

LAW AND IT TECHNOLOGIES. PREDICTIVE JUSTICE

Lecturer **Andra IFTIMIEI**¹
PhD. student **Mihai IFTIMIEI**²

Abstract

Predictive justice is one of the newest directions of law evolution, being at the same time an expression of its digitalization. Modern society places great emphasis on interdisciplinarity, so that law and IT technologies are models in this direction. The paper aims to study this new phenomenon, identify the principles according to which it works, as well as present, respectively analyze predictive justice models already implemented in countries such as the United States or France. At the same time, we aim to highlight the functions that predictive justice can perform, in the sense that such a high-tech legal approach can be an aid in decision-making or can even be the main tool in decision-making. Can human resources be replaced by an algorithm in the administration of justice? A proposed result, following the research undertaken, is the drawing up of a predictive justice model that can be implemented in the national law system. The research methods used are literature review, epistemological method and comparative method.

Keywords: predictive justice, artificial intelligence, IT technologies, cyberjustice.

JEL Classification: K24

1. Introduction

The topic investigated in this study is the predictive justice, as a form of progress and evolution of legal systems, in general, through the use of IT technologies, as an expression of interdisciplinarity. The existing doctrinal approaches are concerned, to a small extent, with the study of this new phenomenon, and the research identified so far is quite segmented, without presenting an overview of the phenomenon. The comparative research method is the most convenient way to outline the dimensions and magnitude that a phenomenon can have, by analyzing the implications of introducing the phenomenon in other states.

The structure of the research aims at the following aspects: the definition of the phenomenon, followed subsequently by certain terminological clarifications, as we identified in the research undertaken, through the literature review method, the existence of some elements of confusion regarding the notion of predictive justice. At the same time, we aimed to identify, by comparative method, the reception of the phenomenon in states such as the United States and France. Through the analytical and epistemological method, we propose the presentation of the functions that predictive justice can have, as well as the advantages and risks of implementing the levers of this new phenomenon in legal systems, regardless of whether they are common law or continental law.

At the level of proposed solutions, we appreciate that the whole analysis represents the starting point for identifying the way in which this phenomenon could be anchored and transplanted in the national legal order.

2. Defining the phenomenon

At the level of terminology, predictive justice is a rather controversial notion, as it is used and recognized only by some legal professionals. Like any new phenomenon, predictive justice faces many obstacles in implementation, obstacles that most often come from reluctance to new. At the same time, predictive justice is one of the forms of manifestation of artificial intelligence in the legal sciences.

The issue of the interrelationship between artificial intelligence and the justice system is one of the "hot" topics in the European legal world and beyond. Thus, at the level of the Council of Europe,

¹ Andra Iftimiei - Faculty of Law, "Alexandru Ioan Cuza" University of Iasi, Romania, andra.iftimiei@uaic.ro.

² Mihai Iftimiei – Doctoral School of the Faculty of Economics and Business Administration, "Alexandru Ioan Cuza" University of Iasi, Romania, mihai_iftimiei@yahoo.com.

a separate structure has been created, the European Commission for the Effectiveness of Justice (CEPEJ)³, which, in its constant concern for increasing the efficiency of the courts, an activity doubled by the mission of ensuring a high degree of quality in the public services provided by the judiciary, has incorporated the component of internet technologies in the reform and evolution of legal systems.

The use of artificial intelligence has raised many questions, as well as concerns, in all Member States of the European Union. In order to provide guidance on how to use artificial intelligence in the field of justice, the CEPEJ developed and published in 2018 the European Charter of Ethics for the Use of Artificial Intelligence in Judicial Systems. The 5 fundamental principles set out in the Charter are the following: the principle of respect for fundamental rights, the principle of non-discrimination, the principle of quality and security, the principle of transparency, neutrality and intellectual integrity, the principle of user control.

However, the European Union states that the use of artificial intelligence in the field of justice will lead to "analysis, structuring and preparation of case information, automatic transcription of oral recordings, provision of machine translation services, support for analysis and evaluation. legal documents and judgments, estimating the chances of success of a lawsuit, automatic anonymization of case law and providing information through legal chat bots"⁴.

Regarding a possible attempt to define the notion of "predictive justice", we point out that at this time there has not been a certain unanimity among doctrinaires, as the very notion of "artificial intelligence" provokes much discussion about a definition. complete. Specifically, the notion of "artificial intelligence" does not enjoy a single definition, but is subsumed under "a vast set of sciences, theories and techniques implemented to produce machines capable of reproduces the cognitive abilities of human beings"⁵.

Concerns, however, exist for defining this new phenomenon, so we have identified the following approaches:

- predictive justice is "a set of tools developed by analyzing large masses of judicial data which proposes, in particular on the basis of a calculation of probabilities, as far as possible a prediction for the outcome of a dispute"⁶;

- predictive justice (also called *jurimetry*⁷) is the future projection of a relationship observed between the elements of fact or law present in past judgments, in order to optimize the quantitative and qualitative aspects of the possible judicial future⁸;

- predictive justice is "the analysis of large numbers of court decisions using artificial intelligence technologies to make predictions about the outcome of certain types of specialized litigation"⁹;

- predictive justice refers to "not justice itself, but tools for case law analysis, tools that will allow future decisions to be predicted in litigation similar to those analyzed."¹⁰

Can predictive justice be associated, as a mechanism of functioning, with another phenomenon, with another contemporary trend, respectively with predictive medicine? According to the dictionary of medical terms, predictive medicine means "the set of medical and biological investigation techniques designed to determine the predisposition to certain diseases, so as to allow the application

³ The activity of this entity, as well as details regarding the composition, constitution, operation, etc. can be found at <https://www.coe.int/fr/web/cesej/home>, accessed on November 9, 2021.

⁴ Council Conclusions entitled "Access to Justice - Leveraging the Opportunities of Digitization", Brussels, 2020, available at <https://data.consilium.europa.eu/doc/document/ST-11599-2020-INIT/en/pdf>, consulted on November 10, 2021.

⁵ According to the Feasibility Study of the Ad Hoc Committee on Artificial Intelligence (CAHAI), published on December 17, 2020, available at <https://rm.coe.int/0900001680a1160f>, accessed on November 9, 2021.

⁶ Report of the French Ministry of Justice, *L'Open Data. Judicial Decisions*. Study and refiguration mission on the opening of court decisions to the public, available on the website http://www.justice.gouv.fr/publication/open_data_rapport.pdf, accessed on November 9, 2021.

⁷ *Jurimetry* is also defined as the "methodology of legal inquiry" in Lee Loevinger, *Jurimetrics: The Methodology of Legal Inquiry*, available at <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=2945&context=lcp>, on November 9, 2021.

⁸ According to <https://blog.predictice.com/quest-ce-que-la-justice-pr%C3%A9dictive>, accessed November 9, 2021.

⁹ European Commission for the Efficiency of Justice, Newsletter no. August 16, 2018, available at <https://rm.coe.int/newsletter-no-16-August-2018-en-justice-of-the-future/16808d00c8>, accessed November 9, 2021.

¹⁰ Bruno Dondero, *Justice prédictive: la fin de l'aléa judiciaire?*, „Recueil Dalloz”, Dalloz, 2017, p. 532.

of appropriate treatment before the onset of those symptoms and complications"¹¹. By analogy, we state that even in the case of predictive justice, one of the components is the configuration of a certain consequence, for a certain deed, but which should be customized on the texts of the law in force.

Predictive justice should not be understood as an act of dehumanizing the entire process of doing justice, but rather as a real help in simplifying the human effort, as this phenomenon should be seen as a necessity for the evolution and renewal of justice.

3. Terminological delimitations

The legal world, virtual or not, is invaded by many new terms, but also by information inflation, which does not always enjoy adequate documentation or a high degree of objectivity. This is the main reason why the present research also proposes a terminological delimitation, in order to avoid confusions related to this new phenomenon.

3.1. Predictive justice – cyber-justice

The concept of "cyber-justice" includes a number of elements, including (1) increased access to justice, (2) the availability of various electronic services in the justice system, (3) the accessibility of online dispute resolution and (4) the existence of "cyber courts"¹².

Thus, cyber-justice is configured as a broader framework, within which the development of predictive justice has been possible and agreed. Cyber-justice has the merit of having succeeded in introducing elements of digitization into the legal world, including through the possibility of remote hearings or the possibility of concluding electronic contracts. At the same time, by introducing electronic services in court, means of direct access were created for litigants to complete documents necessary for a procedure or even to record court hearings.

3.2. Predictive justice - digitized justice

Digitized justice is defined as the result of the digitization process, in order to facilitate and improve citizens' access to justice. At the same time, digital justice is "a prerequisite for the use of artificial intelligence applications"¹³. The digitalisation of justice also includes the development of digital skills among all actors in the judiciary.

4. Predictive justice models

Understanding a phenomenon is always facilitated by analyzing models already implemented in other states. Most of the times, the comparative synthesis studies are the ones that follow the similarities and differences that derive from the analyzed institution or from the studied phenomenon, representing a real help in configuring a model that can be transplanted in the national legal order.

Although, as a result of our research, we have identified the presence of predictive justice in many more countries (for example, the first robojudge was implemented in Estonia, and in Canada we are witnessing the first robotic mediator¹⁴), we have focused our attention on two states. The rationale behind this decision is twofold: on the one hand, we sought to identify states with different legal systems, to see how the implications of artificial intelligence in justice are received, and whether there is a link between the legal system and a certain approach; on the other hand, the two chosen states are, according to research made public so far, the states with the highest degree of

¹¹ According to the dictionary available here: <https://dictionar.romedic.ro/medicina-predictiva>, consulted on November 9, 2021.

¹² According to the press release available here: <https://www.chairelexum.ca/actualites/publications/what-is-the-meaning-and-impact-of-cyberjustice/>, accessed November 9, 2021.

¹³ Council Conclusions entitled "Access to Justice - Leveraging the Opportunities of Digitization", Brussels, 2020, available at <https://data.consilium.europa.eu/doc/document/ST-11599-2020-INIT/en/pdf>, consulted on November 10, 2021.

¹⁴ Tara Vasdani, *From Estonian AI judges to robot mediators in Canada, UK*, available at <https://www.lexisnexis.ca/en-ca/ihc/2019-06/from-estonian-ai-judges-to-robot-mediators-in-canada-uk.page>, accessed November 10, 2021.

implementation of artificial intelligence in justice, in the world¹⁵.

4.1. United States of America

In the United States, there is a predilection for the use of the means provided by artificial intelligence in the field of criminal law. Thus, more than 20 states in the US federal structure use algorithmic models to calculate the risk of recidivism of perpetrators¹⁶. These risk assessment tools are used in the key stages of the criminal process, from the provision of bail to the sentencing of the decision¹⁷.

The main means of using artificial intelligence in the United States is known by the acronym COMPAS, derived from Correctional Offender Management Profiling for Alternative Sanctions, which provides both a risk assessment tool and a risk needs assessment tool. "Risk scores" and "need scores". The algorithm by which the instrument in question operates is obscured, because, being a creation of a private legal entity, it is protected by trade secrets.

The software based on the secret algorithm, frequently used in American justice, is not protected from effervescent criticism, based on factual evidence. In 2016, a ProPublica investigation showed that the algorithm used by COMPAS was discriminatory¹⁸. Specifically, in 2014, two people were charged with petty theft and burglary. As a result of the configuration of the risk profile, through COMPAS, a rather large score difference emerged between the two. Thus, the white person had a low score, rated at level 3, while the black person had a high score, rated at level 8. The criminal history of the two people shows that the white person committed a crime. a similar act, in the summer of last year, while the black person had committed several offenses during the minority. The conclusion highlighted that the algorithm configures a higher risk of recurrence in the case of people of color, as opposed to people belonging to the Caucasian race.

Today, one of the main concerns of the legal world is related to the demonstration that any algorithm used in the field of criminal law, which results in the conviction of individuals, must enjoy a transparency of how to calculate the calculated risk. At the same time, when instruments such as COMPAS are used in sentencing decisions, "the function of the risk assessment instrument should be considered governmental rather than proprietary"¹⁹, all the more so as such tools developed by state public agencies are subject to the condition of transparency and publicity.

4.2. France

The French legal system can be described as one of the most open to new technologies among the states on the European continent.

A decree was signed at the level of the French Ministry of Justice on the configuration of the implementation and use of predictive justice in 2020²⁰, in order to create a legal framework for the creation of an automated processing of personal data, under the name of DataJust.

According to the text of the legal act, the finality of this approach, which extends over a period of two years, consists in the development of an algorithm leading to: conducting retrospective and

¹⁵ Myltseva Veronika, *The legal nature and the principles of predictive justice*, „Recht des Osteuropäischen Staaten”, nr. 3/2019, available on the website www.uni-goettingen.de/REOS, accessed on November 9, 2021.

¹⁶ E. g.: Connecticut Salient Factor Score or California State Risk Assessment Instrument.

¹⁷ Michael Brenner, Jeannie Suk Gersen, Michael Haley, Matthew Lin, Amil Merchant, Richard Jagdishwar Millett, Suproteem K. Sarkar, Drew Wegner, *Constitutional Dimensions of Predictive Algorithms in Criminal Justice*, „Harvard Civil Rights-Civil Liberties Law Review”, Volume 55, 2020, pp. 267-310, available at <https://harvardcrcl.org/wp-content/uploads/sites/10/2020/09/Brenner-et-al.pdf>, accessed November 9, 2021.

¹⁸ For more information, see <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>, accessed 11 November 2021.

¹⁹ Alyssa M. Carlson, *The Need for Transparency in the Age of Predictive Sentencing Algorithms*, „Iowa Law Review” vol. 103 (303) 2017, available here: <https://ilr.law.uiowa.edu/print/volume-103-issue-1/the-need-for-transparency-in-the-age-of-predictive-sentencing-algorithms>, accessed on 11.11.2021.

²⁰ France, Decree no. 2020-356 of March 27, 2020, available at <https://www.legifrance.gouv.fr/loda/id/JORFTEXT000041763205/>, accessed on November 10, 2021.

prospective evaluations of public policies on civil and administrative liability; development of an indicative benchmark for compensation for personal injury; informing the parties and assisting in assessing the amount of compensation that victims may claim, in order to identify an amicable settlement of disputes; informing or documenting judges called to rule on personal injury claims.

For these purposes, the algorithm shall identify the amounts requested and offered by the parties, the assessments proposed in the amicable settlement proceedings and the amounts allocated to the victims for each type of damage²¹.

The newly introduced regulations in France have not been without criticism. Specifically, a number of 22 lawyers submitted a joint action to the Council of State²², action based on the following arguments: the presentation of medical data in the files concerned is a breach of medical secrecy; litigants cannot oppose such regulation, so there is a breach of the Regulation on the protection of personal data. Beyond these arguments, a critique is also made of the effects that DataJust generates, by creating the algorithm in order to provide predictive data; thus, the hypothetical situation of a professional pianist whose finger is severed is taken into account. In general, the incapacity that occurs after such an act is 2%, but in the case of the professional pianist his entire career is at stake, a feature that the algorithm will not take into account²³.

Prior to this regulation, two IT tools were launched, which allowed the development of algorithms for anticipating/predicting the results of court proceedings. The two tools, called Case Law Analytics and *Predictice*, "can help to determine whether it would be wise or unnecessary to take the dispute to court, whether or not it would be better to seek an amicable settlement"²⁴.

Case Law Analytics is the creator of mathematical models based on artificial intelligence and simulates legal reasoning. The mechanism of operation of the platform involves the introduction of information requested by the platform (from the relevant branch of law to certain information from the conflict already created), on the basis of which the platform calculates the risks involved in taking legal action. Specifically, the parties involved are informed of the percentage of which they will win in court or, on the contrary, a better solution for the parties involved would be an alternative method of resolving the dispute.

Predictice is defined as a search and analysis engine, which was created in 2016 and involves refining a legal reasoning based on the criteria used by judges to make decisions. At the same time, the search engine is a provider of statistics, simplifies research work, but also analysis.

5. The functions of predictive justice

5.1. The role of accelerator in court

A significant part of the whole act of justice is configured in the investigation, which can be one of the key factors in delaying certain procedural steps. Artificial intelligence, as a means of predictive justice, is the one that provides solutions to speed up the whole process. Thus, by centralizing all court decisions, and later by creating algorithms that generate statistical predictions, the research work is helped and resized, from a temporal perspective. The mere fact that, today, there

²¹ The data that will be recorded for the creation of the algorithm are extracted from decisions issued between January 1, 2017 and December 31, 2019. These data are the following: the name and surname of the natural persons mentioned in the decision; identification elements of individuals (date of birth, gender, kinship with victims, domicile); data and information on the damage suffered (nature of harm to integrity, dignity and privacy, description and location of injuries, length of hospitalization, cosmetic damage, physical suffering, etc.), expenses for restoring health; the types of needs of the victim; damage to school, university or training; the victim's previous condition, pathological predispositions or other medical history; data on professional life and financial situation; the opinions of the doctors who examined the victims, as well as their fees; data relating to criminal offenses and convictions; data on civil guilt; number of decisions.

²² France, Case 440378 of 26 May 2020, Council of State, unresolved, available at <https://www.legifrance.gouv.fr/ceta/id/CETATEXT000041935982>, accessed on 10 November 2021.

²³ Information available at <https://www.leparisien.fr/faits-divers/un-avocat-attaque-datajust-le-logiciel-qui-va-transformer-les-juges-en-robot-21-05-2020-8321205.php>, accessed November 10, 2021.

²⁴ Boris Barraud, *Un algorithme capable de prédire les décisions des juges : vers une robotisation de la justice?* in „Revue Cahiers de la Justice”, 2017/1, pp. 121-139, available here: <https://www.cairn.info/revue-les-cahiers-de-la-justice-2017-1-page-121.htm#no53>, accessed on 10.11.2021.

are databases of impressive dimensions, in the legal field, is perhaps the best argument for determining and sealing the function of accelerator in court, for this new phenomenon studied.

5.2. Streamlining justice

The outlining of the efficiency function is based on the following arguments:

- the predictive algorithm must have the ability to eliminate, from the outset, legally irrelevant factors;
- the predictive algorithm must have the ability to prioritize the causes, according to their degree of urgency;
- the predictive algorithm must be designed in such a way that cases which involve only a simple application of a text of law can be solved automatically;
- the use of predictive justice, by providing objective statistics, will lead to an increase in the use of alternative dispute resolution methods, so that courts will be relieved of cases that can be decided before, or even during, a lawsuit, but until it leads to procedural implications that no longer allow the use of alternative methods.

6. Benefits and risks

6.1. Advantages

One of the advantages we emphasize is reflected in a better understanding of the content of decisions, knowing that there are differences in interpretation, or even argument, or writing, among the courts.

Thus, we put forward the idea that predictive justice is a helpful tool, from the perspective of differences of interpretation, primarily for the judge. In most cases, the judgment itself is solitary. It is likely that many of the actors in the judiciary faced such an impediment in the trial. Therefore, predictive justice helps to know the reasoning of other colleagues who have faced similar situations, either as an example of good practice or to confirm that the solution already foreshadowed is a correct one.

Secondly, predictive justice has the advantage for lawyers to become familiar with possible disparities in the solutions made public, disparities caused even by the regional factor. Thus, a certain legal reasoning or a certain approach can be known to the one who obviously wants to gain for his clients.

Another advantage that we highlight is the pre-trial phase on the merits. For example, the use of artificial intelligence at this stage could automatically identify whether or not the deadlines have been met, for example.

From the summary of the above, a third advantage emerges, namely to allow justice actors to delve much deeper into issues of greater complexity, which the means of predictive justice can not properly manage, leaving the issues simple at the expense of artificial intelligence.

6.2. Risks

Every new current, every new phenomenon, every new trend has both a positive side and a less visible one immediately. From the analysis performed so far, we distinguish a series of risks associated with the use of artificial intelligence as a means of achieving predictive justice, risks identified in:

- insufficient digitized data; Although the digitization process is constantly evolving, we believe that there is a risk that the digitized data may not always be sufficient so that objective predictions can be provided, in full accordance with all existing case law;
- insufficient data required; any algorithm involves requesting certain information, on the basis of which a profile of the deed and the perpetrator should be made, so that this profile can be

compared with similar ones, already entered in the system. However, we believe that it is sufficient for a single unsolicited element to lead to interpretations or analogies deviating from the original request;

- errors - *errare humanum est!*, but technology is no stranger to error. The two risks presented above are associated in identifying another risk, namely the provision of errors in the predictions made on the basis of statistics.

- discrimination - as has already been proven in the United States, the algorithms used can create discriminatory situations, these IT technologies lacking, in our opinion, the ability to judge in fairness.

- dehumanization - mathematical calculations have proven their effectiveness throughout long history. However, the placement of legal reasoning in charge of some algorithms undoubtedly presents the risk of dehumanizing the legal interpretation, by reference to all the specific elements of the case brought before the court.

- the lack of transparency of the criteria used by the algorithms is one of the risks that is directed especially towards the litigant, in the conditions in which not knowing what “logic” is applied to the submitted solution, it becomes difficult to impossible to identify where it went wrong.

7. Conclusions

The world in general, the legal world in particular, is in constant motion, both horizontally and vertically. The introduction and acceptance of IT elements in judicial systems everywhere is a double-edged sword.

Predictive justice is undoubtedly one of the evolutionary meanings of the legal world, especially when it is and must be used to relieve the courts and to speed up proceedings of any kind. The risks associated with the use of predictive justice, in a summary note, are not negligible, and their identification must be the most appropriate tool of the legislator in regulating the use of artificial intelligence in justice.

The solutions we propose for the national legal order, in relation to the factual and objective reality of the justice system, which is going through an almost continuous reform process, must be based on an almost entirely digitized justice. Thus, the verification of procedural aspects, such as the timely filing of the action or the means of proof, or even the fulfillment or non-fulfillment of the limitation period, should be detached from the human affecter and should be considered in the future to be left to some algorithms. Another proposal we make concerns the possibility of using artificial intelligence in order to automatically draft documents necessary for the execution of the act (eg: summonses), as a preliminary part of the implementation of predictive justice.

Bibliography

1. Boris Barraud, *Un algorithme capable de prédire les décisions des juges : vers une robotisation de la justice?*, Revue „Cahiers de la Justice”, 2017/1.
2. Michael Brenner, Jeannie Suk Gersen, Michael Haley, Matthew Lin, Amil Merchant, Richard Jagdishwar Millett, Suproteem K. Sarkar, Drew Wegner, *Constitutional Dimensions of Predictive Algorithms in Criminal Justice*, „Harvard Civil Rights-Civil Liberties Law Review”, vol. 55, 2020, pp. 267-310.
3. Alyssa M. Carlson, *The Need for Transparency in the Age of Predictive Sentencing Algorithms*, „Iowa Law Review” 103 (303), 2017.
4. Bruno Dondero, „*Justice prédictive: la fin de l'aléa judiciaire?*”, Recueil Dalloz, Dalloz, 2017.
5. Lee Loevinger, *Jurimetrics: The Methodology of Legal Inquiry*, „Law and Contemporary Problems”, vol. 28, 1963, pp. 5-35, Ed. Duke Law Scholarship Repository.
6. Veronika Myltseva, *The legal nature and the principles of predictive justice*, „Recht des Osteuropäischen Staaten”, no. 3/2019, Goettingen/Reos.
7. Tara Vasdani, *From Estonian AI Judges to Robot Mediators in Canada, U.K.*, The lawyer’s daily, <https://www.lexisnexis.ca/en-ca/ihc/2019-06/from-estonianai-judges-to-robot-mediators-in-canada-uk.page> [<https://perma.cc/KY2S-WQ77>] (documenting how an AI mediator facilitated the settlement of a small claim).