ARTIFICIAL INTELLIGENCE, ETHICS AND SPEED PROCESSING IN THE LAW SYSTEM

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ABSTRACT

Objective: This study aims to demonstrate how the use of generative Artificial Intelligence (AI) fosters innovation within the Judiciary by enhancing the operational performance of the legal system.

Methodology: The research adopts an explanatory qualitative approach with a theoretical foundation. It relies on secondary data and documentary evidence sourced from specialized literature.

Results: The findings suggest that generative AI significantly expands the operational capacity of judges and legal professionals by automating repetitive tasks and facilitating the generation of legal sentences. This leads to improved decision-making and more effective legal strategies, thus enhancing the overall efficiency of the judiciary.

Conclusions: The integration of generative AI in the legal system has the potential to revolutionize the practice of law, making it more accessible and less discriminatory. The ethical considerations embedded in AI systems are crucial for ensuring that justice is administered fairly and in alignment with fundamental human rights. As AI continues to evolve, its role in supporting judicial processes will likely increase, contributing to a more efficient and ethical legal system.

Keywords: Artificial Intelligence, Legal Innovation, Judicial Efficiency, Ethics in AI, Legal System

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INTELIGÊNCIA ARTIFICIAL, ÉTICA E CELERIDADE NO SISTEMA JURÍDICO

RESUMO

Objetivo: Este estudo tem como objetivo demonstrar como o uso de Inteligência Artificial (IA) generativa promove a inovação no Judiciário, melhorando o desempenho operacional do sistema jurídico.

Metodologia: A pesquisa adota uma abordagem qualitativa explicativa, com base teórica. O estudo se apoia em dados secundários e evidências documentais extraídas da literatura especializada.

Resultados: Os resultados indicam que a IA generativa amplia significativamente a capacidade operacional de juízes e profissionais do direito, automatizando tarefas repetitivas e facilitando a geração de sentenças jurídicas. Isso leva a uma melhoria na tomada de decisões e em estratégias jurídicas mais eficazes, aumentando, assim, a eficiência geral do Judiciário.

Conclusões: A integração da IA generativa no sistema jurídico tem o potencial de revolucionar a prática do direito, tornando-o mais acessível e menos discriminatório. As considerações éticas incorporadas nos sistemas de IA são cruciais para garantir que a justiça seja administrada de maneira justa e em conformidade com os direitos humanos fundamentais. À medida que a IA continua a evoluir, seu papel no apoio aos processos judiciais provavelmente aumentará, contribuindo para um sistema jurídico mais eficiente e ético.

Palavras-chave: Inteligência Artificial, Inovação Jurídica, Eficiência Judicial, Ética na IA, Sistema Jurídico.

1. Introduction

Law, considered as an applied science, involves the study of the norms that guide and discipline the social structure. Hence, the normative apparatus that positions man in society, originates in the rights and obligations of each person in their social life. This implies that the operational purpose of Law is the adjudication of conflicts to maintain order and pacification in society. Pacification is understood to be the balance of social relations resulting from the fair application of the law to human behavior, distinguishing right and wrong, in a fair and responsible way.

By combining values, rights and obligations in a same set, one introduces the ethics in society, as an amalgam that maintains social equilibrium. Ethics gives weight to social values and limits to the rights and obligations. Ethics, in this system, is the set of principles that guide moral decisions in human interactions (Pinto, 2021). Ethics also involves the critical framing of man's actions under the moral values of the society to which he belongs. In this way, a close relationship can be seen between Law and Ethics. The first is involved

with the behavior, right or wrong, that suits the individual in his social environment and the second deals with the criteria, within which a fact or event can be considered right or wrong in a specific society.

The traditional process of applying the law's criteria to determine right or wrong according to the codex to a person's behavior, takes time, energy and consumes a considerable amount of resources, as it's done by human action. Service technology, however, has advanced significantly in recent decades, especially in machine learning and Artificial Intelligence (AI). Repetitive services are now gradually being executed by machines oriented by AI. In Law, a number of such services are rapidly being provided by AI. These services include the preliminary analysis of documents, proves, testimony synthesis etc.

Artificial Intelligence, in this way, is a technology that makes a machine capable of carrying out tasks that were previously carried out only through human intelligence. The essence of AI is the presence of algorithms that allow machine learning, associated with computational processing capacity. The advancement of microprocessors from 4 bits to 8, then to 16, to 32 and more recently to 64 bits, increases the simultaneous processing capacity by 16 times. This evolution gives us a fair idea of computational advances and capability of problem solving.

An algorithm is a processable representation of a problem, by computer. Algorithmic representations have been given increased attention over the last 70 years. As a processing logical structure, algorithms influenced the development of AI's itself and its ability to perform human tasks. As a result, the growing sophistication of algorithms, associated with digitalization and natural languages, transformed AI into a tool to replace men's tasks across almost all sectors of human activity. AI, in turn, becomes present in everyday life, whether securing automation of production of all kinds of products, whether supporting automobiles maneuvering, or increasing efficiency of judicial systems.

One can imagine that, in all sectors, but especially in the judicial one, ethical issues immediately come to light, because of the risk of biases in algorithms. An algorithm, depending on the logic used, the criteria and respective weights to solve a problem, can

lead to wrong decision. Its influence, therefore, will be critical for process the transparency and accountability of actions in the judiciary. In most cases, the judiciary must undertake ethical considerations, which transcend the mere technical aspects of the facts on trial. Biased decisions can result into racist, or ideologically distorted, or simply unfair, sentences, all of which are incompatible with the social function of justice.

One can infer, therefore, important relationships between AI, ethics and Law. These relationships are subject of heated discussions in the social media, regarding the future role, the functions and the usefulness of AI in a country's social structure. One can argue, in addition, that the relationships between these three elements affect the development, applications and future role of the AI technology. As Law is guided by ethical values and ethics express the moral principles of a society, the algorithm embodied in the basis of the AI's technology, should assure, at least, the fair enforcement of the law. Or else, it may become an instrument of undermining individual freedom and distortion of law.

Traditional, non-generative artificial intelligence has been used, for some decades, to assist in the operation tasks of the legal system. Tasks include cataloging and distributing processes, making agenda etc. However, since the advent of generative AI, capable of learning and generating texts, images and audio, the functions and use of AI in the legal system have rapidly expanded. Actually, the use of generative AI in Law extends from generating functional legal texts to the search and analysis of information in jurisprudential databases, as well as the generation of legal texts, especially aimed at adjudicatory sentencing. Important benefits arise from these advancements, mainly increasing the speed of the judiciary, lowering operational costs, consolidating documentary information and providing statistical series that help in the accuracy of sentences.

Thus, the role and functions of AI in the judiciary increase. But, it also increases, to the same extent, concerns about issues related to ethical values, to the neutrality of judgement and to the risks of biases in sentencing. It is, thus, the objective of this work to demonstrate the relationship between AI, ethics and performance of the judiciary. Meaning that we here explore the main conceptual elements of AI, of ethics and of the judiciary operational process.

The profile of modern society is being built by man, based on 7 technologies: ubiquitous computing, wireless communication via mesh Wi-Fi, biotechnology, nanotechnology, intelligent robotics, deep learning technologies (machine learning) and 3D printing (Segars, 2018). In this context, digital technologies, originating from deep learning, are increasingly prominent. In the field of Law, AI, an arm of deep learning, has acquired central importance, because of its growing role in replacing repetitive human tasks. Nowadays, it is moving towards generation of sentences, a much more critical function, because of the needs of ethical considerations in judicial decision. AI criticality is rooted in moral principles leading to individual obligations that boosts dignity of a human person.

Pragmatically, AI expands the ability of judges and legal practitioners to make better decisions and strategies in their roles. Judges will be able to give out better sentences, considering different aspects of the demands and use more accurately related information, even issuing more pacifying sentences. Lawyers will be able to evaluate more effective strategies for defending their cases. They can now consider a broader database to fit their case, with a greater historical reach and distinct evidence to vindicate their arguments.

From the point of view of technology itself, AI that keeps the design of algorithms embodied by ethical standards, becomes an essential instrument to avoid discrimination and unfair justice, played in the adjudication process. Thus, AI reduces social dissatisfaction and, at the same time, teaches individuals the value of ethics' principles in social relations. AI, therefore, is potentially revolutionary for it makes Law more accessible and less discriminatory to society, whenever its use is associated with ethical standards, allowing AI to be used in a responsible and fair way.

2. Preliminary Concepts

The demonstration of AI as an ethical support to speed the Judiciary processes involves the conceptual understanding of each agent involved: AI, ethics and the Judiciary.

2.1 Artificial Intelligence

If the literature on the knowledge of theories that support the development of AI holds secular roots, the literature on application of AI in execution of work is subject of only recent publication. Godfellow et al. (2016) pointed out the mechanics of machine learning. Considering the multidisciplinary characteristics of machine learning, the contributions of the various fields of information theory, statistical probability theories, mathematical concepts, and theories of the hierarchy of concepts, computational machines learn complex structures from simpler elements. The types of tasks performed, once learned, can be classified under distinct criteria, whether by format, process, nature, or the purpose of the tasks.

Considering, however, that artificial intelligence is, roughly speaking, the ability to execute tasks guided by algorithms, depending on their nature, there would pave a generic criterion for classifying AI: nature of the task. According to the task nature, therefore, the traditional AI refers to the one capable of carrying out simpler and more limited tasks (Stuart & Norvig, 2022). Tasks with a specific limited purpose, that process specific data and that obey prefixed rules, fall in the range of traditional AI. Search engines, such as Bing, from Microsoft or Google Search are examples of traditional AI. Both dispose predetermined search format and index of the information sources (Web pages). Content classifier algorithms allow them to extrapolate the response to user demands, efficiently, but still limited to the generic concept of the task.

Generative AI is based on the concept that the algorithms, determining the steps of a task are part of a decision-making system following to the neural networks and deep learning (Van Veen, 2016) structures. Put it simple, data and information processing follow the input and output relationships between neurons. Deep learning process keeps on neural relationships, distributed in distinct and hidden layers which, by the way, led researchers to call it a deep neural network (Godfellow et al., 2016). Therefore, generative AI has a procedural logic originated in the operational structure of the deep neural network. This logic hands in to AI the ability to work information thus, generating new or combined

knowledge. Initial deep neural network models, however, were not responsive enough to specific needs of distinct contents, such as images, music, colors, etc. So technical people designed countless neural networks with different patterns aiming to meet the different needs/demands (Van Veen, 2016). Based on this apparatus, generative AI can not only process available information, but can also make combinations for new knowledge and yet bring out innovation.

In this way, as man provides information and data associated with values criteria, to sophisticated enough neural networks, generative AI could eventually learn how to use them in appropriate ways that could end up producing human-like results. It is in the generation of combined knowledge that the importance of using ethical values comes into play. Finally, it seems that the generation of "human" quality responses by AI is the type of intelligence with the utmost interest to the Judiciary.

2.2 Ethics

In his book Nicomachus Ethics, addressed to his son, Aristotle distinguishes ethics from morals, in the same basis as his preceptors, Plato and Socrates. For Aristotle, ethics is rational, because it refers to the choice of moral principles, in a balanced way by the individual, for the best social life (Aristotle, 2018). This choice should not be exacerbated, neither towards moral radicalism nor towards negligence (lack) of morals. The process of choosing the principles to be followed, when faced with situations that affect relationships between people, is an ethical process. By considering several factors simultaneously, whether of the same or different nature, ethics becomes the amalgam of principles and value combination that guide social dynamics (Wancok, 2021).

Ethics, as science and philosophy, therefore, is the process that combines values and moral principles. Of course, such principles guide decisions that individuals and society have the right to make and that boosts the validity of doing so (Habermas, 2013). In other words, ethics, while being based on moral principles that would give the individual the right to make a decision, guarantee that the decision made is correct (Dias, 2020). Why? Because professed moral principles assure correctness to behavior. These two elements

(morality and correctness) need to guide the decision, so that the action can be assumed to be ethically correct (Vaz, 2023).

For example, in a Muslim society, an adulteress can be stoned to death. For this society, stoning is a valid moral principle, since the social order is based on the canonical law of the Qur'an, which radically condemns female adultery, not male adultery. Social behavior in the Muslim world is therefore justified by the fact that female adultery is a negative moral value. This negative value subsidizes the ethical behavior (extreme punitive behavior) that, in turn, validates stoning adultress. So, stoning an adulteress to death is a socially, morally and ethically, valid behavior for Islam.

In western societies, however, the justice is guided by a sense of diluted value of female adultery. So justice ponders adultery value with the same weight as male adultery. Despite assigning a negative moral value to female or male adultery, they do not consider it significant to the point deserving a death penalty, much less stoning. Rather, they consider this behavior unacceptable only because they are just based on religious moral and ethical values. The main reason of the difference is that in western societies, law has been absolutely separated from religion. So it does not admit solely religious values as determinants of principles that guide right and wrong, or to define good and bad in society (Dias, 2023). In the West, ethics uses fair, religiously neutral and socially valid moral principles as the basis to determine individuals' behavior in society.

We seek in Habermas (2013) the reasons for the ethical logic on which the values, traditions and premises of a group, community or society are based. One can argue that reasons socially fair, of a neutral religious nature that equally consider rights and obligations justify the resulting ethics value that shape social commitment between individuals, groups and communities. It is, therefore, the morality intrinsic to rights and obligations that builds the ethics in individuals' behavior in their social relationships.

2.3 Judicial Power – Benefits

The rite that guides due legal process and guarantees the necessary neutrality in the judgment of disputes is, in nature, parsimonious and time-consuming. The Brazilian judicial system has 18 thousand judges, according to the President of the Federal Supreme Court (FSC) Luís Roberto Barroso (STF, 2024). Judges are in a limited number, according to Barroso, considering the total number of cases in process in the Brazilian judiciary courts, which reached 81.4 million cases in transit, by the end of 2022 (CNJ, 2023).

One can infer the benefits of intensifying the use of AI in the Judiciary by looking at the increase in automation and the resulting speed of judgments. As alluded earlier, either bureaucratic or generative type of tasks would benefit from the presence of AI. Bureaucratic (repetitive) tasks (data registration, binding documents, case distribution), or generative tasks (document pre-analysis, prove admissibility, sentencing) benefit from the presence of AI. e-J, for instance, embarked the Judiciary in the first steps of digitalization. GPT-4V, Chatmind, Heygen and similar, may improve, refine and sophisticate judgment and sentencing, although at the moment, it is more focused on specializing tasks in different fields of knowledge. In a macro view, however, the following benefits can be pointed out:

a.- **Task automation**. Numerous tasks that until recently were carried out by human hands, such as filling out of forms, preparing and issuing subpoenas and notifications, determining and noticing procedural deadlines, are now carried out by AI, in automated way. Receiving digital processes, and attachments, allows AI to extract relevant information boosting the progress of judgment procedures. The automatic categorization of process data, that trigger the chronology of the subsequent actions, with dates and alerts, speeds up processing, reduces rework, and guarantees faster and more relevant processing of cases under judgement.

b.- **Document Analysis**. Document analysis is, by nature, a time-consuming task, as it includes the review of extensive number of documents, proves and additional evidence in the processes. These type of analyzes are required for both, lawyers and judges. The first to better conduct the petition strategy, aiming at the success of the clients' demands.

Magistrates can make more precise judgments, targeting best and more fair decisions, at servicing justice and social pacification. Under these circumstances, the use of AI to digitize documents, to read, classify and summarize the legal substrate, could bring quickly and more accurately, the case content to human decision-making discretion. Thus, greatly helping the speed up of case resolution.

In this subject, the Federal Supreme Court (STF) has spending special attention by issuing a call for application project development to companies and entrepreneurs addressing the use of AI technology, to summarize cases that reach this higher court for judgement. Application must summarize the processes contents themselves, including the reasons for appealing. The easiness of digital media has contributed to increase the number of cases in the Judiciary. The increase would reach 10% of all demands in the Brazilian Judiciary, in 2022, according to CNJ Annual Report/2023 (CNJ, 2023). However, one can argue, that the increase in cases, could be attributed the consolidation of culture of adjudication by law operators. This culture origins in the endeavor of lawyers' offices to reach goals in productivity and in the interest of lawyers on turning small issues into judicial cases, at the expense of extrajudicial resolution..

In addition, document analysis, based on AI, embodies a very important legal component. The use of AI can identify, by applying specific criteria, processes that show good or even greater probability of resolution via consensual agreements between the litigants. This makes it possible to pinpoint these processes for mediated or conciliated resolution, extrajudicially. Or else they can use the conciliation chambers of the judiciary to reach consensus, which eliminates procedures of the original adjudicatory format, could speed up the case resolution, reduce total costs and be less time consuming. As a result, it helps unload the courts.

c.- **Peaceful Sentencing**. In addition to the document analysis, which is naturally time-consuming, the adjudicatory sentencing is, in essence, more critical, as it represents the substantiation of justice in the process. The objective of sentencing is, obviously, the exercise of plainly applying justice. Sentences, one expects, must show balance in

judgment. So it would provide pacification to conflicts in society. As previously noticed earlier, there is a need for parsimoniousness in sentencing, for obvious justice reasons. However, sentencing is, by far, the biggest operational bottleneck for adjudicatory conflict resolution, in societies using positive law systems.

Despite a huge influx of lawsuits in the judiciary (the Brazilian Judiciary system received over 31.5 million new lawsuits in 2022 (CNJ, 2023), the judiciary system increased productivity by 10% (measured in number of lawsuits closed). There are 345 thousand employees in the system (18 thousand judges, 272 thousand civil servants and 145 thousand collaborators) who, during 2023 closed, an average of 79 thousand cases per day. This productivity represents an average of 1,787 cases per judge, per day (STF, 2024). But even so, the year 2023 was marked, in the historical series since 2020, as having the greatest deficit of unsolved lawsuits (CNJ, 2023). It equals 1.8 million lawsuits still in transit, including new and pending cases.

Apparently, the most logical path to mitigating this problem is the massive use of supporting technologies – especially generative AI – that could speed up the operationalization of lawsuit processes. For example, sentencing greatly depends on legal jurisprudence of similar cases.   Using AI technology would speed up the jurisprudence information assessment as well as to offer adequate sentencing options. Of course, final sentences must always be evaluated, to settle the case, by the judge considering, in addition, ethical standards. This sentencing strategy will help first instance judges to issue well-based sentences, as well as to weigh ethical and mitigating (or exacerbating) factors that could influence the penalty dosage. On the other hand, generative AI help law operators to establish their own demand or contestation strategies. Operators, thus, will have fast access to more consistent information increasing their success probability.

3. Integration of AI in the Judiciary – Implications

The general objective of this manuscript is to pose a broad scenario influenced by the generative AI technology presence in the Brazilian Judiciary. Therefore, it is assumed as

an implicit premise that generative AI has a positive innovative impact. Its implications involve ethics as a backdrop in the judgment of all processes, as well as the operational streamlining of processes. The biggest winners are the Judiciary (considering legal operators and the judiciary apparatus, as an operating instruments of the judicial system), as well as the society at large, as a final beneficiary of the integration of AI into the system. Figure 1, below, presents a summary of the relationships arising from this premise.
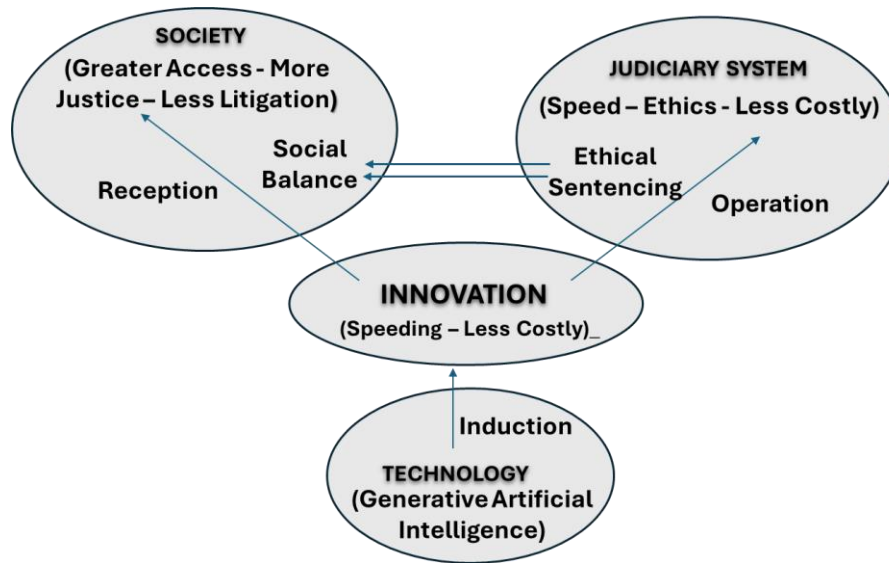

Figure 1 - Implications of the Generative AI Integration in the Judiciary

Source: authors

The element that triggers the process of the integrated benefits in the Judiciary is the AI technology. That's a type of technology appropriate or suitable for generating innovations. Innovation here is understood as a modification, in process, product or in distinct product application, that creates value to users (Chesbrough, 2006). Creating value could mean lowering costs, or increase revenue, or increase/recover market share, or increase productivity (product or service), or distinctively improving quality. Thus, in the Law field, a modification only becomes an innovation when this modification generates value for operators, or for the judiciary, or for the operational system of the judiciary itself.

To demonstrate that the introduction of generative AI in the Judiciary, in fact, generates value, we can point the introduction of the **VitorIA** application at the Federal Supreme Court, under the presidency of Minister Rosa Weber (STF, 2023). This AI

application focuses on detailing the profile of appeals received at the STF, aiming to speed up document analysis for judgment. The application binds each process with similar and/or interdependent themes. This binding reduces trial time, by re-analyzing the same objects in different processes, guarantees judicial security through sentencing uniformity, as well as reduces operational costs. Clearly, the introduction of this AI application meets all the requirements to consider it as an innovation. The introduction modifies the traditional procedures of appeal's analysis, as it creates value, by accelerating operational procedures of the system and at the same time, reduces judicial costs.

The integration of generative AI in the Judiciary lends to the later, a new operating status as a result of the innovation caused by the modification of the former. Figure 1 depicts, the innovation's benefits, specifically greater operating speed, lower operating costs and the possibility of prudent introduction of ethical standards. The introduction of VitorIA application (STF, 2023) to analyze and classify appeals by similarity of demands, on the basis of demand contents, does not require ethical values, but merely operational actions. However, when an ethical standard is instructed as a connection in the robot, the mechanics of the analysis change. Now, not only contents must be examined, but also the discourse embodied in the appeal. So another weight may be necessary to take into account the intentional impact of the appeal (Veiga and Sivollela, 2021). These factors could detach classification of an appeal from one group and bind it to another, by changing the degree of its contextual importance. So, clearly, if not considering ethical value, that is, relying solely on AI logic standards, judges in STF could be, despite of a logical nexus of cause, producing biased judgments. The resulting impacts could also change the punitive or mitigating weight of the penalties in sentences all along the judiciary system.

This type of problem turns to be a challenge of ethical nature, which would fall into the same context as teaching AI to analyze demand contents and evidence in lawsuits. The evidential information of a case may show affinity because of a magistracy's hermeneutic, eventually embody in the hermeneutic patterns of an unknown group of indoctrinators. Changing the hermeneutic standard in an AI analysis, for example, can radically alter the course of the final decision. If the binding of factors according to the hermeneutic

standards are distinct or consider attenuation vs mitigation weights, each one originated in ethical values, the resulting implication falls on the effectiveness of the analysis (by AI), if one cherishes the neutrality of a trial. More than that, the innovation changes could influence the jurisprudence generated from the case. Despite of the danger of doctrinal bias in the information, one cannot deny the advantage on the speed and on the elimination of reworks, by using generative AI.

Another example of direct benefit of innovations in the Judiciary, due to the introduction of AI technology, is the **Victor** robot project (STF, 2023). This AI application was developed by the STF's internal Information Technology staff with the aim of analyzing the nature of appeals received by the STF. Victor regards the admissibility of appeals with greater repercussion in the judiciary system and at a national level. Here, the ethical implications inherent to the judgment are irrelevant. Victor's competencies consider the technical validity of the appeal, meaning relevance as temporality and admissibility (that is, sufficient legal repercussion that could have significant implications on the law system). However, Victor does not go beyond these criteria because, if the appeal does not show enough relevance, it is rejected. Nonetheless, Victor's admissibility analysis certainly helps in shortening the time and effort spent by judges on each appeal, and increasing the STF's overall productivity.

Victor does not offer sentencing options yet. That meaning, the appeal is admissible or inadmissible, if appeal accomplishes a certain set of legal implications. Victor Application's refinement, however, can easily evolve the service of the admissibility analysis if the sentencing function is added. With or without the sentencing function, the Judiciary gains in speed, cost and productivity. The critical issue, in case of refining Victor's functionalities for sentencing, will depend on the introduction of thoughtful ethical standard value criteria, that would guarantee judicial stability and social balance. In this initial stage of generative AI, this technology is not yet prepared to take into account such criteria as the world of law is deep involved in ethical discussion. If mankind moves in this direction (and everything indicates that it will), it would be necessary to take AI technology into deeper levels of learning much closer to the capabilities of the human mind.

The reception element (Figure 1) of the induced innovation is Society in general. Innovation will speed up procedures in the Judiciary. Speeding trials and closing cases fastly, improve Judiciary productivity in overall, allowing for citizens to access the justice with no hurdles, thus strengthening individual rights in the social context. Additionally, the innovation in the Judiciary will cause a decreasing in judicial costs, because it eliminates most of the human presence in document/probing analyzing, judging and sentencing. As a result, the innovation will cause the biggest benefit for the recipient society, which is the access amplification to justice to citizens. Besides, the operational streamlining of the judiciary the innovation implies greater perfection in law application, since the mechanical immutability of the generative AI imbedded processes.

On the other hand, a greater ease of access to justice induces society to engage in less litigation. If processes become automated and conflict resolution criteria are applied with systemic constancy, the tendency is to purge the judiciary, based on less complexity. Less complex cases will tend to have self-composed voluntary conciliation or resolution through extrajudicial services. For such less complex cases, a sense of consensualism must prevail, leading to greater dejudicialization to solve demand conflicts.

In summary, ethics in sentencing still remains as the main task for the human presence in the Judiciary. By freeing themselves from doing simpler and mechanically executable tasks, performed by generative AI, magistrates can expend more time to refine sentencing, by broadening ethical values weight to support decisions. The perfect exercise of this function, moreover, consolidates the practice of ethical values in society. The spreading of ethical values will increase also civil maturity in society. Ultimately civil maturity will brings greater pacification and social balance to the society.

3. Conclusion

The unstoppable technological advancement that characterizes modern societies, in all areas of knowledge, has historically been conflicting. Since its ability to speak, more than 70 thousand years ago (Harari, 2018) and throughout all subsequent waves of

humanity's development, the fear of loss of the human role in society has surfaced. At each technological inflection point, man seeks to identify his new contextual role, to continue as an actor of his own history. Abandoning deep-rooted habits of doing things it's a difficult task and has led men to times of great social instability.

In this digital era, the introduction of generative AI assumes a pivotal role as a new inflection point for humanity. With each new factor of evolution, the same question always arises: what is the role of mankind from now on? How to deal with this new technological factor? What does new technology come to replace or add to society? These and other questions arise in the context of this work and will not be answered here, but in time, as technological development advances and consolidates in distinct directions.

This article, however, restricts the limits of uncertainty to some of the implications related to the introduction of generative AI into the daily life of the judicial system. The main reason is linked to the implications of generative AI may have on disciplining the social structure, as a Law function. The premise guiding the argument of this article is the inductive effect to innovation in the Judiciary, exerted by generative AI. The introduction of generative AI in the judiciary is an innovation that generates value because it improves procedural speed, reduces operational costs and frees the human presence to guarantee ethical considerations in judgments of demands (Figure 1). Thus, evidence of the validity of the premise is here outlined, boosting such validity by means of practical examples of generative AI in Judiciary.

Recent examples of generative AI in the Judiciary show that its plays largely mechanical function, or jurimetric, such as reception, classification, criteria checking, process distribution, notifications, subpoenas and chronological milestones of the process. Momentarily carrying out more technical and repetitive tasks, the AI, however, is already beginning to produce texts, such as sentence options, on demand. For this purpose, AI combines information from previous document analysis, although without considering ethical value. It is a clear demonstration that it tends to evolve quickly towards more complex generative activities, such as sentencing based on its own preliminary judgment.

Obviously, the effort to "humanize" the contributions of generative AI will have a significant impact on the sentencing process. To replace human judgment, AI will need to learn to associate ethical social and behavioral values with a consistent logical combination of facts, along with aggravating and mitigating factors. The greatest evidence of this tendency to assume the mechanical work in the Judiciary lies on reading of processes, on the preliminary preparation of documentary analysis, on evidence selection, on summarizing paperwork and elaborating sentence options, especially for actions based on documents only. For now, several basic questions remain open. For example, what patterns, and its contextual interpretation of social values, will be taught to AI? What ethical behaviors are expected in the face of crimes considered "less" relevant, to be taught to the AI that will guide its sense of justice in sentencing?

In societies with more homogeneous cultures, it may be feasible to determine and follow moral and ethical values, as well. But in highly heterogeneous societies, like the Brazilian one, it's not quite possible. Brazilian society culture ranges from low cognitive stratus, such as the indigenous, to a technologically advanced strata, such as the Southeast and South cultures, or even the regional cultures strata, like the Northeastern, Southern and Northern. It becomes very difficult to create algorithms that consider balanced ethical weights to guarantee the neutrality of justice for each one. For now, judgment must be left in human hands, until more appropriate and lower-risk paths can be designed to teach the generative AI. We certainly must wait for advances in the development of the Artificial General Intelligence to accomplish this kind of task (Berruti et al., 2024).

Therefore, judging more complex issues is still a field that has a lot of room for evolution through generative AI. Circumstantial factors that require, for example, considerations on the weight of mitigating and ethical factors as well, implying broader moral nature effects, cannot, for now, be done without human intelligence (Veiga and Sivolella, 2021). Without balanced human judgment, the final sentencing can, inadvertently, divert sentences towards greater or minor punishment, leading to acts of injustice. The direct impact of such behaviors could be unfair decisions and legal uncertainty about what is right or wrong. As Solano Camargo, president of the OAB-SP

Privacy, Data Protection and Artificial Intelligence Commission, argues, "...we have the right to be judged by human beings..." (Brocchi, 2024).

Referências

Aristóteles (2018*). Ética a Nicomaco*. [*Ethics to Nicomachus].* Transl. Edson Bini. São Paulo: Edipro.

Berruti, Frederico; Nel, Pieter; Whiteman, Rob. (2020). *An Executive Primer on Artificial General Intelligence*. McKinsey Paperwork. Available at: https://www.mckinsey.com/capabilities/operations/our-insights/an-executive-primer-on-artificial-general-intelligence#/ Access: July 7th, 2024.

CNJ - Conselho Nacional de Justiça. (2023). - CNJ. *Justiça em Números, 2023*. Relatório Anual. Brasília, 2023. [*Justice in Numbers, 2023. Annual Report. Brasilia, 2023*]. Available at: https://www.cnj.jus.br/wp-content/uploads/2023/08/justica-em-numeros-2023.pdf Access: March, 24th, 2024.

Brocchi, R. (2024). STF e Tribunais Recorrem à Inteligência Artificial e Robotização para Desafogar Processos. *Redação do Jornal de Brasília* (12/03/2024). [STF and Law-Courts turn to artificial intelligence and robotization to ease process backlogs]. Available at: STF e tribunais recorrem a inteligência artificial e robotização para desafogar processos (jornaldebrasilia.com.br). Access: April 3rd, 2024.

Chesbrough, H. W. (2006). *Open Business Models*. Cambridge (MA): Harvard Business School Press.

Dias, S.T.F (2020). *A relação entre Direito e Moral em Jürgen Habermas*. [The Relationship between Law and Moral in Jürgen Habermas]. São Paulo: Dialética, 2020.

Goodfelow, I.; Bengio, Y.; Courville, A. (2016). *Deep Learning*. Cambridge (MA): MIT Press.

Habermas, J. (2013). *Consciência Moral e Agir Comunicativo*. [*Moral Conscience and Communicative Action*] Transl. by Guido Antônio de Almeida. 2. ed. Rio de Janeiro: Tempo Brasileiro, 2013.

Harari, Y. N. (2018). *Sapiens: Uma breve história da humanidade* [*Sapiens: A Brief History of Humankind*] (34ª ed.). Porto Alegre, RS: L&PM.

Pinto, P. R. S. (2021). Inteligência Artificial e o Judiciário no Brasil: uma análise dos desafios sociais e a visão dos juízes (2017-2019). *Tese de doutorado*. Universidade Federal do Rio Grande do Sul. Instituto de Filosofia e Ciências Humanas, Programa de Pós-Graduação em

Ciência Política. [Artificial Intelligence and the Judiciary in Brazil: An Analysis of Social Challenges and the Judges Vision (2017-2019). Doctoral Dissertation. Rio Grande do Sul Federal University. Human Science and Philosophy Institute. Graduate Program in Political Science]. Porto Alegre, RS-BR, 2021.

Segars, A. H. (2018). Seven Technologies Remaking the World. *MIT Sloan Management Review*. Reprint 59370. 19 p. March, 2018.

STF – Supremo Tribunal Federal. (2023). *STF Finaliza Teste de nova Ferramenta de Inteligência Artificial*. Brasília. 11/05/2023. [*STF Completes Test of New Artificial Intelligence Tool*]. Available at: Supremo Tribunal Federal (stf.jus.br). Access: March 28th, 2024.

STF – Supremo Tribunal Federal. (2024). *Presidente do STF abre Ano Judiciário de 2024 e celebra harmonia entre os Poderes*. Brasília. 01/02/2024. [*President of the STF opens the 2024 Judicial Year and celebrates harmony between the Powers*. Brasilia, 02.01.2024] Available at: Supremo Tribunal Federal (stf.jus.br). Access: March 27th, 2024.

Stuart, R. J., Norvig, P. (2022). *Inteligência Artificial* – Uma Abordagem Moderna. [*Artificial Intelligence – A Modern Approach*]. Barueri (SP): Editora GEN LTC.

Van Veen, F. (2016). *The Neural Network Zoo*. Disponível em: https://www.asimovinstitute.org/neural-network-zoo/ Acesso em: 28 de março de 2024.

VAZ, H. C. L. (2023). Ética e Justiça: Filosofia do Agir Humano. [Ethics and Justice: Philosophy of Human Action]. *Síntese*, v. 23, n. 75, p. 437-453, 1996. Disponível em: https://www.faje.edu.br/periodicos/index.php/Sintese/article/view/962 Acesso em: 31 março 2023.

Veiga, A. C. e Sivolella, R. F. (2021). Do "Novo Normal" à Justiça Social: a efetividade da prestação jurisdicional por meio da celeridade e do acesso efetivo à Justiça. [From "New Normal" to Social Justice: the Effectiveness of Jurisdictional Provision through Speed and Effective Access to Justice] In: B. Barata, L. Almeida e L. Frota (Coord.) *Ensaios sobre a Transformação Digital no Direito*. [*Essays on Digital Transformation in Law*] p. 17 – 30.

Wancok, M. (2021). *A Ética Socrática, Platônica e Aristotélica*. [*A Ética Socrática, Platônica e Aristotélica*]. Available at: https://medium.com/mayarawancok/a-%C3%A9tica-socr%C3%A1tica-plat%C3%B4nica-e-aristot%C3%A9lica-b38f9700ff1b. Access: March 30th, 2024.