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Introduction

Welcome to the Indian Journal of Legal Affairs and Research (IJLAR), a distinguished platform dedicated to the dissemination of comprehensive legal scholarship and academic research. Our mission is to foster an environment where legal professionals, academics, and students can collaborate and contribute to the evolving discourse in the field of law. We strive to publish high-quality, peer-reviewed articles that provide insightful analysis, innovative perspectives, and practical solutions to contemporary legal challenges. The IJAR is committed to advancing legal knowledge and practice by bridging the gap between theory and practice.

Preface

The Indian Journal of Legal Affairs and Research is a testament to our unwavering commitment to excellence in legal scholarship. This volume presents a curated selection of articles that reflect the diverse and dynamic nature of legal studies today. Our contributors, ranging from esteemed legal scholars to emerging academics, bring forward a rich tapestry of insights that address critical legal issues and offer novel contributions to the field. We are grateful to our editorial board, reviewers, and authors for their dedication and hard work, which have made this publication possible. It is our hope that this journal will serve as a valuable resource for researchers, practitioners, and policymakers, and will inspire further inquiry and debate within the legal community.

Description

The Indian Journal of Legal Affairs and Research is an academic journal that publishes peer-reviewed articles on a wide range of legal topics. Each issue is designed to provide a platform for legal scholars, practitioners, and students to share their research findings, theoretical explorations, and practical insights. Our journal covers various branches of law, including but not limited to constitutional law, international law, criminal law, commercial law, human rights, and environmental law. We are dedicated to ensuring that the articles published in our journal adhere to the highest standards of academic rigor and contribute meaningfully to the understanding and development of legal theories and practices.

FROM COURTS TO CLOUD: THE ROLE OF TECHNOLOGY IN MODERNIZING ADR PROCESSES

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Abstract

Alternative Dispute Resolution (ADR) has emerged as a faster, cost-effective, and practical alternative to traditional court litigation, especially in light of the massive backlog of cases in courts worldwide. Traditional ADR methods arbitration, mediation, conciliation, and negotiation have proven effective but face challenges such as high costs, procedural complexities, and limited accessibility for weaker parties. Case studies, including Uber driver disputes and Yukos v. Russian Federation, highlight these limitations.

Modern technological innovations, such as Online Dispute Resolution (ODR), AI-assisted arbitration and mediation, and blockchain-based smart contracts, are transforming ADR by enhancing efficiency, accessibility, and transparency. Global examples from the EU's ODR platform to China's Hangzhou Internet Court demonstrate how technology can streamline dispute resolution while preserving human oversight.

While these innovations offer significant advantages, challenges remain, including data privacy, algorithmic bias, enforceability across jurisdictions, and the need for human judgment. Looking forward, the integration of technology with human expertise promises a future ADR system that is faster, more affordable, and universally accessible, without compromising fairness or justice.

INTRODUCTION

In recent time ADR (Alternative dispute resolution) has become more and more preferred and efficient way to resolve disputes between parties. As ADR faster and cheaper option for resolving dispute. As of **June 2025**, the Supreme Court had approximately **85,204 cases pending**—this was

the highest pendency for the year so far, up from **81,734 cases by the end of May 2025** [Supreme Court Observe](#)

As of **26 August 2025**, pending cases in High Courts totalled approximately **63,68,480** (that's over **6.36 million cases**) [Wikipedia](#)

Such a massive backlog is detrimental to the very idea of justice, as delayed decisions often amount to denied justice. Prolonged litigation not only affects individuals but also causes major financial losses to large corporations, disrupts business operations, and hampers economic growth. This is where ADR emerges as a practical alternative, offering speedy and cost-effective dispute resolution.

NOW WHAT'S ADR?

In simple words, Alternative Dispute Resolution (ADR) is a process where parties settle their disputes outside the conventional court system. ADR is an umbrella term that covers different methods of dispute resolution, such as **arbitration, mediation, conciliation, negotiation, ODR online dispute resolution** let us discuss each term.

Main Methods of ADR

Arbitration – A neutral arbitrator hears evidence and makes a binding decision.

Mediation – A neutral mediator facilitates dialogue between parties to help them reach a voluntary agreement.

Conciliation – Similar to mediation, but the conciliator may actively suggest solutions.

Negotiation – Direct discussion between parties without a third party.

These methods can be regarded as the **traditional forms of ADR**, widely used and globally recognized. They derive legitimacy and recognition from international frameworks such as the **UNCITRAL Model Law on International Commercial Arbitration**, the **New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958)**, and are supported by leading institutions including the **International Chamber of Commerce (ICC)**, the **London Court of International Arbitration (LCIA)**, and the **Singapore International Arbitration Centre (SIAC)**. Over the years, these mechanisms have proven to be effective, cost-efficient, and constructive in resolving disputes. However, in today's **digital age and the era of**

artificial intelligence, these traditional methods face new challenges as they adapt to technological advancements and the evolving demands of modern dispute resolution.

Problems with Traditional ADR Methods

While **traditional ADR methods** like arbitration, mediation, conciliation, and negotiation have been recognized globally and have delivered proven results, they are not without shortcomings. In practice, many of these processes are still **time-consuming and expensive**, especially in complex international disputes where parties must travel and engage high-fee arbitrators or mediators.

Comparison Table

Country	Lower-End Cost	Mid-Range Cost	High-End Cost / Complex Cases
India	₹45,000 – ₹200,000	₹2L – ₹10L (administration + arbitrator)	₹30L – ₹1 crore+
USA	\$1,000–\$5,000	\$10,000–\$50,000	\$100,000+
UK	£5,000–£10,000	£10,000–£50,000	£100,000+

Another pressing challenge is **accessibility**. ADR was meant to make justice more approachable, but in reality, weaker or less-resourced parties often find themselves at a disadvantage, unable to match the bargaining power of stronger counterparts. Similarly, while arbitration awards enjoy global recognition under the New York Convention, **enforcing mediation or conciliation agreements across jurisdictions remains a challenge**, limiting their effectiveness.

Accessibility Challenge – Uber Drivers vs. Uber (India & USA)

In multiple jurisdictions, **Uber drivers** have been contractually bound to resolve disputes via arbitration.

Example: In **India**, drivers in Delhi and Bengaluru filed cases against Uber’s unfair pricing practices. The contracts required arbitration in the **Netherlands**, which was financially and logistically impossible for individual drivers earning modest incomes.

Similarly, in the **USA**, the U.S. Supreme Court (*Epic Systems Corp. v. Lewis*, 2018) upheld arbitration clauses that barred workers from collective action, forcing low-wage employees into expensive, individual arbitrations.

This shows how **weaker parties (workers)** can be denied meaningful access to justice because arbitration procedures are too costly or geographically inaccessible.

Moreover, over the years, arbitration in particular has started to mirror litigation—becoming **highly procedural and formalistic**, which runs counter to ADR's original promise of simplicity and flexibility. Issues of **confidentiality and transparency** also linger: while ADR is supposed to be private, ensuring strict confidentiality in cross-border matters is not always possible, and opaque decision-making sometimes raises fairness concerns.

Case Study 1: Yukos v. Russian Federation (PCA, The Hague, 2014)

The long-running dispute between the shareholders of **Yukos Oil** and the Russian Federation is one of the clearest examples of how arbitration can lose its promise of speed and simplicity. Brought under the **Energy Charter Treaty**, the case dragged on for nearly **a decade**, involving thousands of pages of legal submissions, numerous expert reports, and lengthy hearings that looked and felt more like a conventional court trial than an alternative process.

In 2014, the arbitral tribunal in The Hague delivered a historic award of **\$50 billion**—the largest arbitral award ever issued. While the outcome was groundbreaking, the sheer scale, time, and cost of the proceedings highlighted a growing criticism: arbitration, once celebrated as a faster and more flexible alternative to litigation, can now mirror the very court processes it was meant to replace.

How these challenges can be addressed

Many of the challenges associated with traditional ADR methods can be addressed by continuously adapting the model to the demands of digitalisation and by thoughtfully incorporating artificial intelligence into dispute resolution processes.

We have seen that several challenges are deeply associated with the traditional methods of ADR. However, these challenges need not remain unresolved. They can be effectively addressed by adopting **modern approaches** that leverage digitalisation and emerging technologies. In the following section, we turn to a discussion of the **modern methods that can be incorporated into the current ADR framework**, with the aim of mitigating these limitations and reshaping dispute resolution for the digital age.

Modern Methods To Incorporate Into ADR

Online Dispute Resolution (ODR) Platforms

Online Dispute Resolution (ODR) is one of the most significant innovations in modern ADR. It refers to the use of digital platforms and technology to facilitate the resolution of disputes, often without requiring the parties to be physically present in the same location. ODR combines the principles of ADR such as negotiation, mediation, and arbitration with tools like video conferencing, secure digital document exchange, and case management systems.

Globally, ODR has gained recognition as a practical solution for disputes that arise in e-commerce, cross-border transactions, consumer disputes, and even employment-related conflicts. Platforms such as **Modria** in the United States, **SAMA** in India, and **Presolv360** in India have demonstrated how technology can make dispute resolution faster, cost-effective, and more accessible.

For example, the **European Union's ODR platform** was launched in 2016 to address consumer disputes in online purchases, allowing buyers and sellers across EU member states to resolve conflicts efficiently. Similarly, in India, the **Delhi High Court** has promoted ODR initiatives to tackle the growing backlog of cases, reflecting its institutional acceptance.

The benefits of ODR include reduced costs, convenience for parties in different jurisdictions, and the potential for quicker settlements. However, challenges remain, such as ensuring digital literacy, data privacy, and the enforceability of ODR outcomes across borders.

1. Global E-commerce Disputes & ODR Necessity

Global e-commerce was growing at about **20% annually**, and in 2017 alone, there were an estimated **50 billion online purchases**—translating to **1 to 3%** of transactions generating disputes, i.e., roughly **1 billion disputes worldwide** that year elevenjournals.com.

This massive volume highlights why ODR is essential: it's especially effective for **high-volume, low-value, cross-border disputes** where traditional mechanisms fall short elevenjournals.com.

2. EU ODR Platform—Early Usage Stats

The EU's ODR platform, launched in 2016, handled over **24,000 dispute cases** in its first year odr.info [ODR Guide](http://odr.info).

Impressively, **44% of those disputes were resolved bilaterally** through initial negotiation stages—underscoring ODR's efficiency [ODR](http://odr.info)

AI-Assisted Arbitration and Mediation

AI-assisted arbitration and mediation are reshaping the way disputes are resolved in today's digital age. Instead of replacing judges, arbitrators, or mediators, AI works more like a smart assistant helping them process information quickly, highlight important details, and guide the parties towards fair outcomes.

Think of it this way: in a complex dispute, parties may submit hundreds of pages of documents, contracts, and legal precedents. Traditionally, it could take weeks to go through them all. With AI, that same material can be scanned, organized, and analyzed in hours. The arbitrator or mediator still makes the final call, but they now have sharper tools at their disposal predictive analytics, case summaries, and even suggested settlement ranges.

In practice, AI is already making a difference. For example, China has introduced AI-driven mediation in some courts to settle small consumer and business disputes online, which has helped reduce case backlogs. In the United States, private arbitration forums are experimenting with AI tools for tasks like reviewing documents or predicting outcomes, saving time and money for everyone involved.

The real promise of AI-assisted ADR lies in making justice faster, more affordable, and more accessible especially in cases that might otherwise be too costly or time-consuming to pursue. Still, important questions remain: Can AI be truly unbiased? Will parties trust an algorithm's recommendations? And how do we balance the efficiency of technology with the human judgment and empathy that are essential in resolving conflicts?

Case Study: Hangzhou Internet Court (China)

China's **Hangzhou Internet Court**, established in 2017, is one of the first courts in the world to use AI and digital tools for dispute resolution. The court mainly handles cases related to **e-commerce, online contracts, and intellectual property disputes**.

Here's the interesting part: AI is used to review contracts, summarize evidence, and even assist judges in drafting parts of their decisions. In fact, many cases are filed, heard, and resolved **entirely online**—without the parties ever stepping into a physical courtroom.

For example, in an e-commerce dispute between a consumer and an online retailer, the system was able to scan transaction records, delivery logs, and chat history automatically, which sped up the resolution process. What would normally take months was handled in just weeks.

This model shows how AI, when combined with human oversight, can make dispute resolution **faster, cheaper, and more transparent**, especially in high-volume disputes like online shopping or digital services.

The use of artificial intelligence in arbitration and mediation is best understood as a helping hand rather than a replacement for human judgment. AI can sort through huge piles of documents, highlight important details, and even suggest possible ways forward, but it cannot make the final call. That responsibility still lies with human arbitrators, mediators, or judges, who bring fairness, empathy, and a sense of justice that technology alone cannot provide. In this way, AI supports the process, while humans ensure that the final outcome is both fair and legally sound.

Blockchain and Smart Contracts

Blockchain and smart contracts are changing the game in dispute resolution. Think of a blockchain as a digital ledger that everyone can see but no one can tamper with. Smart contracts are like digital agreements that execute themselves automatically once certain conditions are met no waiting, no middleman.

In ADR, this means fewer disputes in the first place. Payments, project milestones, or service obligations can be automatically enforced, cutting down the need for human intervention. For instance, if a freelance designer completes a milestone, the payment can be instantly released through a smart contract without anyone having to chase it.

Of course, humans are still very much needed. If there's a disagreement about the meaning of a clause, fraud, or unforeseen circumstances, only a human arbitrator or mediator can step in. Countries like Singapore, the UK, and the UAE are already exploring ways to legally recognize smart contracts, making sure they hold up in court when needed.

Real-World Example:

Consider a freelance software development agreement where the developer agrees to deliver a project within a specified timeframe. Using a smart contract on a blockchain platform, the contract terms are coded, and the release of payment is automatically triggered upon the successful delivery of the project. This automation ensures that both parties adhere to the agreed terms, and any disputes regarding payment are minimized.

Legal Recognition:

The legal recognition of smart contracts varies across jurisdictions. For instance, in the United Kingdom, the Law Commission has undertaken comprehensive legal analyses to examine how English contract law applies to smart contracts, providing clarity on their enforceability.

[ResearchGate+4Legal Dose with Madhumita+4Juro+4](#)

In Singapore, while there is no specific legislation, the judiciary has indicated that smart contracts could be legally binding if they meet the essential elements of a contract, such as offer, acceptance, and consideration. [Chambers Practice Guides](#)

However, it's important to note that while blockchain and smart contracts offer significant advantages, they do not replace the need for human adjudicators. Disputes involving complex legal interpretations, unforeseen circumstances, or allegations of fraud still require human intervention to ensure fairness and justice.

Challenges And Legal Implications

While AI and digital tools bring efficiency and speed to ADR, they also introduce new challenges that cannot be ignored. Data privacy and security become critical as online platforms handle sensitive information, making them potential targets for cyberattacks. Not all parties are equally comfortable with technology, so digital literacy and accessibility remain a concern, especially for those less tech-savvy.

Even though AI can assist in decision-making, enforceability of AI-assisted outcomes across jurisdictions is not always guaranteed, creating legal uncertainties. Algorithmic bias is another risk AI learns from historical data, which may carry inherent biases, making transparency and explainability essential. Moreover, legal and regulatory frameworks are still catching up with these technological advancements, leaving gaps around liability, smart contracts, and electronic agreements.

Finally, the human touch the empathy, discretion, and nuanced judgment that ADR thrives on cannot be fully replicated by AI. Striking the right balance between technology and human oversight remains a key challenge.

Case Study: AI-Generated Legal Citations in the Australian Family Court

In October 2024, a lawyer in Melbourne used AI software to help prepare citations for a family court case. However, some of the citations generated by the AI did not actually exist. When the judge tried to verify them, they could not be confirmed. Because the lawyer did not double-check the AI's output, the issue escalated, and the lawyer was referred to the Legal Services Board and Commissioner for review.

This incident highlights a crucial lesson: AI can be a powerful tool to assist legal professionals, but human oversight is essential. Final decisions, verification of information, and ethical responsibility must remain in the hands of humans to ensure accuracy and maintain trust in the legal system.

1. United States: Franklin County Municipal Court, Ohio

The Franklin County Municipal Court introduced an ODR platform in 2016 for small claims disputes. The system allowed parties to resolve issues online without attending court physically, reducing defaults and improving access to justice for citizens.

2. India: Delhi High Court ODR Initiative

In 2020, the Delhi High Court implemented an ODR system to manage the growing backlog of civil and e-commerce disputes. The platform enabled parties to submit disputes digitally, facilitating faster resolutions while reducing administrative burden.

3. European Union: EU Online Dispute Resolution Platform

Launched in 2016, the EU ODR platform addresses cross-border consumer disputes. Buyers and sellers across EU member states can resolve conflicts online efficiently, making dispute resolution more accessible and timelier.

4. Singapore: AI-Assisted Mediation at the Singapore Mediation Centre

Singapore piloted AI-assisted mediation in 2019 for commercial disputes. AI suggested settlement options to the parties, while human mediators-maintained oversight, reducing time and costs while ensuring fairness.

5. United Kingdom: HM Courts & Tribunal Service Blockchain Pilot

The UK tested blockchain-based smart contracts for small-scale consumer disputes in 2021. The system offered faster settlements and a secure audit trail for enforcement, demonstrating the potential of integrating smart technology into ADR.

MX Mexico – SENACON's ODR Platform

Mexico's National Consumer Protection Agency (SENACON) developed an ODR platform that resolves over 90% of consumer disputes online within five days, without direct involvement from the agency. This system has significantly improved efficiency and access to justice for consumers.

[UN Trade and Development \(UNCTAD\)](#)

DE Germany – Online Schlichter Platform

Germany's Online Schlichter platform provided online mediation services between 2009 and 2019, handling a significant number of disputes. It was considered one of the most successful German ODR platforms, offering a convenient and effective alternative to traditional dispute resolution methods. [OUP Law](#)

Future Directions

The future of ADR is exciting, as it combines the best of technology with the human touch. We can already see AI helping mediators and arbitrators analyze cases faster and suggest possible solutions, while online platforms make it easier for people in different countries to resolve disputes without ever stepping into a courtroom. Blockchain and smart contracts are opening the door to secure, transparent, and enforceable agreements like never before.

The real promise lies in creating an ADR system that is not only faster and cheaper but also fairer and more accessible to everyone, whether they are a small business owner in India or a consumer in the United States. Of course, to make this vision a reality, we must also focus on legal safeguards, ethical use of technology, and ensuring that people understand how to use these digital tools effectively.

Conclusion

At its heart, ADR was created to give people a faster, simpler, and fairer way to resolve conflicts. But as we've seen, even ADR has limits—cases can drag on, costs can pile up, and weaker parties often struggle to find equal footing. Technology doesn't erase these challenges overnight, but it does open the door to fresh solutions. Online platforms make justice more accessible, AI can cut through endless paperwork, and blockchain ensures trust and accountability. Still, no machine can replace the empathy, judgment, and fairness that only humans bring to the table. The real future of ADR lies in blending the best of both worlds—using technology to make the process quicker and more affordable, while keeping human wisdom at its core. Done right, ADR can truly deliver on its promise: justice that is not just efficient, but also fair and meaningful for everyone.

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