



Economic Analysis of Alternative and online Methods of Settling Commercial Disputes in the European Union

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Abstract: The article analyzes the economic impact of alternative (ADR) and online (ODR) methods of commercial dispute resolution on business efficiency at EU level. The study examines these mechanisms from the perspective of the economic analysis of law, assessing the extent to which they contribute to minimizing the overall costs of disputes compared to traditional court proceedings. The research employs a mixed methodology, combining the Shavell economic model on the analysis of voluntary and mandatory dispute resolution alternatives with an empirical assessment of statistical data on the implementation of the ADR Directive and the ODR Regulation in the EU Member States. The results indicate that out-of-court dispute resolution generates significant cost savings for consumers and traders by reducing settlement time, eliminating geographical barriers and reducing procedural formalism. The study also highlights challenges to the effective implementation of these methods, including digital exclusion, security issues and the lack of non-verbal communication in the online environment. The implications of the research are relevant for the optimization of European dispute resolution policies and for the development of business strategies to harness the economic benefits of ADR/ODR in the European commercial ecosystem. The study highlights the need for differentiated European policies on *ex ante* versus *ex post* agreements and proposes recommendations for optimizing the implementation of ADR/ODR in the context of the increasing digitalization of the European economy.

Keywords: alternative dispute resolution, online dispute resolution, economic analysis of law, business efficiency, transaction costs.

1. INTRODUCTION

Trade disputes inevitably arise in the process of international trade activities. The fundamental issue is not only to find efficient and speedy ways of resolving these disputes, but also to maintain trade relations between the parties. Alternative Dispute Resolution (ADR) and Online Dispute Resolution (ODR) are increasingly popular options that parties are opting for to resolve commercial disputes, in particular because of their comparative advantages over traditional court procedures. In the context of consumer redress, a specific ADR architecture has been developed, called the Consumer ADR (cADR), which is often the only realistic option available to consumers, as court proceedings remain largely inaccessible due to the disproportionate cost, length and complexity of the legal proceedings in relation to the value of the complaints. ADR is undergoing important developments across Europe, with new ADR providers entering the field and a growing number of ADR bodies relying on digital technologies to resolve consumer complaints. This is in line with the wider trend of digitization of justice in Europe. The overall research question is: what alternative methods of commercial dispute resolution are known in European theory and practice that could be applied to improve the efficiency of litigation and minimize the overall costs of disputes with the aim of making business more efficient?

2. THEORETICAL FRAMEWORK

2.1. Conceptualizing alternative dispute resolution (ADR)

Alternative dispute resolution is a method of resolving disputes outside the traditional legal system, referring to a range of techniques used to resolve disputes without the need for formal litigation. Mander Hadley (2024) defines ADR as methods of dispute resolution that are alternatives to adjudication, the latter being considered the alternative of last resort, given that only a small proportion of disputes are actually resolved by judges in the courts.

Mnookin (1998, p. 232) describes ADR as "a set of practices and techniques designed to enable the resolution of legal disputes outside the courts" and Auerbach (1983, p. 792) considers alternative dispute

resolution mechanisms as "an alternative used as a substitute for the traditional dispute resolution mechanism, the court".

The potential benefits of ADR, according to Mnookin (1998, p. 232), include, "(1) reducing the transaction costs of dispute resolution because ADR methods can be cheaper and faster than ordinary court proceedings; (2) creating resolutions that are more appropriate to the parties' basic interests and needs; (3) and improving ex post compliance with the terms of the resolution." Andrews (2008) and Knysh (2024) emphasize the potential of ADR to maintain business relationships and the ability of these methods to provide flexible solutions.

In all ADR processes, parties' participation should be completely voluntary, including their ability to withdraw from the process at any time (Haertling, 2012). This fundamental feature differentiates ADR from traditional court proceedings and contributes to the attractiveness of these methods for participants.

2.2. Definition and particularities of Online Dispute Resolution (ODR)

Online dispute resolution (ODR) is an extension of ADR methods into the digital environment, using information and communication technology to facilitate the dispute resolution process. According to Mania (2015), the term ODR covers disputes that are partially or entirely resolved through the Internet, being initiated in cyberspace but with a source outside (offline) cyberspace.

The ODR encompasses a wide range of approaches and forms, including, but not limited to: ombudsmen, complaints committees, negotiation, conciliation, mediation, facilitated resolution, arbitration and hybrid processes combining online and offline elements.

In a practical context, ODR techniques can be categorized into:

- *Online negotiation* - which can be assisted (using sophisticated technology to improve the parties' ability to reach a solution) or automated (using algorithms such as sealed-bid auctions). Examples of online negotiation systems include CyberSettle and SmartSettle (Thiessen and Ross, 2021).
- *Online mediation* - defined by Terekhov (2019) as the same traditional mediation procedure, only 'mirrored' and supported by modern technology. There are a variety of technologies implemented in online mediation, using synchronous or asynchronous, dynamic or textual communication tools.
- *Online arbitration* - also referred to as cyber arbitration, virtual arbitration or electronic arbitration, involving arbitration proceedings using ICT tools. Similar to online mediation, online arbitration may apply various online communication tools and may be predominantly document-based or include online hearings (Zein, 2023).
- *Other ODR methods* - including online ombudspersons and credit card refund mechanisms, which allow consumers to lodge complaints and manage the entire process online.

2.3. Economic analysis of ADR methods

The economic analysis of litigation and ADR is part of the broader scientific discipline of Economic Analysis of Law (EAL). This approach studies the activities of litigants (plaintiff and defendant) and the effects of substantive and procedural rules on their behavior, using economic models to assess various issues related to dispute resolution.

The economic approach to litigation is justified for three main reasons:

- 1) The way in which the parties resolve their disputes has a significant impact on the costs of running the whole legal system (administrative costs).
- 2) The method of dispute resolution and the associated costs create incentives for parties to avoid potential disputes.
- 3) Economic analysis provides explanations as to why some disputes settle and others continue until a final judgment is rendered.

A fundamental concept of neo-institutional economics applied in the analysis of ADR is that of transaction costs, which includes the costs of running the entire legal system and, in particular, the costs of the dispute resolution system: litigation costs of the parties, costs of running courts and ADR centers, costs of lawyers and other associated expenses.

2.4. The Shavell economic model for analyzing alternative dispute resolution

The economic model developed by Shavell (1995) on the analysis of voluntary and mandatory alternative dispute resolution (ADR) is a fundamental theoretical framework for assessing the economic efficiency of ADR methods. This model distinguishes between ex-ante agreements on the use of ADR (concluded before the dispute arises) and ex-post agreements (concluded after the dispute arises), highlighting their different economic implications.

2.4.1. Ex-Ante Agreement on the Use of ADR Methods

Shavell (1995) identifies multiple benefits of ex ante agreements on the use of ADR methods:

- *Reduction in total costs and risk* - entering into an ex ante agreement can help reduce the total costs of resolving a single dispute and reduce the risk of going to litigation, a benefit that is particularly relevant for risk-averse parties.
- *Incentives for efficient behavior* - an ex-ante agreement may provide incentives for more efficient behavior by the parties, leading to greater mutual benefits. For example, when the parties stipulate in the contract that a neutral third party (arbitrator) will assess the performance of contractual obligations, the expected monetary compensation for damages awarded by the arbitrator influences the parties to perform their obligations according to the agreed standards.
- *Reducing the frequency of litigation* - Ex-ante agreement on the application of ADR methods can help to reduce the frequency of litigation by creating incentives to prevent potential damages and, consequently, the occurrence of litigation.

2.4.2. Ex-Post Agreement on the Use of ADR Methods

In the case of ex post agreements on the use of ADR, Shavell develops an economic model that includes the possibility of choosing an ADR method after the dispute has arisen. He separates binding and non-binding (voluntary) ADR methods and analyzes three different scenarios based on the predictive power of the alternative decision in relation to the court verdict.

Shavell (1995) questions whether post-litigation settlements can enhance the welfare of the parties, arguing that an alternative judgment after litigation has arisen may reduce the amount of damages paid by the defendant to the plaintiff, which diminishes incentives for efficient behavior in the future.

3. RESEARCH METHODOLOGY

3.1. Research design and data sources

The study employs an exploratory-explanatory research design that allows both the identification of general patterns in the use of ADR and ODR methods in the European Union and the causal analysis of the factors influencing the effectiveness of these methods in comparison with traditional judicial procedures.

The primary data sources used in the research include:

- Official EU statistics on the implementation of the ADR Directive and the ODR Regulation;
- European Commission reports on the functioning of the ADR/ODR systems;
- Previous empirical studies conducted in the field of economic analysis of alternative methods;
- Statistical data collected from ADR/ODR entities in EU Member States.

3.2. Research methods

In developing the research, we used two main economic methods:

- *The method of neoclassical economic theory* - based on abstract models that examine the optimal position of individuals by maximizing their goals. Applied in the context of the present research, the method allows studying the behavior of plaintiff and defendant in different scenarios of dispute resolution.
- *The neo-institutional economic theory method* - fundamental to the research, based on the premise that changes in institutions (legal rules) alter individuals' decisions about resource use by altering incentives and transaction costs.

Complementarily, we used two legal methods:

- *Normative method* - applied to the study of relevant legal texts, both national and European, with a focus on EU policies in the field of alternative dispute resolution.
- *Comparative legal method* - allowing the analysis of different national approaches in the implementation of the European framework for ADR/ODR.

3.3. Indicators used to assess economic efficiency

In order to assess the economic efficiency of ADR and ODR methods in comparison with traditional court procedures, the research uses the following key indicators:

- Total costs of the proceedings;
- Average duration of proceedings;
- Success rate in resolving disputes;
- Satisfaction of the parties involved;
- Rate of voluntary compliance with adopted solutions;
- Sustainability of business relationships after dispute resolution;
- Cost-benefit of different methods.

4. RESULTS AND DISCUSSIONS

4.1. Advantages and Challenges of adr and odr Methods

The analysis of the collected data highlights multiple advantages of ADR and ODR methods compared to traditional judicial procedures, as well as the challenges associated with their implementation in the digital environment (Table 1).

Table 1. *Advantages and challenges of ADR and ODR methods*

Advantages	Challenges
Cost savings - Reduce administrative costs and eliminate travel and accommodation costs, especially in cross-border litigation (Alvarado, 2022).	Digital exclusion - Parties without internet access or with limited digital skills are excluded from the procedure.
Time savings - Elimination of travel time and scheduling flexibility (Keršulienė, Zavadskas and Turskis, 2010).	Technology costs - ODR organizations incur significant costs for software licenses and online infrastructure (Terekhov, 2019).
Procedural flexibility - Adapt the process to the needs of the parties.	Lack of non-verbal communication - The absence of non-verbal cues can lead to miscommunication (Paradisi, Raglianti and Sebastiani, 2021).
Greater control over the outcome - Parties work together to develop an acceptable solution.	Technical difficulties - virus outages, software crashes and unstable connections.
Maintaining commercial relations - Less adversarial approach than court proceedings	Security and privacy issues - risks of data leakage or loss of information.
Confidentiality - Private discussions without fear of being used in court (Chitashvili, 2023).	Lack of uniform legal framework - Differences in the implementation of the European framework between Member States.
Feedback and regulatory function - Collecting and analyzing data for continuous improvement (Katsh and Rabinovich-Einy, 2017).	Unequal balance of power - Traders may have an advantage over consumers due to experience and resources.

Source: author

4.2. Comparative analysis of costs and settlement time

The comparative analysis of procedural costs indicates significant advantages for ADR and ODR over traditional court procedures. ADR and ODR generate "lower administrative costs compared to the courts, eliminating or reducing costs related to infrastructure, personnel, documentation and other resources used in the traditional court system" (Kaya, Khan and Habib, 2019, p.48).

Alvarado (2022) confirm that "ODR decreases costs, as parties do not have to travel or incur accommodation costs". Storrow and Coleman (2020) emphasize that procedural simplification contributes to reducing legal costs incurred by parties.

As regards the duration of procedures, Keršulienė, Zavadskas and Turskis (2010) confirm that ODR can reduce the costs associated with the duration of procedures. This reduction in duration is due to several factors:

- Elimination of travel time;
- Scheduling flexibility;
- Efficiency of document processing;
- Absence of formal and bureaucratic procedures.

Sela (2018) highlights the importance of temporal flexibility for speeding up the dispute resolution process, and Rule (2002) emphasizes the advantages of digitization in the document management process.

4.3. Challenges of implementing the ODR in the European Union

Despite the obvious advantages, the implementation of ODRs faces a number of significant challenges that can affect the accessibility and effectiveness of these methods, summarized in Figure 1.

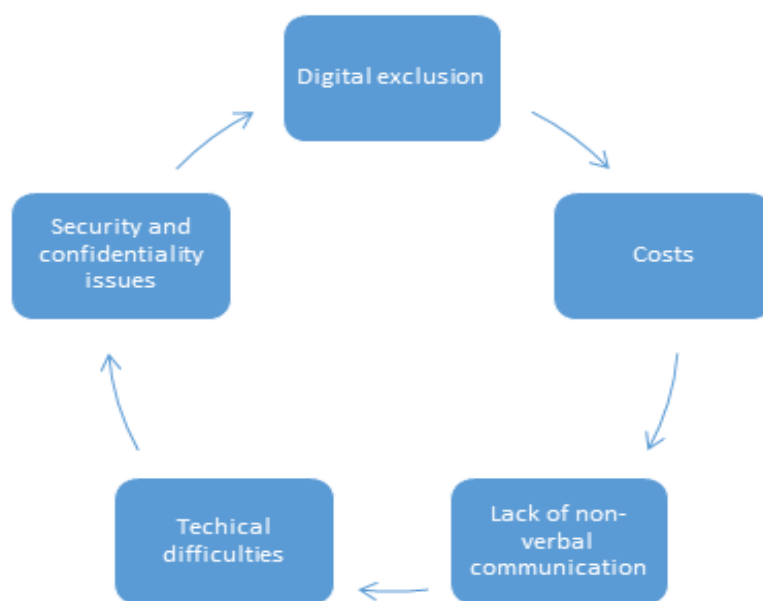


Figure 1. Key challenges of ODR implementation

Digital exclusion is a significant barrier because "parties who have no or limited internet access are excluded from the proceedings, so that their access to justice is impeded". This challenge affects in particular the elderly, those from disadvantaged backgrounds or from rural areas with poor digital infrastructure.

Terekhov (2019, p. 43) points out that "ODR bodies also incur significant costs involving software licenses and subscriptions, as well as the organization of online infrastructures" and "it can become problematic for parties if these costs are calculated into access fees".

Paradisi, Raglianti and Sebastiani (2021) emphasize that "parties' non-verbal expressions, body language, and visible conveyance of emotions are at least partially lost in the online environment", which can lead to miscommunication and could facilitate misrepresentation of parties' identities.

Security and privacy issues are another major challenge, as the online system may be subject to hacker attacks, viruses and crashes, which could lead to data leakage or loss of sensitive information.

5. EUROPEAN POLICY IMPLICATIONS AND RECOMMENDATIONS

5.1. Implications for Eu Policies

The results of the research highlight the need for adjustments in European policies in the area of commercial dispute resolution. The existing legislative framework, represented by the ADR Directive and the ODR Regulation, has significantly contributed to the development of the necessary

infrastructure for the efficient functioning of alternative and online dispute resolution systems, but the comparative analysis between Member States reveals substantial differences in implementation.

Shavell's economic model raises doubts about the rationality of introducing mandatory pre-trial ADR because of "inefficient incentives in terms of damage prevention, increased litigation costs and sub-optimal trial frequency". This theoretical perspective contrasts with the current trend in some Member States to introduce mandatory ADR procedures as a preliminary stage of the judicial process.

The results also suggest the need for more nuanced policies on promoting ex ante versus ex post agreements on the use of ADR methods. Shavell (1995) believes that "pre-contracted ADR methods should be encouraged, and courts could be more active in implementing such private arrangements", while remaining more reserved on ex post agreements.

5.2. Recommendations for Optimizing Adr/Odr Implementation

Based on the analysis carried out, we recommend the following measures to optimize the implementation of ADR/ODR in the European Union:

- Development of harmonized quality standards for ADR/ODR entities to facilitate benchmarking and continuous improvement of the services offered.
- Implement mixed funding models, combining public resources with private contributions while ensuring accessibility for vulnerable consumers.
- Creating physical access points in public institutions for consumers without internet access or digital skills, thus reducing digital exclusion.
- Adopt strict cybersecurity and data protection standards for ODR systems, including implementation of multi-factor encryption and authentication technologies.
- Development of specialized training programs for mediators, arbitrators and other parties involved in the ADR/ODR process, with a focus on the specific skills needed in the online environment.
- Adoption of user-centered design principles in the development of ODR platforms to ensure an intuitive and accessible experience for all categories of users.
- Integrate emerging technologies (artificial intelligence, blockchain, virtual reality) to optimize ADR/ODR procedures and increase economic efficiency.
- Implement information and education campaigns targeting consumers and merchants, with a focus on the economic benefits of ADR/ODR methods.

6. CONCLUSION

Alternative and online methods of settling commercial disputes are valuable tools for streamlining business in the European Union, helping to reduce the overall costs of litigation, speeding up dispute resolution and maintaining long-term commercial relationships.

The economic analysis carried out confirms the superiority of ADR and ODR over traditional court procedures in terms of economic efficiency and minimization of transaction costs. The Shavell economic model highlights that ex ante agreements on the use of ADR "can provide incentives for more efficient behavior of the contracting parties" and can contribute to "reducing the frequency of litigation itself" (Shavell, 1995).

The implementation of ADR and ODR across the European Union shows significant differences between Member States, reflecting national cultural, legal and economic particularities. Challenges such as digital exclusion, security and privacy issues and technical difficulties require strategic approaches to maximize the potential of these methods.

In the context of the accelerated digitization of the European economy, ADR and ODR will play a key role in providing an efficient framework for resolving commercial disputes, contributing to the strengthening of the digital single market and increasing the competitiveness of European businesses.

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