



# Smart dispute resolution: artificial intelligence to reduce litigation<sup>1-2</sup>

*Resolução inteligente de conflitos: inteligência artificial para reduzir litigiosidade*

*Smart dispute resolution: inteligencia artificial para reducir demandas judiciales*

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## Abstract

Artificial intelligence, despite still being a developing technology, can be considered an inevitability in law, as it is in any other field. Described in Germany as part of a 4<sup>th</sup> Industrial Revolution, it confirms no battle against evolution would be fruitful. Nevertheless, given AI is a certainty in the future of law, the applications should

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<sup>1</sup>JACOBSEN, Gilson; DIAS, Bruno de Macedo. Smart dispute resolution: artificial intelligence to reduce litigation. **Suprema**: revista de estudos constitucionais, Brasília, v. 3, n. 1, p. 391-414, jan./jun. 2023. DOI: <https://doi.org/10.53798/suprema.2023.v3.n1.a215>.

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be debated. The objective here is to exam applications of AI in Law in Brazil and in the United States of America, and to evaluate its use to resolve conflicts outside the Judicial System, instead of through Justice. With the assistance of the comparative and deductive methods and the Cartesian doubt to process the data, the main conclusion is that AI is more useful for simple and repetitive litigation, and it could deliver benefits through dispute resolution outside the Judicial System, with smart technologies, resulting on a Smart Dispute Resolution alternative.

### Keywords

Artificial intelligence; Smart Dispute Resolution; Reducing litigation; Comparative method; Civil procedure.

### Contents

1. Introduction. 2. The concept of artificial intelligence and its applications and liabilities. 3. The use of artificial intelligence on judicial cases. 4. The use of technology and artificial intelligence on alternative dispute resolution (ADR). 5. Disadvantages of resolving conflicts through litigation. 6. Advantages and possibilities of reducing litigation through implementing artificial intelligence. 7. Conclusion.

### Resumo

A inteligência artificial, embora uma tecnologia em constante desenvolvimento, já é uma inevitabilidade no Direito, como nas demais áreas. Descrito na Alemanha como parte da 4ª Revolução Industrial, é confirmação de que nenhuma batalha contra a evolução é promissora. De todo modo, se IA é uma certeza no futuro do Direito, suas aplicações merecem discussão. O objetivo é examinar usos de IA no Direito brasileiro e dos Estados Unidos da América, e avaliar seu uso para solução de conflitos fora do Poder Judiciário. Através dos métodos comparativo, dedutivo e cartesiano, a conclusão central é de que, como a IA funciona melhor em conflitos simples e repetitivos, muitos benefícios podem ser obtidos pela aplicação de tecnologias inteligentes fora do sistema judicial, chegando-se a Smart Dispute Resolution.

### Palavras-chave

Inteligência artificial; Smart Dispute Resolution; Redução de litigiosidade; Método comparativo; Processo Civil.

## Sumário

1. Introdução. 2. O conceito de inteligência artificial e suas aplicações e problemas. 3. O uso de inteligência artificial em processos judiciais. 4. O uso de tecnologia e inteligência artificial em métodos alternativos de resolução de controvérsias. 5. Desvantagens da resolução de conflitos por via judicial. 6. Vantagens e possibilidades de redução de litígios por meio da implementação de inteligência artificial. 7. Conclusão.

## Resumen

La inteligencia artificial, todavía una tecnología en desarrollo, puede considerarse una inevitabilidad en derecho, como lo es en cualquier otro campo. Descrito en Alemania como parte de una cuarta revolución industrial, confirma que ninguna batalla contra la evolución sería fructífera. Sin embargo, dado que la IA es una certeza en el futuro de lo Derecho, las aplicaciones deben debatirse. El objetivo aquí es examinar las aplicaciones de la IA en el Derecho en Brasil y en los Estados Unidos de América, y evaluar su uso para resolver conflictos fuera del Sistema Judicial. Con la ayuda de los métodos comparativo, deductivo y cartesiano, la principal conclusión es que la IA es más útil para litigios simples y repetitivos, y podría brindar beneficios por la resolución de disputas fuera del Sistema Judicial, con tecnologías inteligentes: una Resolución Inteligente de Disputas.

## Palabras clave

Inteligencia artificial; Smart Dispute Resolution; Reducción de demandas judiciales; Método comparativo; Procedimiento Civil.

## Índice

1. Introducción. 2. El concepto de inteligencia artificial y sus aplicaciones y defectos. 3. El uso de inteligencia artificial en casos judiciales. 4. El uso de la tecnología y la inteligencia artificial en la resolución alternativa de disputas. 5. Desventajas de resolver los conflictos mediante litigios. 6. Ventajas y posibilidades de reducción de litigios mediante la implementación de inteligencia artificial. 7. Conclusión.

## 1. Introduction

The use of artificial intelligence in law, as well as in almost any other science, is inevitable. It is not a question of if it will be used. It is a question of when, where and to which extent.

History demonstrates that sciences cannot shield themselves from technology, as human knowledge from other fields evolve, revolutionizing how simple or complex tasks can be performed.

The implement of artificial intelligence, machine learning, robotics and similar concepts in production was described as *industrie 4.0* as it was adopted as a strategical idea by the German Government<sup>5</sup>. It is considered the fourth industrial revolution. To better understand how the new technologies take over, it is useful to remember the three previous ones.

The first industrial revolution is related to the introduction of mechanical procedures in production, with the guidance of steam. The second involved divisions of work and mass production aided by electricity. Finally, the third revolution brought use of electronics and informatics in production<sup>6</sup>.

All those evolutions influenced or revolutionized how law was practiced.

The main focus of this study is to evaluate the impact of technology and artificial intelligence in conflict resolution, how it can impact legal science professionals and mostly the best way to use it to achieve better results, with more reliability and greater gain for the society.

In a context of an overburden of the Judicial System that is easily recognized in Brazil and in the United States, one decision becomes crucial: artificial intelligence would be best used to help with judicial resolution or to avoid a judicial case to even begin.

To achieve this task, the first step is to better understand and establish a concept for artificial intelligence, exam its limits and liabilities and finally evaluate in which tasks it excels or struggles.

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<sup>5</sup> GERMAN TRADE & INVEST. **INDUSTRIE 4.0: Smart manufacturing for the future**. Berlin: Germany, 2014. Available in: <[https://www.gtai.de/GTAI/Content/CN/Invest/\\_SharedDocs/Downloads/GTAI/Brochures/Industries/industrie4.0-smart-manufacturing-for-the-future-en.pdf](https://www.gtai.de/GTAI/Content/CN/Invest/_SharedDocs/Downloads/GTAI/Brochures/Industries/industrie4.0-smart-manufacturing-for-the-future-en.pdf)>. Last visited in 27 June 2019.

<sup>6</sup> ASSAD NETO, Anis. *Et al. A busca de uma nova identidade para a indústria 4.0*. Brazilian Journal of Development. Vol. 4. Curitiba: July/Set. 2018.

Over the following chapter, projects and known uses of artificial intelligence respectively on judicial resolution and alternative dispute resolution are analyzed both in Brazil and in the United States.

Finally, the third chapter will address the risks and disadvantages of using artificial intelligence in judicial resolution and the last one will approach the advantages and possibilities of using artificial intelligence on alternative dispute resolutions and avoid conflicts going to court.

The artificial intelligence will reach legal science professionals. Nevertheless, the way it will be used will determined whether it can be a source of conflicts and disputes or a tool to ease the burden that impacts many professionals.

## 2. The concept of artificial intelligence and its applications and liabilities

The general understanding of artificial intelligence and its real capability is seldomly misunderstood or overvalued, as it can be expected in any groundbreaking technology that can cause a revolution on our way of life or work.

Many tend to believe, without proper knowledge, that artificial intelligence is ready to take the place of lawyers and judges and it will result in perfect solutions to anything that can presented to it. AI would not commit mistakes and it would offer better results than humans.

Nevertheless, the concept of artificial intelligence is not easy to determine nor unanimous. It can even involve a difference between what AI can achieve now and what it could achieve in the future.

Harry Surden<sup>7</sup> offers a wide notion:

What is AI? There are many ways to answer this question, but one place to begin is to consider the types of problems that AI technology is often used to address. In that spirit, we might describe AI as using technology to automate tasks that “normally require human

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<sup>7</sup>SURDEN, Harry. *Artificial intelligence and law: an overview*. Georgia State University Law Review. Vol. 35, 2019.

intelligence.” This description of AI emphasizes that the technology is often focused upon automating specific types of tasks: those that are thought to involve intelligence when people perform them.

Iria Giuffrida<sup>8</sup> adopts a concept from McKinsey & Co., in which “in its most basic sense, AI refers to ‘the ability of a machine to perform cognitive functions we associate with human minds, such as perceiving, reasoning, learning, interacting with the environment, problem solving, and even exercising creativity’”<sup>9</sup>.

While “machine intelligence” is frequently related to “human intelligence, this proximity is troublesome. While machines can process great volume of information and evolve its capacity of processing them, achieving better results than humans would in some complex tasks, it functions in a very different way than human intelligence in many aspects”.

A vision of AI with human-level cognition, referred to as Strong AI or Artificial General Intelligence is still not a reality. Surden offers a very useful input for this research:

Although Strong AI has long been a goal of research efforts, even the most state-of-the-art AI technology does not meaningfully resemble Artificial General Intelligence. Today’s AI systems cannot, nor are they necessarily designed to, match higher-order human abilities, such as abstract reasoning, concept comprehension, flexible understanding, general problem-solving skills, and the broad spectrum of other functions that are associated with human intelligence. Instead, today’s AI systems excel in narrow, limited settings, like chess, that have particular characteristics—often where there are clear right or wrong answers, where there are discernible underlying patterns and structures, and where fast search and computation provides advantages over human cognition<sup>10</sup>.

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<sup>8</sup> GIUFFRIDA, Iria. **Liability for AI Decision-Making: Some Legal and Ethical Considerations.** Fordham Law Review, Vol. 88, 2019.

<sup>9</sup> MCKINSEY & CO. **An Executive’s Guide to AI.** Available in: <<https://www.mckinsey.com/capabilities/quantumblack/our-insights/an-executives-guide-to-ai>>. Last visited in 07 Nov. 2022.

<sup>10</sup> SURDEN, Harry. **Artificial intelligence and law: an overview.**

This is the first challenge when it comes to apply AI to law: while undoubtedly useful, it should not be used to perform every single task. While AI excels and produces great result in finding patterns, evaluating scenarios and possibilities and processing a volume of data that would not be advisable for a human mind, it will struggle when dealing with emotions, undetermined/abstract concepts or ideas, subjective interpretation and other actions that are not limited to a narrow logical conclusion.

A machine would not be able, for instance, to achieve a role-reversing process, through which a juror or a judge can figuratively place himself on the same position of the plaintiff or defendant, to fulfill a guarantee of trial by a jury of peers<sup>11</sup>. Or, in a closer analysis to the Brazilian system, the trial by the natural judge. Not only those tasks through Strong AI are not yet achievable, but also seems ill advised to consider handling such extent of power to machines<sup>12</sup>.

Another very relevant concept for artificial intelligence is machine learning. While a machine can have an extended core and many programmed information or rely more on future information, it is essential to consider that, when dealing with AI, the machine will learn from the content it is exposed to. In contrast to a simpler program, that will behave strictly and in the exact way it was designed, AI machines can adjust according to the data they receive.

That increases the complexity and the risks/liabilities when dealing with AI. In simple terms, (a) the machine will receive its initial programming, (b) it will go through a period of learning by being exposed to data, (c) AI will continue to learn when executing its function according to the new data it receives; (d) it will act according to its purpose; (e) a result will be produced due to this action, that might harm someone.

From this basic description, a few risks emerge that might recommend caution on some possible uses of AI. Iria Giuffrida<sup>13</sup> indicates some of those risks:

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<sup>11</sup> BRENNAN-MARQUEZ, Kiel. HENDERSON, Stephen E. **Artificial Intelligence and Role-Reversible Judgment**. Journal of Criminal Law & Criminology, Vol 109, 2019. pp. 137-169.

<sup>12</sup> HARTMANN PEIXOTO, Fabiano. *Inteligência artificial e direito: convergência ética e estratégica*. Curitiba: Alteridade Editora, 2020.

<sup>13</sup> GIUFFRIDA, Iria. **Liability for AI Decision-Making: Some Legal and Ethical Considerations**. LIN, Tom C. W. **Artificial Intelligence, Finance, and the Law**. Fordham Law Review, Vol. 88, 2019. pp. 531-552.

- a) **error on the coding of the machine:** related to the process of designing the core code of the machine.
- b) **problems occurred on the training:** after being design, the machine should be taught (exposed to data) to be able to execute its functions.
- c) **self-modifications that can happen when receiving data:** when the AI machine starts working, it is exposed to new and uncontrolled data and can adapt to better execute its tasks. The exposure to bias, corrupt, incorrect or offensive data can affect the way the machine will work<sup>14</sup>.
- d) **difficulty or impossibility to reverse engineering the process of decision-making:** since the machine way of performing changes over time because of the data it is exposed, it is almost impossible to walk back the steps that led to a bad decision.
- e) **defining who should be liable for damages cause by the AI system:** for all those factors, if a machine malfunction or harms someone, it is challenging to define who is responsible for the failure and for repairing those damages.

While artificial intelligence can offer great, promising results, it is essential to understand its strengths and weakness, as well as the risks and liabilities that can derive from its use before any strategic and perhaps unsupervised application.

Surden<sup>15</sup> offers a great overview of good applications:

Other areas where AI tends to be successful involve problems where fast computation, search, or calculation provides a strong advantage over human capacity. Chess, once again, provides a good example of AI providing an advantage. One of the reasons that automated chess systems routinely beat grandmasters is the ability of the automated systems to use their incredibly fast hardware to search through billions of possible chess positions to find those most likely to produce a positive result. Another example involves credit card fraud detection. Although in principle, a human could manually inspect credit card transactions looking for signals of fraud, in practice, due to the billions of credit card transactions per day, this analysis by humans is impossible. Here, the advantage given by the incredible computing

<sup>14</sup>GIUFFRIDA, Iria. LEDERER, Fredric. VERMEYS, Nicolas. **A Legal Perspective on the Trials and Tribulations of AI:** How Artificial Intelligence, the Internet of Things, Smart Contracts, and Other Technologies Will Affect the Law. *Case Western Reserve Law Review*, Vol. 68-3, 2018. pp. 747-781.

<sup>15</sup>SURDEN, Harry. *Artificial intelligence and law: an overview*.



power of today's computer hardware, combined with machine learning's ability to automatically detect anomalies indicative of fraud, makes such a process amenable for automation with AI. By contrast, for many other types of problems, raw computation provides little to no advantage over human-based analysis.

He also warns ineffective/inappropriate applications:

Finally, as mentioned, current AI technologies do not generally perform well, or at all, in problem areas that involve abstract concepts or ideas, such as “reasonableness” or “goodwill,” that involve actually understanding the underlying meaning of words. Similarly, these automated technologies tend not to do well in many problem areas that require common sense, judgment, or intuition. Finally, the use of AI automation tends to be both ineffective and possibly inappropriate in many problem areas that are explicitly and fundamentally about public policy, are subjective interpretation, or involve social choices between contestable and differing value sets. Understanding these limitations will help us understand where current AI is potentially applicable and where it is less applicable in law<sup>16</sup>.

It is essential to recognize that there are limits to the understanding a machine can achieve – at least at this moment. For instance, Lee points out that while the algorithm could be even more efficient than human beings on identifying diseases or providing the treatments, they would not replace the care, warmth and love good professionals or family members can offer<sup>17</sup>. On the other hand, Sandra Mayson raises the complex risk of biased conclusions<sup>18</sup>.

Therefore, the use of artificial intelligence on dispute resolution can raise many questions. The first one is whether it is appropriated to provide judicial or non-judicial decisions, or it should be limited to assist legal professionals. This issue will be address on chapter five.

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<sup>16</sup> SURDEN, Harry. *Artificial intelligence and law: an overview*.

<sup>17</sup> LEE, Kai-fu. *AI Superpowers: China, Silicon Valley and the New World Order*. Noston: Houghton Mifflin Harcourt, 2018.

<sup>18</sup> MAYSON, Sandra G.. *Bias in, bias out*. The Yale Law Journal. Vol. 128, p. 2218-2300, 2019.

Furthermore, considering that machines work better with volume of information, patterns and logical conclusions, but not as well with unprecise or abstract concepts, it is possible to identify which conflict resolutions AI machines could reach more accurate results. At the current state of the art, AI is tailored for repetitive/patterned cases with previous similar solutions and well-established judicial terms. In those cases, there are less complex juridical discussions. On the other hand, cases with dubious or overlapped statutes or precedents, requests of distinguishing cases or overruling precedents or application of new legal theories seem ill-advised.

Just as important is to identify when a task an AI machine can perform by itself ends and where the need for human supervision becomes necessary<sup>19</sup>. The failure to draw this line accordingly can be the difference maker between a good and a bad use on artificial intelligence.

### 3. The use of artificial intelligence on judicial cases

The use of AI on Judicial cases follows very different steps in Brazil and in the United States. While the latter focus on using AI to help lawyers and judges with their analysis, without reducing their role on procedures, in Brazil the focus was shifted to automatize procedures and decisions, that result in little to none participation of lawyers and judges.

On one side, it is interesting to have those differences that provide the opportunity to evaluate very distinguished uses of available technology. On the other, it is worrisome to verify that the judicial system, essential part of democracy, could have their role or functionality relegated to AI machines.

It should be reminded that there is a thin line between AI assisting toward a decision or deciding the case itself. These are two opposed sides. In one, the judge receives data, for instance, of the likelihood of criminal offender to flee or to commit another crime, and, with that information, freely decides on bail. AI is only assisting. There would be situations in which AI would “suggest” a few hundred decisions to a judge to sign in a few hours. It is undeniable that the judge will not be able to review all those “propositions”. AI is deciding, even if a human is signing.

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<sup>19</sup>FREITAS, Juarez. FREITAS, Thomas Bellini. *Direito e Inteligência Artificial: em defesa do humano*. Belo Horizonte: Forum, 2020.

Between those two scenarios, there are AI proposed analysis or decisions that are suggested to a judge, with reasonable time to decide. At the end of the day, it comes down to this: is it feasible for the judge to truly exam the case and the proposed decision or is he just working as a validator for the AI machine?

In those short lines, the idea is to present some of the possible uses of AI on Judicial cases, with no intent to address every single situation, something that one demand – and likely exceed – the full extent of a paper.

### 3.1 Initiatives in Brazil

Brazil has a relatively new civil procedure statute that applies to federal and civil court. It was approved in 2015 and came into effect the following year. This statute is extremely important to understand the Brazilian judicial system as it consolidated the focus of Justice in Brazil: mass production in decisions and settling repetitive/similar cases.

Brazil has a legal system always aligned with civil law, with deep Latin and Italian roots. In recent years, a shift closer to common law became evident, with enforceability of previous decisions of Superior Courts, mainly if produced to address mass litigation. The recent most noticeable changes were not to better decide complex cases. It was to resolve frequent conflicts with fast – automatic, if possible – decisions.

Even though this decision can and should receive heavy criticism, it is not a random measure. The number of cases in Brazil is clearly absurd and has grown substantially decade after decade, year after year<sup>20</sup>. The average number of cases a judge must decide every year to clear his docket or to even keep up with the new cases is worrisome.

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<sup>20</sup> This problem was detailed and address in length on DIAS, Bruno de Macedo. *A constitucionalidade de filtros ao Acesso à Justiça para assegurar o funcionamento sustentável do Poder Judiciário*. Rio de Janeiro: Lumen Juris, 2017. It would not be possible to detail here. The proposed solution was to demand that litigators, whenever possible, would be required to look for alternative dispute resolution options and that Justice would only review those cases if a severe violation occurred.

In a study<sup>21</sup> produced from data of the Nacional Council of Justice – CNJ indicated that, from 2004 to 2013, the number of pending cases went from 30.961.430 to 66.319.205 (114% increase), while the new cases per year jumped from 20.012.222 to 27.742.054 (38,62%), on first and second degree of jurisdiction. On the same period, the population have grown only 10,71%.

Therefore, the volume of litigation in Brazil is a real, well documented problem and simple, similar/repetitive cases represent a great part of those cases.

The critic is deserved, however, because instead of investing/empowering alternative solution to litigation – even mandatory alternatives – Brazilian Justice decided to morph itself into a mass production system, focused on numbers and instantaneous resolutions, instead of a forum for complex legal analysis.

A very recent study from Fundação Getúlio Vargas (FGV), a well-respected institution in Brazil, released its primary analysis<sup>22</sup> on December, 2020 about the projects to use artificial intelligence in Brazilian Courts. Seventy-two projects were founded and evaluated. Approximately half of the Courts had an initiative that involved AI since the first edition. The second edition was released in April, 2022<sup>23</sup>. The first edition, however, had a more detailed presentation, that allowed to better understand the applications.

The most relevant data, according to the first edition, comes next: those projects were organized in 101 functionalities and inserted in familiarity classes. Five of the six most common classes were related to mass litigation. A total of sixty-four, only on those categories, out of the total 101 functionalities<sup>24</sup>.

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<sup>21</sup> DIAS, Bruno de Macedo. *A constitucionalidade de filtros ao Acesso à Justiça para assegurar o funcionamento sustentável do Poder Judiciário*.

<sup>22</sup> FGV. **Report on Artificial Intelligence**: technology Applied to conflict management within the Brazilian Judiciary. 2nd Edition. 2022. Available in: <[https://ciapj.fgv.br/sites/ciapj.fgv.br/files/report\\_ia\\_2edition.pdf](https://ciapj.fgv.br/sites/ciapj.fgv.br/files/report_ia_2edition.pdf)>. Last visited in 05 Jan. 2023.

<sup>23</sup> FGV. **Report on Artificial Intelligence**: technology Applied to conflict resolution in the Brazilian Judiciary. 1st Edition. 2020. Available in: <[https://ciapj.fgv.br/sites/ciapj.fgv.br/files/report\\_ai\\_ciapj.pdf](https://ciapj.fgv.br/sites/ciapj.fgv.br/files/report_ai_ciapj.pdf)>. Last visited in 05 Jan. 2023.

<sup>24</sup> Check: FGV. **Artificial Intelligence**: *First Forum on Law and Technology*. Available in: <[https://ciapj.fgv.br/sites/ciapj.fgv.br/files/anais\\_ia\\_ingles.pdf](https://ciapj.fgv.br/sites/ciapj.fgv.br/files/anais_ia_ingles.pdf)>. 2020. Last visited in 20 Dec. 2022. Those categories were: Identifying cases for immediate denial (27), suggestion of decisions (12), grouping by similarity (9), admission of appeals (9), and treatment of mass litigation (7).

The most famous project in Brazil is the Brazilian Supreme Court' (STF) robot, Victor. Since in Brazil every litigant has the right to appeal to the Court if it can claim a constitutional violation and some other requirements, one of the biggest purpose of Victor is to evaluate which cases should be received by the Supreme Court<sup>25</sup>.

In another paradigmatic case, a State Court (MG) ruled over 280 cases in less than a second, only with the press of a button using its robot Radar. While that fact was celebrated, it does raises serious questions<sup>26</sup>.

The use of artificial intelligence in Brazil is not to produce better or faster evidence. It is not even to provide better data for lawyers or judges to produce higher quality briefs or decisions. It is design to address mass litigation, providing a line of production of decisions.

### 3.2 Initiatives in the United States

If in Brazil the sole focus in recent years is on mass litigation due to an overburden of cases, studies in the United States indicate that not only the number of cases is not adequate, but also it takes too much time and it is very expensive.

Ryan Newell<sup>27</sup> examined the number of cases filed in Delaware in 2012 and 2013. Federal judges averaged 594 case filings in 2012, while in State Courts, in 2013, each member of Delaware Court of Chancery averaged 831 case filings, 971 case filing for each member of Delaware Superior Court judge; 2963 case filings per member of Delaware Family Court judge and 13.528 case filings per judge of Delaware Court of Common Pleas.

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<sup>25</sup> BRAZIL. Supremo Tribunal Federal. *Projeto VICTOR do STF é apresentado em congresso internacional sobre tecnologia*. Published in 26 set 2018. Available in: <<http://www.stf.jus.br/portal/cms/verNoticiaDetalhe.asp?idConteudo=390818>>. Last visited in 27 June 2019.

<sup>26</sup> MINAS GERAIS. Tribunal de Justiça. *TJMG utiliza inteligência artificial em julgamento virtual*. Published in 07 nov. 2018. Available in: <<https://www.tjmg.jus.br/portal-tjmg/noticias/tjmg-utiliza-inteligencia-artificial-em-julgamento-virtual.htm#.XA1B2ntKiM8>>. last visited in 07 nov. 2022.

<sup>27</sup> NEWELL, Ryan P. *E-Discovery Promised Land: The Use of E-Neutrals to Aid the Court, Counsel, and Parties*. Delaware Law Review, Vol. 15, 2014.

Litigation is also considered very expensive<sup>28</sup>, especially if procedure takes too much time with discovery and trials, due to billable hours of involved attorneys, not even considering the costs that could result of the conflict per se, both in reparatory and punitive damages.

While studies indicate that big companies have a high cost with litigation<sup>29</sup>, conflicts involving regular citizens can also have a prohibitive cost. A survey for the National Center for State Courts in 2013<sup>30</sup> estimated a median cost of US\$ 43.238,00 on automobile tort cases. Contract cases would have a median cost of US\$ 90.575,00 and professional malpractice had a median cost of US\$ 122.140,00.

One of the most promising and expected results from using artificial intelligence, therefore, is to improve discovery and reduce the time it demands from lawyers. With the increased amount of data that migrates from paper to computer files<sup>31</sup>, it becomes even easier for AI machines to read those files in a speed that would be impossible to a human. Nevertheless, its work could be limited to select a quantity of data for the lawyer to exam<sup>32</sup>. This would reduce the time spend on files that are likely not useful and ensure a focused analysis on the most important ones.

AI can also assist lawyers with their research and briefing, or even to try to predict decisions, to identify the probability of success on the case or not, which could impact the decision to start a lawsuit. If there is data available of previous cases of the Courts, adding the characteristics of the new case can help predict the likelihood of a favorable outcome<sup>33</sup>.

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<sup>28</sup> For more information: MILLER, Arthur. **Widening the Lens**: Refocusing the Litigation Cost-and-Delay Narrative. *Cardozo Law Review*, vol. 40, 2018.

<sup>29</sup> Survey presented in 2010 by Lawyers for Civil Justice to the Committee on Rules of Practice and Procedure Judicial Conference of the United States after contacting all Fortune 200 companies. 36 of the participants that chose to disclose their litigation cost on 2008 on litigation was a total of US\$ 4.1 billion. Most of this cost was with litigation in the United States. Source: U.S. CHAMBER INSTITUTE FOR LEGAL REFORM. **LAWYERS FOR CIVIL JUSTICE. CIVIL JUSTICE REFORM GROUP. Litigation Cost Survey of Major Companies**. Delivered to Committee on Rules of Pactice and Procedure Judicial Conference of the United States. Duke Law School, May, 2010. Available in <[https://www.uscourts.gov/sites/default/files/litigation\\_cost\\_survey\\_of\\_major\\_companies\\_0.pdf](https://www.uscourts.gov/sites/default/files/litigation_cost_survey_of_major_companies_0.pdf)>. Last visited in 29.10.2022.

<sup>30</sup> HANNAFORD-AGOR, Paula. **Measuring the cost of civil litigation**: Findings from a survey of trial lawyers. *Voir Dire*, Primavera, 2013.

<sup>31</sup> NEWELL, Ryan P. **E-Discovery Promised Land: The Use of E-Neutrals to Aid the Court, Counsel, and Parties**.

<sup>32</sup> SURDEN, Harry. **Artificial intelligence and law: an overview**.

<sup>33</sup> SURDEN, Harry. **Artificial intelligence and law: an overview**.

## 4. The use of technology and artificial intelligence on alternative dispute resolution (ADR)

If substantial differences can be founded on the use of artificial intelligence in Brazil and in the United States, which recommended a separated analysis for the initiatives, the same cannot be said about alternative dispute resolutions (ADR).

Different statutes, cultures and treatments from the Judicial system can obviously impact the way ADR should be conducted in each country have the best results and to be attractive.

Nevertheless, with the implementation of technology, the concept of ADR in several cases started shifting to a notion of online dispute resolution (ODR), that involves several different principles, like a reduction of the face-to-face policy and, therefore, can involve parties from any place of the globe<sup>34</sup>.

Under this distinction, three concepts for alternative dispute resolution need to be separated:

- a) Traditional alternative dispute resolution (ADR): with preferably face-to-face meetings;
- b) Online dispute resolution (ODR): that involve online mechanisms for filling, arguments, negotiation and/or decisions; and
- c) Smart dispute resolution (SDR): a new step on online dispute resolutions, that add artificial intelligence components to facilitate agreements or decisions.

The growth of ODRs and SDRs tend to diminish boundaries. Although different legal systems impose complex distinctions on analysis, procedures are flexible. Even rules can be settled on private relations.

While several initiatives can already be found, most of the use of AI thus far seems more procedural, to help filling a request, open opportunities for defenses or manifestations or even to clarify questions with chatbots.

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<sup>34</sup> KATSH, Ethan. RABINOVICH-EINY, Orna. *Digital Justice: Reshaping Boundaries in an Online Dispute Resolution Environment*. International Journal of Online Dispute Resolution, v. 1, n. 1, 2014.

In Brazil, federal agencies took several initiatives towards ODR. The most famous is ANATEL<sup>35</sup>, the agency responsible for telephones and internet services. They provide a system that allows the user to file a complaint that will have to be addressed by the company in five days. Furthermore, whenever a company fails their legal duties, they can receive legal penalties from the agency.

Another great initiative is the portal “consumidor.gov.br”<sup>36</sup>. This platform is design for consumers to file complaints against companies and allows the latter to explain its position or to propose a solution to the consumer.

Finally, Federal<sup>37</sup> and State Administrations recently created chambers of conflict resolution for cases involving the Administration. While those structures have great potential, they seem centered so far in classic ADR methods, based on face-to-face meetings and mediation.

In the United States, Ethan Katsh and Colin Rule<sup>38</sup> highlights the initiative from e-bay on this field. Not only they decided to implement an ODR system, but they also collected data from the experience. The results indicated that not only those that won disputes, but also those that lost increased their shopping activity. The only ones that were not stimulated were the ones that considered the resolution took too long.

There are also initiatives of AI machines for legal, pro-bono online assistance. Those tools can provide legal information online. As an example, “a Stanford law graduate developed an online chat bot called DoNotPay that has helped over 160,000 people resolve parking tickets, and is now being expanded to help refugees with their legal problems”.<sup>39</sup>

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<sup>35</sup> AGÊNCIA NACIONAL DE TELECOMUNICAÇÕES. *Registrar reclamação*. Available in: <<https://www.gov.br/anatel/pt-br/consumidor/quer-reclamar/reclamacao>>. Last visited in 06 Apr. 2023. (Website from Brazilian federal agency Anatel for conflict resolution).

<sup>36</sup> BRAZIL. *Ministério da Justiça*. *Consumidor.gov.br* (online). Available in: <<https://www.consumidor.gov.br>>. Last visited in 02 Nov. 2022.

<sup>37</sup> Brazil has 26 States and one Federal District. Therefore, it is not possible to discuss all different models available. For those interested, we recommend reading the underlying statute: BRAZIL. *Lei* nº 13.105, de 16 de março de 2015. *Código de Processo Civil*. Published in 17 mar. 2015. Available in: <[http://www.planalto.gov.br/ccivil\\_03/\\_ato2015-2018/2015/lei/l13105.htm](http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13105.htm)>. Last visited in 04 May 2022.

<sup>38</sup> KATSH, Ethan. RULE, Colin. *What We Know and Need to Know about Online Dispute Resolution*. South Carolina Law Review. Vol. 67, 2016.

<sup>39</sup> MARCHANT, Gary E. *Artificial Intelligence and the Future of Legal Practice*. Southern Methodist University Science and Technology Law Review. Vol, 14, 2017.



The applications of AI on alternative dispute resolution are infinite and seems to be only beginning.

## 5. Disadvantages of resolving conflicts through litigation

As established earlier, AI is most efficient on resolving conflicts that are less complex or that follow patterns<sup>40</sup> and less reliable when the conflict presents more juridical complexity and abstract concept.

Therefore, the biggest question should be if those simpler cases need to be resolved in the Judicial system or not. In recent decades, the access to Justice principle gained great relevance and created a troublesome culture that judicial resolution is the best answer and first possibility. Judicial resolution is essential on a Democratic State, but it does not have to (nor should) be the first option.

Several disadvantages have already been established to resolve conflicts in the Judicial system, even with AI, when it could be solved by ADR/ODR/SDR:

- a) Judges and lawyers are suffering from an **overburden workload**: the prohibitive number of new and pending cases, with a great variety of complexity, turns the Judicial system into a more difficult forum to resolve both simple and complex cases.
- b) **Judicial resolution takes time**: due to the number of cases and the characteristics of civil procedure, it usually takes longer to resolve a conflict in Justice. Prolonging conflict, furthermore, is a source of animosity between those involved. While the conflict is not resolve, it is more likely for new conflicts arise between those involved than to achieve a peaceful coexistence.
- c) **The cost of litigation** can be high and even disproportional do the case: while in the United States litigation implicate unreasonable costs for those involved, in Brazil lawsuits represent a relevant cost for the Administration. In both situations, it is clear that a judicial resolution is not cheap and, when applied to repetitive or simpler cases, can even exceed the value in dispute.
- d) Applying AI in Judicial resolution can create **vulnerabilities to essential procedural guarantees**: a properly functioning Judicial system must ensure

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<sup>40</sup>To obtain a deeper knowledge on this matter, Rebecca Williams provides great output and examples of applications and problems regarding AI decision-making: WILLIAMS, Rebecca A. **Rethinking Deference for Algorithmic Decision-Making**. Oxford Legal Studies Research Paper n. 07, 2019.

several procedural guarantees, such as the right of defense, to contradict opposing arguments, of fast resolutions and of a decision by a proper authority (natural judge in Brazil, jury of peers, in many cases, in the United States). The use of AI, self-learning machines can confront several of those guarantees.

e) Greater **risks if an AI machine commits a failure**: it is evident that a machine, especially a self-learning machine, can make errors. Human supervision can help diminishing those mistakes, but investing too much time supervising the AI machines contradicts its purpose of reducing the time and the costs of a conflict. If an AI machine commits an error on an alternative resolution, even if a solution is not reached within that forum, there is always the Judicial possibility. But what can litigants do if this error happens in the Judicial system, or even in a Superior Court?

It seems as evidence that simple conflicts should be solved outside the Judicial system as it is that this solution should involve the help of artificial intelligence. The Judicial resolution is more complex, expensive and time-consuming. Justice's time should be preserved for cases that involve great legal complexity.

The opposite could result in a search for a judicial system that resolves conflicts faster, cheaper and without much effort. This is precisely the fear that Garth and Cappelletti when they advocated in favor of access to justice:

The reforms we enact must be thoughtful ones, reflecting an appreciation of the risks involved, as well as full awareness of the limits and potentialities of the regular courts, regular procedures, and regular attorneys. This is what is really meant here by the access-to-justice approach. **The goal is not to make justice “poorer”, but to make it accessible to all, including the poor.** And, if it is true that effective, not merely formal, equality before the law is the basic ideal of our epoch, the access-to-justice approach can only lead to a judicial product of far greater “beauty” – or better quality – than that we now have (highlight included in bold)<sup>41</sup>.

Furthermore, if an ADR/ODR/SDR forum fails to execute its function correctly, there will still be the Judicial solution. But preferably only in cases of severe failures. If alternative systems serve only as a first step to an inevitable judicial litigation, it will have little to no purpose and it is doomed to fail.

<sup>41</sup> CAPPELLETTI, Mauro. GARTH, Bryant. **Access to Justice**: The Newest Wave in the Worldwide Movement to Make Rights Effective. *Buffalo Law Review*, vol. 27, 1978. p. 292.

## 6. Advantages and possibilities of reducing litigation through implementing artificial intelligence

On the other hand, the use of artificial intelligence to turn ADR into ODR or SDR can help solving conflicts that could otherwise reach the Judicial system, reducing the workload for legal professionals and the cost and time-delay for litigants.

After the first step on bring alternative dispute resolutions (ADR) to the internet, with online dispute resolutions (ODR), AI machines can now be used to assist negotiations or even to formulate decisions as arbitrator or an administrative judge on public agencies, administrative courts. A concept that perhaps would be better describe as smart dispute resolutions.

Several advantages can be described:

- a) **Reducing litigation:** with mass resolutions through AI outside of the Judicial system, a step reduction of conflicts that would result in litigation can be expected. Furthermore, Justice will be able to focus on more complex cases.
- b) **Faster resolution:** non-judicial resolution, especially with the increment of AI, can reach faster solution to conflicts.
- c) **More peaceful mentality:** pending conflicts stimulates animosity among parties. Once they are solved faster, it becomes more likely that this relation can be amended or that it won't deteriorate more.
- d) **Possibility of judicial review:** if AI commits an error, the path for a judicial review would be still available.

Among those advantages, the relieve that could be provided to the Judicial System, preferably if the conflict is not even filled, is a remarkable one. Nevertheless, it might require further explanation, as one might deduce it would endanger access to justice or reduce the number of cases that reach trial. Once a conflict is properly resolved through an ADR/ODR/SDR, Justice is not blocked, it becomes unnecessary. Furthermore, regarding reduction of the percentage of cases that reach trials<sup>42</sup> – not a bad outcome *per se* – that is no evidence that alternative solutions is a negative factor on this matter. Since the greatest problems highlighted are the cost of litigation, the duration of the dispute or concern of

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<sup>42</sup> GALANTER, Marc. **The Vanishing Trial:** an Examination of Trials and Related Matters in Federal and State Courts. *Journal of Empirical Legal Studies*, Vol. 1, Issue 3, p. 459-570, November, 2004.

damaging reputation, alternative solutions are happily embraced by interested parties to avoid those problems. Therefore, ADR/ODR/SDR provide positive answers to liabilities of the Judicial System, rather than diminishing the value of Justice. One concerned with trial reduction should consider the problems within the system, rather than criticize a great option to avoid them.

Those ODR (or SDR) solutions should follow some essential characteristics: simplicity/accessibility, efficiency, fast resolutions and reliability. While possibilities can be limitless, a few could be suggested here:

- a) **Administrative/Agency Courts:** for conflicts involving the Administration;
- b) **Technical courts:** with professionals from other fields for conflicts involving scientific/technical problems;
- c) **Consumer SDR:** to resolve conflicts involving consumers;
- d) **Mediation conducted by AI:** an online platform can receive complains and intermediate offers of negotiation from parties, with minimum and maximum acceptable values to negotiate a final price. This can be very helpful in conflicts involving insurance companies, like automobile accidents.

These are just some suggestions for those conflicts. Several others could be considered. They only serve to offer other possibilities for the use of AI other than Judicial resolution. And they seem more effective and appropriated to resolve conflicts with AI without risks to due process and other procedural rights<sup>43</sup>, granted the issue of digital exclusion is properly addressed<sup>44</sup>.

## 7. Conclusion

Artificial intelligence, much like other technologies before, will likely change the way legal science professionals address conflict resolution. It is not a matter of if this will happen. It is a question of when, where and how. This study was focused on those questions.

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<sup>43</sup> CITRON, Danelle Keats. **Technological due process**. Washington University Law Review. Vol. 85, p. 1249-1313, 2008. p. 1300.

<sup>44</sup> MELO, Lilian M. Cintra de. **Enduring issues of digital exclusion, emerging pressures of internet regulation in Brazil**. *Suprema: Revista de estudos constitucionais*, v. 2, n. 1, p. 287-326. Jan./Jun. 2022.

AI, at its current state, is clearly better suited for patterned or simpler cases that have little to no legal discussion. In Brazil, the Judicial system is adapting fast to provide mass solution for those situations, through Judicial resolution. This is the improper part. Those cases could be dealt with out of the Judicial System.

Smart resolution inside the Judicial System would result in decisions with more participation from machines than humans. It would be an attempt to create a cheaper, faster and narrower Justice. With the rise of the principle of access to Justice, important authors warned about the risk that the effort to create a fast and more accessible Justice could result in a poorer and worst Justice<sup>45</sup>.

Justice should refrain to decide on a mass production basis, using AI. That would not be granting access to Justice. That would be failing it. Those conflicts that seem perfect for resolution with the assistance of AI should be address in smart alternative dispute resolution systems that would result in reducing litigation.

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<sup>45</sup> MOREIRA, José Carlos Barbosa. *Temas de direito processual: oitava série*. São Paulo: Saraiva, 2004. CAPPELLETTI, Mauro. GARTH, Bryant. **Access to Justice: The Newest Wave in the Worldwide Movement to Make Rights Effective**.

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