessed 29 MAY 2025.

¹³⁰ Lal S, Rizvi SI and Dastagir G, 'Application of Artificial Intelligence in Improving Judicial Case Flow Management System in Pakistan: A Qualitative Study' (2023) 6 *Pakistan Journal of International Affairs* <<https://doi.org/10.52337/pjia.v6i3.878>>

¹³¹ Kaya S and Khan MD, 'Online Dispute Resolution in Pakistan: Challenges and Opportunities' (2022) 7 *Journal of Nusantara Studies (JONUS)* 103

alerts, digital payments, and advocate portals for real-time updates. Kalanauri's proposed Electronic Filing System (EFS) could further streamline judicial processes through web-based submissions, digital signatures, and paperless reforms¹³². Looking forward, the judgment calls for Pakistan's *National Judicial Committee* to develop comprehensive AI usage policies that balance innovation with judicial tradition. It recommends specific guidelines for transparency, accountability, and human oversight in AI-assisted decisions while advocating for continued development of ADR mechanisms as complementary solutions. The ruling holds constitutional authority and can only be overturned by a larger Supreme Court bench, solidifying AI's role in Pakistan's legal system. Ultimately, the judgment delivers a powerful reminder that AI must remain a judicial tool rather than a decision-maker, as true justice requires human conscience, discretion, and moral courage that technology cannot replicate.

Ethical Concerns for ODR in Family Disputes

The use of AI and ODR in family disputes raises complex ethical concerns that become even more pronounced in developing countries like Pakistan. At the core lies the issue of algorithmic bias, where AI systems trained on historical data may perpetuate existing societal prejudices in sensitive matters like child custody or asset division¹³³. This problem is compounded by the opaque nature of many AI decision-making processes, leaving families without clear explanations for outcomes that profoundly affect their lives¹³⁴. The standardized approach of automated systems often fails to capture the nuanced emotional and cultural dimensions inherent in family conflicts, potentially delivering inappropriate or unfair resolutions. Pakistan faces unique challenges in implementing ethical AI and ODR solutions for family disputes. The country's significant digital divide means only about 22% of the population has internet access, with rural areas particularly disadvantaged due to poor connectivity and low digital literacy. Even when available, most ODR platforms operate in English rather than local languages like Urdu or Punjabi, creating additional barriers for many citizens. Cultural preferences for traditional court proceedings and widespread distrust of virtual dispute resolution further hinder adoption¹³⁵. These technological and cultural obstacles intersect with serious concerns about data security in a country where cybersecurity infrastructure remains underdeveloped, raising legitimate fears about the confidentiality of sensitive family matters. The legal landscape presents additional hurdles to ethical implementation of these technologies¹³⁶. Pakistan currently lacks specific legislation governing ODR, relying instead on outdated laws like the *Arbitration Act of 1940* that were never designed for digital dispute resolution. The legal profession itself has been slow to adapt, with many lawyers resisting ODR due to lack of training and a preference for conventional litigation practices¹³⁷. This institutional resistance, combined with the absence of proper regulatory frameworks, creates an environment where AI-powered dispute resolution could operate without adequate oversight or accountability measures. Addressing these challenges requires a multifaceted approach that balances technological innovation with ethical safeguards. Pakistan must develop localized ODR solutions that account for linguistic diversity and cultural norms while implementing robust data protection measures. Legal reforms should establish clear guidelines for AI use in family disputes, including

¹³² Kalanauri (n 6).

¹³³ Wensdai Brooks, 'Artificial Bias: The Ethical Concerns of AI-Driven Dispute Resolution in Family Matters' (2022) *Journal of Dispute Resolution* 1 <<https://scholarship.law.missouri.edu/jdr/vol2022/iss2/9>> accessed 29 May 2025

¹³⁴ Wing (n 9).

¹³⁵ Baig K, Hassan S and Zaman WU, 'Exploring the Efficacy of Online Dispute Resolution Mechanisms: A Case Study of Pakistan' (2024) 6 *Journal of Law & Social Studies* 116 <<https://doi.org/10.52279/jlss.06.02.116126>>

¹³⁶ Wensdai (n 133).

¹³⁷ Baig (n 135).

mandatory human oversight of automated decisions. Digital literacy programs could help bridge the technology gap, particularly in rural areas¹³⁸. Without such interventions, the introduction of AI and ODR in family disputes risks exacerbating existing inequalities in Pakistan's justice system, potentially leaving vulnerable populations without meaningful access to fair resolution mechanisms for their most personal legal matters.

Conclusion and Recommendations

The integration of ODR and AI-based mechanisms into Pakistan's family justice system presents a transformative opportunity to address chronic delays and improve access to justice. Globally, jurisdictions have demonstrated how digital dispute resolution can effectively handle sensitive family matters while reducing costs and procedural complexities. Pakistan's existing e-courts infrastructure provides a foundation for this evolution, though significant reforms are needed to fully realize ODR's potential. The *Lodder-Zeleznikow model* offers valuable insights into structured AI-ODR implementation, yet careful attention must be paid to ethical considerations including data security, algorithmic fairness, and the preservation of human judgment in delicate family cases. As Pakistan stands at the threshold of legal digitization, a balanced approach that harmonizes technological innovation with cultural and religious sensitivities will be crucial for successful adoption.

Pakistan's journey toward effective ODR implementation requires comprehensive legal reforms beginning with amendments to the ADR Act 2017 to formally recognize ODR as a legitimate dispute resolution avenue. The Code of Civil Procedure should be modernized to incorporate digital processes, while new regulations must establish clear standards for ODR in family matters. Institutionally, a specialized task force comprising judicial, legislative, and technological experts should guide the phased rollout of ODR systems, prioritizing high-volume, less contentious family cases. Building professional competence is equally vital, necessitating targeted training programs for judges and lawyers on ODR methodologies and digital tools. Public awareness initiatives must demystify ODR and highlight its benefits for ordinary citizens. Technologically, Pakistan should invest in secure, locally-adapted ODR platforms that incorporate robust data protection measures and bias-mitigation protocols, possibly drawing from international models while respecting local legal traditions. A prudent implementation strategy would commence with carefully monitored pilot programs in major urban centers before nationwide expansion. Collaboration with legal tech innovators and civil society organizations can enhance system accessibility, particularly for vulnerable groups. Crucially, Pakistan's ODR framework must maintain appropriate human oversight, ensuring that technology serves justice rather than replaces judicial discretion, especially in complex family disputes where cultural and religious considerations are paramount. Through this multifaceted approach, Pakistan can harness digital innovation to create a more efficient, accessible, and equitable family justice system.

¹³⁸ Ibid.