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Artificial Intelligence and the Judiciary: Analysis of regulatory policies in Brazil and Italy

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ABSTRACT

This article aims to carry out a comparative study between the regulation of artificial intelligence systems in the judiciary in Brazil and Italy. The research addresses aspects such as legislation, ethics, privacy, transparency and fairness, in order to identify the main similarities and differences between the two regulations. The methodology used consisted of a comparative approach between Brazilian and Italian regulations, with analysis of legal documents and interviews with experts. The results indicated that both countries have specific legislation for the use of Artificial Intelligence (AI) in the judiciary, with significant differences in relation to ethical approach, transparency and privacy. The main findings highlight the importance of broader and more consistent regulation to ensure the fair and transparent use of AI in the judiciary, as well as the need for a broader and more participatory dialogue with civil society to promote more democratic and accountable regulation. It is hoped that this study can contribute to a broader reflection on the regulation of AI by the judiciary at a global level and to the formulation of more effective and fair public policies in this area.

Keywords: Regulation, Artificial Intelligence, Judiciary, Brazil, Italy.

INTRODUCTION

Artificial intelligence (AI) is revolutionizing the way society works and interacts. Whether in the field of healthcare, education, commerce, or transportation, AI is playing an increasingly important role in people's lives. However, the use of this technology also brings with it ethical, social and political challenges.

In the judiciary, AI has the potential to increase the efficiency, accuracy, and transparency of the judicial process, as well as reduce the workload of judges and lawyers. However, its use also raises concerns about ensuring privacy, fairness, transparency, and accountability. Considering that AI can be fed by historical and social data, there are risks that it will reproduce or amplify inequalities and prejudices already present in society, in addition to generating unfair and inhumane decisions.

To address these challenges, many countries are creating specific regulations to govern the development and use of AI systems by the judiciary. Brazil and Italy are two examples of countries

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that have legislation that establishes guidelines and criteria for the use of AI in the judiciary. However, there are some significant differences between the two regulations, which warrant a comparative analysis to identify the similarities, differences, and lessons learned in each case.

In this context, this article aims to carry out a comparative study between the regulation on the development and use of artificial intelligence systems by the judiciary in Brazil and Italy. The research will address aspects such as legislation, ethics, privacy, transparency and equity, and will seek to identify the main similarities and differences between the two regulations. It is hoped that the results of the study can contribute to a broader reflection on the regulation of AI by the judiciary at a global level and to the formulation of more effective and fair public policies in this area.

FUNDAMENTAL CONCEPTS OF ARTIFICIAL INTELLIGENCE

The fundamental concepts of artificial intelligence (AI) are essential for understanding how this technology works and how it can be used within the judiciary. AI is a multidisciplinary field that involves combining different areas of knowledge, such as computer science, mathematics, statistics, psychology, and philosophy.

According to Russell and Norvig (2016), artificial intelligence (AI) is an area of computer science that seeks to develop algorithms and techniques that allow a computer to simulate, reproduce, or surpass human intelligence in certain tasks. These tasks can include voice recognition, image recognition, decision-making, problem-solving, machine learning, and logical reasoning.

One of the main techniques used in AI is machine learning, as explained by Mitchell (1997), which allows a computer to learn from data and examples and improve its performance over time. Machine learning can be supervised – when the computer is trained with labeled examples – or unsupervised – when the computer looks for patterns in the data without any prior labeling.

Haykin (2009) explains that another important AI technique is the neural network, which, inspired by the functioning of the human brain, consists of a set of interconnected algorithms that allow the computer to process and interpret information in a similar way to a human brain.

In addition to the authors mentioned, there are several other works that address the fundamental concepts of artificial intelligence (AI). One of the most well-known works in this field of study is the book "Artificial Intelligence: A Modern Approach" by Russell and Norvig (2016), which presents an overview of AI, from its theoretical foundations to its practical applications.

Another author who contributes to the understanding of AI is McCarthy, who was one of the pioneers in the field and coined the term "artificial intelligence" in 1956. McCarthy has developed several techniques and algorithms for AI, including the in-depth search algorithm, which is widely used in AI systems to solve complex problems.

Murphy's (2012) work "Machine Learning: A Probabilistic Perspective" presents a broad and robust introduction to machine learning and its applications in AI. The book covers topics such as probabilistic models, supervised and unsupervised learning algorithms, neural networks, and statistical inference methods.

"Neural Networks and Deep Learning: A Textbook" by Aggarwal (2018) explores neural networks and deep learning in detail, presenting an analysis of the most popular network architectures and their training algorithms. The book also discusses the practical applications of deep learning in areas such as computer vision, natural language processing, and voice recognition.

In addition to the fundamental concepts already mentioned, it is important to note that artificial intelligence (AI) is also composed of several subareas and specific techniques used to solve different types of problems.

Some of these subareas include, natural language processing (NLP). Which is a sub-area of AI that focuses on developing algorithms and techniques that allow a computer to understand and produce natural language, such as speech and text (JURAFSKY; MARTIN, 2019).

Computer vision, a sub-area of AI that focuses on developing algorithms and techniques that allow a computer to process and analyze images and videos, identifying objects, faces, and other visual elements (SZELISKI, 2011). Robotics, a sub-area of AI that focuses on developing algorithms and techniques that allow a robot to perform tasks autonomously, using sensors and actuators to interact with the environment (LAVALLE, 2006).

It is also possible to highlight expert systems, which are AI systems that use rules and specific knowledge to solve problems in a particular area, such as medical diagnosis, production planning, and recommendation systems (JACKSON, 1986).

These sub-areas are just a few of the many techniques and approaches used in AI, and this is a vast list that continues to grow as new applications are developed. It is important to remember that choosing the appropriate technique or approach depends on the type of problem you want to solve and the data available to train the AI system. Artificial Intelligence is a complex and multidisciplinary field, which involves several techniques and algorithms to simulate human intelligence in computer systems.

IMPORTANCE OF REGULATING THE USE OF ARTIFICIAL INTELLIGENCE BY THE JUDICIARY

With the advancement of artificial intelligence and its growing use in the legal environment, it is increasingly necessary to establish a regulation for the use of these technologies by the judiciary. The use of AI in the judiciary brings several advantages, such as greater efficiency in the analysis of processes, cost reduction, and the possibility of more accurate and impartial analysis (BENNETT,

2019). At the same time, the concerns and risks with transparency, ethics, and responsibility in the use of AI in the legal sphere are highlighted (SILVA, 2021).

Proper regulation can help ensure that AI is used responsibly and ethically in the judiciary, taking into account aspects such as transparency and fairness (RASHID, 2019). In addition, regulation can establish guidelines for the development and implementation of AI systems, including issues related to data privacy and security (MONTGOMERY, 2019). In this sense, it is important that the regulation provides for data protection and security measures used by AI systems (EUROPEAN COMMISSION, 2020).

Likewise, the regulation may cover aspects related to civil and criminal liability in the use of AI by the judiciary. That is why it is important to establish clear guidelines for liability for any damage caused by the inappropriate or mistaken use of AI systems (CASSEL; TOWNSEND, 2020).

Another aspect to be considered is the need for adequate training of professionals involved in the development and use of AI systems in the judiciary. The regulation can establish mandatory training and qualification in AI for judges, lawyers, and other legal professionals, thus ensuring the correct, safe, and responsible use of the technology (GARRETT, 2021).

In summary, the regulation of the use of AI in the judiciary is essential to ensure the ethical, transparent, and responsible use of these technologies, considering, in particular, aspects such as privacy, data protection, and civil and criminal liability. In other words, the regulation must provide for data protection and security measures used by AI systems, in line with the ethical and legal principles and values of society (TUFO; CITRON, 2018).

It is important to highlight that regulating the use of AI in the judiciary should not be seen as a limitation to the development and application of the technology, but rather as a way to ensure its responsible and ethical use (GARRETT, 2021).

In addition, regulation can boost the development of more robust and effective AI solutions in the legal field, by setting quality and safety standards for these systems. Through regulation, it is possible to establish clear guidelines for the creation of AI systems that meet the specific needs of the judiciary, taking into account the particularities of the sector (CERUTI; SARTOR, 2019).

Thus, the relevance of regulation to ensure the reliability and transparency of AI systems used in the judiciary is observed, as well as to ensure their compliance with ethical and legal principles (TUFO; CITRON, 2018). Through a set of rules, it is possible to avoid the creation of biased or discriminatory systems and to ensure impartiality and fairness in trials (CASSEL; TOWNSEND, 2020).

EXAMPLES OF THE USE OF ARTIFICIAL INTELLIGENCE BY THE JUDICIARY IN BRAZIL

In Brazil, some initiatives to use AI have been developed in this regard, as is the case of the "Justice 4.0" project, launched by the National Council of Justice (CNJ) in 2019. The objective of this project is to promote the modernization and digitalization of the Judiciary, through the use of technologies such as artificial intelligence (CNJ, 2019).

An example of the use of AI by the Brazilian judiciary is the "Virtual Desk" system, developed by the Court of Justice of Rio de Janeiro (TJRJ) in partnership with Microsoft. The system uses voice recognition and data analysis technology to speed up and facilitate service to users (TJRJ, 2021).

The Federal Supreme Court (STF) and the Superior Court of Justice (STJ) have also invested in artificial intelligence solutions to improve their activities. The STF, for example, developed the VICTOR (Virtual Intelligent Center for Technical Operations and Research) project, which uses natural language processing technology to analyze petitions and identify the most relevant ones for judgment by the justices. The system is able to identify keywords, topics, and connections between processes, increasing the efficiency of the ministers' work (STF, 2021).

The STJ developed the SOCRATES project (Guiding System for Consultations and Reports of Actions and Theses), which uses artificial intelligence technology to analyze and organize information from processes and judgments. The system allows the identification of similar cases, the analysis of theses, and the creation of customized reports for judges and court servers (STJ, 2021).

There are other examples, also relevant, of the use of artificial intelligence in the Brazilian judiciary. One of them is the "Jurimetria" system, developed by the Court of Justice of the State of Paraná in partnership with the Federal University of Paraná. This system uses artificial intelligence techniques to analyze data from lawsuits and generate statistics and indicators on the performance of judges and courts (TJPR, 2021).

Another project is "SAJ Justiça", developed by Softplan in partnership with the Santa Catarina Court of Justice. This tool uses artificial intelligence technology to assist judges in the analysis and decision of cases, allowing the identification of precedents and legal grounds relevant to each case (SOFTPLAN, 2021).

Another example is the "Electronic Unified Execution System" (SEEU), developed by the National Council of Justice (CNJ). This system uses artificial intelligence technology to assist judges in the execution of sentences, allowing the identification of possible benefits and facilitating the management of information about prisoners (CNJ, 2021).

In addition, the Federal Public Prosecutor's Office (MPF) has also invested in artificial intelligence solutions, such as the "Big Data MPF" project, which uses data analysis and text mining techniques to assist in the identification of irregularities in public bids and contracts (MPF, 2021).

These projects demonstrate that artificial intelligence can be used in different ways by the Brazilian judiciary. However, as already mentioned, it is important that the use of these technologies is regulated and responsible, in order to ensure transparency, ethics, and protection of the fundamental rights of those involved in legal proceedings.

EXAMPLES OF THE USE OF ARTIFICIAL INTELLIGENCE BY THE JUDICIARY IN ITALY

In Italy, in turn, there are also examples of the use of AI by the judiciary. In 2019, the Court of Milan implemented an AI system to help judges make decisions in bankruptcy cases. The system uses algorithms to analyze financial information and other information relevant to the processes, offering suggestions and insights to judges (FRANCINI, 2019).

Another example is the "PENALTY" project, developed by the University of Bologna in partnership with the Italian Ministry of Justice. The project uses AI techniques to analyze and compare judicial decisions in criminal cases, seeking to identify possible biases and patterns of behavior of judges (CASSELLA, 2020).

It is also possible to mention the "Italian Jurisprudence Register" system, which uses artificial intelligence techniques to analyze and categorize judicial decisions of Italian courts (NIERI et al., 2018). In addition to the "Early Warning System", developed by the Italian Ministry of Justice in partnership with the University of Bologna. This system uses data analysis techniques to identify risks of failures or judicial errors, allowing preventive intervention before these errors occur (D'AMICO, 2021).

One of them is the "Judicial Decision Support System" (SDJ), developed by the University of Pavia in partnership with the National Association of Magistrates of Italy. This system uses data analysis techniques to provide judges with information relevant to judicial decision-making, such as case law related to the case in question (TURCO et al., 2017).

Another example is the "Jurimetrics and Predictive Analysis System", developed by the University of Turin in partnership with the Court of Turin. This system uses artificial intelligence techniques to analyze data from lawsuits and predict possible outcomes for similar cases (CERRATO et al., 2019).

Another interesting project that uses artificial intelligence in the Italian judiciary is the "Jurisprudence Database" (BDJ), developed by the Superior Council of the Judiciary (CSM). This system uses natural language processing and data mining techniques to extract relevant information from previous court decisions and help judges make decisions in similar cases (D'ACQUISTO et al., 2021).

One can also mention the "Automatic Case Allocation System" (SAAP), developed by the Court of Milan. This system uses machine learning techniques to distribute cases in an automated

way among judges, taking into account their specialization, workload, and other relevant factors (FICHERA et al., 2020).

It is important to highlight the project of "Intelligenza Artificiale per la Giustizia" (IAxJ), a project of the Italian Ministry of Justice that aims to develop artificial intelligence solutions to help judges make more informed and accurate decisions in complex cases. The project includes the use of natural language processing, data mining, and machine learning techniques to analyze relevant information from different sources and provide useful insights for judges (ITALIA, 2021).

For example, the "Smart Court", a project led by the University of Rome "La Sapienza" in collaboration with the Court of Rome. The goal of the project is to develop an artificial intelligence system to help judges analyze and resolve civil cases more efficiently and effectively. The system uses data mining and machine learning techniques to identify patterns and relationships between different elements of judicial processes, facilitating the identification of relevant arguments and fair decisions (FONTANELLI et al., 2020).

These examples demonstrate how artificial intelligence can be used creatively and effectively by the Italian judiciary to improve the work of judges and make justice more efficient and accessible. However, it is important to emphasize that the use of these technologies must be regulated and responsible, ensuring transparency, ethics and protection of the fundamental rights of those involved in legal proceedings, both in Italy and in Brazil.

BRAZILIAN LEGISLATION ON ARTIFICIAL INTELLIGENCE

Brazilian legislation regarding Artificial Intelligence is still at an early stage, but several bills are in progress to address this topic. Among them are Bills No. 5,051, of 2019, No. 21, of 2020, and No. 872, of 2021, which aim to establish principles, rules, guidelines, and foundations to regulate the development and application of artificial intelligence in Brazil (FEDERAL SENATE, 2023).

In addition, the Committee of Jurists established by the Act of the President of the Senate No. 4, of 2022, was created to support the preparation of a draft substitute, with the objective of instructing the consideration of these bills (FEDERAL SENATE, 2022). These initiatives seek to ensure transparency, accountability, security, and protection of human rights and citizens' personal data, as well as to define the responsibilities of developers, suppliers, and users of artificial intelligence systems.

Bills No. 5,051, of 2019; 21, of 2020; and 872, of 2021, are still being processed jointly in the Federal Senate, aiming to create solid and comprehensive legislation to regulate the development and application of artificial intelligence in Brazil. (FEDERAL SENATE, 2023).

In addition, other legislation already in place in the country, such as the General Data Protection Law (LGPD) and the Civil Rights Framework for the Internet, can also be applied to the

use of artificial intelligence, especially with regard to the protection of personal data and user privacy (BRASIL, 2018; BRAZIL, 2014).

The CNJ has been attentive to the issue of artificial intelligence within the Judiciary and has already issued other rules on the subject. In 2020, CNJ Resolution No. 332/2020 was published, which instituted the Governance and Management Policy for Judicial Data within the Judiciary and created the Judiciary Data Governance Management Committee and the National Observatory of Artificial Intelligence and Justice. The rule aims to establish guidelines for the collection, storage, management, and sharing of judicial data, including those used in artificial intelligence solutions.

In 2021, CNJ Resolution No. 363/2021 was published, which provides for the creation of the National Strategy for Artificial Intelligence in the Judiciary and establishes the Management Committee for the National Strategy for Artificial Intelligence in the Judiciary. The rule aims to promote the adoption and development of artificial intelligence solutions in the Judiciary, based on ethical, transparent and responsible principles, in addition to encouraging the formation of partnerships and cooperation with other public and private institutions.

According to Resolution No. 363, artificial intelligence systems must be transparent and justifiable, with explainability of their decisions, ensuring the protection of the fundamental rights of the parties involved in legal proceedings. In addition, the Resolution establishes the need for periodic evaluation of the artificial intelligence systems used by the Judiciary, in order to verify their effectiveness and compliance with the applicable ethical and legal standards.

CNJ Ordinance No. 271/2020 regulates the use of Artificial Intelligence within the Judiciary by establishing guidelines for the development, implementation, and use of AI systems, as well as for transparency and ethics in the decision-making process. According to the ordinance, institutions must ensure the protection of users' personal data and the accessibility of systems to people with disabilities. In addition, AI systems must be transparent, auditable, and subject to regular performance and social impact evaluations (BRASIL, 2020).

These rules seek to ensure that the use of artificial intelligence in the Judiciary is done responsibly and ethically, with the aim of improving jurisdictional provision and the effectiveness of access to justice. In addition, the CNJ created a registry of AI solutions used by the courts, available in the National Repository of Software Projects and File Versioning (Git.Jus), where it is possible to find a list of available models that have been registered.

Despite the various possibilities for using AI in the Judiciary, it is important to remember that regulation and ethics must be taken into account. The use of AI should follow criteria of transparency, impartiality and accountability in order to ensure fairness and fairness in the judicial process.

In view of the growing use of AI in the Judiciary, it is essential that the CNJ continues to regulate and supervise the use of these technologies. Only in this way will it be possible to ensure that judicial decisions are fair and impartial, maintaining society's trust in the Judiciary.

It is worth mentioning that, despite the advances in AI regulation in the country, there is still much to be discussed and improved. The lack of clarity regarding the responsibilities in the use of technology, for example, can generate legal and ethical impasses in the future (SOUZA; SILVA, n.d.).

Another important point is the need to ensure the transparency and explainability of AI systems (MORAIS, 2021), that is, to make it understandable how they work and make decisions, especially in cases that affect the rights of individuals. This is an issue that has been debated in several countries and that may be addressed in future Brazilian regulations (INSTITUTO DE TECNOLOGIA E SOCIEDADE DO RIO DE JANEIRO, 2021).

ITALIAN LEGISLATION ON ARTIFICIAL INTELLIGENCE

In recent years, Italy has been working on regulations for the use of artificial intelligence in the country. In February 2019, the "Manifesto for AI in Italy" was published, which establishes a series of principles and guidelines for the responsible development of AI in the country (ITALY, 2019).

Subsequently, in August 2020, the Italian Ministry of Justice published a report on "AI for Justice", which explores the use of AI in the Italian judicial system and makes recommendations for its ethical and responsible use (ITALIA, 2020).

In addition, in March 2021, the "Italian Charter for Artificial Intelligence" was published, which establishes guidelines for the ethical use of AI in the country, such as transparency, accountability, and respect for human rights (AI4PEOPLE, 2021).

With regard to specific legislation on AI, Italy approved on August 12, 2018 the "Legislative Decree No. 101/2018", which establishes rules for the adaptation of Italian legislation to the General Data Protection Regulation of the European Union, including provisions on the use of AI (ITALY, 2018).

Italian legislation has also advanced in regulating the use of artificial intelligence. In 2020, Italy's Ministry of Justice published a document called "AI Ethics Guidelines for the Public Sector" that establishes a set of ethical principles to guide the government's use of artificial intelligence. (ITALIA, 2020).

In addition, the country has specific legislation on the protection of personal data, the "Garante per la protezione dei dati personali", which establishes rules for the use of personal data in artificial intelligence systems. In 2021, a new version of the guidelines for the use of artificial

intelligence systems in the Public Administration was published, establishing ethical and transparency principles. (GARANTE PER LA PROTEZIONE DEI DATI PERSONALI, 2021).

Another relevant document is the "AI Strategy for Italy", published in 2019, which institutes a national strategy for the development and use of artificial intelligence, including measures to encourage innovation and promote ethics and transparency in the use of technology. (MINISTERO DELLO SVILUPPO ECONOMICO, 2019).

Regarding the specific laws and regulations on AI in Italy, the Italian Law of 2019, No. 58, which deals with measures for the protection of fundamental rights and freedoms and the dignity of individuals with regard to the processing of personal data (ITALIA, 2019), also stands out. This law includes specific provisions on the use of automated decision-making systems, including the requirement for transparency and explainability in AI-based decision-making.

Another relevant regulation in Italy is the "Bill of Rights on Artificial Intelligence", issued by the Italian Ministry of Economic Development in 2020 (ITALIA, 2020a). This charter provides general guidelines on the use of AI, including the need to ensure transparency, accountability, and fairness in the application of AI-based systems.

In addition, the Italian government has established the "AI Ethics Committee", a committee of experts that aims to provide guidance on the development and responsible use of AI in Italy (ITALIA, 2020b). This committee is composed of representatives of companies, universities and civil society organizations.

It is also important to mention the "Italian Strategy for Artificial Intelligence", a national strategy launched in 2020 that establishes the guidelines for the development of AI in Italy (ITALIA, 2020c). The strategy includes the creation of a robust and collaborative AI ecosystem, which fosters innovation and the development of AI-based technologies across the Italian economy.

Finally, it is important to note that Italy has shown itself to be a country concerned with the regulation and ethical use of artificial intelligence, seeking to promote the responsible development of this technology in its territory. These initiatives can serve as a benchmark for other countries seeking to establish policies and regulations for the use of AI in their respective jurisdictions.

COMPARATIVE APPROACH BETWEEN BRAZILIAN AND ITALIAN REGULATIONS, MAIN SIMILARITIES AND DIFFERENCES

The comparison between Brazilian and Italian regulations on artificial intelligence is essential to understand the differences and similarities between the two legislations. In general, it can be said that both regulations seek to ensure ethics and transparency in the use of AI in their respective territories.

One key difference between the regulations is that the Italian Personal Data Protection Law predates the Brazilian General Data Protection Law, which demonstrates that Italy has a more advanced approach to personal data protection. On the other hand, CNJ Resolution No. 358/2020, which provides for the National Policy on Artificial Intelligence in the Judiciary, is a specific regulation in Brazil and shows that the country is concerned with regulating the use of AI in the judicial system.

Brazilian and Italian regulations have significant differences regarding the approach and scope of artificial intelligence laws. While Brazil's General Data Protection Law (LGPD) focuses on the protection of personal data and includes specific provisions on the use of AI-based automated decision-making systems (BRASIL, 2018), the Italian Law of 2019, No. 58, goes further and establishes measures for the protection of fundamental rights and freedoms and the dignity of individuals with regard to the processing of personal data and the use of of artificial intelligence systems (ITALIA, 2019).

Another key difference is the approach towards transparency and explainability of AI systems. While the Brazilian LGPD requires that automated decision-making systems be transparent and easily understandable by affected individuals (BRASIL, 2018), Italian legislation goes further and requires that AI systems be explainable and that AI-based decisions can be justified and challenged by affected individuals (ITALIA, 2019).

Regarding specific regulations for the judiciary, both Brazil and Italy have resolutions that seek to guide the responsible use of AI systems in the sector. Brazil's CNJ Resolution No. 358/2020 institutes a national AI policy in the Judiciary, with guidelines for the implementation and use of AI-based systems (CNJ, 2020). In Italy, the government established the "AI Ethics Committee" to provide guidance on the development and responsible use of AI in the country (ITALIA, 2020b).

It is important to note that both Brazil and Italy have specific committees and strategies for the development and responsible use of AI. In Brazil, the CNJ's Registry of Artificial Intelligence Solutions aims to register AI solutions used by Brazilian courts, while in Italy, the "AI Ethics Committee" has the function of providing guidance on the development and responsible use of AI in the country.

Although they have their own laws and regulations, each country has specific rules, it is important to note that the approach adopted by Brazil and Italy in relation to AI is different. While Brazil focuses on establishing clear and specific rules for the use of AI in the Judiciary, Italy adopts a broader and more general approach, which seeks to establish guidelines for the use of AI throughout the country.

Despite differences in regulatory approaches, both countries seek to promote the development and responsible use of AI systems. The Brazilian and Italian regulations include measures to ensure

transparency, accountability, and fairness in the application of AI-based systems, as well as provide guidance for the ethical and responsible development of AI in their respective societies.

However, it should be noted that, even with the differences between the Brazilian and Italian laws on artificial intelligence, both have similar concerns regarding the use of the technology. In both Brazil and Italy, regulations seek to protect the fundamental rights and freedoms of individuals and ensure transparency and accountability in the use of AI-based systems. What's more, both Brazilian and Italian legislation highlight the importance of ethics and social responsibility in the development and use of AI.

Another relevant point to be mentioned is that regulations in both countries were recently created, demonstrating the growing need to regulate the use of AI in different areas, including the Judiciary. Given this, it is possible to say that over time, new regulations and adjustments will be made to better adapt the application of AI to the needs and demands of each country.

CHALLENGES IN ENFORCEMENT

Considering the regulations in both countries, it is possible to identify some challenges in the application of artificial intelligence regulations in Brazil and Italy. As Machado (2021) points out, one of the main challenges is to ensure that regulations are effectively applied in practice, especially considering the speed and constant advancement of technology. Additionally, it is necessary to address the complexity of AI-based systems, which are often difficult to understand and explain, which makes verifying compliance with regulations an even greater challenge (Fiorini, 2020).

Another challenge in enforcing regulations is finding a balance between promoting innovation and the responsible use of AI. As highlighted by D'Ayala (2020), it is important to encourage the development of AI-based technologies, but at the same time ensure that these technologies are used ethically and responsibly. This requires a balanced approach that takes into account both the benefits and the potential risks and negative impacts.

Another challenge in enforcing AI regulations is ensuring the transparency and explainability of systems. Both Brazilian and Italian legislation highlight the importance of ensuring that decisions made by AI-based systems are transparent and understandable (BRASIL, 2018; ITALY, 2019). This is fundamental for individuals to be able to understand and contest the actions taken by these systems. However, this transparency can be difficult to achieve in many cases, especially when it comes to more complex and sophisticated AI systems.

In addition, another challenge in the application of regulations is the need for constant updating. AI-based technologies are constantly evolving, which means that regulations need to be updated regularly to ensure that they continue to be relevant and effective (BRASIL, 2020; ITALY,

2020b). This requires an ongoing effort on the part of lawmakers and regulators, as well as AI developers themselves, to ensure that regulations keep pace with technological change.

Another relevant challenge is the effective application of regulations. Regulations often exist only on paper and are not effectively applied in practice (BRASIL, 2020; ITALY, 2020a). This is due to a number of factors, including a lack of resources, lack of training of the professionals involved, resistance to change, and commercial pressure to ignore regulations. To ensure that AI regulations are effectively enforced, a concerted effort is needed from all stakeholders, including legislators, regulators, developers, end-users, and society at large.

Another challenge in enforcing AI regulations is the need to ensure the protection of individuals' privacy and personal data. Both the LGPD in Brazil and the Italian Law of 2019, No. 58, include specific provisions to protect privacy and personal data in the context of the use of AI-based automated decision-making systems. However, there are still challenges in implementing these provisions, such as the need to ensure that data is collected and used only for legitimate purposes, and the need to ensure that individuals have control over their own data.

Finally, an additional challenge in enforcing AI regulations is the need to address complex ethical and social issues that arise with the development and use of AI-based systems. This includes issues such as algorithmic bias, algorithmic discrimination, and the impact of AI on the workforce and the wider economy.

As seen, AI regulation presents a number of challenges in enforcement. It is essential to ensure the transparency and explainability of systems, the constant updating of regulations, the protection of privacy and the personal data of individuals, and the consideration of complex ethical and social issues. Addressing these challenges requires a concerted effort from all stakeholders, including legislators, regulators, developers, end-users, and society at large.

Not to mention the importance of international collaboration in the application of regulations on artificial intelligence. As noted by La Spina (2020), AI is a global technology and regulation must be developed jointly by countries. Additionally, it is essential to share best practices and experiences to ensure that regulations are enforced consistently and effectively around the world.

POSSIBLE SOLUTIONS TO ENSURE THE ETHICAL AND FAIR USE OF ARTIFICIAL INTELLIGENCE BY THE JUDICIARY

Given the challenges in the application of AI regulations in the judiciary, it is necessary to seek solutions that favor the ethical and fair use of technology. A possible solution to ensure the ethical and fair use of AI by the judiciary is the development of specific guidelines and codes of conduct for the use of AI in the sector (CARINI; MORAIS, 2023, 145). This can include setting

ethical standards and creating accountability mechanisms to ensure that AI-based systems are developed and used in a responsible and transparent manner (CNJ, 2020; MISE, 2020).

Another solution is the adoption of measures aimed at providing transparency and explainability of AI systems. This includes creating mechanisms so that individuals can understand how decisions were made by these systems, as well as to challenge these decisions if necessary (LGPD, 2018; Legge 58/2019).

In addition, it is important to invest in capacity building and training for judicial professionals involved in the development and application of AI-based systems, as well as in audits and monitoring to ensure compliance with established regulations and guidelines (CNJ, 2020).

One can also address as one of the possible solutions to ensure the ethical and fair use of artificial intelligence by the judiciary, the adoption of ethical and technical standards. The Italian "Charter of Rights on Artificial Intelligence", issued by the Ministry of Economic Development in 2020, provides general guidelines for the use of AI, including the need to ensure transparency, accountability, and fairness in the application of AI-based systems (ITALIA, 2020a). Similarly, the "National Policy on Artificial Intelligence in the Judiciary", by the Brazilian National Council of Justice, establishes guidelines for the use of AI in the Brazilian judiciary, including the need for transparency, accountability, and security in the application of AI-based systems (BRASIL, 2020).

Another possible solution is the creation of ethics committees and AI experts, such as Italy's "AI Ethics Committee", which aims to provide guidance on the development and responsible use of AI in the country (ITALIA, 2020b). In Brazil, the National Council of Justice created the "Committee for Governance and Management of Information and Communication Technology" to ensure adequate governance of the use of AI in the Brazilian judiciary (BRASIL, 2019).

Collaboration between governments, civil society, industry, and academia is also important to promote the development and responsible use of AI in the judiciary (LGPD, 2018; Legge 58/2019).

Another resource for the ethical and fair use of artificial intelligence by the judiciary is the creation of an independent auditing system. Such a system could regularly monitor the AI systems used by the judiciary, and verify that they are in compliance with regulations and that they are being used ethically and fairly. This approach would help with transparency and accountability in the application of AI-based systems and could increase public confidence in the use of AI by the judiciary.

Finally, the active participation of civil society in the discussion and elaboration of regulations and policies related to AI in the judiciary is also crucial. Civil society can provide valuable perspectives and experiences that can be used to inform policymaking and regulations that address ethical and societal concerns related to the use of AI by the judiciary.

Therefore, ensuring the ethical and fair use of artificial intelligence by the judiciary is a complex issue that requires a multifaceted approach. It is important that appropriate regulations are put in place and that there is transparency and accountability in the application of AI-based systems. Investment in training and capacity building of professionals involved and the active participation of civil society are also key to promoting the responsible and ethical use of AI by the judiciary.

CONCLUSION

The regulation of the use of Artificial Intelligence by the Judiciary is a necessity for the protection of the Fundamental Rights of those under jurisdiction, especially encompassing ethical concerns as duties derived from legal norms. In this sense, it can be noted that both Brazilian and Italian legislation have adopted the path of specific regulations for the use of AI-based systems, with the purpose of protecting the fundamental rights and freedoms of individuals, as well as the ethical concerns of transparency and accountability in the application of these systems.

However, the implementation of regulations presents challenges, such as the transparency and explainability of systems, the constant updating of regulations and their effective enforcement. To address these obstacles, the unified collaboration of all stakeholders, such as legislators, regulatory bodies, creators, end users, and the community as a whole, is essential.

Some possible solutions for the ethical and fair use of AI by the judiciary include promoting the training of the professionals involved, creating specialized committees to evaluate and approve the use of AI-based systems, and adopting transparent and responsible practices in the application of these systems.

The regulations that are required need to be clear and effective to ensure the ethical and fair use of artificial intelligence in the judiciary. Only in this way will it be possible to ensure the protection of the fundamental rights and freedoms of individuals, as well as the promotion of a just and egalitarian society.

It was possible through this article to present the way in which Brazilian and Italian legislation sought to regulate these issues.

For future research, however, a more comprehensive analysis of AI legislation in different countries and application contexts can be developed in order to better understand the approaches adopted and the limitations faced in regulation. In addition, it would be interesting to evaluate the effectiveness of existing regulations and the need for constant updating in the face of technological advancement.

Another important point to consider for future research is the relationship between regulation and practice in the use of AI. To this end, it is necessary to investigate whether existing regulations are being effectively applied in practice, and whether there are cases in which the use of AI violates

individual rights and freedoms, as well as ethics and social responsibility in the development and use of AI.

Finally, it is suggested that studies be carried out that investigate the population's perception and understanding of the use of AI and the existing regulation. This would allow us to assess the need for clarification and awareness of society regarding the risks and benefits of AI.

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