The Application of Artificial Intelligence in Polish Civil Proceedings

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Abstract. The purpose of this paper is to present the main assumptions of my PhD thesis: 'The Application of Artificial Intelligence in Polish Civil Proceedings', including the subject of study, justification of the choice of the thesis subject, the outline of the adopted methodology and the presentation of research questions.

Keywords: Artificial Intelligence & Law, Polish Civil Proceedings, Automation of Application of Law.

1.   Introduction

1.1.   The subject of the PhD thesis

The subject of my PhD thesis is the analysis of the potential use of artificial intelligence (AI) methods in Polish civil proceedings. The field of Artificial Intelligence & Law has not yet become a subject of extensive scientific discussion among Polish lawyers; however, account should be taken of the research activity of Michal Araszkiewicz, PhD, who is one of the few scientists in Poland dealing with this issue. Research on the application of AI tools in Polish court proceedings at the present stage of developments in this field of science in Poland requires a comprehensive approach, which would, on the one hand, involve a systemic (comprehensive) analysis of the subject matter examined and, on the other hand, would be as synthetic as possible. In the future, this will lead to the possibility of undertaking more exhaustive research on individual aspects that will turn out to be more problematic as a result of initial analyses.

1.2.   Research methodology

The issues discussed in the PhD thesis generally require a reference to two disciplines: fragmentarily to the artificial intelligence, and comprehensively to the law. One of the methodological assumptions is to embed the ongoing legal considerations in modern technological reality by reference to specific artificial intelligence methods and techniques, and examples of practical AI applications in law. The adopted con-

cept will result in the need to describe current achievements in the field of AI & Law, combined with an in-depth exploration of scientific achievements of experts in this field (predominantly foreign researchers), and to carry out a full legal analysis of the use of artificial intelligence as a decision-maker in Polish civil proceedings. It will also be necessary to refer in the thesis to legal comparative and interdisciplinary research, yet to a small extent. However, these methods will only be of supplementary nature.

1.3. Justification of the choice of the subject matter of the PhD thesis

The decision to undertake research into the application of artificial intelligence in civil proceedings (and not in any court and administrative proceedings) derived both from my direct scientific interests (civil law and civil procedure) and from the fact that civil proceedings constitute the most computerized judicial procedure in Poland, and it is with them that one may hope for automation through the use of AI tools. The Research Centre for Legal and Economic Issues of Electronic Communication at the University of Wroclaw (CBKE), at which I am a PhD student, is the leading research centre dealing with the issues of e-justice and the law of new technologies in Poland. CBKE employees and PhD students have been actively involved in the computerization of the Polish judiciary system for over a dozen years, participating in such initiatives as the implementation of electronic minutes in Polish common courts (at all levels), the implementation of electronic writ-of-payment proceedings (e-court), or allowing one to take procedural steps online in the course of legal proceedings (i.a. filing a lawsuit via the Internet).

2. Assumptions of the PhD thesis

2.1. Presentation of the main research problem

The research undertaken in the thesis will attempt to verify whether a computer system designed based on the achievements in the field of artificial intelligence is capable of taking over the role of the decision-maker in Polish civil proceedings, thereby replacing the judge. The main research problem involves the analysis of the potential to automate the judicial law application process by way of introducing a new 'electronic judge' into the Polish judiciary system. The research on said issues will be carried out in two ways, including both considerations on the possibility to automate individual stages of the law application process as well as the analysis of whether such use of AI tools is compliant with the primary civil procedure principles in force in Poland.

2.2. Introductory issues

The thesis will begin with the presentation of the problem of artificial intelligence. This part of the thesis will cover both the definitional issues, the historical outline of

the development of AI research, as well as the description of selected artificial intelligence methods and techniques that may be useful for designing a system supporting automated civil proceedings (e.g. expert systems, artificial neural networks, fuzzy logic or evolutionary algorithms). This chapter will also provide examples of practical AI applications in law enforcement (TAXMAN, FINDER, HYPO, CABARET, CATO, BankXX, IBP, GREBE and many others), AI & LAW research worldwide and the achievements in the implementation of AI in law in some countries.

From the perspective of my study, the key will be to analyse two (previously mentioned) issues: the possibility to automate the application of law in civil proceedings and the admissibility of using AI tools in the role of a decision-maker in the Polish legal framework.

2.3. Automation of the application of law in civil proceedings

The use of AI tools in Polish civil proceedings in the role of an 'electronic judge' is inextricably linked to the automation of the judicial application of law. The analysis of this issue – as a matter common to all legal procedures – will inevitably address the other types of proceedings (criminal, administrative, etc.) to a greater or lesser extent. In addition, it will require taking into account the nature of the Polish legal system and the role of the judiciary in Poland, in which, from a theoretical point of view, judges are deprived of the law-making powers. This means that in the research on the Polish 'electronic judge', projects utilizing case-based reasoning, such as CABARET or HYPO, cannot be of a leading importance, as the Polish legal system does not provide for such notions as a precedent or judicial legislation. However, research on rule-based reasoning and systems that combine both approaches will be more helpful.

The essence of judicial application of the law lies in the decision-making process, consisting of reasoning and series of actions to determine the legal consequences arising from the existence of certain facts. The considerations on the automation of civil proceedings require answering the question whether an AI-based computer program would have the ability to deal with the various stages of the law application process: finding the normative base for a resolution, determining the facts of the case, classifying the facts and determining their legal consequences from the point of view of previously found normative criteria [1].

AI vs. finding the normative base of a resolution. The first stage of the law application process (finding the legal basis for a resolution) would require the computer program supporting the automated civil proceedings to determine the applicable legal norm governing the subject matter and its meaning [2]. Focusing on the first aspect, it is clear that artificial intelligence tools have now the capacity to search through databases incomparably faster and more accurate than humans. This task is further facilitated by the existence of multiple legal information retrieval systems that have been computerized at a high technological level and are continuously updated and supplemented in response to the legislator's law-making activity, the evolution of the judicial decisions, or the growth in relevant literature. Since the work of a lawyer is largely

based on the skillful search of legal provisions or court judgments, it is rightly argued that this element of lawyers' activity will over time be completely automated [3].

In turn, the second aspect – determining the meaning of a legal norm – is more problematic. The legal system does not create a typical database. The Polish legal system is an example of a continental legal system. In a model of statutory law there is 'a normatively stated opposition between law-making (the creation of abstract and general rules) and law-application (the making of concrete and individual decisions). This opposition is manifested in the functional separation of parliament as a statue-enacting agency from the courts and the administrative branches of government as agencies engaged in law-applying activity' [4]. Polish system of law is built of legal norms - the rules of conduct that must be constructed from legal texts. This means that the Polish legal system is not made up of precepts (editorial units of a legal text), the finding of which poses no problem for a computer program utilizing the achievements in the field of AI, but of legal norms that need to be decoded from the content of normative acts through interpretation. An AI-based system would have to be equipped with the tools allowing it to interpret text in accordance with linguistic, systemic, intentional and functional rules, in order to determine the meaning of the norm in respect of (as appropriate) its linguistic context, its place in the legal system and the implied intentions of the legislator (which often involves going beyond strictly legal criteria, leading to judgements of a moral, political or economic nature)[5].

It should also be pointed out that the Polish legal system includes both norms derived from law through interpretation as well as norms derived by inference in accordance with inference principles (*a contrario*, *per analogiam*, etc.) [6]. A system supporting automated civil proceedings will thus face the challenge of declaring norms resulting from other norms, both in logical and quasi-logical terms, based on the assumption that the norms of the legal system have axiological justification. This task will not be easy, yet it should be emphasized here that it is not easy for a human decision-maker either. The judicial practice involves instances where an (often risky) interpretation does not give uncontested results. The implementation of automated civil proceedings into the Polish legal domain will require a decision on whether the future computer system would move on a strictly defined path of interpretation rules and legal inference, or whether it would have a certain degree of freedom, as judges have.

This section will also address other limitations, with no in-depth analysis of which the considerations on the use of artificial intelligence in law will remain only in the sphere of utopia: the problem of fragmentation of norms in law, the ambiguity of legal texts (resulting from the use of general clauses, imprecise or evaluative concepts), the room for free interpretation, etc.

AI vs. the determination of facts. The next step in the law application process involves the determination of the facts of the case. In this respect, a system supporting automated civil proceedings would be required to initially verify the information provided by the initiator of the proceedings (plaintiff or applicant) and to properly conduct the taking of evidence. Contrary to the preceding law application stage, the determination of the facts of the case is not based on legal reasoning, but on cognitive

reasoning, requiring the entity administering the law to have life experience, for instance [7]. In addition, the taking of evidence requires both the ability to use the natural language as well as the understanding of human behaviour (e.g. during a witness hearing). Obviously, at the present artificial intelligence development level, it is impossible to equip a computer system with the perception equal to that of a human; however, there are artificial intelligence solutions that could allow (at least partially) a computer program to determine the facts of the case: neural networks capable of 'learning' (capable of updating themselves in the course of action and generalizing knowledge) [8], systems based on fuzzy logic where between the 0 (false) and 1 (true) states there is a series of intermediate values defining the degree of belonging of an element to a set [9], or progress in the understanding and use of natural language by artificial intelligence systems [10].

2.4.   Admissibility of using AI tools in the Polish legal framework

Artificial intelligence cannot be implemented into Polish civil proceedings without compliance with the basic rules and mechanisms governing the civil procedure, including the requirements laid down by the Constitution of the Republic of Poland. Automated civil proceedings must indeed remain in line with both the democratic rule of law and with the leading ideas shaping the substance and form of Polish civil proceedings.

The third chapter of the thesis will be devoted to the issue of admissibility of the use of AI tools in civil proceedings in the Polish judicial system. The analysis will cover the existing conditions in the Polish legal system governing the group of entities authorized to adjudicate. This will make it possible to examine whether, according to applicable regulations, the judicial system can only be operated by people, or perhaps no legal regulation in Poland introduces such requirements.

The admissibility of using AI methods will also be examined against the realisation of the ground rules of Polish civil proceedings, including the constitutional principles of justice and the principles of civil procedure. This part of the thesis will cover the legal characteristics of the two types of principles and the description of the functions thereof. The analysis will address the possibility of an 'electronic judge' to ensure the implementation of selected ground judicial principles (judicial independence, impartiality, court independence, transparency and the right to a trial) and civil procedure rules (such as the principle of free assessment of evidence, the principle of limited formalism in court proceedings, etc.).

The above scope of research will also partially cover interdisciplinary considerations as there is no way to verify the possibility of providing citizens with a constitutional right of access to court without adequate research into the sociological and psychological determinants of the use of AI in court proceedings (e.g. Will there be a social consent to confer the administration of justice on artificial intelligence? Will automated civil proceedings meet the psychological needs of individuals who demand the state apparatus to secure their legal interest?). The basic objection I encounter when presenting the subject matter of my research among Polish legal practitioners (often conservative in their views) is the accusation of an alleged attempt to dehuman-

ise the judiciary. Entrusting the resolution of legal problems to computer programs (instead of human beings) appears to some as a distortion of the notion of justice. There is a departure of the adjudication process from a certain emotional or moral sphere of a judge, which – obviously – an 'electronic judge' does not have. However, it is worth mentioning here some statistical data, the analysis of which leads to the conclusion that at present the adjudication process in Poland is often devoid of emotional involvement of the judge. At the 6th Civil Division of the District Court Lublin-West in Lublin (Polish e-court), which handles cases under the electronic writ-of-payment proceedings, adjudication is exercised by 8 judges, 50 court clerks (pol. *referendarz*) and 68 non-resident court clerks (data from the official government website: https://www.e-sad.gov.pl/Subpage.aspx?page_id=44; date of access: 23 March 2017). Each of them takes 250 decisions daily on average [11]. Assuming the 8-hour working time of an adjudicator (as a rule, this is the maximum daily working time in the Polish legal system), it is easy to calculate that the average time for a decision in an individual case is less than two minutes. Therefore, it seems that already today in Poland we are dealing with some sort of mechanisation of civil proceedings, yet imperfect insofar as made by human and thus affected by the risk of human error and limited by imperfections of human body: fatigue or reduced resistance to the monotony of activities.

The application of artificial intelligence tools in law should not lead to increased efficiency of justice at all costs. It is much more important to enhance the quality of adjudication than to reduce its costs and the workload of judges. The purpose of creating automated judicial systems should be to improve the judiciary, and not to lead to the 'massification' of poor quality judgments. This is extremely important in the light of research by J.J. Dijkstra showing that in cases where a judge's decision is supported by AI-based system (which is only to 'advise' the judge), the deliverables of those systems were uncritically accepted by judges without verification. The 'persuasive power' of such systems was so great that in the case of the coexistence of two sources of advice: a computer and a human, the system users were still choosing the advice of a computer system, considering it more objective and rational [12].

Finding the answer to the question of whether automated judicial proceedings fulfil all the rules governing civil proceedings will allow determining the admissibility of the implementation of AI tools into law in Poland without the need to amend the law, or will lead to the conclusion that AI in the role of a judge will require a partial or a thorough change of legal regulations.

2.5.   The postulate to use artificial intelligence in civil proceedings

The final part of the thesis will be of recapitulative nature and will be dedicated to the postulates of using artificial intelligence in Polish civil proceedings. Depending on the results of the considerations contained in the preceding chapters, these proposals will cover a complete or partial automation of civil proceedings (including, in particular, the suggestion to automate the 'less complicated' types of proceedings: electronic writ proceedings, European payment orders, registration procedures or land and mortgage register proceedings). Notwithstanding the foregoing, this chapter will include an

analysis of the possibility of using AI-based judge support systems in the Polish judicial framework (i.e. instances of the application of AI not as a decision-maker in the resolution of individual cases, but as a system to facilitate the administration of justice by judges). Such a solution will ensure human supervision over the resolutions proposed by the computer system, which may result in a greater acceptance at the stage of the attempt to implement the solutions I propose in practice.

3.   Conclusion

The research undertaken in the doctoral thesis is intended to answer the question whether it is possible to use artificial intelligence as the host of civil proceedings (the entity responsible for its proper conduct, the resolution of the case and justification of the law administration decision). The purpose of the thesis is to investigate whether it is feasible to automate the various stages of the law enforcement process (from determining the meaning of a legal norm, through the analysis of the facts, up to the resolution of the case and clarification of the reasoning underlying this resolution), and whether such use of artificial intelligence tools can be reconciled with current legal regulations in Poland.

The analysis of the above issues may indicate the direction of the evolution of Polish civil proceedings for the coming decades. The use of artificial intelligence in civil proceedings has the potential to change, modernize and improve the functioning of the Polish judiciary (affected by numerous concerns for many years, including the critical attitude of the Polish society as to the quality of adjudication in Poland), among others, by acceleration of court proceedings, unification of judicial decisions, dissemination of court access and reduction of court costs. The research conducted in the thesis may be an impulse to launch a broad scientific discussion on the possibility and appropriateness of using AI methods in the Polish judicial system, as well as form the basis for proposals addressed to the Polish legislator.

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