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Arbitration in the era of e-commerce: A comprehensive overview

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Abstract

Technology is continuously evolving and has changed human interaction. It is consequently changing the ways disputes are solved. International dispute resolution procedures, and international arbitration, more specifically, are considerably influenced by the rapid expansion of innovative technologies. Years after the dot-com boom, Online Dispute Resolution (ODR) emerged and evolved considerably. Due to the digitalization of ODR methods, remote arbitration (or *e*-arbitration) is expanding. Arbitration is of particular interest due to its formal and binding nature, from a theoretical perspective. E-arbitration, as other ODR methods have attractive features as well as drawbacks, which are addressed in this document. The purpose of this paper is three-fold: providing an overview of e-arbitration and the different considerations of this method, presenting the e-arbitration models of the European Union (EU), the United States (US), and the People's Republic of China (PRC) and suggesting recommendations to improve international e-commerce arbitration, notably through a revision of the UNCITRAL Model Law on International Commercial Arbitration (UNCITRAL Model Law).

Keywords: e-Arbitration; Innovative Technologies; Digitalization; Online Dispute resolution

1. Introduction

Electronic commerce, commonly known as e-commerce, has increased exponentially since the beginning of the millennial due to technological innovation. In 2021, the United Nations Conference on Trade and Development (UNCTAD) evaluated that e-commerce sales reached approximately US$25 trillion worldwide, [1] with a compounded annual growth of 9% through 2027, which is double the projection of traditional in-person retail growth estimated at an annual of 4%. [2] Since individuals and businesses are increasingly using online purchasing platforms, there is a growing need for ODR, thus resolution methods aimed at resolving disputes and reducing risks of costly lawsuits. As briefly mentioned, arbitration is the most formal approach due to its binding effects between the parties and is "invested with the authority of res judicata" (in theory). [3] Online arbitration follows the same rules and procedures as traditional arbitration, but is conducted via the use of electronic means, such as email and digital tools aimed at facilitating the tasks of arbitrators and parties to a dispute. On the positive side of e-arbitration, technological progress enables cost and time efficiency, without neglecting the convenience of remote filing. On the negative side, one concern pertains to the conclusion of e-arbitration agreements, due to the power disbalance between corporate entities and the consumer concluding these agreements, in addition to privacy and data protection concerns for the latter. What can be disputed is the extent of which Artificial Intelligence (AI) is adequately and sufficiently analyzing a dispute between parties, because such a novelty in the adjudication method is not completely clear.

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2. The digitalization of arbitration

2.1. Arbitration within ODR procedures

Online dispute resolutions, commonly known as ODRs, are described as online methods to seek a settlement, either fully or partially achieved over the Internet. In other words, ODRs use the same methods as alternative dispute resolutions (ADRs), such as negotiation, mediation, and arbitration, but through modern-day technological platforms and communication methods. Mediation and arbitration are the most frequent methods used but the first one is more popular, as 74% of ODR providers offer mediation and 40% offer arbitration services.[4] Before further proceeding, we will provide a definition of online or e-arbitration. Cortés and Cole defined e-arbitration, as "an arbitration in which the central elements of the arbitral procedure are handled online". [5] Both authors mention that an e-arbitration is conducted by exchanging documents on an online platform, which are then transferred to an arbitrator who sends the decision by email to the parties without meeting them. The foregoing is traditionally speaking as AI has evolved and is being considered to replace the human-led adjudication process. Online arbitration services can provide two types of be categorized into two groups: *technology assistance*, [6] where parties use technological means to communicate and facilitate communication, or *technologically based*,[7] where parties fully conduct their arbitration via electronic methods and platforms.

Despite not including online communications, Article 2(2) of the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958) ("New York Convention") represents the first preliminary step towards the practice of online arbitration, as it expanded the notion of a written agreement by allowing "exchange of letters or telegrams" as part of an arbitration agreement. [8] Although not explicit, this clause was interpreted in a way to include email communication and then other types of digital communication. With regard to the European regulation, Article 1(2)(a) of the European Convention on International Commercial Arbitration permits online and digital communication and components to constitute elements of an e-arbitration agreement as long as the signatory States recognize and authorize such formats. Both documents have an inclusive interpretation because the exchange of electronic messages is equivalent to the exchange of telegrams, due to technological advancements, which aligns with Article 2(2) of the New York Convention. It is worth mentioning that although parties might not be in favour of electronic arbitration, an arbitration tribunal may use electronic means, such as videoconference for witness testimony. It is very improbable that any form of electronic means would not be used at some point before, during or after an arbitration hearing. [9]

2.2. The beginnings of e-arbitration

At the peak of the dot-com boom, governments around the world and businesses became aware that disputes were going to take a different turn when shopping was expanding online. The need for ODRs surfaced in the beginning of the 1990s, following the lift on the ban of online commercial activity by the National Science Foundation in 1992. [13] In December 2000, the Organisation for Economic Co-operation and Development (OECD) made a conference entitled: "Building Trust in the Online Environment: Business-to-Consumer Dispute Resolution" and emphasized on dispute resolutions outside the courts systems regarding business to consumer (B2C) matters. The report resulting from this conference highlighted that online vendors should build a trust relationship with consumers by "offering crystal clear, trustworthy online dispute settlement mechanisms" to avoid B2C claims. [14] The development of ODRs (not only e-arbitration) can be described in three main phases, in our view. The first one ranges from 1990 until 1996 and it can be qualified as the "amateur stage" where ODRs where first explored and experimented. The second stage is the inception of the early commercial online platforms. The third stage is considered as the business development period that lasted between 1999 and 2000 and the institutional phase which began in 2001 (i.e., the incorporation of ODRs by private institutions and organizations). [15]

Katsh and Rifkin are considered to be the pioneers of ODRs as they founded the Online Ombuds Office at the Center for Information Technology and Dispute Resolution at the University of Massachusetts, in 1999. In January 2000, the Internet Corporation for Assigned Names and Number (ICANN) made it possible for parties to fully resolve disputes electronically, via online arbitration. The dispute resolution policies of ICANN were the foundations of ODR. Then in March 2000, the Online Ombuds Office and eBay collaborated to create a platform called SquareTrade, which was a pilot project aimed at resolving disputes between vendors and buyers on eBay's platform. That project turned out to be a success and SquareTrade is still being used by eBay today. The US-based platform handles over sixty million disputes annually, based on the original pilot project of Katsh et al. [16] The final stage started in 2001 when ODR methods emerged into courts and State institutions. [17] The early online tools were mainly used for negotiation and mediation, less for arbitration. Over the years, the early ORD platforms disappeared due to the lack of clientele, as the cost of using such services was not worth it for small claims. Then, the old portals were replaced with new innovative platforms that use the latest technologies to attract new clients.

2.3. The advantages of e-arbitration

In the matter of e-arbitration, four key advantages can be noted. [18] First, the Internet is a "neutral place" for parties to resolve their matter. In other words, the Internet is a global system that is neutral as it is not under the influence of any particular authority due to its transnational nature because software or any other type of AI is unlikely to be biased or partisan, as data and information are automatically retrieved by machine programs and software. Nonetheless, one may wonder about the algorithms and the data pulled and processed by the AI mechanisms (further discussed in subsection 2.4). Second, online arbitration is time effective, as the arbitrator and the parties do not need to travel, thus eliminating the distance barrier. Third, it improves efficiency because the whole arbitration process, or a substantial part of it, would be done through online means, such as the use of electronic forms, hence speeding up the process. Fourth, submissions of online documents make the whole process more convenient. Parties do not need to do actions simultaneously, such as uploading documents or answering questions, in cases where no video conferencing is required. In other words, the daily business works of parties are impacted, in a limited way. We would like to point out two additional advantages: cost-reduction and easy enforceability of international arbitration judgments. Since parties can file and submit documents online, there are no costs for the transportation and storage of documents, but more importantly, consumer-based arbitration proceeding should be more cost-economical as opposed to judicial lawsuits. Finally, although to be confirmed in practice (further discussed below as a possible disadvantage), an international arbitration judgment can theoretically be enforced more easily than a foreign court judgment due to the New York Convention. [19] However, the digital (*e* aspect) of the award, could hinder the smoothness of enforceability.

Furthermore, it should be noted that arbitration institutions and organizations have established platforms (i.e., case management systems) and set up guidelines for e-arbitration proceedings, such as the International Chamber of Commerce (ICC) [20] and the Stockholm Chamber of Commerce (SCC). [21] On the domestic front, the American Arbitration Association established an online case management filling system for dispute resolution matters since at least a decade ago, based on available information. [22] Other organizations have introduced remote hearings, such as the Singapore International Arbitration Centre in August 2020, in response to the COVID-19 pandemic. [23] Despite technological innovation, it remains to be seen whether such progress will be used by parties internationally. According to Mirèze and his fellow researchers, online institutional platforms should be understood as "support facilities" and not as a "fully fledged online arbitration procedure", such is the case of NetCase, the successful ICC online platform. [24]

2.4. The disadvantages of e-arbitration

There are mixed opinions about e-arbitration among legal professionals. For example, Katsh and his fellow researchers argue that some parties would be reluctant or would simply not recognize the legitimacy of the arbitrator such was the case in the Virtual Magistrate project, which led the way to mediation as a more favourable ODR method. [25] We must not forget that this project was conducted in the early stages of ODRs and should not be used as a reference point. Nowadays, parties in dispute resourcing to e-arbitration might conclude an Automated Agent E-Arbitration Agreement (or AAEA) is a new technologically advanced method where artificial intelligence gathers and monitors data as well as conducts tasks without the need of human interference. Therefore, since no human activity is required, parties might question each others' consent to use online arbitration. [26] Some members of the legal community might be uncertain about e-arbitration since online platforms use cloud services for transfers and storage, thus creating uncertainty about the privacy and confidentiality of sensitive information that might give an unfair advantage to one's opponent [27]. Although confidentiality is a key advantage of arbitration and remains unchanged in e-arbitration, parties might be concerned about hackers, viruses, and computer crashes that might compromise their confidential information. Despite the fact that technological solutions are available to prevent these issues, there is no absolute guarantee that they will never occur. [28]

On a different line of thought, the principle of *res judicata* [29] might not always prevail. For instance, the United Kingdom's Chartered Institute of Arbitrators (CIArb), provides that in a B2C scenario, [i]n the event that the online arbitration award is considered unfair and unreasonable for the consumer, the consumer is allowed to reject such outcome." [30] Moreover, it appears that the consumer has the discretion to reject an outcome of a decision if they claim that the result of the CIArb is unfair. Non-binding arbitration agreements are common on the Internet mainly due to the unreasonable costs asked to commence arbitration proceedings. [31] Additionally, international commercial courts have the authority to annul arbitration decisions. [32] An arbitration decision can be considered non-biding either from the start or at its conclusion. If the recourse to arbitration is not mandatory or if the result of the arbitral decision can be either accepted or refused, the award is revocable, therefore not entirely binding depending on the circumstances. [33] The Ford Motors Company implemented an online arbitration platform developed by the CIArb in order to resolve disputes with its customers. The arbitration agreement is "unilaterally binding" for Ford, [34] thus non-binding because the customer can reject the arbitral result and dispute the award in court. Mistelis notes that since arbitral awards in disputes with Ford can be revoked, this non-binding arbitration process should be considered more as mediation. [35]

This is also the case for the Uniform Domain-Name Dispute-Resolution Policy (UDRP) established by ICANN. An arbitration decision originating from the UDRP is non-binding as the discontent party can start court proceedings for a judge to review the whole matter again. [36] An additional dispute could originate regarding the authenticity of an award. Article 4(1)(a) of the New York Convention requires the issuing of an "authenticated original award or a duly certified copy thereof", but when a decision is sent by email, its authenticity or originality could be disputed.

Beyond B2C disputes, which generally involve low-figure amounts, concerns are more serious in dealings involving higher financial thresholds. A potential uncertainty preventing parties from conducting online arbitration is the digital world and AI. One may wonder how digital platforms affect the outcome of the same decision that a human arbitrator would adjudicate. Although online platforms have considerably evolved since the last two decades and parties have the option to resort to different platforms from reputable arbitration institutions, what remains unclear and would constitute a legitimate concern to any party filing a dispute is how digital platforms are accessing and interpreting data and information submitted to them. Considering that the effectiveness of AI systems will depend on the extent of data the system has received from the parties involved as well as the level of training (i.e., the level of exposure to arbitration decisions) and taking into account that the great majority of arbitral awards are kept confidential, one may wonder how much level of exposure and tests an AI system or software could receive if most of the data and information remains unpublished. [37]

Although the New York Convention facilitates the enforcement of foreign arbitral awards (originating from signatory parties), the digital side may create a reluctance from legal professionals to online procedures. Despite the convenience in concluding an arbitration agreement and undertake the related procedures, the authentication of an "original Award" as provided by Article IV(1)(a) of the New York Convention may raise complications. Moreover, one may wonder if and how an e-award could be duly authenticated by a State judiciary in a consistent fashion across national jurisdictions. Uncertainties can be attenuated, to a certain extent, by Article 8(1)(a) of the UNCITRAL Model Law on Electronic Commerce, which provides that the integrity of information presented and retained through data messages (i.e., electronic messages) from the time it was generated until its final stage of communication. [38] In other words, would softcopies of e-awards be authenticated in a consistent fashion by judicial courts? According to Susskind, the growing technology may correlate to a complex regulatory scheme for governments. [39] On more extensive arbitration proceedings in which the witnesses are asked to testify, their credibility and honesty may be difficult to evaluate on virtual platforms due to the "absence of reliable indicators of honesty." [40]

2.5. Comparison of e-arbitration legislative frameworks and their limitations

2.5.1. EU

In 1993, the EU started to enforce measures for consumer protection by the adoption of the Unfair Terms in Consumer Contracts Directive. Article 3(1) of the directive states that arbitration clauses, despite not being negotiated individually would be considered unfair and deemed invalid if such contract clauses cause" a significant imbalance in the parties' rights and obligations arising under the contract, to the detriment of the consumer." By adopting the Unfair Contract Terms Directive, the European Commission recognized the unfairness of arbitration clauses as such clauses create a disproportional imbalance of powers between the vendor and the consumer. For instance, some arbitral provisions might require consumers to appear in front of an arbitration panel in order to discourage them from commencing proceedings.

The EU distinguishes B2C and business-to-business (B2B) arbitration because the latter is governed by the European Convention on International Commercial Arbitration (1961). The EU adopted Regulation 524/2013, which led to the creation of an ODR platform as of February 2016 for B2C claims, where disputes are resolved in an average of 90 days. [41] The European Parliament and Council adopted Directive 2013/11/EU, [42] to enhance dispute resolutions in a cost-efficient and rapid way. However, Chung noticed that this directive has a weakness: it does not oblige online vendors to enforce the EU framework. [43] In addition, if vendors choose to voluntarily adopt the EU's approach, it is up to Member States to enact national laws to ensure its proper domestic implementation. Therefore, each Member State should define what it considers as abusive arbitration clauses. [44] As opposed to the UNCITRAL Draft Procedural Rules, Article 6 of Directive 2013/11/EU specifies the skills that an arbitrator or any professional should possess. [45] Article 10 of the same directive outlines that any types of agreement made between a consumer and a vendor is not enforceable before the dispute occurred and if such agreement prevents the consumer to exercise their right to resort to a judicial court. [46] In sum, the EU has a particular focus on consumer protection than the other countries, as its regulations are more developed and its institutions demonstrate greater interest among institutions to improve consumer protection than in the US and the PRC, as seen further below. Although the United Kingdom (UK) officially withdrew from the EU on January 31, 2020, that decision does not affect London as a seat of arbitration because the British Arbitration Act 1996 was not affected by the withdrawal. [47] With regard to commercial matters, more

autonomy is generally given to business transactions. The Brussels I Regulation, officially known as Regulation 1215/2012, is a legislative framework that enables courts of the EU to have jurisdiction in civil and commercial matters on cases filed in EU Member States and has little effect on the international sphere. Interestingly, the Brussels I Regulation *suggests* the exclusion arbitration as part of its mandate (i.e., "This Regulation *should not* apply to arbitration [emphasis added in italics]," which begs the questions whether the European judiciary of Member States would deviate from such a recommendation in exceptional circumstances. Courts of EU Member States have the approach of referring parties to arbitration, should they have a dispute, if they previously consented to an arbitration agreement. [48]

2.5.2. US

Since the US is a federal system, arbitration legislative frameworks are enacted both at the federal and State-levels. On the former sphere, the main federal piece of legislation is the Federal Arbitration Act of 1926 (FAA), which is appliable in State courts for the determination of the validity and enforceability of an arbitration agreement, as well as the basis for interstate business dealings. In numerous occasions, US lawmakers introduced a few bills in favour of employee and consumer protections, but they were not promulgated into law, such as a bill to enable consumers and employees to utilize the judicial channel despite agreeing to arbitration in individual or collective agreements (i.e., Arbitration Fairness Act of 2011), [49] or the latest bill which aims to prohibit the validity and enforceability of a pre-dispute arbitration agreement as well as forced arbitration agreements from being valid if a private party was forced into an arbitration agreement and proceedings against a corporation in the matter of consumer, employment and civil right matters (i.e., the Forced Arbitration Injustice Repeal Act introduced in the US Senate in 2023).

The aforementioned legislative proposal was based on the Arbitration Fairness Act of 2011, which was introduced in the House of Representative in 2011 but remained discontinued. As opposed to the EU, the US does not differentiate between consumer and commercial arbitration. In the matter of online arbitration, it seems that federal and State-level authorities have left this aspect to the different organizations and institutions that have established their individual platforms, rules, and guidelines. As previously mentioned, the American Arbitration Association (AAA) created the WebFile® platform, and the Judicial Arbitration and Mediation Services (JAMS), another influential player, established the JAMS Access platform which enables parties to file and manage their cases from anywhere and at any time. [50] It should be noted that US arbitral organizations and institutions have their own set of rules but have a common approach. Due to competition, they have adopted similar rules adapted to the most recent trends and innovations. [51] Despite the slow progress on the federal level from policy makers, US States have undertaken individual initiatives to promote online arbitration but also mediation, on matters beyond B2C. For instance, in 2021, the Chief Justice of the Supreme Court of Florida authorized the expansion of a pilot project ("In Re: Online Dispute Resolution in the Trial Courts") to judicial districts that are interested in including ODR methods in their trial courts. [52] The following year, the Superior Court of State of California, County of Los Angeles established ODR programs for small claims as well as tenant-landlord disputes to enable litigants to negotiate and conclude binding agreements outside the judicial system. [53] Interestingly, the Texas Comptroller has introduced an online arbitration system for property tax matters. [54] Moreover, States tend to promote ODR methods overall or as a whole without necessarily emphasizing on one method other the other.

According Mania, the FAA has a few flaws. For both for consumer and commercial arbitrations, it does not provide constraints regarding arbitration clauses included in agreements before the emergence of a dispute. [55] In the US, approximately 48% of online vendors include arbitration clauses in their terms and conditions. There is an imbalance of powers between online vendors and consumers, as 88% of websites reviewed by Dasteel and his team bind consumers to arbitration clauses with only a "passive acceptance". [56] Such clauses are also binding when consumers are referred to various external hyperlinks. This demonstrates that the US federal arbitration legislative framework is more beneficial to businesses rather than consumers. As opposed to the EU, US legislation does not define unfair or inadmissible arbitration clauses. Additionally, the case law of the US Supreme Court demonstrates that it certainly accepts waivers preventing class actions. [57] The lack of a proper legislative framework might not always make arbitration an efficient solution to resolve disputes. According to the research of Szalai, "[m]ore than sixty percent [60%]" of US online sales include arbitration agreements considered to be "broad" and 78 out of the 81 Fortune 100 companies who include arbitration agreements in their consumer contracts incorporate class action waivers. [58]

2.5.3. PRC

Since the Arbitration Law was enacted in 1994 and the promulgation of the Online Arbitration Rules in 2009 by the China International Economic and Trade Arbitration Commission, the Chinese government was able to adopt a uniform arbitration system across the country. [59] Despite the fact that the PRC is intending to standardize arbitration regulations, whether off or online, there are a few variances from one organization to another. By the same token as the US, the PRC does not appear to have specific laws about online jurisdiction, nor choice of law provisions. [60] Guojian noticed that Chinese arbitration legislation is silent on the language used in arbitration procedures, as opposed to

institutional arbitral bodies that might have more specific regulations, such is the case for the Guangzhou Arbitration Commission (GZAC) that obliges parties to use the language agreed in their arbitration agreement. [61]

It should be noted that earlier this year, the Chinese State Council issued National Decree No. 778, which led to the promulgation of the "Regulations for the Implementation of the Law of the People's Republic of China on Protection of Consumer Rights and Interests" (2024 Regulations) on March 19, 2024, and in force as of July 1, 2024, which follows into the footsteps of the EU approach, although it lacks considerable consumer protection provisions, in contrast to the EU framework. [62] However, as opposed to its European counterparts, Chinese authorities have not provided great details or established a mechanism enabling unpleased consumers to file arbitration proceedings in B2C matters. Articles 17 and 44 of the 2024 Regulations address arbitration. The former provision provides that business operators shall not use to contractual terms that would limit their responsibility towards consumers and force consumers into litigation or arbitration proceedings to resolve disputes. [63] With regard to State's involvement in overseeing ODR and promoting these methods, the involvement of all levels of governments is required as these State entities "shall promote and improve the diversified dispute resolution mechanism for consumer disputes, and guide consumers to safeguard their legitimate rights and interests [free translation]", as per Article 43. Said otherwise, State authorities have more of a *guidance* role and not a policing role due to the absence of hard language outlining their obligations in sanctioning business operators conducting unreasonable and coercive dispute resolution practices. From a non-Chinese perspective, the 2024 Regulations should be amended to be integrated harmoniously with the Chinese consumer protection laws and the Arbitration Law. According to Shang and Guo, the digitalization of dispute resolution in China can be classified in two categories, which are (1) "self-contained ODR platforms" (e.g. hosted on e-commerce websites) and (2) "industry-supported online ADR" (Alternative Dispute Resolution), [64] i.e., online services provided by existing arbitration institutions. Although the PRC has established three "internet courts" in Guangzhou, Hangzhou and Beijing (in which AI plays the role of the adjudicator), [65] these technologically advanced platforms are excluded from this analysis due to their affiliation with the State judiciary system.

With regard to the first category, many B2C online platforms create their own remedies to solve online disputes. For example, Chinese platform Taobao understood that most disputes could easily be resolved and by creating a “Judgment Center”, which allows users to provide their input on disputes, saving time for the parties involved. [66] In other words, members of the Taobao community can act as jurors, which indirectly values the consumer not only for their online purchases, but also for their opinion. In the matter of the second category, external and private ODR courts unaffiliated with e-commerce platforms serve as another alternative to resolve disputes. For instance, the "ODR Court" associated to the China International Economic and Trade Arbitration Commission (CIETAC) is a pioneering ODR private program in the Chinese market. The ODR Court focuses on domain names disputes, as it is accredited by the Internet Corporation for Assigned Names and Numbers (ICANN). For disputes pertaining e-commerce, Dian Su Bao was established more than a decade ago as a mediation platform between vendors and consumers. Its origins and founders are unclear but it is worth noting that this platform is distinct from other ODR platforms as it is not affiliated to a public or private entity, in addition to the fact that users can send their feedback for consideration. [67] In terms of digitalizing consumer protection solutions, the Chinese market is more driven by e-mediation than e-arbitration. Although one may recognized that the PRC's approach is technologically innovative, diverse and autonomous for parties, progress still needs to be made in protecting consumer in e-commerce settings on the part of the Chinese government or through private sectors initiative in establishing a single coordinated channel to resolve disputes.

2.6. Limitations of international agreements

The UNCITRAL Model Law and the UN Convention on the Use of Electronic Communications in International Contracts do not have jurisdictional provisions regarding e-commerce. [68] In the same vein, both agreements do not specify jurisdictions or a choice of applicable laws. [69] As previously mentioned, online e-commerce arbitration might occur in two categories, either B2B or B2C transactions. The majority of cases where ODR mechanisms are involved come from B2C online shopping. Domain name disputes are also common [70] as they are extra-territorial disputes. [71] Although the UNCITRAL Model Law is the leading legislation to ODRs, including online arbitration, it lacks substantial legal content to further regulate complex matters and problems of online arbitration. Moreover, the divergence in legislative provisions among many countries about the regulation of e-arbitration creates an additional level of judicial difficulties. [72] Since the New York Convention came into force in 1959, it is silent on electronic arbitration, [73] thus creating some sort of ambiguity or laissez-faire attitude. Therefore, in 2006, the UNCITRAL Model Law was amended to recognize the validity of arbitration agreements concluded via electronic means. [74] The evolution and sustainability of online arbitration depend on two components: technology and those who provide it. [75] The UNCITRAL Draft Procedural Rules, thus the document of reference for arbitration procedures, does not set out detailed prerequisites for arbitrators, negotiators or mediators, which would lead to a party questioning their credibility or even the whole arbitration process. In other words, parties might not be necessarily aware of the qualifications of arbitrators nor their

work experience. These prerequisites should set out their qualifications, the minimal work experience required, and any other requirements deemed to be relevant before a party secures the services of a legal experts.

AI technologies and their use in international arbitration

2.6.1. Practical use of AI in arbitration

In arbitration, AI is being used for drafting, proofreading, legal research, case management and logistical tasks, but its use could reach higher levels. Dilevka and Aknouche affirm that AI will be a "trusted assistant" [76] to the world of international arbitration because of its profound usefulness in speech recognition (i), drafting awards (ii) and appointing authority (iii). [77] Speech recognition would play a significant role in electronic arbitral proceedings since it would eliminate the need of transcription services that are costly and often used in hearings because real-time transcripts could be produced automatically through the use of microphones and speech recognition. Furthermore, in cases of international disputes involving more than one language, AI can certainly accelerate the pace of translation. AI could also substitute an interpreter if witnesses speaking different languages are involved in a dispute. The drafting of awards is a time-consuming process for an arbitrator. The authors argue that AI machines could handle the drafting of boilerplate segments, and the arbitrator would simply provide the final touches to the decision. In this same line of thought, Cohen and Nappert argue that computer programs are capable of writing arbitral decisions because they are used by news outlets when communicating emergency messages. [78] Therefore, a decision that should theoretically be made independently by an arbitrator is not ultimately independent anymore due to the assistance of computer software and programs. The use of computer software is likely to affect the final decision of the human arbitrator due to its influence on their decision-making process. If AI is somewhat involved in the drafting of an arbitral decision, parties might ask how much the arbitrator relied on it when writing their decision. When parties are undecided on the appointment of an arbitrator, AI could help them by suggesting a list of advisable candidates meeting their precise needs, based on their requirements. [79]

Software programs specialized in various law fields are commercially available to predict the outcome of a case. [80] As surprising as it may seem, Scherer stated in a speech: "AI programs are rational, while humans are not". [81] In the US, race is an irrational but omnipresent factor in determining the sentencing of an accused. In Israel, judges are less likely to grant parole right before a break or near the end of a day. [82] The shift of daylight might also be a factor: judges would give more severe punishments following the change of time that caused lesser sleep. [83] Experts in the field are considering whether it is possible to have a fully operational "e-arbitrator". Some national laws such as the ones of France and the UK only allow a natural person to be an arbitrator. Despite not being explicit, we can essentially assume that the UNCITRAL Model Law would only accept natural persons as well due to the use of third person pronouns, thus he and she in the text. [84] The selection of an arbitrator is motivated by human and personal requirements, making it difficult to solely rely on AI as an autonomous arbitrator. [85] The authentication of electronic awards might seem as a complicated process, but due to the electronic apostille system adopted by States, [86] in addition to the UNCITRAL documents, parties can have their awards recognized quite easily around the world. Technology can be considered a "fourth party" as it plays a vital role in modern-day arbitrations and has the main role in e-arbitration. [87] Cohen and Nappert argue that arbitration will become inevitably robotized because robots are used not only in communications but also in the medical field, outperforming medical professionals. [88] Early studies have demonstrated that computers outperform the human mind in quantitative prediction regarding legal matters. Ruger et al. found out that computer programs correctly guessed 75 % of the votes of US Supreme Court judges as opposed to reputable legal experts who properly guessed 59.1 % of such votes. [89] A recent study published by Katz et al. in 2017 found that computer programs correctly predicted results in 70.2 % of cases and 71.9 % votes of US Supreme Court justices. [90]

Some professionals have an "illusory superiority", [91] thinking they are more capable and accurate than machines, which is statistically not the case as shown by the research of Cohen and Nappert. In contrast to human arbitrators, legal representatives of parties would have to adapt their approach in pleading their case by removing emotional factors. Other experts argue that human input is necessary in all arbitration decisions. The lack of regulatory provisions in the uses of AI in arbitral proceedings might cause issues considering that major arbitral institutions give arbitrators considerable freedom in determining the facts of a dispute without regulatory guidance or constraints on how they can do so. [92] In our opinion, it seems like AI systems are aligned to stand on a similar footing as human judicial decision-makers, in a near future, since AI reduces margins of error. For instance, Gay explains that Chinese litigants use AI to evaluate their chances of success before starting court proceedings. [93] AI evolves rapidly and it is a question of time before such advanced technologies will almost replace human output.

Despite the practical aspect of arbitration, one should not forget that in addition to online submissions, another important element of arbitration proceedings is the pleadings of the parties, like in litigation. The efficiency of digital

hearings dependent on the quality of the IT application used as well as the Wi-Fi network used by the parties. Online arbitration can affect the equality or fairness of an arbitration process if a party is technologically disadvantaged. Procedural fairness and integrity of the arbitration are severely affected if a party has uneven access to a platform. Information and communications technologies favor "inclusivity" [94] as it allows parties from around the globe to resolve their dispute through electronic means. As previously mentioned, some practitioners and researchers hypothesize that the more data becomes valuable and increasingly exchanged through electronic means, the more disputes are likely to arise. Moreover, Wahab and Katsh are of the view that the easier it is for parties to use online methods, such as filing and submitting online forms, the more disputes are likely to arise. This is why the authors view this technology as a "double-edge sword". [95] However, since such a phenomenon is recent, it does not appear that detailed studies or statistics supporting the authors' claim have yet to be published.

3. Conclusion

As a final analysis, international e-commerce arbitration is used globally as an innovative dispute resolution alternative for both businesses and consumers. Because retail e-commerce sales are constantly growing, it is reasonable to think that the number of disputes will rise. There is a lot of potential and prospects for e-arbitration, as it can only expand due to the continuous technological innovations that were previously presented. As we have seen, arbitration is not the most preferred method not only among consumers but also among ODR providers. Some scholars, such as Schmitz, believes that arbitration and its related regulations favour businesses to the detriment of consumers. Therefore, practitioners and arbitral institutions should tackle the true issues faced by parties who resort to this dispute-resolution method. As stated by Gay, AI is a "market disrupter" in the field of arbitration. [96] Scherer concluded that AI represents a "significant paradigm shift". [97] This would notably be the case when it is further developed and advertised within legal communities and arbitral institutions. ODRs have provided online consumers with alternatives to resolve their disputes. As we have seen above, e-arbitration offers greater accessibility and efficiency in dispute settlement procedures, but it also has its drawbacks because parties may be uncertain about the full extent an AI platform may consider their case. There are many ways to make e-arbitration proceedings possible but digitally enforcing an award might be a challenge that a winning party would face, among others.

In terms of technological advancements, AI gradually gains importance in the world of e-arbitration, as legal professionals are most likely to rely more on AI due to its outperformance to the human mind. Legal professionals and arbitral institutions need to answer the following basic question: would they fully trust an automated software sophisticated enough to deal autonomously with arbitration procedures? Despite the process of e-arbitration and its advantages, arbitral procedures cannot completely exclude human involvement, as the UNCTAD states that a "well-advised" practitioner should obtain a paper copy of the arbitral decision with the signatures of the arbitrators. [99] As mentioned by Łągiewska, "online arbitration still lacks a sense of reality while reconstructing the offline world," [100] which means that there always will be advocates for the in-person (i.e., traditionally-based arbitration proceedings). For future research, it is possible that e-arbitration would be more commonly resorted to in B2C cases because of low financial thresholds as opposed to B2B arbitration where the financial sums at stake are more considerable since human presence and participation would provide a higher level of confidence and reassurance among the parties. The foregoing can only be assessed at least in the medium-term, if not longer to have a full grasp on the matter.

Recommendations

States and international organizations must make clear distinctive regulations regarding offline and online arbitration. Online arbitration makes the dispute resolution setting less formal due to the digital nature, which justifies the need to have distinct or updated regulations of such practice. In the same optic as Wang, the international community should establish unified and integrated procedures in order to ensure "consistency, fairness and efficiency". [101] The Model Law needs additional amendments to reflect current realities of consumer and commercial disputes in the digital era as well as to clarify uncertainties. Therefore, a collaborative legislative effort from all members of the UNCITRAL is required for the Model Law to have the greatest effects. In the same vein, Schmitz argues that there should be a "protocol" followed by global actors of e-arbitration to establish trust when proceeding with this method. [102] In addition, there should be clear distinct regulations for commercial and consumer contracts and the regulation of the latter should be done in a way that would make it clear, fair and efficient for consumers before agreeing to a contact. As another recommendation, Wang suggests that international treaties providing guidelines about ODRs should include provisions "promoting party autonomy and implementing core legal principles with technologically neutral clauses." [103] Besides legislative amendments, both international and national, the legal community has some improvements to do. Legal professionals should be properly educated about the definition of arbitration and how AI could assist them in their daily tasks. This education could be included in the mandatory certification training of arbitrators. In addition, the

UNCITRAL Model law should be updated to ensure consistency and uniformity in the regulation of AI. Finally, e-arbitration should be promoted in business settings to raise awareness about this ODR method.

Compliance with ethical standards

Disclosure Conflicts of interest

The author has no conflicts of interest to declare.

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